



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

15052

Distr.
LIMITED

UNIDO/IS.570
15 October 1985

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

ENGLISH

INDUSTRIAL CO-OPERATION THROUGH THE
SOUTHERN AFRICAN DEVELOPMENT CO-ORDINATION CONFERENCE
(SADCC)*

Prepared by the

Regional and Country Studies Branch

Division for Industrial Studies

* *The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Mention of company names and commercial products does not imply the endorsement of the United Nations Industrial Development Organization (UNIDO). This document has been reproduced without formal editing*

Contents

Preface	
Introduction	1
Part I: The potential for industrial cooperation in the SADCC region	3
1 The Southern African Development Coordination Conference	3
1.1 Formation and founding objectives	3
1.2 Evolution and institutional development, 1979-84	5
1.3 Programmes, procedures and approach	8
1.4 Constitutional status and powers	17
2 Structure and potential of manufacturing industry in the SADCC region	14
2.1 The manufacturing sector in comparative perspective	14
2.2 Trends in industrial growth	20
2.3 Some structural features of the manufacturing sector	25
2.4 The supply and demand for manufactured goods	31
2.5 The pattern of trade in manufactured goods	38
3 Raw material resources and processing	47
3.1 Minerals	47
3.2 Agriculture	61
3.3 Fish	71
3.4 Energy and water	75
4 Constraints on industrial development and the potential for regional cooperation	78
4.1 Introduction	78
4.2 Within the nation state	78
4.3 The regional context	82
4.4 South African regional influence	84
4.5 In the world economy	89
4.6 Strategies of industrial development	94
4.7 Trade and payments regimes	96
Part II: SADCC's contribution: developing industrial coordination	102
5 Realising the potential: The SADCC framework for industrial development	102
5.1 Priorities and strategies	102
5.2 Mandates and functional responsibilities	104
5.3 Institutional activities	107
5.4 Strategy	109
5.5 Programme formulation and experience	115
5.6 Perspectives for industrial co-operation	122
6 Developing industrial co-operation	125
6.1 Communication and information	125
6.2 Coordination of services	127
6.3 Manpower development	131

7	Co-ordinating industrial production	133
7.1	Capacity utilization	133
7.2	Domestic sourcing	133
7.3	Small scale industry	133
8	Industrial co-operation, trade and payments	138
8.1	Introduction	138
8.2	External trade	139
8.3	Intra-regional trade	146
8.4	Payments and credit arrangements	157
8.5	Priorities and steps	164
Appendices: A - Statistical Annex		166
B - Sub-regional co-operation among developing countries - a comparison		340

PREFACE

The Regional and Country Studies Branch is carrying out a series of analyses of the industrialization process in the developing countries in order to identify prospects and constraints and to outline the key issues for policymaking. At the mid-point of the Industrial Development Decade for Africa, studies focussing on countries and subregions of Africa have been assigned particular priority. Against the background of the current crisis confronting industrial development in the African countries, it seems essential to examine, inter alia, the options in terms of the resource base, structural policies, market orientation and support to the development of various forms of production.

This study represents such an examination and attempts to explore how SADCC member countries, building on their commonality of interests and joint purpose, may achieve an improvement in their industrial structures and a certain degree of complementarity in industrial production.

It is hoped that the findings of the study can serve the industrial policymakers and strategists within SADCC as well as donors of technical and financial assistance in discerning and selecting policy and strategy options for the gradual alleviation of the problems constraining SADCC co-operation.

Introduction

The central concern of this study is the potential for enhanced industrial development through the sub-regional cooperative mechanisms of the Southern African Development Coordination Conference (SADCC). Its general context is the growing international sense of urgency over industrialisation in sub-Saharan Africa which, already the least industrially developed of the major economic regions, has suffered severely in the recent world recession. Major expressions of this concern are to be found in the decision of the 35th Session of the UN General Assembly to designate the 1980s as the Industrial Development Decade for Africa; in the special focus on Africa in the Third and Fourth General Conferences of UNIDO; and in the aim of the Lagos Plan of Action adopted by the Organisation of African Unity's 1980 economic summit which invokes sub-regional and regional cooperation as a major development instrument.

The study's focus of attention is the manufacturing sector, and other industrial sectors such as mining and energy are discussed only in terms of their interlinkages with manufacturing.

It is stressed that the study is preliminary in nature, general in its perspective, and tentative in its conclusions and recommendations. The quality and quantity of data available from national and sub-regional sources were limited and very little field work could be undertaken. Other arguments for a modest approach were the severe economic disruption caused by recession, war and drought and the fact that SADCC is still in its formative phase. If the study assists in an understanding of the nature and potential of SADCC as a vehicle for sub-regional industrial development and in suggesting guidelines for assistance by external partners, it will have achieved its main purpose.

The study is divided into two parts. The first (chapters 1-3) covers the formation and evolution of SADCC and the industrial structures, trends, and resources in the SADCC region. The second (chapters 4-8) analyses the constraints and scope for development through industrial cooperation and assesses the potential contribution of sub-regional cooperation through SADCC to the achievement of industrial development objectives.

Part I begins with a general overview of SADCC's formation, goals, institutions, cooperative programmes and constitutional status (chapter 1). It proceeds to an analysis of industrial structures and trends in industrial production in individual member countries, of the regional supply and disposition of manufactured goods, and of domestic and export markets for local manufactures (chapter 2). The extent of primary resources for industrial use is assessed, together with local production, processing and

interlinkages (chapter 3). This section closes with a review of structural constraints on industrial expansion at the national level and of the potential for regional cooperation (chapter 4). Part II begins with an outline and an analysis of SADCC's strategy and programme for industrial cooperation (chapter 5). Taking the SADCC approach as a guiding framework, five levels or stages of cooperation are assessed in turn: communication and information exchange, the coordination of services and enhancement of negotiating strength, developing industrial skills, and coordinating industrial production (chapter 6). Separate consideration is given to the important issues of regional trade and payments policy (chapter 7). A final section presents a summary of the chief conclusions.

An examination of the prospects for industrialisation through cooperation in the SADCC sub-region may be of interest beyond the region. Firstly the severity of the impact on developing countries of deteriorating terms of trade and world recession has begun to bring forth a reassessment of broad development strategy. In Africa, few of whose countries have been able to avoid deep crisis, such reassessment has focussed in particular on the roles of agriculture and manufacturing industry, and regional and sub-region cooperation has come more prominently onto the agenda for action. In this respect the approaches of some countries of the SADCC sub-region provide a particularly interesting example. Secondly the approach towards economic cooperation adopted by SADCC differs in several respects from comparable cooperative schemes.

Regional cooperation elsewhere in the developing world has often been notable more for promise than delivery of concrete results, and the possibility that SADCC, which after only a relatively short period in existence has already achieved measurable gains, may offer a strategic alternative in certain areas of economic cooperation merits attention. This preliminary study can reach no firm conclusions, but will attempt to present the more important of these issues in the context of cooperation in the manufacturing sector.

PART I. THE POTENTIAL FOR INDUSTRIAL COOPERATION IN THE SADCC REGION

1. The Southern African Development Coordination Conference - A General Description

1.1 Formation and founding objectives

SADCC was formally established at a meeting held in Lusaka on 1 April 1980 attended by the Heads of State and Government¹ of Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. These nine countries comprise its present membership. The Declaration explicitly envisaged the admission of an independent Namibia and implied the possible future participation of a majority-ruled South Africa.² For current operational purposes, SADCC embraces the territories of its existing members, supplemented by specific contingency planning for the independence of Namibia.

The basic principles and aims of SADCC were clearly set down in the Lusaka Declaration. Its signatories committed themselves 'to pursue policies aimed at the economic liberation and integrated development of our national economies'. Analysing current sub-regional economic structures, they concluded that 'Southern Africa is fragmented, grossly exploited and subject to economic manipulation by outsiders, above all through subordination to the interests of South Africa'. They affirmed that 'in the interests of the people of our countries, it is necessary to liberate our economies from their dependence on the Republic of South Africa, to overcome the imposed economic fragmentation and to coordinate our efforts towards regional and national economic development'.

Accordingly, four fundamental development objectives were enunciated to be pursued through coordinated action, namely:

1. The reduction of economic dependence, particularly, but not only, on the Republic of South Africa;
2. The forging of links to create a genuine and equitable regional integration;
3. The mobilisation of resources to promote the implementation of national, interstate and regional policies;

1. Lesotho and Malawi were represented at ministerial level.
2. Southern Africa: toward economic liberation. A declaration by the governments of independent states of Southern Africa made at Lusaka on the 1st April 1980. (London: SADCC, Steering Committee, 1980). This interpretation was endorsed by a subsequent SADCC Summit. The Lusaka Declaration called for the participation of the recognized liberation movements of Namibia and South Africa in SADCC programmes and these liberation movements have observer status at SADCC Summits. The non-acceptance of an application for membership from a neighbouring state indicates that a northward expansion of the SADCC sub-region is not contemplated for the time being (Record of the SADCC Summit held in Maputo, People's Republic of Mozambique, on the 11th July 1983).

4. Concerted action to secure international cooperation within the framework of the strategy for economic liberation.

The Lusaka Declaration embraces all aspects of economic development and 'regional coordination' as a general instrument to that end. 'Development', however, is defined not simply as economic expansion but more particularly as the restructuring of distorted and exploitative economic relations and the equitable distribution of economic growth between member states. It also associates such development with the wider social and political goals of 'popular welfare, justice and peace'. SADCC is thus to be seen as both a mechanism and a strategic framework for sub-regional cooperation.

An understanding of the general sub-regional context is important to any assessment of SADCC's potential as a vehicle for economic cooperation. Two political and two economic features are of particular relevance. First, three of the nine SADCC nations (Angola, Mozambique, Zimbabwe) have achieved their independence from colonial rule only within the last decade and only after prolonged and destructive armed struggle. Another four (Botswana, Lesotho, Swaziland, Zambia) have suffered adverse political and economic consequences as a direct result of the conflict.

Second, all but one (Tanzania) have been directly or indirectly damaged by South African political, economic and military intervention, and in two the damage has been devastating. Such destabilising intervention has escalated since the formation of SADCC and has been specifically directed towards deepening regional dependence on South Africa. South Africa has also recently revived its own regional programme for a so-called 'Constellation of Southern African States' posing a challenge to the SADCC initiative.

Third, for the majority of SADCC states the colonial legacy and South African domination have led to severely distorted and underdeveloped structures of production, infrastructural provision and skill endowment.

Fourth, all nine countries have had previous negative experience of economic integration schemes: Angola and Mozambique in the Portuguese colonial empire, Malawi, Zambia and Zimbabwe in the Central African Federation, Tanzania in the East African Community, and Botswana, Lesotho and Swaziland in the Southern African Customs Union (SACU). Common features of these schemes were that they were institutionally centralised and that their integrative mechanisms - whether intentionally or not - worked to the decided advantage of their economically strongest members. SACU excepted, political conflict led to eventual collapse in each case. Botswana, Lesotho and Swaziland have remained members of SACU only as economic hostages.

These factors, although by no means the only significant ones, have conditioned the formation and subsequent evolution of SADCC. The initial impetus derived directly from the close political co-operation between the five Frontline States (Angola, Botswana, Mozambique, Tanzania, Zambia) in support of the liberation struggles in Namibia, Zimbabwe and South Africa. In the words of the Lusaka Declaration, 'the initiative toward economic liberation has flowed from our experience of joint action for political liberation'; and an extensive framework of administrative and political consultation under SADCC auspices has rapidly evolved in the years following.

The same factors have given SADCC distinctive programmatic, institutional and organisational characteristics. SADCC programmes have been pragmatic, reflecting members' commitment to achieving concrete and demonstrable results. Compared to sub-regional economic associations such as the Andean Pact and the Eastern and Southern African Preferential Trade Area¹, SADCC has built few institutions with strong executive autonomy. The SADCC countries have developed a decentralised organisational structure for programme implementation.

Three somewhat unconventional features have characterised SADCC's general development policy from the outset. First, it has placed primary emphasis not on sub-region-wide integration but on the co-ordination of national efforts. This explicit approach reflects, among other factors, acknowledgement of the fact that while the countries share a common commitment to sub-regional 'economic liberation', their particular national routes to that liberation differ. Second, preference is given to production over mechanisms of trade and payment. Resource mobilisation is seen as the key instrument in the early stages of industrial development. Third, from the very outset high priority has been given to the sub-regional coordination of development assistance and to consultation with potential donors.

1.2 Evolution and institutional development, 1979-84

SADCC's decision-making and consultative framework and related supporting institutions have evolved gradually in response to practical requirements rather than as the expression of a pre-determined constitution. The basic framework had, however, taken shape by late 1980 following the initial Arusha Conference (July 1979) and Lusaka summit (April 1980):

1. See Annex B for a review of other sub-regional co-operation initiatives by developing countries.

- The Summit of Heads of State and Government: the supreme policy-making authority at the regional level; held annually;
The Council of Ministers: responsible for the supervision of the Programme of Action and the delegation of powers and functions, meeting usually three times a year. One of these meetings takes the form of an annual joint conference with donor governments and agencies.
The Standing Committee of Officials: supports the Council, convening functional sub-committees where appropriate; meeting usually just prior to the Council itself.
Executive organs: There is also a small central Secretariat. Most other executive functions are delegated to member states, but additionally autonomous sub-regional Commissions may be established to implement sectoral programmes. The Southern African Transport and Communications Commission (SATCC), created at the 1980 Lusaka Summit, is the only instance to date.
- Sector coordinators: responsibility for the formulation and execution of SADCC programmes is delegated by the Council of Ministers to member states on a sectoral basis.
Committees of Ministers: established where appropriate by the Council of Ministers to oversee particular sectors. They are convened by the member states delegated with sectoral responsibility.
Sub-Committees of Officials: established by the sector coordinators, who also convene meetings of experts.
Coordinating Units: machinery for the execution of sectoral programmes is created by the member states responsible, usually in the appropriate Ministry or Department.
Both the decision-making procedure and the institutional arrangements thus clearly express the founding concept of SADCC, co-ordinated regional development. Policy-making is located in the regional fora, where decisions are taken by national representatives on the basis of consensus. Execution of SADCC programmes falls not to the central Secretariat but to the member states to whom sectoral co-ordinating responsibilities have been delegated on behalf of SADCC as a whole. Their chief function is to catalyse, co-ordinate and enhance those aspects of national development efforts to which regional cooperation is beneficial, and to mobilise the resources with which to perform their co-ordinating role. The initiation and final implementation of programmes and projects, including co-operation with SADCC or external partners, remains a national responsibility.

The general evolution of SADCC during its short life has been more rapid than might have been anticipated in the difficult sub-regional circumstances. By 1981, within two years of the original initiative, the principal mechanisms of decision-making and consultation - the Summit, the Council of Ministers, the Standing Committee of Officials were fully established and they have operated on a regular footing. Sectoral or functional forums - Committees of Ministers or Officials and ad hoc meetings of experts - have been activated in response to practical requirements. Here differing regional priorities and co-ordinating state commitments have resulted in wide variations in levels of activity. The most advanced have been the priority fields of transport and communications, food security, energy and industry. Regular consultation procedures have been established, administrative and technical capacity created in the co-ordinating units or commissions, in-depth research and planning undertaken, and substantial regional programmes put up for funding and implementation.

A notable consequence of SADDCC's commitment to decentralisation and concrete action has been the avoidance of regional institution-building. The President of Botswana and SADCC Chairman, Quett Masire, expressed the general consensus of the 1981 summit:

"I am convinced that the way forward in sectoral development is to devolve as much activity as possible on Member Governments, pending the establishment of specialised coordinating bodies. Such bodies should be created only when there is a proven need for them. This deliberately business-like approach, in which institutions will follow achievement, surely promised greater dynamism than a system in which Member Governments merely react to proposals put forward by technocrats lodged in a centralised bureaucracy."

The central Secretariat itself was not formally constituted in Gaborone until mid-1982, well after member states charged with sectoral responsibilities under the Lusaka Programme of Action (April 1980) had begun to take up their coordinating roles and SATCC had been established in Maputo. Under its 1983/4 budget of US\$ 348,000, the Secretariat was limited to an Executive Secretary, two other executive officers, and a supporting staff of seven. The Secretariat's principal tasks have been representation and liaison, servicing the Council of Ministers, and co-ordinating the implementation of the sectoral programmes. Only in those functional areas not included in the latter, such as trade, has it become more directly involved. Central to SADCC's development has been its Annual Conference, which is convened by the Council of Ministers as an open meeting between ministers and officials from SADCC countries and representatives of donor governments and multilateral agencies. The emphasis of the conferences, each of which is

usually focussed on a particular set of themes, has varied between consultation and consolidation (SADCC 1, 3 and 6) and development project financing (SADCC 2, 4 and 5), albeit with considerable overlap (see table 1.1).

The Annual Conferences would appear to have enjoyed considerable success in achieving their funding objectives. Of the two major pledging conferences, representatives of 30 foreign governments and 18 development agencies participated at Maputo (1980), 29 and 23 respectively at Maseru (1983). Total funding secured by mid-1984 for the industry sector amounted to US\$ 721 m. with another US\$ 487 m. under negotiation. The figures for transport and communications were US\$ 740 and US\$ 609 m.¹ Not all of these pledges represented additional funds. Also it remains unclear to what extent equivalent pledges would have been made for the same projects presented under national and bilateral rather than SADCC auspices. Furthermore, the amounts actually committed covered a mere 23% and 30% of the foreign exchange costs of projects in the two sectors for which financing had been requested. Substantial sums have nevertheless been rapidly committed, and the value to donors of SADCC's consultative and negotiating procedures is now proven in practice.

1.3 Programmes, procedures and approach

SADCC's programmes vary widely in scope, definition and substance, a consequence in large measure of their problem-orientated origins. Some cover economic sectors, others relate to fields of policy and supporting services and institutions (see table 1.2). As development co-ordination proceeds uncovered areas appear, of which trade is probably the most important at present. A common sub-regional policy has not yet been agreed on in the area and although trade was included in the Lusaka Declaration and has been much discussed since.

In the course of SADCC's work, procedures have evolved for the designation, preparation and implementation of functional programmes. The new field of co-ordination is first proposed to the Council of Ministers, which either endorses it or invites the initiator to prepare a report and proposal for subsequent consideration. If approved, the sector is delegated for co-ordination to a member state, which proposes an initial assessment and programme of action on the basis of which the Council determines the scope of sectoral co-ordination. On the basis of proposals submitted by the members and its own applied research, the co-ordinator prepares background data and

1 SADCC, Annual Progress Report, 1983/4.

Table 1.1. SADCC Annual Conferences, 1979-84

<u>Place</u>	<u>Date</u>	<u>Main purpose</u>	<u>Themes</u>
Arusha, Tanzania	3-4 July, 1979	Consultation	Strategy
Maputo, Mozambique	27-28 Nov., 1980	Pledging	Transport and communications
Blantyre, Malawi	19-20 Nov., 1981	Consultation	Transport, food security, animal disease, manpower development
Maseru, Lesotho	27-28 Jan., 1983	Pledging	Industry, food and agriculture, transport
Lusaka, Zambia	2-3 Feb., 1984	Consolidation	Food & agriculture, energy, transport, manpower development
Mbabane, Swaziland	31 Jan.-1 Feb., 1985	Consultation	Food & agriculture, energy, transport

Table 1.2. SADCC's Programme of Action

<u>Functional responsibility</u>	<u>Delegated to</u>	<u>By which meeting</u>
Transport and communications ¹	Mozambique	Summit 1980
Foot- and mouth disease control ²	Botswana	Summit 1980
Semi-arid crop research ³	Botswana	Summit 1980
Food security	Zimbabwe	Summit 1980
Manpower development	Swaziland	Summit 1980
Industrial development	Tanzania	Summit 1980
Southern African Development Fund ⁴	Zambia	Summit 1980
Energy	Angola	Summit 1980
Security printing	Zimbabwe	Council, 1980
Soil and water conservation and land utilisation ⁵	Lesotho	Council, 1981
Fisheries and wildlife	Malawi	Council, 1981
Mining	Zambia	Council, 1981
Forestry	Malawi	Council, 1981
Tourism	Lesotho	Council, 1984

- Notes: 1. SATCC created 1980.
2. Extended to other animal diseases (1980-1).
3. Extended to other agricultural research (1983)
4. Still under investigation and discussion.
5. Originally jointly with Zimbabwe.

packages of project proposals which, once approved by the Council of Ministers, are submitted to the Annual Conferences to secure initial pledges of funds. Thereafter, the co-ordinator's role is restricted to monitoring and liaison while implementation is negotiated and executed by the particular countries and donors. In addition to project identification, functional responsibilities generally include liaison with donors and partner governments, co-ordinating the exchange of information and relations between servicing and executing agencies (such as research institutions and technical administrations), and convening meetings of ministers, officials and experts. It is wholly at the discretion of the co-ordinating state which resources it commits for this purpose, and in practice there are great differences. In general, governments have created the essential administrative capacity in the form of small Coordinating Units in the appropriate Ministry or specialised organ. Much of the programme formulation and project identification has hinged upon bilateral or multilateral technical assistance to these Units. Individual governments have supplemented the administrative effort by channelling national resources, for instance in research and technical services, to specific SADCC purposes, particularly in their own fields of co-ordination.

SADCC's decentralised, low-key approach has several potential advantages. It is geared to pragmatic planning methods and to concrete results as the yardstick of progress. It engages national governments and administrations directly in the regional planning process, and it avoids conflicts with executive regional institutions and clashes of national interest at the sub-regional level. It also accommodates inter-state economic arrangements between SADCC members and donors of development assistance.

There are however also potential disadvantages which may lead to subregional disunity and ineffectiveness: differing capacities and rates of development, intersectoral disequilibria, and lack of strategic integration may result from a decentralized approach. The priority given to building productive capacity, project identification and the mobilising of external funds also carries definite risks: of promoting externally-oriented, foreign exchange-intensive development programmes, of taking insufficient account of the broader policy environment and longer-term context of development strategy, of sidelining the related issues and underutilizing potentials of regional integration.

It is, however, noteworthy that government leaders from the SADCC countries have on a number of occasions acknowledged the problem areas while reaffirming SADCC's distinctive approach. In the words of the most recent

Annual Progress Report (1983/4):

"The Lusaka Programme of Action is represented by the sectors of regional cooperation which have been assigned to individual Member States for coordination. This unique system places responsibility for SADCC's growth and development squarely on the shoulders of the Member States. The strength of such a system of cooperation is that it is flexible and economical. Its potential weakness is that the sectors may develop at varying speeds and possibly in overlapping or even contradictory directions. This is, however, unlikely to happen because of the central coordinating role played by the Council of Ministers supported by the Secretariat. It is an indication of the high level of seriousness with which Member States approach their SADCC responsibilities that Council meetings are always well attended. The Council meets three times a year and receives detailed progress reports from all the sectors. The Council is, therefore, constantly in touch with how the Programme is developing and is in a position to take the necessary action to ensure overall coordination and coherence."

SADCC also regards itself as part of the broader process of African regional cooperation and global economic reform. This position was restated by the Prime Minister of Zimbabwe, Robert Mugabe, at the 1981 Summit:

"Our efforts in regional cooperation should naturally be seen in their proper context. SADCC is a building block in the movement toward the continental economic cooperation envisaged in the OAU's Lagos Plan of Action and the proposals for an Eastern and Southern African Preferential Trade Area. Our progress in SADCC will, to an extent at least, determine the speed with which these continental goals are achieved. Moreover, the success we achieve in this regard will, to that extent, bring nearer the realisation of the objectives of the New International Economic Order..."

1.4 Constitutional status and powers

Unusually amongst international organisations of states, SADCC lacks either a formal treaty of association or a constitution. Although not explicitly designed as such - it is loosely constructed for the purpose and covers a broad subject area - the Lusaka Declaration (1980) has since been taken as the definitive statement of the perspectives, objectives and general strategy of the organisation and is thus its founding document. A formal Memorandum of Association, adopted by the 1981 Summit in terms of the Lusaka Declaration, specifies SADCC's regional representative and executive institutions together with their authority, powers, and mode of decision-making. These two documents were adopted by SADCC Heads of State and Government and are the defining instruments of SADCC as a sub-regional association of states. The Memorandum also provides for the creation of sub-regional Commissions to administer functional programmes. Such Commissions are under the authority of the Council of Ministers, but are to be established by the the Summit and governed by the Conventions which must be ratified by member states.

The Memorandum designates the Summit as the supreme governing body to which all other SADCC institutions are ultimately unanswerable. The Council of Ministers is responsible to the Summit for 'the overall policy of SADCC, its general co-ordination, the supervision of its institutions and the supervision of the execution of its programmes'. It adopts a general work programme, divides it amongst member states to co-ordinate, and appoints Ministerial Committees as appropriate. With the exception of the establishment of regional Commissions by the Summit, the Council is responsible for all delegated authority and for deciding and apportioning the budget of the Secretariat. The latter is headed by an Executive Secretary, whose task is to service and liaise with SADCC institutions and co-ordinate the implementation of its programmes. Although the Council may confer additional functions, the Executive Secretary does not have general executive powers in the actual implementation of SADCC programmes, which remain a wholly national responsibility.

It will be apparent that constitutionally SADCC differs markedly from the majority of analogous regional economic organisations. In the first place, although the executive staff of the Secretariat enjoys special status, member states give up none of their sovereignty. The two instruments of association carry no legislative obligations, and decisions are by consensus, allowing each member a veto in both Summit and Council. This is presumed to apply equally to the settlement of disputes referred to the Summit as final arbiter under the Memorandum. Second, the instruments themselves are constructed with striking economy: the Lusaka Declaration runs to only 29 paragraphs, the Memorandum of Understanding to 27 brief articles. Only the basic principles and strategy and the constitutional, institutional and procedural framework were specified, leaving substantive sub-regional co-operation - at the price of some vagueness and lack of articulation - to develop organically in the implementation of regional programmes and by specific inter-state agreement. Third, in neither the instruments nor derivative documentation are elaborate programmatic targets and sub-regional legal and administrative mechanisms prescribed.

2. Structure and potential of manufacturing industry in the SADCC region

2.1 The manufacturing sector in comparative perspective

By international standards the contribution of the manufacturing sector to total production in the SADCC region is very small (see table 2.1). Rough estimates¹ suggest that at about 12 per cent the share of regional manufacturing value added (MVA) in GDP in 1980, before the full onset of the world recession, was somewhat above averages for sub-Saharan African (computed by the World Bank) (8 per cent) also above low income countries generally (10 per cent). The MVA share was however well below those of middle-income oil importers and industrial market economies (23 and 24 per cent respectively).² In absolute terms the region's GDP of some US\$25 billion in 1980 was a little above that of a middle income oil importer such as Malaysia. Its MVA of about US\$3.1 billion, on the other hand, was less than half of Portugal's, a sixth that of South Africa, and a tenth that of a medium-sized industrial country such as Belgium.

Per capita GNP averaged US\$459 in 1980, double the "low-income" country average (US\$230), slightly above the average for sub-Saharan Africa (approx. US\$440), and a third that of middle income oil importers (US\$1580). By contrast, per capita MVA was a mere US\$55, a small fraction of per capita MVA in Malaysia (16 per cent)

Regional averages mask marked inter-country differences. In population only Tanzania and Mozambique are medium-sized by international standards, with mid-year 1980 populations of 18.5m and 12.1m respectively (see tables 2.1 and 2.2). Five of the national economies had 1980 GDPs between US\$3500m and US\$5000m, well into the middle range of developing countries in absolute terms; the four others were much smaller, falling below US\$1500m. The two most populous countries are amongst the poorest and least industrialised measured by GNP and MVA per capita respectively. Five countries had per

1. Most statistical data in this chapter should be used with great caution and regarded as only approximate indicators of proportion, size and trend. Different years of coverage, uncertain primary sample and source bases, unexplained methods of estimation and extrapolation, incompatibility of different sources, the highly variable quality of data recording and processing, the frequent absence of hard information have all posed major problems for achieving a comparable and moderately reliable set of regional data. For further comments on sources, methods and reliability, see the introductory notes to the Statistical Annexes.

2. World Bank, World Development Report 1982, table 3; Toward sustained development in sub-Saharan Africa, table 3. "Low income" here excludes India and China. The percentage for sub-Saharan Africa is for 1982.

Table 2.1. Area, population, GNP, GDP and manufacturing value added by country, 1980

	area 000km ²	popu- lation 000	GNP US\$m	GDP US\$m	MVA US\$m	MVA/GDP per cent
Angola	1247	7581	6310	5070	131	2.6
Botswana	600	901	819	(760)	38	5.0
Lesotho	30	1341	676	320	15	4.7
Malawi	118	6037	1481	1420	183	12.9
Mozambique	802	12,084	3900	3660	317	8.9
Swaziland	17	618	455	370	56	15.1
Tanzania	945	18,534	4832	4570	424	9.3
Zambia	753	5647	3499	3780	636	16.8
Zimbabwe	391	6894	5418	5160	1313	25.4
Total	4903	59,637	27,390	25,110	3113	12.4

Source: World Bank, World Tables 1984.

Table 2.2. Regional distribution of population, GDP and manufacturing value added at constant (1975) prices by country, ranked by population size.

per cent	population 1980		GDP			MVA		
	total	urban	1970	1974	1980	1970	1974	1981
Tanzania	30.7	22.1	14.7	13.3	19.4	14.7	10.9	9.6
Mozambique	21.2	11.3	24.1	20.6	17.0	16.4	17.6	10.6
Angola	12.6	16.1	27.0	23.7	14.9	10.5	10.5	4.8
Zimbabwe	11.4	16.0	14.9	20.5	22.3	29.8	35.9	46.4
Malawi	10.0	5.9	3.5	3.6	6.5	4.3	3.1	6.8
Zambia	9.4	24.5	12.9	14.5	13.9	21.4	19.4	17.4
Lesotho	2.2	1.6	0.8	0.9	1.4	0.4	0.3	0.6
Botswana	1.5	1.7	0.9	1.8	3.1	0.6	0.8	1.7
Swaziland	1.0	0.9	1.1	1.2	1.5	1.9	1.4	2.0
Total	100	100	100	100	100	100	100	100

Source: World Bank, World Tables 1984; table A1.1.

capita GNPs in the range US\$600-900 in 1980, placing them in the middle income bracket of developing economies; while three fell below US\$350, making them amongst the poorest of the developing countries. Per capita MVA is generally very low - only in Zambia and Zimbabwe did it amount to more than US\$100, in current prices (see table 2.3).

Variations in the share of MVA in GDP are even more pronounced (see table 2.4). In three countries the share was under 5 per cent in 1980 in three between 13 and 17 per cent, and in one as much as 25 per cent, up to the level of the middle-income oil importers and the industrial countries themselves.

International comparison at the level of industrial branches is largely ruled out by lack of standardised data and an appropriate yardstick of assessment. A recent statistical comparison of 136 countries on the basis of their relative degree of industrialisation¹ does, however, include four of the SADCC countries (Malawi, Tanzania, Zambia, Zimbabwe) (see table A1.4).² In view of the varying quality of the base data and the very small values of output in a number of branches, the results should be interpreted with great caution. They do nevertheless illustrate the uneven concentrations of manufacturing production within the national manufacturing sectors, in part reflecting a context in which particular branches may be dominated by a few or even single factories. The Zimbabwean steel industry and the Zimbabwean manufacturing sector as a whole stand out strongly. Generally speaking many of the branch ratios of these four countries present a moderately positive picture.

Three tentative conclusions may be drawn. First, the manufacturing sectors in the majority of SADCC countries may be called imbyronic and offer scope for expansion on the basis of present domestic demand. Second, the Zimbabwean and, less certainly, the Zambian manufacturing sectors have already established relatively advanced positions in their national economies and may offer the potential for sustained structural change. Third, the uneven distribution of manufacturing activity in the region implies scope for complementary expansion but raises the danger that inter-country inequalities may deepen further.

1. UNIDO, Measuring the relative degree of industrialisation, (UNIDO/IS, 1984). The concept takes into account population size, per capita GDP, and share of MVA in GDP by means of semilog regressions, deriving country/group ratios.

2. Table numbers preceded by "A" refer to the Statistical Annex.

Table 2.3. Per capita distribution of production

US\$/person	current prices					constant (1975) prices		
	GNP ¹ 1980	1980	1982	GDP 1980	MVA 1980	MVA 1970	1974	1981
Angola	470	832		670	17.3	23.6	36.7	9.9
Botswana	800	909	900	840	41.7	12.1	24.6	28.9
Lesotho	630	504	510	240	11.5	5.2	6.4	7.5
Malawi	190	247	210	240	30.3	12.8	14.2	18.1
Mozambique	230	323		300	26.2	27.3	45.0	13.5
Swaziland	690	737	940	590	90.9	55.3	61.6	49.3
Tanzania	270	251	280	250	22.9	14.8	16.3	8.0
Zambia	580	622	640	670	112.7	69.1	94.0	47.7
Zimbabwe	780	786	850	750	190.4	79.1	143.0	103.1
Total		459		421	54.7	31.0	46.9	25.9

Notes: 1. The several World Bank reference sources are far from mutually consistent. Col.1 reproduces the values stated in the World Development Report 1982 (for Angola and Mozambique) and the 1983 Atlas (remaining countries); while col.2 has been derived from the World Tables 1984.

Sources: As in note 1; World Bank, Toward sustained development in Africa, (Washington, 1984), table 1.

Table 2.4. The manufacturing sector in the regional economy

(a) share of manufacturing value added in GDP at constant (1975) prices

	GDP (factor cost)			MVA/GDP		
	1970 US\$m	1976 US\$m	1980 US\$m	1970 per cent	1976	1980
Angola	3494	4005	1919	4.0	6.0	3.9
Botswana	123	307	394	6.3 ¹	5.8 ¹	6.0 ¹
Lesotho	107	152	180	5.1	4.9	6.1
Malawi	456	608	842	12.7	11.8	12.9
Mozambique	3123	3483	2191	7.1	11.5	7.5
Swaziland	141	198	200	17.7	15.7	15.4
Tanzania	1907	2244	2503	10.3	11.0	8.6
Zambia	1671	2454	1794	17.2 ¹	18.0 ¹	17.3 ¹
Zimbabwe	1929	3478	2883	20.7	23.5	25.5
Total	12,951	16,929	11,906	10.3	13.4	13.0
7 countries ²	6,324	9,441	8,796	15.5	17.3	16.3

Notes: 1. Market prices

2. All except Angola and Mozambique

Source: World Bank, World Tables 1984.

2.2 Trends in industrial growth

The national economies of the SADCC countries emerged only after the imposition of colonial administration at the turn of the 20th century. The region suffers from familiar consequences of colonial rule - foreign ownership of productive assets, expatriate domination of managerial and skilled occupations, low wages and stunted domestic demand, and a trade structure dominated by raw material exports and manufactured imports. This pattern was reinforced by the dominant position of South Africa, both economically and politically. Its large mining industry determined economic life in all countries of the sub-continent except Tanzania and to a certain extent Angola.

First, large numbers of short-term migrant labourers work in South African gold mines; their wages and benefits are kept very low, forcing the peasant economies in their home countries to provide "social security". Second, South African-based mining corporations took a dominant stake in most large-scale mining investments in the region. Third, South Africa has become an important industrial power in its own right. South Africa's 1980 MVA was, as noted earlier, more than five times that of the entire SADCC region. However, growth has been achieved at the expense of relatively high, tariff-induced costs of production, reducing the competitiveness of exports. The domestic market is restricted by the low wages and mass poverty imposed on the black majority. These factors have given South African manufacturers a close interest in a semi-captive hinterland in southern Africa. Under colonial rule all but two of the SADCC countries (Angola, Tanzania) were completely open to imports from South Africa, entrenching South Africa manufacturers and importers as suppliers of manufactured goods.

At independence manufacturing capacity, where established at all, was heavily concentrated in light industries serving urban consumer demand and geared to the elite consumption patterns of the settlers and colonial expatriates. In a few cases, notably Zambian and Zimbabwean base metals, raw material exports were subjected to initial processing in order to save transport costs. Forward and backward linkages remained undeveloped. The Zimbabwean steel industry was one of the few to establish an integrated production chain from raw material to final product. The colonial economic framework furthermore strongly influenced the locational pattern of industrial investment after as well as before independence. Raw material exports and imports of manufactured goods for the few centres of consumption had shaped the transport system of the region, and this transport system and the special concentration of demand in administrative centres and mining towns determined where factories would be built. After independence the new governments were in

a position to remove some of the colonial shackles and to shift investment and planning priorities towards industrialisation and different end-uses. On the whole, the first few years of independence saw a considerable growth in manufacturing investment and output.

However, both circumstances and policies have differed greatly at the national level. Malawi, Botswana, Lesotho and Swaziland had almost no industry on independence and have maintained fairly open trading and investment regimes and in so far as they have engaged in industrial promotion, have given greatest emphasis to exports. For the latter three, strongly dependent on South Africa, there was little alternative. In these countries manufacturing activity depends very little on domestic demand and backward and forward industrial linkages have yet to be developed on any scale. Although meat processing in Botswana is broadly based in the national cattle-raising economy, raw material processing operations in the other countries have tended to be capital-intensive enclave industries while the export-based factories have imported most of their inputs. In Malawi, manufacturing is largely geared to the domestic market.

The remaining five SADCC members have all used import substitution and protection as major instruments in their industrialisation strategy. The results show wide intercountry variations, the sources of which will be explored in chapter 4. Here it is important to note that non-industrial and even non-economic factors have played their part. In Zambia, overwhelmingly dependent on its mining sector, independence coincided with high copper prices, emancipation from Central African Federation (CAF) taxation, and sanctions against Rhodesia. Manufacturing expanded rapidly until the copper price collapsed in 1974. In Angola and Mozambique the monetary economy virtually collapsed after the exodus of colonial expatriates at independence; recovery from which has been and continues to be severely obstructed by South African military actions. In Zimbabwe, strong industrial growth was halted after the first decade of sanctions (1965-75) as a consequence of civil war and ageing capital stock. Relatively little disruption of economic structures followed independence, but the lifting of sanctions exposed local manufacturers to the risks of greater import competition. In Tanzania, free from military disruption, a modest industrial growth was associated with tight import controls and a strong emphasis on planning.

If the particular factors affecting industrial growth have varied between the nine SADCC members, national trends in manufacturing production have tended broadly to coincide in a general pattern. In part this may be ascribed

to the 1973-74 and 1979-80 oil shocks - Angola is the only oil producer - and the impact of world recession in the early 1980s. All countries have also been at times seriously affected by the regional wars and by the South African military and economic destabilisation. As the estimates presented below illustrate, it was after 1974 that the impact of these factors was most severe.

Although the time-span is not best suited to every country, production values and trends have been estimated for the period 1970-81 in constant (1975) prices¹. Possible margins of error may be wide in places because of lack of data and uncertainty over the effective foreign exchange rate, and caution should be exercised in interpreting the results (see table 2.5). These nevertheless point up both common regional trends and sharp divergences between country experiences. The most salient regional trend is the sharp transition from rapid growth in MVA in the early 1970s to lower or negative rates after 1974. The overall regional growth rate of 2-3 per cent per annum (1970-80) conceals an abrupt shift from a positive 14 per cent (1970-74) to -5 per cent (1974-81). Much of the decline may be attributed to post-independence dislocation in Angola and Mozambique, but both Tanzania - affected by the war in Uganda and Zambia also registered high negative rates. Over the decade as a whole the small manufacturing sectors of Botswana, Lesotho, Malawi grew fastest, and continued to grow after 1974. Growth in the largest, Zimbabwe, was concentrated in the early 1970s and owed much to currency appreciation against the dollar.

When rising population is taken into account the trends are, predictably, rather more unsatisfactory - an annual decline in per capita regional GDP of -3.2 per cent over the decade, annual growth in per capita MVA also negative at -1 per cent, and dramatically so after 1974, at over - 8 per cent. In 1975 prices, MVA per capita was little more than half what it had been only seven years earlier, having slumped from US\$47 to only US\$27, well below its 1970 level of US\$31. A decline of this magnitude can only be regarded as a major setback, although its impact has been markedly uneven.

1. It must be stressed that the constant price time series have been converted to US dollars for comparability and therefore incorporate fluctuations in official exchange rates. In general, most SADCC currencies appreciated against the dollar by 5-13 percent over 1970-74 and depreciated by 11-27 per cent over 1974-81, thus exaggerating changes in physical output. Different changes in exchange rates have also modified inter-country comparisons and relative regional shares. The period end-year of 1981 pre-dated the strong recent rise of the US dollar against other major convertible currencies (see table A1.19). Despite the post-1974 reversal, the decade's annual growth rate in MVA of 2.3 per cent remained ahead of the marginally negative trend in GDP (1970-80).

Table 2.5. Rates of growth in GDP and MVA at constant (1975) prices

(a) Annual

	GDP		MVA			
	1960-70	1970-80	1960-70	1970-80	1970-74	1974-81
Angola	4.7	-5.8	6.7	-6.1	14.4	-14.9
Botswana	6.6 ¹	12.3	3.8 ¹	11.9 ¹	23.3 ¹	6.1 ¹
Lesotho	5.1 ¹	5.3		7.2	7.7	4.8
Malawi	4.3	6.3		6.5	5.5	6.2
Mozambique	5.0	-3.5	2.2	-2.9	16.1	-11.6
Swaziland	11.0	3.6	12.4	2.1	5.5	0.3
Tanzania	5.5 ¹	2.8		1.0	5.9	-6.6
Zambia	4.2 ¹	0.7		0.8 ¹	11.4 ¹	-6.4 ¹
Zimbabwe	4.6 ¹	4.1		6.3	19.6	-1.4
Total		-0.0		2.3	14.1	-4.9
7 countries ²		3.4		3.9	13.7	-2.7

Notes: 1. Market prices

2. All except Angola and Mozambique

Source: World Bank, World Tables 1984.

(b) Per capita

per cent	GDP	MVA	MVA	MVA
	1970-80	1970-80	1970-74	1974-81
Angola	-8.3	-8.4	11.7	-17.1
Botswana	8.5	8.1	19.4	2.3
Lesotho	2.9	4.7	5.3	2.3
Malawi	3.3	3.5	2.6	3.5
Mozambique	-6.7	-6.7	13.3	-15.8
Swaziland	0.4	-1.1	3.0	-3.1
Tanzania	-0.6	-2.3	2.4	-10.7
Zambia	-2.4	-2.3	8.0	-10.2
Zimbabwe	0.9	3.0	16.0	-4.6
Total	-3.2	-1.0	10.9	-8.1

Source: Derived from World Bank, World Tables 1984 and table A1

Information on trends since 1981 is incomplete. It is apparent, however, that the world recession, drought and famine, and South African destabilisation have exacerbated the tendencies outlined above. The volume of manufacturing production in Zambia and Zimbabwe fell by 5-10 per cent between 1981 and 1983, but remained close to 1980 levels. Branches most affected appeared to be metals and metal products and wood products, while gains were registered in textiles, and clothing, and non-metallic mineral products. In Tanzania, constant price "industrial GDP" dropped a massive 43 per cent between 1980 and 1983 (30 per cent 1981-83), with particularly large quantity falls in textiles, shoes, cement, rolled steel, fertilisers and batteries. Volume statistics for leading commodities suggest that Mozambique's manufactured output was more or less static between 1980 and 1983, while Angolan output declined further between 1980 and 1982, notably in food and metal products. In the four remaining countries changes have been less dramatic. Lesotho suffered several plant closures, but moderate growth is likely to have occurred in Swaziland and Malawi while in Botswana a textile industry of fairly recent origin grew rapidly in the early 1980s.

It is not possible to estimate trends at the level of industrial branches for the region as a whole for lack of comparable data. Such comparison is nevertheless feasible in respect of four of the countries (Malawi, Tanzania, Zambia, Zimbabwe), which between them contributed over 80 per cent of regional MVA in 1980 (see table A1.2). The results suggest that over the decade 1970-80 growth was noticeably higher than the average in beverages, footwear, petroleum products, rubber and plastics, and lower in clothing, wood products, ceramics, glass, non-metallic minerals, metal products and non-electrical machinery. No clear distinction emerges between consumer, intermediate and capital goods, although construction materials, metal products of machinery appear to have lagged.

Much the same picture emerges from the statistics of output quantities in particular products over the decade 1972-81 (see tables A1.16-18). Again, interpretation is made difficult by incomplete time series and variable coverage between the countries. The general picture is one of very considerable variations in rates of growth between products. Abnormally high decline rates are slightly more frequent than increase rates, suggesting a tendency for a serious run-down in existing capacity to outweigh the successful establishment of new product lines. Positive rates of growth have on the whole been most common in food products (processed meat, margarine, vegetable oil, and flour), beer, textiles (woven cotton fabrics), industrial timber, and fertilisers, in other words in simply manufactured basic consumer

goods and inputs to agriculture and construction. Sugar is the only export product to have shown general expansion. In a number of other products, advances are counterbalanced by declines, or are recorded for one or two countries only. These include prepared animal feeds, cigarettes, wood pulp, paint, quicklime and cement, iron and steel, radios and batteries. Conspicuously absent are advances in chemical intermediates, machinery and equipment.

2.3 Some structural features of the manufacturing sector

A principal consequence of the upheavals of the last 15 years has been a realignment in the distribution of manufacturing activity (though not necessarily capacity) within the region. Angola and Mozambique's share in regional MVA (1975 prices) fell from 27 per cent in 1970 to 15 per cent by 1981; and Tanzania from 15 to 10 per cent. Zimbabwe, by contrast, increased its share from 30 to fully 46 per cent. Such a shift in the intra-regional balance assumes greater significance when it is recalled that constant price regional MVA fell by 30 per cent between 1974 and 1976 and has since remained static.

The result has been a growing polarisation in the geographical distribution of manufacturing production. In 1981 Zambia and Zimbabwe, the most industrialised of the SADCC countries, contributed nearly two-thirds of regional MVA, well ahead of their 36 per cent of regional GDP and their 21 per cent of the regional population.

Neither the unequal distribution of manufacturing activity nor its increasing polarisation are uniformly correlated with per capita income and population size. It is necessary first to distinguish Botswana, Lesotho and Swaziland, whose domestic markets will remain too small to support diversified manufacturing sectors even at levels of national income a good deal higher than the present and whose industry is in any case at present mostly export-oriented. Amongst the other six countries MVA and GNP per capita are broadly associated, the one obvious exception being Angola, whose oil income has not yet been transformed into industrial growth. The opposite is the case between per capita MVA and population size: the three largest countries (Tanzania, Angola, Mozambique) are also the least industrialised, indicating that even allowing for low per capita income, size of potential national market has not been a decisive factor in industrial growth to date.

On the other hand, size of urban population is a leading factor given the urban bias of domestic demand. But the relationship is far from clear-cut. Zimbabwe has by far the largest manufacturing sector, but only the third or fourth largest urban population and the second highest level of urbanisation. These urbanisation characteristics are closely matched by Angola, which,

however, has the smallest manufacturing sector of the six. The highly urbanised Zambian copperbelt has created the largest geographical concentration of demand for manufactured products in the SADCC region, but Zambia's MVA is half the size of Zimbabwe's. Urbanisation in Malawi, Mozambique and Tanzania is far less advanced, although the statistics may underestimate the townward drift of recent years, and the correlation with small manufacturing sector relative to GDP is more clear-cut. Their manufacturing sectors will therefore depend proportionately more on rural demand for expansion.

Comparative data on value added by industrial branch¹ are far from complete and an adequate up-to-date presentation of all nine national manufacturing sectors is not possible (see tables A1.2 and A1.3). It is therefore appropriate to consider them in three groups. Statistics are scantiest for Angola and Mozambique, whose economies have been severely dislocated since 1974. The 1970 breakdown of manufacturing production in Angola indicates a very heavy concentration in food products (49 per cent) and textiles (20 per cent) and to a lesser extent in non-metallic mineral products (6 per cent). Few other branches were entirely blank, but values were very small; in metals, metal products, machinery and equipment the combined contribution was only just over 5 per cent. A similar but slightly less stark pattern is apparent in the 1975 breakdown for Mozambique, whose manufacturing sector was three times as large. The breakdown also indicates significant contributions in beverages (10 per cent), tobacco (7 per cent), printing and publishing (4 per cent), non-basic chemical products (6 per cent), fabricated metal products (5 per cent) and transport equipment (3 per cent), and the established clothing industry would appear to be understated.

The post-independence disruption and the sudden large-scale exodus of colonists in both countries not only sharply curtailed output but also led to a radical reorganisation of production priorities away from elite consumer demand towards basic needs goods and essential intermediates. Volume statistics for selected commodities, although erratic, tend to show increased output in the late 1970s and early 1980s - before the renewed disruptions of 1983-4 - in such products as cotton cloth (both countries), blankets and clothing (Angola), matches (both) fertiliser and soap (Mozambique), tyres

1. Data on MVA by industrial branches are drawn from the UNIDO database and country sources, and are not directly comparable with trends derived from the World Tables, from which they at times differ appreciably. It must be stressed that an appreciable number of the branch values are derived from estimates, volume indices, and breakdowns of larger composites.

(both), machetes (both), steel semi-manufactures, hoes, and bicycles (all Mozambique).

The second group, contributing 4 per cent of regional MVA in 1981, consists of the three small countries adjacent to South Africa, Botswana, Lesotho and Swaziland. In each case the manufacturing sector is so small and fragmented that a number of branches are not represented at all - respectively 16 (in 1975), 17 (1975) and 11 (1980) out of a possible 27. Those which are may frequently comprise a handful of plants at most. As noted earlier, all three sectors are geared mainly to exports and their branch structures reflect the products of their larger exporting plants, meat in Botswana (57 per cent in 1975), textiles/clothing and furniture in Lesotho (23 and 13 per cent in 1975), and food products (canned fruit, meat, sugar), industrial timber, wood pulp, and fertiliser in Swaziland (38, 7, 29 and 9 per cent in 1980). Also noteworthy are fabricated metal products (11 per cent) and, of more recent growth, textiles in Botswana, printing and non-metallic mineral products in Lesotho (21 and 15 per cent), and also of recent establishment, electronics assembly in Lesotho and Swaziland.

The third group consists of the three largest manufacturing sectors, Tanzania, Zambia and Zimbabwe, which together with Malawi contributed 82 per cent of regional MVA in 1980. In these countries production is much more closely geared to the domestic market than in the second group and has suffered less severely from non-economic disruption than the first. Of the four Malawi is the smallest and least diversified. No output was recorded in 6 branches in 1980s, including basic metals, and food, beverages and tobacco contributed as much as 53 per cent of total MVA. The food sector is also proportionately high in Tanzania (36 per cent in 1980), but here national investment planning has boosted textiles and clothing (19 per cent), leather and footwear (5 per cent), and machinery (7 per cent). In both Zambia and Zimbabwe the production structure is a good deal more diversified and the branches are more evenly balanced. Relatively advanced in Zambia were clothing (11 per cent in 1980), non-basic chemical products (9 per cent), rubber products (6 per cent) and fabricated metal products (10 per cent), the latter also in Zimbabwe together with iron and steel (8 and 13 per cent in 1980). These are the only two manufacturing sectors in which capital goods production is relatively substantial (12 and 10 per cent respectively of 1980 MVA in ISICs 382-4).

Comparing the relative positions of the four countries in 1980, Zimbabwe remained by far the largest, with 57 per cent of their combined MVA, and Malawi the smallest with 6 per cent. This distribution is broadly replicated

at the branch level, although there are a number of variations (see tables A1.2 and A1.3). Food and tobacco exceeded the separate country shares of Malawi and Tanzania, but remained below in Zambia and Zimbabwe. Textiles were higher in Tanzania and lower in Zambia, while the opposite was the case in clothing, furniture and chemicals. Leather products were higher in Tanzania and Zambia but much lower in Zimbabwe, while in footwear Zambia's and Zimbabwe's positions were reversed. Zimbabwe's major deficiencies were in refined petroleum, rubber and ceramics, its strengths in basic metal industries, non-electrical machinery and scientific equipment. Zambia's position in metal products and electrical machinery is also noteworthy.

In terms of end-use it appears, as might be expected, that output is more heavily concentrated in light industries producing basic consumer goods in the smaller national sectors and in heavier and more complex processes in the larger countries. The pattern is not always clearcut for if the shares of individual branches in each country's total MVA are compared, Tanzania is relatively stronger in intermediate textile goods and Zambia in consumer textiles; and Zimbabwe, the most integrated of the manufacturing sectors, has an incomplete chemicals industry. The continued closure of the Feruka refinery, shut down by sanctions in the 1960s, also leaves it without a petrochemicals base.

These comparisons must also be qualified by the relative sizes of the branches themselves, some of which, as noted above, are small in terms both of actual value added and of their share in total production. Contrasts between countries are likely to be sharpest in the small, more technologically complex industries, especially in intermediates and capital goods, where individual plants may figure strongly.

Comparing shares in total branch production with each country's share in total MVA, the picture is, not surprisingly, somewhat different, the larger inter-country disparities being found in the high-output branches such as food, tobacco, textiles and clothing. Such disparities are also evident, however, in chemical products (paint, soap etc.), refined petroleum, iron and steel, and fabricated metal products.

Lack of comparative data precludes a region-wide assessment of changes and trends at the branch level, but such an assessment is once again possible in respect of Malawi, Tanzania, Zambia and Zimbabwe over the period 1970-80. Comparing the share of national in regional branch value added with the corresponding national share in regional MVA (see table 2.7), large increases in the relative share of the combined four-country total were recorded as follows:

Table 2.6 Overall supply and disposition of manufactured products by country, 1980
US\$m

Country	Supply		Disposition					
	Domestic	Imports	Exports	Domestic	Supplied from	Export	Import	
	Production	Imports	Exports	Consumption	dom. prod.	Ratios ¹	Ratios ²	
	US\$m	US\$m	US\$m	US\$m	US\$m	%	%	%
Zimbabwe	3702	1123	626	4199	3076	73	17	27
Zambia	2917	892	1281	2529	1636	65	44	35
Tanzania	874	973	117	1731	757	44	13	56
Swaziland	381	478	327	531	54	10	86	90
Malawi	364	418	89	693	275	40	24	60
Botswana	181	640	110	710	71	10	61	90
Lesotho	31	414	14	413	17	4	44	96
Total	8450	4938	2564	10,824	5886	54	30	46

Notes: 1. Exports as proportion of domestic production
2. Imports as proportion of domestic consumption

Source: Tables 2.12, A2.5 - A2.11..

**Table 2.7 Per capita distribution of supply and disposition of
manufactured products, 1980**

US\$m					
Country	Supply		Disposition		
	Domestic	Imports	Exports	Domestic	Supplied from
	Production			Consumption		dom. prod.
	US\$	US\$	US\$	US\$	US\$
Zimbabwe	537	163	91	609	446
Zambia	517	158	227	448	290
Tanzania	47	52	6	93	41
Swaziland	616	773	529	859	87
Malawi	60	69	15	115	46
Botswana	201	710	122	788	79
Lesotho	23	309	10	321	13
Total	211	124	64	270	147

Source: Tables 2.1 and 2.6.

Malawi:

food and beverages, wood products, chemicals;

Tanzania: paper, rubber, plastics, non-metallic mineral products,
electrical machinery and transport equipment;

Zambia: clothing, refined petroleum;

Zimbabwe: wood products and furniture, non-ferrous metals, metal
products, non-electrical machinery.

There were some correspondingly sharp relative falls:

Tanzania: wood products, furniture, refined petroleum, metal
products and non-electrical machinery;

Zambia: food and beverages, leather and footwear, plastics, wrought
non-ferrous metals;

Zimbabwe: rubber products.

These shifts in proportional distribution of production tend to reflect the establishment of import-substituting light industries in the less industrialised countries, where not infrequently the commissioning of a single factory greatly expands the value of output in its particular branch. Conversely, steep falls may reflect difficulties at particular large plants. Of particular note are the fall in Zambia's share of food production and the rise in Tanzania of output in machinery and equipment, the outcome of an emphasis in industrial planning on investment in capital goods capacity.

2.4 The supply and demand for manufactured goods

The analysis in the preceding section was based upon value added in manufacturing production and the place of the manufacturing sector in GDP. It could, therefore, take no account of the market for the goods produced. A complementary approach is to analyse the components of supply and demand for manufactured goods, distinguishing the sources of domestic supply (local production and imports) and its disposition (between exports and domestic consumption). This method is particularly suited to the assessment of domestic demand and thus of the possible scope for import substitution. Its results¹ may be understated, since they measure actual consumption rather than potential demand, which may be repressed to varying degrees by economic

1. These are given in detail in tables A2.5-A2.22. They are not directly comparable to the estimates of MVA presented the previous section since they are measured in terms of gross output and therefore include value added in previous stages of production in the primary sectors. This factor applies most particularly where value added in manufacturing is a relatively small component of the final price, as in the simple processing of raw materials. Furthermore, the data have been independently estimated, principally from country sources, and may differ from the two principal statistical sources employed in this study, the UNIDO data base and the World Tables.

dislocation and import controls. They may also be distorted in favour of particular groups of consumers. Understatement is likely to be strongest in countries in severe balance of payments difficulties and with respect to poorer consumers and the rural population generally. The potential for the local production of basic needs goods using domestic inputs may therefore be underestimated, a factor which is partly taken into account in SADCC's own sub-sectoral studies.

It has been possible to make country estimates for 1980 for seven of the nine SADCC members (groups 2 and 3 of the preceding section). For the remaining two, Angola and Mozambique, insufficient data are available but estimates would in any case seriously understate potential demand under present conditions. The results indicate that the total domestic consumption of manufactures in the seven countries was approximately US\$10,800 m in 1980, or US\$270 per capita (see tables 2.6 and 2.7). Both aggregate and per capita consumption are relatively low by international standards, moreover, its distribution between the seven countries is very unequal. Two of the larger countries, Malawi and Tanzania, comprised over 60 per cent of the total population but a mere 22 per cent of total domestic consumption. Conversely Zambia and Zimbabwe, with 31 per cent of the population, accounted for 62 per cent of consumption. Their per capita consumption was however exceeded by Botswana and Swaziland, which strongly relied on raw or lightly processed commodity exports.

It is clear that the seven-country group is heavily but unevenly dependent on imports. Deducting exports from domestic production, the total supply of manufactured goods from local production was just under US\$5900 m, or 54 per cent of domestic consumption, leaving a large US\$4900 m gap to be met by imports.¹ Inter-country differences were even more striking than in consumption as a whole. Zimbabwe, the most industrialised, contributed as much as 52 per cent of the total regional supply with a relatively low import ratio² of 27 per cent; and Zambia contributed 28 per cent with an import ratio of 35 per cent. At the other extreme Botswana, Lesotho and Swaziland accounted for only 2-4 per cent of domestic supply between them, while recording import ratios above 90 per cent.

Combining high export (60, 45 and 86 per cent, respectively) and import ratios, the three small countries are extreme examples of national economies which in respect of manufactures produce what they do not consume and consume

1. Imports and exports given for individual countries include intra-regional as well as external trade, and are therefore not equivalent to a net regional balance when added to regional totals.

what they do not produce. Zambia had a larger and longer established volume of manufactured exports and indeed the only trade surplus in manufactures amongst SADCC members. Industrial self-reliance was most nearly achieved by Zimbabwe, whose ratios were relatively low in both imports and exports. In Malawi, and Tanzania, on the other hand, while production was geared mostly to internal supply, it met well under half of even a very low level of domestic demand and the import ratios were correspondingly high. As might be anticipated there was a large overall trade deficit in manufactures, with imports nearly double the value of exports (see table 2.8). At first sight the level of manufactured exports was nevertheless surprisingly high, amounting to nearly 30 per cent of total output. The great bulk of exports were, however, processed agricultural commodities and unwrought refined minerals with a low MVA content. Frozen meat, sugar, wood pulp and above all base metals accounted for approximately 70 per cent of total manufactured exports, and in the country totals the proportion was appreciably less only for Lesotho, Tanzania and Zimbabwe (see tables A2.12 - A2.18). Zambia's refined base metals, which made up just under half of combined exports in this branch from the seven countries, comprised over 98 per cent of its total exports. In Tanzania refined petroleum (23 per cent) and in Zimbabwe steel (30 per cent) were respectively large components of the total. The only other industry to feature at all strongly was textiles and clothing, which contributed 8 per cent overall, but made up 15-20 per cent of exports by Botswana, Malawi and Zimbabwe and as much as 39 per cent of Tanzania's. Export ratios were highest in non-ferrous metals (94 per cent), of which very little domestic use is made, but rather lower in iron and steel, textiles and clothing (45, 23 and 10 per cent), which were mainly consumed domestically, and in food, wood, and pulp and paper products (23, 9 and 37 per cent), amongst which export and local-use commodities tend to be sharply distinguished.

Exceptions to this concentration of exports in processing and refining operations are relatively few. They are to be found mainly in final stage manufacturing and assembly operations in Lesotho and Swaziland directed towards the South African market. In the case of Zimbabwe, the leading exporter in 15 branches, the most significant exceptions were probably chemicals (ISICs 351-2: US\$19 m), fabricated metal products (ISIC 381: US\$17 m) and capital goods (ISICs 382-4: US\$38 m). Although these constitute only 15 per cent of total exports, they give Zimbabwe a small but potentially valuable entry to external markets in several relatively advanced branches of industry. It is noticeable, by contrast, that despite its relatively large

Table 2.8. Total supply and disposition of manufactures by industrial branch,
current prices 1980

Industry branch: ISIC Code Name	Supply			Disposition		
	Domestic	Imports	Total	Exports	Domestic consumption	Supplied from dom. prod.
	US\$m	US\$m	US\$m	US\$m	US\$m	per cent
311 Food products	1835	10	2145	16	1729	82
313 Beverages	506	38	544	2	542	93
314 Tobacco	216	18	234	10	224	92
321 Textiles	754	265	1019	171	848	69
322 Clothes	299	114	414	31	383	70
323 Leather products	99	11	110	12	98	89
324 Footwear	121	42	163	7	156	73
331 Wood & products	155	28	183	14	169	84
332 Furniture	97	40	136	2	135	71
341 Paper & products	172	108	280	63	217	50
342 Printed products	160	33	192	1	191	83
351 Industrial chemicals	318	377	695	53	642	41
352 Paints, drugs, soaps etc.	283	260	543	17	526	50
353 Petroleum products	164	625	789	29	760	18
354 Misc. petr. & coal prod.	18	12	30	16	14	15
355 Rubber products	153	65	218	4	214	70
356 Plastic products	67	29	95	-	95	70
361 Pottery and earthenware	17	5	23	0	23	76
362 Glass & products	12	25	37	0	37	32
369 Cement, bricks etc.	195	84	279	12	267	69
371 Basic iron and steel	420	235	655	188	467	50
372 Basic non-ferrous metals	1470	44	1514	1379	135	68
381 Fabricated metal products	397	212	609	31	579	63
382 Non-electrical machinery	157	738	895	24	870	15
383 Electrical machinery	186	355	540	23	517	31
384 Transport equipment	127	758	885	23	862	12
385 Professional equipment	4	54	59	2	56	4
390 Other manufactures	50	55	104	33	71	23
Regional Total	8450	4937	13386	2563	10824	54

General: Rough adjustments of exports and imports have been made for some branches:
all exports exceeding domestic production have been interpreted as
re-exports (or stock increases) and deleted.

Source: Sum of estimates for tables A2.5 - A2.11.

and diversified domestic industry, Zambian manufactured exports were virtually non-existent apart from non-ferrous metals .

A breakdown of manufactured imports (see tables A2.12 - 2.18) reveals the opposite pattern. 13-18 per cent of country import totals consist of refined petroleum in all except Lesotho, where there is little internal power generation or motorised transport, and Zambia, which refines imported crude. Far heavier in the import bill were metal products, machinery and equipment (ISICs 381-4), accounting for 42 per cent of the overall total. Import ratios were 37 per cent for fabricated products and over 85 per cent for non-electrical machinery and transport equipment. However, the seven-country averages conceal some significant variations in these key categories. In Botswana and Malawi the proportion of capital goods imports (ISICs 382-4) was only a little below the average of 38 per cent of total imports, but in Lesotho and Swaziland it was considerably less at around 20 per cent. In all four countries local production of both metal products and capital goods was virtually non-existent and over 90 per cent of supplies were imported. In Tanzania, Zambia and Zimbabwe, on the other hand, capital goods made up over 40 per cent of imports. Tanzania was still wholly dependent on imports for supplies of non-electrical machinery and transport equipment (100 per cent of domestic consumption), and very largely for metal products and electrical machinery as well (74 and 82 per cent respectively). But Zambia and Zimbabwe had already achieved a large measure of self-sufficiency in metal products (imports at 20 and 8 per cent) and partly so in electrical machinery (55 per cent each); while Zambia was making a fifth of its non-electrical machinery and transport equipment and Zimbabwe a third. Although the SADCC region as a whole remains very weak in both metal fabrication and machine-building, these capacities could represent a crucial nucleus for long-term regional self-reliance.

The regional balance of trade at the branch level repeatedly indicates a heavy preponderance of imports in the local consumption of manufactured goods (see table 2.8). The import ratio was under 20 per cent in only 5 branches; in as many as 12 it was over 40 per cent and in 8 over 60 per cent. The ratios were lowest (under 20 per cent) in those branches characterised by processing industry using mainly indigenous materials: food, beverages, tobacco, leather and wood, together with printing and publishing, which has a high value-added.

Imports were higher but under 40 per cent in predominantly light industry branches such as textiles and clothing, footwear, furniture, rubber and

plastic products, and ceramics, also in building materials, non-ferrous metals and fabricated metal products. Import domination was highest in products of the more complex and heavy manufacturing industries such as paper, chemicals, glass, steel, machinery and equipment.

The national shares of total regional production and consumption by branch underlines Zimbabwe's importance. Zimbabwe was the largest producer in 21 branches. In only five industrial branches was Zimbabwe's share of total domestic production under 40 per cent; Zambia's share was above 40 per cent in five branches; the branch share of any of the other five countries above 20 per cent in only six cases (see table A2.21). Domestic consumption, on the other hand, was rather more evenly distributed (see table A2.22).

Comparing branch with total manufacturing shares in the seven-country totals (table 2.9) it is apparent that amongst the four smaller countries very few branches were producing significantly more than their sectoral share.

In Tanzania food products, tobacco, textiles, leather and footwear stand out, reflecting a relative investment emphasis on basic needs goods. In Zambia, non-ferrous metals have a biasing effect on the sectoral share. When this is taken account of, almost a dozen branches can be listed. In Zimbabwe, whose sectoral yardstick is a little understated for lack of output in petroleum refining, no fewer than 16 branches were well above the country's sectoral share, mainly in the more complex and capital-intensive manufacturing processes.

Due caution should be exercised in interpreting the foregoing comparisons on the branch level. Surplus and deficit levels of output relative to a national sector's share in total production may frequently indicate concentration of productive capacity, but not necessarily comparative advantages, which hinge on a variety of additional factors. They are also only the most tentative of indicators of complementarities in production structures, which can only be properly mapped out at a more detailed level of product and capacity analysis. In certain respects the indicators are nevertheless suggestive. Given the small size of Botswana, Lesotho and Swaziland complementary specialisation in most branches of production which realizes economies of scale could be an important motor of their industrial development. Similar considerations apply to the two low-income, agriculturally-based economies Malawi and Tanzania. The relative strength of Zimbabwean manufacturing in all sectors makes it difficult to point out any particularly promising complementarity at the broad level of the industrial branch. The country could, however, play a prominent role in the coke, plastics, steel and transport equipment industries of the region, while it

Table 2.9. Percentage distribution of domestic production in branches by country, 1980

	BOT	LES	MAL	SWA	TAN	ZAM	ZIM
311 Food products	4.8	0.8	12.2	9.3	16.0	14.0	42.8
313 Beverages	6.2	-	4.8	2.9	7.3	46.5	32.2
314 Tobacco	-	-	8.2	-	27.9	23.5	40.5
321 Textiles	2.3	0.5	3.2	2.3	27.8	11.4	52.5
322 Clothes	1.0	0.5	3.3	0.2	5.4	37.4	52.3
323 Leather products	4.8	0.7	3.4	-	63.8	21.4	5.9
324 Footwear	-	-	3.2	-	34.4	7.1	55.3
331 Wood & products	1.4	-	8.2	11.7	10.2	23.7	44.9
332 Furniture	2.7	3.3	1.6	1.2	9.0	22.0	60.3
341 Paper & products	-	-	3.5	34.4	-	16.5	45.6
342 Printed products	1.8	1.0	4.7	5.2	-	25.0	62.4
351 Industrial chemicals	-	-	-	13.4	7.4	9.9	69.3
352 Paints, drugs, soaps etc.	1.1	1.5	-	2.6	3.2	34.7	56.9
353 Petroleum products	-	-	-	-	12.6	86.7	0.7
354 Misc. petr. & coal prod.	-	-	-	-	-	5.5	94.4
355 Rubber products	-	-	-	1.4	-	54.7	43.9
356 Plastic products	-	-	-	2.5	-	14.4	83.0
361 Pottery and earthenware	0.6	6.9	55.2	-	-	24.7	12.6
362 Glass & products	-	-	-	3.1	8.3	35.6	53.0
369 Cement, bricks etc.	5.3	1.0	6.6	2.3	12.8	27.8	45.1
371 Basic iron and steel	-	-	-	-	1.5	4.2	94.3
372 Basic non-ferrous metals	-	-	-	-	0.7	88.2	11.1
381 Fabricated metal products	0.3	0.1	-	3.7	3.8	34.5	57.5
382 Non-electrical machinery	7.7	-	-	1.5	-	28.2	62.5
383 Electrical machinery	0.3	-	-	7.5	9.3	29.4	53.5
384 Transport equipment	-	-	-	-	-	28.5	71.5
385 Professional equipment	-	-	-	-	-	40.4	59.5
390 Other manufactures	-	-	13.3	0.9	-	7.5	78.3
Total share in regional manufacturing	2.1	0.4	4.3	4.5	10.4	34.5	43.8

Source: Tables A2.5 - A2.11.

could co-operate with Zambia, Tanzania and Malawi, respectively, to strengthen the region's beverages, leather and ceramics industries.

Summarizing the survey of the components of domestic supply and consumption of manufactures, the general weaknesses of the seven SADCC countries are readily apparent. Production falls well below domestic consumption in nearly all branches, most of all in the more complex manufacturing processes and in capital goods, inducing a heavy, sometimes total dependence on manufactured imports. Most manufactured exports consist in processed raw materials and only small quantities of fabricated products, machinery and equipment have proved competitive in external markets. There are strong inter-country differences in per capita output and consumption, in the size of national markets, in the diversity of distribution of branch production. Zimbabwe stands out as having the largest and most integrated manufacturing sector and the dominant regional share in most industrial branches. Zambia's industry is also diversified; but those of Malawi and Tanzania are heavily concentrated in the more basic branches in food and textiles; while Botswana, Lesotho and Swaziland have little more than their export processing and assembly plants.

Several implications arise for the possible role of regional cooperation. First, in all countries there is considerable relative scope for import substitution in most industrial branches. Zimbabwe, despite having the lowest overall import ratio, is still the largest aggregate importer by virtue of the size of domestic consumption. Second, most countries have a low per capita consumption of manufactured goods and or a small national manufacturing sector, the domestic market may therefore frequently be too limited to support viable investments. Third, few industries and branches outside textiles and the export processing and assembly operations have succeeded, even in Zimbabwe, in breaking into export markets. All three considerations point to the advantages of regional cooperation and a wider regional market in improving the economic climate for industrial development. The sharp and growing inter-country differences in industrial strength, however, indicate the need to devote careful attention to the equitable distribution of the benefits of industrial cooperation, an issue which will be further considered in chapter 4.

2.5 The pattern of trade in manufactured goods

Manufactured goods make up more than 95 per cent of imports in most SADCC countries, the balance being crude oil (to those with refineries) and food (see tables 2.10 and 2.11). If processed fuels are excluded from manufactures, the proportion becomes more variable, but the basic pattern is

the same: at best small quantities of industrial inputs are imported in the raw state. Differentiating imports by Broad Economic Category for the five countries for which this breakdown is available, consumer goods generally comprise 10-20 per cent¹. The value of agricultural inputs to industry is greater in raw than in processed commodities, but the great bulk of other industrial supplies are manufactured, which may indicate a bias towards import-dependent processing or final-stage assembly operations. Industrial vehicles and parts make up much of the value of transport equipment except in Zimbabwe.

Exports follow a more varied pattern, as has been shown under 2.4 (see also tables 2.10 and 2.12). But exports largely consist of processed raw materials and unwrought metals. As a share of total exports, manufactured exports are highest from Swaziland (27 per cent), where the major commodity was fertilizer. Apart from the latter, the share of chemicals was very small. Textiles were a principal sub-sector in most countries. "Machinery and equipment" in Swaziland included an electronics assembly plant². In Zimbabwe, the only significant exporter of capital goods, the machinery and transport equipment branch comprised nearly a fifth of fabricated exports. Total fabricated exports were under 2-3 per cent from Angola, Mozambique and Zambia.

The general pattern of trade is thus strongly characterized by manufactured imports and raw material exports. Several high-volume commodities amongst the latter are upgraded by processing, but most are not. Otherwise, there is striking uniformity between the nine countries largely irrespective of their level of industrialisation, indicating that manufacturing production in the more diversified manufacturing sectors remains with few exceptions geared to domestic demand. The chief inter-country difference in imports structure is in the degree of emphasis on capital goods, import ratios in these categories being by some distance lower in the small, fragmented economies with little industrial investment.

Given so imbalanced a general trade structure, it is not unexpected that within the overall direction of trade the largest trade flows should be with the principal industrial countries, exchanging raw and processed materials for fabricated goods, machinery and equipment. In 1982³ over 80 per cent of

1. The lower capital goods share (15 per cent) for Zimbabwe may reflect low investment in the final stages of the war of independence in the year of reference (1979).

2. Malawi's relatively high proportion in this branch would appear to be mostly due to re-exports.

3. For sources and qualifications to the data, see the notes to table A2.1. "Regional trade" refers to the sum of the foreign trade of the nine countries, not flows to and from the region as a whole.

Table 2.10 Balance of trade and share of intra-regional trade, 1982

	exports	imports	balance	share of manufactures in:	
	US\$m	US\$m	US\$m	exports per cent	imports per cent
Angola	1731	1001	730		
Botswana	456	686	-230	18	97
Lesotho	35	527	-492	24	91
Malawi	232	291	-59	31	95
Mozambique	303	792	-489		
Swaziland	306	519	-213	88	95
Tanzania	480	1046	-566	22	80
Zambia	1059	997 ¹	62	99	80
Zimbabwe	1276	1639 ¹	-363	55	96
Total	5878	7498	-1620		

Note: 1. The I.F.S. cif values have been used for comparability.

Sources: World Bank, World Tables 1984; IMF, International Financial Statistics; Direction of Trade Statistics Yearbook 1983. For share of manufactures, base data for tables A2.5 - A2.11. ISIC 390 is excluded from the latter.

Table 2.11 Structure of imports by Broad Economic Category

per cent	Malawi 1980	Mozambique 1980	Tanzania 1980	Zambia 1979	Zimbabwe 1979
by principal group:					
1. food & beverages	5.6	4.0	8.0	7.3	1.1
2. industrial supplies	36.6	25.5	30.1	32.4	34.7
3. fuels & lubricants	14.6	22.5	20.3	17.6	29.3
4. capital goods	17.0	20.1	23.0	21.1	13.1
5. transport equipment	17.5	12.3	13.3	14.4	9.9
6. consumer goods	8.5	12.6	5.2	6.9	6.3
7. goods n.e.s.	0.3	3.1	0.2	0.2	5.6
total	100	100	100	100	100
by category:					
1. food & beverages:					
111 primary: industry	2.0	0.6	0.6	2.8	0.1
112 households	0.2	0.1	0.4	0.4	0.3
121 processed: industry	0.9	1.4	1.3	1.9	0.2
122 households	2.5	1.9	5.8	2.2	0.5
2. industrial supplies:					
21 primary	2.8	0.6	5.5	1.5	2.4
22 processed	33.8	24.9	24.6	31.1	32.3
3. fuels & lubricants:					
31 primary	1.1	-	9.5	15.2	0.1
321 processed: motor spirit	4.5	21.6	2.3	0.0	10.2
322 other	9.0	1.0	8.5	2.4	19.0
4. capital goods & parts:					
41 capital goods	14.7	(16)	20.6	17.2	9.9
42 parts & accessories	2.3	(4)	2.4	3.9	3.2
5. transport equipment:					
51 passenger cars	1.3	-	0.6	1.4	0.2
521 other: industrial	8.5	7.3	8.6	6.2	0.6
522 non-industrial	0.2	-	0.1	0.2	0.1
53 parts & accessories	7.0	4.9	3.9	6.6	9.1
6. consumer goods n.e.s.:					
61 durable	1.0	7.1	0.6	0.7	1.3
62 semi-durable	4.1	3.5	1.3	2.4	2.7
63 non-durable	3.4	2.0	3.3	3.8	2.4
by end use (excluding fuel):					
112,122,51,522,6 consumer	12.7	14.6	12.1	10.9	7.4
111,121,2,42,53 intermediate	48.8	36.4	38.3	47.6	47.3
41,521 capital	23.2	23.3	29.2	23.4	10.5
total	84.7	74.3	79.6	81.9	65.2
by stage of production (excluding fuel):					
11,21 primary	5.0	1.3	6.5	4.7	2.8
12,22,4,5,6 manufactured	79.7	73.0	73.1	77.2	62.4

General: For a definition of the categories and correlation with the SITC, see UN, Classification by Broad Economic Categories, (New York, 1976. ST/ESA/STAT/SER.M/53/Rev.1).

Source: UN, Yearbook of International Trade Statistics 1982

Table 2.12. Structure of exports by main category

per cent	SITC category	Botswana	Lesotho	Swaziland	Angola		Mozambique		Malawi	Tanzania		Zambia	Zimbabwe		developed countries		
		1981 ¹	1980 ¹	1982 ¹	1975	1979 ²	1975	1982 ²	1975	1980	1975	1980	1975	1979	1976	1982	1979
crude and processed raw materials:																	
all food items	0,1,22,4	23.0	9.2	48.1	25.2	17	64.1	54.9	92.4	86.5	54.2	58.1	1.3	0.3	36.2	43.4	11.4
agricultural raw materials	2 less 22, 27,28	1.5	16.7	19.5	6.5	0.4	18.9	10.1	2.2	2.2	26.4	17.5	0.2	0.1	9.1	9.4	3.9
fuels	3	-	-	0.9	52.0	72	10.8	18.2	-	-	5.6	4.7	0.3	1.2	1.2	1.6	5.9
- petr. and products	331-2	-	-	-	52.0	72	7.3	16.4	-	-	5.4	4.7	-	-	-	-	3.9
ores and gemstones	27,28,667	66.1	54.6	4.4	14.3	10	3.0	0.4	-	-	7.0	8.0	1.5	0.6	13.7	9.3	9.8
metals and metal semi-manufactures	67,68 part 699	0.1	-	-	0.1	(-)	-	-	0.4	0.2	0.1	-	95.2	96.8	26.6	26.5	
manufactures:																	
chemicals	5	0.8	0.3	16.7	0.1	(-)	0.3	(0.3)	0.6	0.5	1.0	0.7	0.3	0.2	1.1	1.6	10.4
other	6,8 less 567,67,68	6.1	20.2	5.8	0.7	(0.1)	2.6	1.8	3.1	6.3	4.0	10.2	0.5	0.5	9.4	6.4	21.6
machinery & equipm.	7	2.4	1.2	4.6	1.0	(-)	0.2	(0.2)	0.7	3.6	1.0	0.6	0.4	0.3	2.9	1.7	35.2
- machinery	71,72	-	-	0.2	0.6	-	0.1	-	0.7	1.5	0.0	0.5	-	-	2.2	1.5	21.7
- transport equipm.	73	-	-	-	0.4	-	0.1	-	-	-	-	-	-	-	0.6	0.2	13.6
unallocated		1.0	0.7	-	0.3	(-)	0.0	14.1	0.6	0.5	-	-	-	-	-	0.3	1.8
total		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
crude and processed raw materials		90.6	80.5	72.9	98.0	99	96.8	83.6	94.6	88.7	93.2	88.3	3.3	2.3	60.2	63.7	31.0
metals and semi-manufactures		0.1	-	-	0.1	(-)	-	-	0.4	0.2	0.1	-	95.2	96.8	26.6	26.5	
manufactures		9.3	21.7	27.1	1.8	(0.1)	3.1	(2.3)	4.4	10.4	6.0	11.5	1.2	1.0	13.4	9.7	67.2
share of regional MVA 1980		1.6	0.5	1.8		42		10.6		6.3		11.6		17.8		45.6	

- Notes: 1. Derived from national trade statements.
2. Incomplete summaries based on unofficial sources

Sources: UN, Yearbook of International Trade Statistics 1981, UNCTAD, Handbook of International Trade and Development Statistics 1983; national trade statistics publications; J.E.Torp, SADCC industrial cooperation within manufactures: country case study of Mozambique, (Copenhagen: Centre for Development Research, 1983. CDR Project Paper D.83.4); J.E.Torp, SADCC industrial cooperation within manufactures: country case-study on Angola, (Copenhagen: Centre for Development Research, 1983. CDR Project Paper D.83.5); J.T.C. Simoes (ed.), SADCC: energy and development to the year 2000, (SADCC/Beijer Institute/Scandinavian Institute of African Studies, 1984).

regional imports derived from industrial market economies, to which 64 per cent of all exports were dispatched (see table A2.1). Conversely, less than 5 per cent of the total trade flow was between SADCC countries themselves, leaving the region overwhelmingly oriented to foreign markets and suppliers in its trade relations. Trade with the rest of sub-Saharan Africa was even smaller at no more than 2 per cent in either direction.

There are nevertheless appreciable variations between the countries in the disposition of their trade relations. In 1982 imports the main regional suppliers were South Africa (approx. 35 per cent) and overseas industrial countries (46 per cent) (see table A2.1). Import dependence on South Africa, although difficult to gauge for lack of information, was much more general in the three SACU countries (averaging 88 per cent)¹, rather less than average in Angola and Zambia, and nil in Tanzania. The last three were the only SADCC members to take under 20 per cent of their imports from South Africa. In the six non-SACU countries, however, import dependence on South Africa (25 per cent) was somewhat less than on the industrialised countries as a whole and on the European Community in particular. Matched against exports, their trade balances with these two groups fluctuated between surplus and deficit but added up to a rough parity overall with exports covering more than 90 per cent of imports. Trade between the six and non-industrial countries (nearly 30 per cent of total exports) recorded a large surplus. Two-thirds of the exports of SACU countries went to the industrialised countries, which supplied under 10 per cent of their imports.

The most striking feature of this distribution of regional trade - apart from the very low level of intra-regional trade - is the large regional deficit with South Africa, which in 1982 took only some 7 per cent of SADCC members' exports but supplied 35 per cent of their imports. The SADCC region thus serves as a foreign exchange generator for the South African economy. Much of the deficit falls to the SACU countries, but the balance was also strongly negative for Malawi and moderately so for Zimbabwe.

The intra-regional trade pattern, dwarfed by external flows, is far from uniform. Any accurate assessment is virtually impossible for lack of reliable data, which in turn is partly the result of dislocation to the regional economy in recent years. Zimbabwe's independence in 1980 opened up the potential for a rapid increase in intra-regional trade and for a greater diversion of imports away from South Africa. Whether more than a marginal diversion (at real prices) has taken place is uncertain, but a sizeable

1. An unknown but probably not insignificant proportion originated overseas via imports to South Africa itself.

increase in intra-regional trade at current prices is observable between 1979 and 1982, most of it attributable to Zimbabwe, which doubled its share of exports to the region.

The pattern of intra-regional trade flows clearly depicts Zimbabwe's pivotal role (see tables 2.13 and A2.2). Not only did it quadruple its exports in four years (1979-82), but its success masked static or declining flows between other SADCC members. These flows declined from approximately US\$93 m to only US\$43 m, a mere 16 per cent of total intra-regional trade. The estimates for 1982, although tentative, suggest that the only significant intra-regional trade flows which do not involve Zimbabwe take place between Mozambique and Tanzania.

No breakdown of intra-regional trade by commodity of industrial branch is possible on the available data. SADCC's industrial sector strategy document included an appendix compiled partly from official sources which contains country tables of industrial commodities traded within the region¹. The range of commodities is fairly broad, with an emphasis on food, textiles and leatherware; but since no quantities are stated it is not possible to assess actual flows.

A 1982 breakdown of the direction of trade for Zimbabwe, the leading intra-regional importer and exporter, sheds some light on the composition of the trade flows (see table 2.14). Just under half the value of exports to the region in a year of grain surplus was in food and beverages and only slightly less in manufactures. Most of the latter were fabricated products; chemicals and machinery accounted for 7 per cent each. Food predominated in exports to Mozambique, manufactures in exports to Botswana and Malawi. Conversely, fuel comprised the bulk of imports from Mozambique (refined petroleum, coal) and Zambia (electricity), crude materials (ore) and manufactures (textiles) from Botswana, and both manufactures (clothing) and food from Malawi.

The breakdown also depicts in broad outline the structure of Zimbabwe's extra-regional trade. It reveals that a greater volume of manufactured exports went to South Africa than to the SADCC region, the South African market, on which Zimbabwean textiles are heavily dependent, taking the biggest share in fabricated products. Since Zimbabwe exported relatively little food to South Africa, manufactures made up two-thirds of the total, a much higher ratio than in exports to either SADCC or the industrial countries. Imports from South Africa were mostly manufactured goods, but the industrial countries, and especially the EEC, dominated in machinery and the more sophisticated products.

1. SADCC, Industry, (Blantyre, 1981). The commodities have been tentatively classified by industrial branches and presented in a regional country matrix (See table A2.4).

Table 2.13. Disposition of intra-regional trade, 1979 and 1982

(a) national shares of intra-regional trade and ratios to total trade

per cent	imports from region		exports to region		share in total trade 1982	
	1979	1982	1979	1982	imports	exports
Angola	17	3	0	..	0.7	0.0
Botswana	19	13	24	19	5.2	7.5
Lesotho	..	0	0	0	0.0	0.0
Malawi	9	9	5	8	8.2	9.9
Mozambique	13	13	5	6	4.5	5.6
Swaziland	2	1	3	3	0.6	2.6
Tanzania	4	4	21	2	1.1	1.3
Zambia	17	19	19	14	5.1	3.6
Zimbabwe	18	37	23	47	6.2	10.0
Total	100	100	100	100	3.5	4.6

(b) direction of intra-regional trade flows

US\$m	to the SADCC region:			
	including Zimbabwe		excluding Zimbabwe	
	1979	1982	1979	1982
from the SADCC region:				
including Zimbabwe	156	272	156	272
excluding Zimbabwe	121	144	93	43

Source: Table A2.2.

Table 2.14. Zimbabwe: Share of trade by country and SITC section, 1982

per cent SITC	food & beverages 0,1,4	crude materials 2	fuels 3	manufac- tures 5-9	total	chemicals 5	machinery 7	other manufactures 6,8,9
(a) exports to:								
SADCC:								
Angola	86.5	1.8	0.0	11.3	100.0	0.0	11.3	0.0
Botswana	42.9	2.5	0.1	54.6	100.0	1.9	5.5	47.2
Malawi	3.4	10.8	0.7	85.1	100.0	14.5	10.3	60.3
Mozambique	68.8	14.9	3.4	13.1	100.0	0.5	4.0	8.6
Tanzania	96.3	2.0	0.0	1.7	100.0	0.0	0.5	1.2
Zambia	40.6	1.8	14.8	42.7	100.0	15.3	8.5	18.9
total	46.5	5.7	5.2	42.5	100.0	7.2	6.6	28.7
other countries:								
South Africa	14.9	18.9	0.0	65.9	100.0	1.7	3.6	60.6
industrial	30.4	20.5	0.0	39.3	100.0	0.0	0.1	39.2
- EC	44.1	21.5	0.0	34.8	100.0	0.0	0.1	34.7
rest	56.4	16.1	4.1	23.1	100.0	1.8	0.8	20.5
total	40.3	17.6	1.5	40.5	100.0	1.5	1.6	37.4
(b) imports from:								
SADCC:								
Botswana	4.7	23.4	0.0	71.0	100.0	0.7	1.7	69.6
Malawi	38.2	8.8	0.0	52.9	100.0	6.3	0.0	46.6
Mozambique	2.3	1.3	96.0	0.7	100.0	0.1	0.0	0.6
Zambia	0.0	3.7	87.9	8.4	100.0	3.4	0.7	4.3
total	7.3	12.6	39.4	40.8	100.0	2.2	0.9	37.7
other countries:								
South Africa	1.7	2.9	14.6	80.9	100.0	19.5	28.6	32.8
industrial	1.4	2.1	0.4	96.4	100.0	11.0	61.4	24.0
- EC	1.3	0.7	0.5	97.6	100.0	10.7	56.6	30.3
rest	0.9	4.8	64.4	28.6	100.0	6.6	4.2	17.8
total	1.8	3.5	16.5	78.2	100.0	11.6	40.7	25.9

Source: Zimbabwe, Annual Statement of External Trade 1982

3. Raw material resources and processing

The preceding chapter has given an impression of the extent to which domestic demand for manufactured goods is not met by local production. It concluded that despite the depressed level and narrow range of that demand, there remains considerable scope for selective import substitution even in the short term. However for any substantial breakthrough into external export markets a long-term perspective will be needed. Demand analysis alone may, however, lead to underestimation, particularly in the field of exports. A complementary approach is to assess the endowment in natural resources, their possible uses, and the chances of economic exploitation, both for industrial inputs and for improving retained value added in commodity exports. As with domestic demand, it is beyond the scope of this study to attempt a detailed sub-sectoral analysis of raw material supplies, processing, interlinkages and markets, for which in any case adequate country data do not yet exist on a comparative basis. But a preliminary overview may enable tentative conclusions to be drawn as to the scope for resource-based industrialisation and the possible role of regional cooperation and complement sectoral and commodity analyses already done by SADCC.

3.1 Minerals

3.1.1 Mining and mineral resources

Viewed as a whole, the SADCC sub-region possesses a wide range of non-fuel mineral resources (see tables 3.1 and A3.3). A forthcoming study by UNIDO, entitled "Overview of mining and mineral resource-based industries in the Southern African Development Co-ordinating Conference (SADCC)" will provide a more detailed analysis than what is presented below. In several of the leading industrial minerals and in diamonds it is a major producer on a world scale. Four SADCC members are world-ranking producers and exporters in their own right, Botswana and Angola in diamonds, Zambia in copper and cobalt, and Zimbabwe in chrome, asbestos and lithium. The available information indicates that over 40 other minerals have been or are being exploited in the region, perhaps 10 of them on a significant scale in terms of international supplies or volume of ore mined.

Seen in regional terms, the mining sector produced 11 per cent of GDP in 1980, and matches manufacturing in its contribution to industrial output (see table 3.2). In real terms there was little overall expansion during the decade 1970-80, the annual rate of growth in mining value added, at 1.0 per cent in constant prices, barely exceeding that of GDP at 0.4 per cent. However, the regional average conceals major structural changes which have had a profound general impact on the economies of three of the SADCC member

Table 3.1. Principal SADCC minerals in an international perspective

Share of:

mineral	world resources			EC imports		world production	regional exports and
	SADCC	SA, Namibia	Zaire	SADCC	SA, Namibia	1980-82	world rank, 1980-82
	per cent	per cent	per cent	per cent	per cent	SADCC	SADCC
						per cent	per cent
<u>metallic</u>							
beryllium	(2)					2	Mozambique (40%) Zimbabwe (60%)
caesium	25	7				-	
chromium	30	68		13	50	6	Zimbabwe (100, 2nd)
cobalt	16	1	50	7	-	15	Zambia (89%, 3rd)
copper	7			14	9	8	Zambia (93%, 4th)
gold	2	50				1	Zimbabwe (95%, 12th)
lithium	3		8			15-20	Zimbabwe (100%, 2nd)
nickel				1	9	4	Botswana (51%), Zimbabwe (45%)
platinum	sig.	75					Zambia, Zimbabwe
rubidium	sig.	sig.					-
tantalum	sig.		60			2-3	Mozambique (33%), Zimbabwe (67%)
vanadium				5	26		
<u>non-metallic</u>							
asbestos	25	25				6	Swaziland (11%), Zimbabwe (89%, 3rd/4th)
diamond	sig.	sig.	sig.	20	35	23	Botswana (82%, 4th), (Angola (15%, 5/6th)
garnet	7	7					Zimbabwe

sig. - significant.

Sources: J. Hanlon, SADCC: progress, projects and prospects, (EIU, 1984), table 9.1; US Bureau of Mines, Mineral facts and problems 1980.

Table 3.2. Mining in the regional economy, 1970-80

	Mining production at constant factor cost, 1970 prices			Annual growth rates 1970-81, constant prices		Share of mining in GDP			Share of national in regional mining production, current prices	
	1970	1975	1980	GDP	Mining	1970	1980	1980	1970	1980
	US\$	US\$	US\$	per cent	per cent	per cent	Const. prices per cent	Current prices per cent	per cent	per cent
Angola	85	186	155	-7.3	4.8	5.5	18.0	25.2	9.8	48.0
Botswana ¹	15	25	108	12.6	22.4	11.4	23.3	31.6	1.7	10.5
Lesotho	1	0	7 ³	7.4	16.6	1.5	5.7	6.1	0.1	0.8
Malawi	n.a.	n.a.	n.a.	6.2 ²		(0)	(0)	(0)	(0)	(0)
Mozambique	6	11	5	-2.1	-0.8	0.3	0.4	0.6	0.7	0.8
Swaziland	(6)	7	3	4.5	-7.8 ³	5.3 ⁴	2.0	(2.0)	0.7	0.3
Tanzania	14	10	9	4.0	-4.9	1.3	0.6	0.6	1.6	0.9
Zambia	645	665	505	0.4	-1.5	36.3	29.1	16.2	74.7	23.1
Zimbabwe	91	131	(166)	1.6 ²	3.4 ²	7.0	8.6	8.1	10.5	15.6
Total	863	1055	958	0.4	1.0	10.6	11.3	10.7	100	100

Notes: 1. Market prices

2. 1970-79

3. 1972-81

4. 1972

5. Mostly the output of the Letseng-La-Terei diamond mine, which was closed in 1982

Source: Derived from World Bank, World Tables 1984

states. On the one hand, major expansion in Angola's petroleum output (coupled with a steep rise in value per unit) and the founding of a large-scale diamond mining industry in Botswana, transformed mining into the leading sector of their national economies and the dominant earner of foreign exchange. On the other hand, the precipitous decline in base mineral prices, especially of copper, brought the Zambian copperbelt, by far the largest mining complex in the region, into more or less permanent crisis. These trends have continued into the 1980s: despite the weaker oil and diamond markets, Angolan and Botswanan output and earnings have increased strongly, while the copper price remains near a half-century low in real terms and Zambian mine tonnage has fallen.

The rapid growth of mining value added in Botswana, Angola and Zimbabwe has changed its regional distribution, although the latter two were already significant producers by 1970. But strong inequalities remain. In 1980, 59 per cent of regional mining production (current prices) was concentrated in countries contributing only 24 per cent of regional GDP (Angola, Botswana), and represented mostly high-value minerals (diamonds, oil). In a second country pair (Zambia, Zimbabwe), the proportions were more evenly matched at 39 and 36 per cent respectively, reflecting the depressed prices of base metal mining which accounts for nearly all of Zambian output and for a substantial part of Zimbabwean output.

The remaining five countries, contributed less than 3 per cent of regional mining output compared with 39 per cent of regional GDP. In these circumstances the closure of individual mines, as in Lesotho (diamonds) and Swaziland (iron ore), can represent a substantial loss to the sector and to the GDP generally.

The major centres of current mineral production in the SADCC region (see table 3.3) thus are the Zambian copperbelt and the Angolan oilfields, which are complemented by a handful of widely scattered large-scale operations or mining centres: the alluvial diamond fields of north-eastern Angola, the three diamond mines in Botswana, several base metal mines in Botswana (copper/nickel) and Zimbabwe (copper, nickel, iron, chrome), and five principal collieries in Botswana, Mozambique, Swaziland, Zambia and Zimbabwe. There is in addition the more diversified mining industry in Zimbabwe, which is differently structured, comprising a considerable number of medium- and small-scale mines producing a wide range of minerals in substantial quantities. Other operations, although sometimes significant in their own right, are mostly medium- to small-scale or artisanal, with the exception of a handful producing salt, construction materials and fertilizer ores.

Table 3.3. Distribution of mines in the SADCC region

tonnes per year	Open-pit						underground						all total mines
	A more than 3,000,000	B 1-3,000,000	C 500,000-1,000,000	D 300-500,000	E 150-300,000	total	A more than 3,000,000	B 1-3,000,000	C 500,000-1,000,000	D 300-500,000	E 150-300,000	total	
Angola	1	-	-	-	-	1	-	-	-	-	-	-	1
Botswana	2,3	9 ¹ ,10	-	-	-	4	-	9 ¹	-	-	-	1	4
Lesotho	-	11	-	-	-	1	-	-	-	-	-	-	1
Malawi	-	-	-	-	-	-	-	-	-	-	-	-	-
Mozambique	-	-	-	-	-	-	-	-	-	-	34	1	1
Swaziland	-	-	-	-	-	-	-	11	-	-	-	1	1
Tanzania	4	-	21	-	-	2	-	-	-	-	-	-	2
Zambia	7 ¹ ,8 ¹	-	-	-	35	3	5,6,7,8	13,14,15	-	30	-	8	9
Zimbabwe	-	17,18	27,28	-	-	4	-	16,17,20	21,23,24 25,26,27,28	31,32, ,33	36,37, 38,39	17	20
total	6	5	3	-	1	15		6	7	4	5	28	39

General: Several apparent inaccuracies in the source have been corrected. Angola's diamond operations, although largely alluvial, have been added. The numbers refer to the individual mines in table A3.2.

Note: 1. Both open-cast and underground, therefore counted twice except in the overall total.

Sources: Mining Magazine, January 1984, tables A and B; World Mines Register, 1981-2.

Over the last decade the rapid growth of capital-intensive, highly profitable petroleum and diamond mining has proceeded alongside declining output and marginal returns in the more labour-intensive base metal sub-sector. Although both trends seem set to continue, the latter is likely to be partly compensated by a number of new developments, particularly in iron ore (Angola, Tanzania) and non-metallic minerals. These include the large natural gas fields along the coasts of Mozambique and Tanzania, coal fields in Botswana, Mozambique, Swaziland and Tanzania, potash in Botswana, phosphate rock in Angola and Tanzania, and salt in Angola, Mozambique and Tanzania.

The current level of mining activity is a far from adequate guide to the extent of exploitable mineral resources in the region. Much installed mine capacity is under-utilised, run down or abandoned; proven reserves remain untouched and identified reserves untested. Over large tracts of the region systematic prospecting has barely begun. The mineral-rich geological formations which much of the SADCC region shares with its neighbours to the north and south are likely to contain a volume and variety of resources sufficient to sustain both the long-term expansion of the mining sector in all member countries, except possibly Lesotho, and its diversification on a regional basis (see table A3.6). A rough and ready indication of their potential is given by the extent of mineral exploitation where prospecting has been intensive, notably in South Africa, which is one of the world's foremost mineral producers, and in Zimbabwe. It is also suggested by the lengthening list of major finds arising from often limited prospecting efforts over the last 15 years.

An analysis of the reasons for the depressed and unevenly developed state of mining in the SADCC region is beyond the scope of the present study and of the available information, although the significance of depressed commodity prices, which have brought many base metal mines to the brink of closure in the early 1980s, will be discussed in the following chapter. Many of the other principal factors are shared with manufacturing industry. Lack of transport and power infrastructure particularly inhibits the exploitation of large-scale reserves with a low unit value. The South African-sponsored assault on the region's strategic rail network and power facilities has disrupted exports, increased costs and blocked the reopening or expansion of existing mines and the development of new reserves. Deteriorating external market conditions and long-term prospects for the traditional industrial minerals in which SADCC reserves are strong have also raised the threshold of commitment to serious prospecting and development by the mining TNCs, whose participation is frequently indispensable for capital- and technology-

intensive projects of any size. There has additionally been a strong historical bias in favour of South Africa in prospecting and investment by the same TNCs, a number of them South African-based. The bias has been corrected in respect of diamonds and asbestos but less so in other minerals for which the SADCC region could provide a new or larger alternative source of supply (chrome, iron ore, several base metals, coal, also caesium, rubidium, garnet). Such distortions, not all of them economic in origin, indicate the potential for a more broadly based expansion of mining in the SADCC region. Regional co-operation through SADCC programmes, notably infrastructure, could play a significant role and thereby diversify the supply of raw materials to local industry.

3.1.2 Mineral processing and industrial linkages

Most metallic ores currently mined in the SADCC region, together with gemstones and hydrocarbons, rely heavily and often exclusively on demand in the industrialised countries. Local industrial demand is small, and even sustained growth would exploit an insubstantial part of the reserves of several of the leading minerals, which are large by world standards. The terms of investment will therefore continue to be set primarily by world market rather than local conditions and influenced by the TNCs which tend to dominate mining finance, processing and marketing.

Much of the output of metallic ore in the SADCC region is already locally refined or smelted (see tables 3.4 and A3.5). Nearly all the copper, lead, zinc and by-product metals mined from the Zambian copperbelt are now refined before export in a network of concentrators, smelters, refineries, kilns, sintering and leach plants. Installation of a US\$ 250m leach plant was started during 1983 to extract an estimated 520,000 tonnes of copper, equivalent to nearly a year's current production, from large tailings dumps over a period of 15 years. In Zimbabwe, gold, copper, nickel, tin, cobalt and other by-product metals are nearly all refined into unwrought metal or slimes. Recent trade statistics indicate that lithium and the low-volume metals tungsten, antimony, beryllium, tantalum, silver and platinum are exported mostly as ores and concentrates. Few other minerals produced in the SADCC region, metallic or non-metallic, are processed beyond concentration before export. Ore from Selebi-Phikwe is smelted to copper-nickel matte but not refined, while Botswana's diamonds are sorted locally but not cut. Other ores may be technologically unsuited or too low in volume for pre-export processing.

There is some scope for further primary processing. The volume of regional production would seem to suggest the possibility of diamond cutting

Table 3.4. Processing and local consumption of base metals produced in SADCC countries, 1978-82

	Stage 1 Smelting/refining					Stage 2 Refining					Stage 3 Basic metal industry				
	production	ex-ports	locally retained	stocks consumption	ISIC372001	production	ex-ports	locally retained	stocks consumption	ISIC372004	production	ex-ports	locally retained	stocks consumption	ISIC37201
Copper (000 tonnes)	mine	smelted				refined:									
Mozambique	(6.2)	(16.6)	16.6 ¹	-	(-0.4)	-	-	-	-	-	-	-	-	-	-
Zambia	393	599	10.0	589	-	588	588	(-)	-	2.3	(2.3)	0.3 ⁶	(2.0)	0.3 ⁶	(2.3)
Zimbabwe	28.0	305	(16.7)	(13.8)	-	13.8	(8.5)	(5.3)	0.1 ²	66	(6.6)	0.3 ²	(6.4)	0.6 ²	(7.0)
Total	637	646	43.3	603	-	602	597	5.3	0.1	8.9	8.9	0.5	8.4	0.9	9.3
Lead (000 tonnes)						refined:									
Zambia	17.0				(5.0)	12.0	8.7	3.3	0 ⁶	2.2	(2.2)	- ⁶	(2.2)	- ⁶	(2.2)
Total	17.0				5.0	12.0	8.7	3.3	0	2.2	2.2	-	2.2	-	2.2
Zinc (000 tonnes)						refined:									
Zambia	45.4				(7.0)	37.4	36.0	1.4	-	1.4	(-)				
Tanzania	-					-	-	-	9.0	9.0	steel etc.				
Zimbabwe	-					-	-	-	2.7 ²	(2.7)	steel etc.				
Total	45.4					37.4	36.0	1.4	11.7	13.1					
Nickel (000 tonnes)		smelted:			ISIC3720	refined:				ISIC3720					
Mozambique	(6.8)	(16.8)	6.8 ¹	-	-	-	-	-	-	-	-	-	-	-	-
Zimbabwe	6.8				(2.3)	14.5	14.5	-	-	-	(-)				
Total	3.6	16.8	16.8	-	-	14.5	14.5	-	-	-	-	-	-	-	-
Pb (tonnes)		smelted:			ISIC372049										
Tanzania	14	18	10	8	-										
Zambia	(10)	(10)	(10)	-	-										
Zimbabwe	1042	1042	898	126	-						(126)	- ²	(126)	0 ²	(126)
Total	1070	1052	918	126	-						126	-²	126	0²	126
Chromium (000t)						ferro-alloys:				ISIC371013					
Zimbabwe	244 ³				(299)	157	148	9	-	9					
Total	244³					157	148	9	-	9					
Iron+steel (000t)		pig iron:			ISIC371010	crude steel: ³				ISIC371010-9	iron+steel comp ⁴				ISIC371025-37
Zimbabwe	222 ⁴	-	-	-	1.4	1.4	-	-	9.7 ⁵	-	17	-	17	-	-
Tanzania	-0.6 ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zimbabwe	757 ⁴	44.5	3.4	41.1	-	41.1	731	269	462	-	462	(462)	199	261	(10)
Total	978⁴	46.5	3.4	41.1	1.4	42.5					479	199	278		

Notes: 1. Content of Cu/Ni matte
 2. 1982
 3. Cr₂O₃ contented ore (approx.48 per cent)
 4. Pb content of iron ore
 5. 1978-81
 6. 1979

General note: All figures in the 'locally retained' and 'stocks consumption' columns are first estimates only, except those for copper and lead consumption. Figures in brackets in the country rows are derived. Because of time lags and differences between the sources, the rows do not sum to identical totals. Except where indicated, all values are annual means for the period 1978-82. The countries covered exclude those where there appears to be no local processing, in other words minerals exported unprocessed and consumption met entirely from manufactured imports.

Principal sources: World Mineral Statistics; World Metal Statistics; official country statistical publications.

which in India operates partly on a cottage industry basis. But capital costs, training, access to markets, information and outlets, international competition and security could each prove formidable obstacles.

Stone-polishing, exploiting the diverse deposits of precious and semi-precious stones, a number of which are already worked, may hold greater promise and could extend the exploitation of the reserves. Both mining and polishing are suited to low-cost, small-scale operations of some value in creating employment and self-reliance.

In metals, export-based steel-making is unlikely to be very profitable for years to come given severe world over-capacity, depressed prices and extensive market manipulation. Where not undertaken to meet regional demand, the mining of the region's extensive iron ore reserves, particularly in Angola, may therefore depend directly on raw exports, enhanced where possible by beneficiation, as in the case of the Kassala-Kitungo deposits in central Angola, from which ore slurry is to feed a pelletising plant in Luanda. Production of direct-reduced sponge iron from this supply and from the banded ironstone deposits identified in central Mozambique, drawing on both countries' natural gas reserves, are additional possibilities, although export prospects are uncertain.

In non-ferrous base metals, any major expansion is improbable in current market conditions and existing spare refining capacity in Zambia and Zimbabwe could be used to accommodate variations in output and medium-scale new developments. At present the existing opportunities for regional co-operation appear not always to be taken up. In the case of Selebi-Phikwe, where metallurgical problems had originally deterred locating a new refinery on site, reduced supplies of copper-nickel matte from Amax, its part-owner and US-based refiner, led to 4000 tonnes being processed during 1982 at the Kiffel Flats refinery in Zimbabwe in short-term consignments. But contractual terms were not agreed, the refinery's main Zimbabwean supplier closed down in 1982, followed by the refinery itself in 1983, and Selebi-Phikwe's ore continued to be exported largely unprocessed.

Regional co-operation might also facilitate the exploitation of reserves whose viability is strengthened by processing at or near the site of extraction. A possible candidate is bauxite, deposits of which are located in Malawi, central Mozambique, and Zimbabwe and which has been mined on a small-scale in the latter two countries for non-metallic uses. The very large quantities of power required for the processing of bauxite into alumina and especially aluminium could potentially be supplied from the Cabora Bassa hydroelectric complex. The economic advantages of processing before export

are far from assured, but would give the SADCC region a currently lacking indigenous capacity in a basic industrial metal.

Non-metallic minerals, excluding gemstones and fuels, are mined mainly for domestic use and being generally of low value per unit weight both before and after initial processing, are not readily exportable over long distances. Chrysotile asbestos, principally from Zimbabwe, whose output is of spinning grade and important in world trade, is the one high-volume exception. Varying, mainly small quantities of salt and cement have also been exported from the coastal states where closeness to sea transport is a critical cost advantage. Trade has usually been between Mozambique and Tanzania and from Angola to West Africa, and in view of the sizeable spare capacity in existing plant there may be potential for reaching a broader range of markets.

The linkage between export processing and local industry is significant in a number of instances, but at best small quantities are channelled into local manufacturing. The lack of metallurgical heavy industry outside Zimbabwe, a situation dictated by a host of factors, severely restricts the industrial usage of local minerals. In semi-manufactures, copper cable is produced by a Zambian plant and finished steel from crude imports by Angola, Mozambique and Tanzania, but in both cases in small quantities, reflecting in part the intermittent and fragmented demand from the fledgeling metal engineering industries. Most industrial requirements, which are generally rather greater in construction and mining than in manufacturing, are met by imports of finished and fabricated metals.

The one substantial exception amongst SADCC members is Zimbabwe, which for several decades has produced steel from indigenous iron ore. In 1983, the Zimbabwe Iron and Steel Corporation (ZISCO) had an annual intake capacity of 1m tonnes of iron ore, and a Z\$ 200 m investment programme was planned to improve efficiency and to build a new sintering plant so as to exploit more fully a nearby source of ore. The industry supplies a substantial part of national requirements in crude steel together with a large surplus for export, accounting for nearly two-thirds of the total output of more than 700,000 tonnes a year over the period 1978-81 (see table 3.5). However, the fact that imported semi-manufactured and finished steel supplied approximately 25-30 per cent of domestic steel consumption in 1982 implies a lack of downstream capacity in basic metal manufacturing.

In the long term basic metal industries will be an essential foundation for the domestic use of local minerals and for integrated industrial expansion, and given the present lack of capacity would be a component of a core industries strategy. The high short-run costs, limited markets and

Table 3.5 Zimbabwe: trade and estimated production in iron and steel products, 1982

a) Trade by industrial origin

000 tonnes

ISIC	SITC	item	domestic exports	imports	re-exports	balance
371004	67140	ferro-manganese	-	2.6	-	- 2.6
371010	67120	pig iron	5.0	-	-	5.0
371013	67152.9	ferro-alloys n.e.s	-	0.8	-	- 0.8
371019	67259	iron+steel:blooms, billets, slabs, sheet bars	253	0.1	-	253
371028	6732	rods, bars	77.3	0.1	-	77.2
371035-7	6733-5	channel, angels, sections	9.4	12.1	0.4	- 2.3
371040-58	674	sheets, plates	0.9	97.4	0.6	-96.5
37106	676	hoop and strip; railway track material	2.6	10.9	0	- 8.6
371070	677	wire	1.9	0.3	-	- 1.6
371076,9	678	pipes, tubing, boltings	1.1	4.1	0	- 3.0
37108	679	grids etc; unworked casting and forging	0	-	0	0
3800	282	scrap	8.3	-	-	8.3

b) Summary by approximate stage of manufacture

000 tonnes

Stage	ISIC	iron + steel	pro-duction	net imports	implied consumption
1	37016-22	ingots, blooms, billets, slabs, sheet bars	528	-253	(275)
2	37025-37	rods, bars, angles, sections, shapes	(275)	- 74	(201)
3	37104-8, 3800	sheets, strip, wire, tubing, fittings, railway track material, etc scrap	(201)	101	(302)

Note: 1. Domestic exports plus re-exports less imports

Sources: Zimbabwe, Statement of external trade, 1982; World Mineral Statistics 1978-82; table

uncertain prospects for investment sufficient to achieve adequate economies of scale suggest that the larger projects could best be considered on a regional rather than a national scale, and that co-ordinated access to regional markets could favour smaller, more specialised plants and products adapted to the specific raw materials and output requirements of the region.

In addition to base metals a number of non-metallic ores are of industrial significance, notably for construction materials and chemicals. In cement the initial SADCC sub-sectoral survey demonstrated that there was already substantial over-capacity in the region as a whole and that effort should be concentrated on increasing and diversifying its utilisation as a basic material (see table 3.6). On the other hand, the wide range of structural clay and ceramic minerals to be found within the region, if not always evenly distributed, is at present little exploited. Together with cement these could supply both factories and small-scale manufacturing units, the latter decentralised to their centres of end-use, if the formidable difficulties of transport and distribution can be overcome.

Another field of potential resource-based expansion, currently under active national and SADCC consideration, is agricultural chemicals. The initial SADCC survey estimated that a quarter of total regional consumption of fertilisers was imported in 1980/81, the region being self-sufficient in phosphates only (see tables 3.7 and A3.7). A later assessment has put the import requirement rather higher at 60 per cent, with much of the fertiliser and inputs coming from or through South Africa.¹ Plants in Mozambique and Swaziland using imported inputs have recently been closed as uneconomic. Yet most of the raw materials are or could be extracted and produced from regional reserves - e.g. ammonia from coal gasification (Zambia) and natural gas (planned in Angola, Mozambique and Tanzania), and potash from soda ash (planned in Botswana). Two major constraints, the heavy capital cost and large minimum plant size, could best be tackled through a complementary regional framework for the supply of raw and processed inputs and the co-ordination of investment and production. Regional demand is nonetheless likely to remain too low in the medium term to absorb the projected output of urea from natural gas - the capacity of the planned Tanzanian plant has been estimated at five times the regional demand. External export markets, currently rather weak, are likely to remain important.

Natural gas is a potential feedstock for other major chemical processes and the large fields so far identified could in the long run supply a range of processes manufacturing basic industrial chemicals, resins, plastics and

1. SADCC, Industry, vol. 3: fertilizers, (Maseru, 1983); J. Hanlon, SADCC: progress, projects and prospects, (EIU, 1984), p. 3-4.

Table 3.6. Cement manufacturing in SADCC countries

(a) local and imported inputs

	locally produced raw materials	intermediates	imported
Angola	adequate	paper bags	asbestos ¹
Malawi			coal ¹ (Mozambique) gypsum (Cyprus, Israel)
Mozambique	adequate		gypsum ¹
Tanzania	adequate	paper bags	explosives
Zambia	adequate	paper bags	
Zimbabwe	adequate	80% of spares	gypsum (non-SADCC)

(b) plant capacity, production and sources of supply, 1982

	installed plant capacity		produc- tion 000t	capacity utilisation %	domestic supply			consumption 000t	%
	No.	000t			imports 000t	exports 000t			
Angola	2	840 ²	300	36	-	-	300	15	
Botswana	-	-	-	-	80	-	80	4	
Lesotho	-	-	-	-	70	-	70	3	
Malawi	1	175	80	46	10	-	90	4	
Mozambique	3	990	303	31	-	100	203	11	
Swaziland	-	-	-	-	50	-	50	2	
Tanzania	3	1250	400	32	20	10	410	20	
Zambia	2	500	300	60	-	50	250	12	
Zimbabwe	2	1200	560	47	4	49	515	28	

(c) production, 1978-82

000 tonnes	1978	1979	1980	1981	1982
Angola	(280)	262	253	(270)	
Malawi	103	113	92	78	53
Mozambique ³	(355)	301	259	290	303
Tanzania	272	289	286	393	
Zambia	254	239	299	302	
Zimbabwe	404	391	469	588	
Total	1670	1600	1660	1920	

- Notes: 1. Possible unexploited local resource.
 2. Includes old Lobito plant (capacity 120,000 tonnes, utilisation 30-40%). Machinery for a new 520,000 tonne plant is on site in Luanda but not yet installed.
 3. Including 10 per cent clinker.

Sources: SADCC, Industry, vol. 3: cement, (Maseru, 1983); country data; Yearbook of Industrial Statistics 1981; J.E.Torp, SADCC industrial cooperation within manufactures: country case study of Mozambique, (Copenhagen: Centre for Development Research, 1983. CDR Project Paper D.83.4), table I; J.E.Torp, SADCC industrial cooperation within manufactures: country case-study on Angola, (Copenhagen: Centre for Development Research, 1983. CDR Project Paper D.83.5), table I; UN Secretary-General, Assistance to Mozambique: report, (UN General Assembly, 1984, A/39/382. Special economic and disaster relief assistance: special programmes of economic assistance), table 7.

Table 3.7. Fertiliser production capacity and sources of supply

a) capacity, 1980/81

Fertiliser (000t nutrient)	Botswana	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe	Total
Nitrogenous (N)								
Urea	-	-	P	-	P (290)	-	-	-
Ammonium sulphate	-	-	8	-	12	11	-	31
Ammonium nitrate	-	-	-	18	-	25	76	119
Amm. calcium nitrate	-	-	-	18	12	36	76	150
Phosphatic (P₂O₅)								
Double superphosphate	-	-	6	-	-	-	40	46
Triple superphosphate	-	-	-	-	39	-	20	59
Potassic (K₂O)								
total	-	P(35)	8	18	39	-	60	P(30) 105
Total	-	-	14	18	51	36	136	255
per cent	0	0	5.5	7.1	20.0	14.1	53.3	100

b) capacity and sources of supply 1980 + 1985¹

Fertiliser (000t nutrient)	capacity		production		net imports		consumption	
	1980	1985	1980	1985	1980	1985	1980	1985
Nitrogenous	150	475	153	483	50	-180	203	313
Phosphatic	105	135	104	134	-10	-	94	134
Potassic	-	35	-	35	54	45	54	80
Total	255	645	257	652	94	-135	351	527

P - planned new capacity (approx. tonnage in brackets)

Note: 1. The interrelationship between the categories is uncertain. 'Production', which is derived (consumption less net imports), approximates to full capacity utilisation, which is unlikely in practice.

Source: SADCC, Industry, vol.3: fertilisers, (Maseru, 1983), p.36-7 and Appendix IV

fibres. An associated possibility, already proposed for study within the SADCC framework, is for a petrochemicals complex in Angola. Although the very high capital cost and complex technology required would pose formidable problems in financing, management and training, and in establishing downstream linkages and local markets, the industrial exploitation of one of the region's richest natural resources is of fundamental strategic significance to the long-term prospects of integrated regional manufacturing expansion.

The fuel minerals, notably petroleum and natural gas, have important industrial applications, both directly as feedstocks and indirectly through the by-products of the refining processes. Water may itself function as a raw material input in, for example, electrical hydrolysis as in the proposed ammonia plant in Malawi. Indigenous sources of energy and water are nonetheless of considerable strategic importance to the location and comparative costs of industrial investment.

3.2 Agriculture

Relationships between the manufacturing and agricultural sectors are at the same time more complex and closely knit than in the case of mining. Yields and the marketed output of agricultural commodities destined for industrial processing are related to the ability of domestic manufacturing to supply farmers with basic consumer and producer goods. Even where viable, plantations, forestry and large-scale agro-industry are likely to remain enclave activities, unless a conscious effort is made to integrate them in the agricultural production sequence. The local processing of commodity exports is also in a number of instances a means of increasing retained value added and providing local inputs to other manufacturing processes. But the overwhelming majority of producers in the SADCC region are small farmers and their output accounts for the bulk of production in most agricultural commodities, which are principally destined for household and urban food consumption.

Full analysis of agricultural policy and the specifics of linkages with industry is beyond the scope of this study. It may be noted, however, that while livestock numbers have been increasing, FAO statistics suggest a marked decline in the overall volume of crop production in 6 of the 9 SADCC countries well before the onset of severe drought in the early 1980s. In general the decline appears greater in food staples than in cash crops. Key externally determined factors such as rising fuel and transport costs and the squeeze on foreign exchange for essential inputs have been shared by most SADCC countries; in some of the countries, low producer prices and post-colonial dislocation and destabilization have done much harm. In countries afflicted

by balance of payments crises which practise stringent import controls, the lack of consumer goods has hastened market withdrawal by peasants. Raising the agricultural sector's ability to supply inputs to manufacturing will depend on improvements in infrastructure, marketing mechanisms, small-scale rural processing, domestic industry's ability to supply essential manufactures and national pricing, credit and investment strategies.

3.2.1 Ecology and farming systems

The SADCC region embraces a wide diversity of climatic and ecological zones, ranging from equatorial jungle to full desert, from floodplain and mangrove swamp to high mountain pasture.

Contrasts point towards the possibilities for regional complementarities - between temperate, sub-tropical and tropical crops, between arable and pastoral zones, and between the drier and wetter zones. Topographically, much of the region is situated on a plateau bordered by a coastal escarpment and a watershed traversing central Angola and northern Zambia. To the northeast the plain is bounded by the Rift Valley System with its large freshwater lakes and mountain ranges. Beyond it the terrain is more varied and in parts mountainous. The distribution of average annual rainfall shows a broadly decreasing trend from north to south. With the exception of the far north and sections of the east coast, there is little winter precipitation. The showery character of the rainfall makes for considerable local variability in its distribution, and generally speaking, its reliability and length of season decrease from north to south. Although rainfall is somewhat higher and more reliable along the plateau escarpment and in the ranges and highlands of the east, all in all, much of the region is close to or below the margins of dependable rainfed cultivation and is subject to periodic drought. The soils of the southern African plateau are generally of poor fertility.

Rainfall, access to surface water, and soil fertility determine present and potential land-use. FAO estimates for 1981 suggest that only 5 per cent of the land surface in the SADCC region was used for crops, compared with 41 per cent for pasture (see table A3.8). In the semi-arid zone and over a wide area of Kalahari sands where lack of a winter water supply obstructs permanent agricultural settlement, the pastoral economy is centred on cattle. Elsewhere, the balance shifts towards arable farming, particularly in those more humid tropical zones where tsetse fly and other stock diseases decrease the returns from cattle. The lack of good soils and rainfall is partly responsible for the pattern of extensive cultivation over much of the arable zone. In the zones of higher and more reliable rainfall, where much of the cash-crop output is produced, farming is more intensive. In addition, the

combination of escarpment or coastal range with higher rainfall affords irrigation potential which has already been partially exploited, particularly on the larger rivers draining the interior.

Within national boundaries resource endowments will inevitably vary. Angola, Mozambique and Tanzania, the three largest of the SADCC countries, are the most agriculturally diversified within a tropical regime. Two of the smaller countries, Malawi and Swaziland, benefit from relatively high rainfall and altitudinal contrasts. In the drier south the central Zimbabwean highlands are well adapted to sub-tropical crops, Botswana's eastern plains to extensive cattle-raising, and Lesotho's highlands to temperate crops and small stock. The variations of agricultural productivity are sharply illustrated by the uneven dispersal of the rural population. Settlement densities are under 3 inhabitants per km² over most of the interior plateau south of the Zambezi and under 5 per km² south of its northern watershed, but exceed 25 per km² in the better watered parts. Malawi, situated at the southern terminus of the Rift Valley system, had less than 2 per cent of the region's surface area but nearly 10 per cent of its arable land. Here and in other higher rainfall areas, shortage of land and pressure on natural resources have in places become sufficiently severe to have an adverse effect on productivity. This pattern of fairly densely settled arable farming regions separated by broad, sparsely populated expanses strongly influences the marketing logistics of industrial products.

3.2.2 Staple food crops and livestock

Taken on a regional basis the current pattern of output matches the diversity and limitations of the agricultural environment in a broad range of tropical, sub-tropical and to a lesser extent temperate zone products. Of the staple cereals maize and sorghum are widely grown, millet in the drier parts, cassava and to a lesser extent rice in the tropical areas, with wheat restricted to the temperate uplands.¹

The onset of devastating drought in the early 1970s has masked a longer-term deteriorating trend in which in the majority of SADCC countries the volume of cereal output has at best been static and food production per person has declined by 10 per cent or more since 1970 (see tables 3.8 and A3.9). The region is in more or less permanent grain deficit, irrespective of drought and in recent years Zimbabwe has usually been the only net exporter. Since most grain, pulses and vegetables are produced on peasant farms for household consumption, an appreciable proportion of grain milled for a

1. For details of agricultural production, see tables A3.10 - 13.

Table 3.8. Index of agricultural production: volume by main categories, 1980-82

1974-76 = 100	agriculture			crops			cereals			livestock		
	1980	1981	1982	1980	1981	1982	1980	1981	1982	1980	1981	1982
Angola	84.1	81.7	83.4	79.3	76.2	78.0	80.8	59.8	61.5	107.4	109.2	110.5
Botswana	71.5	95.8	86.3	79.8	89.8	68.5	45.1	62.8	23.3	81.3	113.8	108.3
Lesotho	93.0	96.3	93.1	86.0	88.5	77.3	104.8	90.9	65.8	102.0	105.9	109.0
Malawi	118.6	123.4	133.5	117.8	123.6	134.2	104.1	112.0	125.6	119.0	120.8	124.1
Mozambique	95.4	95.7	94.9	94.7	94.1	92.6	69.0	72.0	70.7	104.8	107.7	110.8
Swaziland	129.0	140.5	134.7	134.5	146.8	138.7	97.3	96.3	70.6	113.7	118.8	120.6
Tanzania	105.9	109.6	109.0	103.5	106.4	104.7	99.3	96.8	101.3	120.9	126.8	132.9
Zambia	91.2	93.2	88.8	83.9	86.4	79.1	69.1	74.8	62.5	109.9	111.4	113.7
Zimbabwe	100.5	114.2	96.9	104.4	126.0	104.0	88.5	145.4	103.3	89.3	81.1	84.0

Source: FAO, Production Yearbook 1982.

Table 3.9. Food production per caput, 1972-82

<u>1974-76 = 100</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1980-82¹</u>
Angola	103	105	104	98	98	94	92	91	90	88	86	77
Botswana	116	104	105	92	103	92	73	82	62	81	70	73
Lesotho	87	103	120	92	88	99	103	89	82	82	77	84
Malawi	111	107	104	95	101	104	107	96	99	100	103	99
Mozambique	114	115	110	96	94	90	86	84	84	82	80	68
Swaziland	102	95	100	100	100	93	102	95	108	116	107	88
Tanzania	102	99	97	98	105	103	102	100	96	95	94	107
Zambia	95	83	87	101	112	101	90	76	76	77	71	87
Zimbabwe	113	85	104	98	99	95	93	77	74	97	75	87

Note: 1. World Bank index of average food production per caput 1980-82 (1969-71 = 100)

Sources: FAO, Production yearbook 1982; World Bank, Toward sustained development in sub-Saharan Africa, (Washington, 1984), table 1.

predominantly urban market derives from imports, of which wheat and wheat flour average approximately a third and maize the bulk of the remainder. The region is largely but not uniformly self-sufficient in milling capacity. A full response to urban demand for wheat flour and bakery products is likely to increase import dependence unless the rather limited areas of domestic cash-crop cultivation can be extended. Conversely, small-scale rural processing capacity can make a potentially significant contribution to improving the rural food supply and increasing marketed deliveries for urban consumption. The small grain mill programme in Botswana is one recent instance. A similar approach might assist where the costs and logistics of marketing, storage and transport to and from large facilities are a serious bottleneck. Improved techniques of preservation and adequate rural storage capacity would also reduce post-harvest losses of potential surpluses, particularly where erratically available transport is a key constraint.

Although stock-raising is similarly geared to subsistence consumption, part of the cattle raised in the drier pastoral and mixed farming regions supplies domestic markets. Botswana, Swaziland and Zimbabwe also export chilled, frozen and to a lesser extent canned beef. There are possibilities to expand the range of linkages; one, the refining of tallow to supply a range of basic chemicals, was identified in SADCC's study of the textile chemicals sub-sector. Extensive grazing limits the scope for dairy production. Marketed supplies to dairy processing are focussed on the centres of demand in the larger towns. All countries import butter, cheese and milk powder except Zimbabwe, which is also the only recorded producer of evaporated milk.

3.2.3 Agricultural exports

Cash-crop exports include several of the food crops already mentioned, notably maize from Zimbabwe in good years. Fruit and vegetable canning has been successfully established in respect of asparagus in Lesotho and pineapples in Swaziland, and may be extendable to other exotic crops notwithstanding the costs of transport to overseas markets. Viability would be enhanced where, as in the case of citrus fruit juices, a domestic regional market is likely to exist.

The supply and processing of fruits suited to drying, canning or use in prepared foods is at present small. On the other hand edible nuts and oilseeds are widely produced in the region. The tropical east coast is a world-ranking producer and exporter of cashew nuts and together with the north west coast produces substantial quantities of coconuts. Other major oil-bearing crops are groundnuts and cottonseed, on a lesser scale sunflower

seed, sesame seed, soya beans and castor beans. Much of the output is directed to domestic consumption, to varying degrees without industrial processing. Marketed supplies are generally subjected to first-stage processing such as shelling, ginning, grinding and oil extraction, which are for the most part suited to rural locations and small-scale technology. The resulting oil supplies do not fully satisfy local demand, and in all except coconut oil the SADCC region is a net importer of edible oil, whereas the oilcake residue is exported. The extent of further refining and manufacture in the region is unclear, in part because such basic derivatives as soap may be produced at home as well as in the factory. The refining of vegetable oils is also a potential source of a number of chemical inputs for such branches as paints and plastics.

By far the largest food cash-crop in terms of export volume is sugar, which is grown in seven of the nine SADCC countries (see table 3.10). Taking three-year annual averages, regional production increased by more than 25 per cent between 1974-76 and 1980-82 to reach 1.35 M tonnes, rapid expansion in Malawi, Swaziland and Zimbabwe more than offsetting declining output in Angola and Mozambique. The crop is cultivated intensively on irrigated plantations in the coastal lowlands and valleys and the larger-scale operations are closer in character to the enclave model of mineral extraction than to either subsistence or commercial farming. Just over half of total output over 1980-82 was exported, nearly all of it in the raw centrifugal state after primary extraction. Apart from the food industry, sugar and particularly molasses are potentially significant as sources of energy in the form of ethanol, which is already distilled for mixing with gasoline in Zimbabwe.¹ Bagasse is commonly used to fuel the sugar mills, but is also a possible raw material for paper and board products.

Of the non-food cash crops, two groups predominate. The first is beverages and tobacco, mainly coffee, tea and leaf tobacco. Both cultivation and preparatory processing for export are long established in most of the producing countries and there may be little scope for local expansion in the processing operations themselves. A possible exception is the manufacture and packing of coffee for the local market; Tanzania and Zimbabwe are reportedly self-sufficient in instant coffee.

The second group comprises natural fibres, of which cotton and sisal are the largest by volume (see table 3.11). Some two-thirds of the ginned cotton and three-fifths of the sisal is exported in the raw state; the remainder is

1. The pros and cons are summarised in SADCC, Energy, (Lusaka, 1984), p.46.

Table 3.10. Production, consumption and trade in sugar, 1980-82

Unit: 000t

	production:			exports:		imports: domestic	
	average 1974-76	average 1980-82	per cent	raw centri- fugal average 1980-82	refined average 1980-82	refined average 1980-82	consumption average 1980-82
Angola	45	31	2	-	-	58	94
Botswana	-	-	0	-	-	32	34
Lesotho	-	-	0	-	-	22	24
Malawi	68	165	12	88	10	2	67
Mozambique	243	159	12	59	-	-	100
Swaziland	206	357	26	326	-	-	31
Tanzania	115	130	10	8	1	14	137
Zambia	78	110	8	-	1	-	109
Zimbabwe	315	397	29	154	32	-	209
Total	1070	1349	100	635	44	128	804
per cent		100		47	3	9	60

Sources: FAO, Production Yearbook 1982, Trade Yearbook 1982.

Table 3.11. Production, consumption and trade in cotton, 1980-82

000t	seed cotton production		per cent	cotton lint production		imports 1980-82	exports 1980-82	domestic consumption 1980-82
	1974-76	1980-82		1980-82	1980-82			
Angola	60	33	7	11	-	0	11	
Botswana	3	3	1	1	-	0	1	
Lesotho	-	-	-	-	-	-	-	
Malawi	22	32	7	8	-	2	6	
Mozambique	76	54	11	18	-	11	7	
Swaziland	19	32	7	12	-	4	8	
Tanzania	181	146	30	50	0	40	10	
Zambia	3	17	3	6	0	5	1	
Zimbabwe	153	175	36	61	-	52	9	
Total	517	492	100	167	0	114	53	
per cent				100	0	68	32	

Sources: FAO, Production Yearbook 1982, Trade Yearbook 1982.

presumed to supply internal textile manufacturing. It is difficult to quantify regional demand for cotton from the available information in view of the mix of synthetic and blended fabrics. The SADCC study of the textiles sub-sector suggests that substantial gaps may exist in the main categories between existing capacity and projected demand, which is currently bridged by imported fabrics and made-up goods or simply not. Here the stance of national policy on import restrictions and on preference for local raw materials over imported intermediates may have a strong influence. This factor was noted by the SADCC study, which itself concentrates on synthetic yarns and fabrics requiring imported inputs. In sisal, local manufacturing capacity in ropes and cordage has been established and approximately a fifth of the 1982 yield was estimated to have been exported as twine.

Amongst the lesser fibre products are wool and mohair, mainstay of Lesotho's pastoral economy, karakul wool from the Kalahari, and small quantities of jute, which are reportedly cultivated on the east and west coasts. The karakul wool already supplies spinning and weaving capacity in Botswana, but most of the mohair and all of the wool are exported raw. The establishment of adequate scouring and spinning capacity was amongst the first slate of projects in SADCC's industrial programme.

3.2.4 Forestry

Traditionally, forestry reserves in the SADCC region have been exploited chiefly to supply woodfuel and building materials and the raw materials for a range of wooden implements, utensils, parts and handicraft products. In the drier and more densely settled areas, basic wood reserves are increasingly coming under environmental pressure. In the northwest, however, they are abundant over broad expanses of the Angolan interior, where valuable reserves of hardwood species have yet to be systematically exploited. On the other hand, commercial production of wood for industrial purposes relies principally on fast-growing species and softwoods in particular, and therefore on manmade plantations. In a sub-tropical or tropical environment this places a premium on the wetter, relatively cooler environment of the eastern ranges and escarpment, where most of the existing plantations are situated (see table A3.14). Where competing agricultural claims are marginal there would appear to be considerable scope for expansion. In the mountains of Lesotho, which are virtually treeless, systematic afforestation of the upper slopes with temperate species could possibly form part of an ecological stabilisation package to arrest the severe degradation of agricultural land.

Of the various industrial uses of timber in the SADCC region, mining and construction are likely to remain two of the largest sectors of demand for

rough wood and boards, to which processing adds relatively little value. Uses in the manufacturing sector include fittings and furniture supplying household and institutional demand. The principal requirement is likely to remain wood pulp for export and local paper manufacture (see table 3.12). Pulp mills have been built in four countries, the main ones being the new Mufindi project in southern Tanzania and the Usutu mill in Swaziland; the latter is geared entirely to overseas exports. The SADCC sub-sectoral study estimates that the production and import of pulp for local industrial use is very small. Paper production supplied only 30 per cent of regional consumption in 1981-82, but the Mufindi integrated pulp and paper mill should make Tanzania eventually self-sufficient in paper. Full implementation of SADCC proposals would quadruple the existing regional paper capacity to nearly 500,000 tonnes a year and more than satisfy projected demand.

3.3 Fish

Fish form an important and sometimes neglected resource in the SADCC region, both as foodstuff and as industrial raw material (see table 3.13). Freshwater fish are widely caught from the rivers and lakes and the haul from the larger lakes of the Rift Valley system is substantial. Also noteworthy are the large numbers which migrate with the seasonal floodwaters of the central African floodplain rivers, the Kuvelai in southern Angola, the Okavango in northern Botswana, and the upper Zambezi in western Zambia. In all, freshwater fish average as much as 60-65 per cent of the total catch by SADCC countries. Three countries (Malawi, Tanzania, Zambia) contributed 90 per cent of the inland catch in 1981 and averaged over 9 kg per head of population. Freshwater fish make a significant contribution to peasant nutrition. Most of the catch is consumed fresh or preserved for household use, the remainder entering local trade networks usually in dried form. Opportunities for industrial processing are limited, but small-scale technology might improve preservation techniques, increase fresh supplies to urban markets and develop village-based fish farming.

Traditional coastal fishing has strong similarities in organisation, scale and purpose to its inland counterpart, although it is perhaps more important in the coastal village economy and in supplying the regional and urban markets. Much of the coastal zone of Tanzania and Mozambique and of the inshore waters of northern Angola are relatively barren and fish populations are too diverse and thinly spread to sustain industrial fishing on any scale. Here the great bulk of the catch is taken by small-scale fishermen, and the key industrial inputs are low-cost boats and fishing gear, basic repair services and preserving and packing facilities, which employ an appropriate

Table 3.12. Estimates of pulp and paper supply and demand, 1981-82

000t	pulp		net	consump-	paper and products		net	consump-	proposed
	capacity	production	trade ¹	tion	capacity	production	trade ¹	tion	new capacity ³
Angola	42	2	-	2	15	5	45	50	60 ⁴
Botswana	-	-	-	-	-	-	10	10	-
Lesotho	-	-	-	-	-	-	10	10	-
Malawi	-	-	-	-	30	5	4	8	-
Mozambique	-	-	4	4	23	12	22	34	95
Swaziland	175	160	-160	-	4	4	6	10	80 ⁴
Tanzania	-	-	4	4	3	3	37	40	60
Zambia ²	10								27
Zimbabwe	10	10	-	10	61	43	36	79	33
Total	227	172	8	20	136	72	169	241	361

- Notes: 1. Exports are negative.
 2. Zambia is omitted from two of the tables in the source, and its domestic consumption does not therefore appear in this table.
 3. The capacities stated at p.200 and p.207 in the source are not mutually consistent.
 4. Proposed for study.

Source: SADCC, Industry, vol. 3: pulp and paper, (Maseru, 1983), tables 1.1-3.

Table 3.13. Nominal catch of fish by SADC countries, 1977-82

(a) freshwater and diadromous fish

000 tonnes	1977	1978	1979	1980	1981	1982	kg per person
Angola ¹	8	8	8	8	8	8	1.0
Botswana	1.5	1.0	1.0	1.3	1.5	1.4	1.6
Lesotho	0	0	0	0	0	0	0
Malawi	63.2	67.8	60.0	65.8	51.4	58.4	9.0
Mozambique	5	5	5	5	5	5	0.4
Swaziland	0.1	0	0	0	0	0	0
Tanzania	223.8	163.8	146.4	189.9	190.0	(190)	9.6
Zambia	53.7	47.6	49.5	51.0	38.8	55.8	9.3
Zimbabwe	4.8	7.8	9.9	13.3	16.5	18.1	2.4
Total	365	301[*]	280	334	311	337	5.3
per total catch (%)	66	61	63	68	61	65	8.1

(b) marine fish

000 tonnes	1977	1978	1979	1980	1981	1982
Angola	113.4	118.6	106.1	77.6	123.5	104.4
Mozambique ²	24.0	22.9	25.2	41.7	(41.7)	(41.7)
Tanzania	47.1	47.3	33.9	39.3	36.0	36.0
Total	185	189	165	159	201	182

- Notes: 1. The FAO estimate is substantially too low.
 2. Includes an estimated average 10,000 tonnes a year caught for subsistence consumption.

Source: FAO, Yearbook of Fishery Statistics 1982, vol. 54: catches and landings.

technology which can be effectively absorbed at village level.

Opportunities for industrial fishing off the African east coast are relatively few, the principal exception to date being shrimps off Mozambique. Off the west coast, on the other hand, the potential is rather greater (see tables A3.16 and A3.17). The extreme northern end of the Benguela Current upwelling system, one of the world's richest fishing grounds, falls within the Angolan exclusive economic zone (EEZ). Its chief characteristic is that a few fish species are concentrated in enormous numbers within a fairly narrow band of coastal waters. Mainly because the continental shelf is narrow along this stretch of the African west coast, demersal white fish populations are relatively small and the chief commercial targets are both pelagic: the surface-shoaling sardinella, which is caught by purse-seiners, and horse mackerel, which can be taken by trawlers at mid-water depths. Sardinella, a warm-water cousin of the pilchard, extends well to the north of the southern fishing grounds and appreciable quantities have been taken off central/northern Angola by foreign purse-seiners.

In recent years catches have reached as much as 400,000 tonnes, 80-85 per cent in the main industrial species. The commercial fishing effort is probably more than the stocks can bear and overfishing is a source of current concern. But even at a reduced average level of 250,000 tonnes in the main pelagic species, the catch would be sufficient to support a medium-sized processing industry.

At present very little of the catch in Angolan waters is directed to local industrial use (see table A3.18). Three-quarters is taken by foreign factory trawlers, of which only a small proportion is landed, whether processed or not. Nevertheless, a sizeable shore-based processing industry was established during the colonial period in the southern fishing ports and catches topped 400,000 tonnes a year in the early 1970s. Factories and fleets are now being rehabilitated or replaced and the national catch recovered above 100,000 tonnes again in the early 1980s.

From the standpoint of industrial development three considerations may be mentioned. First, only fish meal and oil have been produced industrially. Horse mackerel may, however, be frozen for human consumption and both horse mackerel and sardinella may be canned, creating greater value added, a broader demand for manufactured inputs, and a cheap, versatile and easily distributed source of animal protein which could find ready regional as well as overseas markets. Second, although currently exported, fish meal is a valuable stockfeed and fish oil can be refined into both edible and industrial oils, and used as a downstream input for such products as cooking oil, margarine and

paints. Third, the operations of factories and vessels will generate demand for industrial machinery and components, for boat-building and repair facilities, and for fishing gear.

3.4 Energy and Water

In the field of energy, the SADCC region has ample and diverse primary resources for commercial supplies. Angola, currently the only oil producer, extracts twice as much crude petroleum as the region consumes, and output is expanding (see table A3.19). In natural gas, an energy source as yet barely tapped in SADCC countries, Angola is a large producer and Mozambique and Tanzania are developing their recently discovered fields. Coal is found in all SADCC countries except Lesotho and possibly Angola, and in Botswana, Swaziland, Zambia, Zimbabwe and probably Mozambique the reserves so far identified are large (see table A3.20). Botswana, Mozambique, Swaziland, Zambia and Zimbabwe are producers, the last-named accounting for about 60 per cent of the region's current output of coal and all of its coke. Finally, the region's considerable hydro-electric potential has already been harnessed by two very large dams, Kariba and Cabora Bassa, and by a number of large- and medium-sized schemes; further expansion is planned in several cases. Overall, SADCC is a large net exporter of oil and electricity, and also potentially of coal.

The regional appraisal¹ presented in 1984 by the SAECC energy sector co-ordinator, Angola, concluded that taking the region as a whole, existing and planned capacity in coal, oil refining (see table 3.14) and electricity generation would be adequate to supply commercial and urban demand in the short and medium term. Although consideration of energy planning in the region is beyond the scope of this study, it may be noted that policy decisions in this capital-intensive sector will inevitably influence the industry's access to investment funds and the cost of its energy supplies. The dominant planning perspective is that of national self-sufficiency, which given uneven resource endowment may conflict with the optimal allocation of regional resources, particularly of hydroelectric power. A recent instance is the large coal-fired Hwange power station now under construction in Zimbabwe, which has been criticised as likely to reduce Zimbabwean purchases of cheaper Zambian hydroelectricity and to foreclose a future link-up with Cabora Bassa.²

Equally problematic is the supply of oil, both for public power generation and for direct use in industry and transport. Oil

1. SADCC, Energy, (Lusaka, 1984).

2. J. Hanlon, SADCC: progress, projects, prospects, (London: EIU, 1984), p. 53-4.

Table 3.14. Petroleum refining capacity and production
in SADCC countries, 1981

	capacity installed	operational	production	per operational capacity	
	000t	000t	000t	per cent	per cent
Angola	1500	1500	1013	40	67
Mozambique	700	600	447	18	74
Tanzania	750	610	379 ¹	15	63
Zambia	1100	750	682	27	91
Zimbabwe	1000	-	-	0	0
Total	5050	3460	2521	100	
- per cent	100	69	50		73

Note: 1. 1980

Source: SADCC, Energy, (Lusaka, 1984), table 7

imports are the chief drain on foreign exchange earnings in most SADCC countries, and severely constrains allocations for imported industrial inputs and machinery. Angola, as sole regional producer, has indicated a willingness to trade oil for goods, but refineries elsewhere in the region are not adapted to Angolan crude or regional demand. The existing networks of power distribution are unavoidably weighted towards supplying the larger towns, mines and ports, and the smaller centres and rural areas are further disadvantaged by poor road and rail communications and unreliable fuel distribution arrangements. Cost advantages for larger-scale plants might be gained by fostering the formation of industrial complexes near existing sources of water, power and in certain cases raw materials. At the other end of the scale localised hydro-electric schemes employing simplified technology could substitute in part for petroleum products and woodfuel in small-scale manufacturing at the village level. Renewable sources of energy (solar and wind power generation) are currently under SADCC consideration, and ethanol is already produced as a petroleum substitute in Zimbabwe.

Over most of the region water is available as surface run-off or underground reserves in sufficient quantities to supply most small- and medium-scale manufacturing processes. Problems are likely to arise more with climatic variability and with infrastructural provision, efficiency and costs than with the exhaustion of potential resources. In urban areas, particularly in the drier parts, urban and occasionally agricultural demand may compete. Only in the central and southern Kalahari (Botswana) and coastal Namib (southern Angola) deserts is absolute scarcity a serious potential obstacle, in the latter case affecting the shore-based processing of Angola's rich marine resources. Manufacturing processes which require large volumes of bulk water may be rather more limited as to location, the proposed paper plant in Swaziland, for instance, facing a serious constraint in this regard.

4. Constraints on industrial development and the potential for regional cooperation

4.1 Introduction

The two previous chapters have outlined some general features of the current structures of industrial production in the SADCC region, discussed within a comparative country framework, and the range of indigenous raw materials suited to industrial use. It was noted that certain advances in industrialisation had been achieved on a regional basis and that the high import content in the consumption of many categories of manufactured goods pointed to a likely potential for expanded local production, but that in both respects there were marked differences between member countries. A rising trend in industrial production in the early 1970s met an abrupt reversal in mid-decade, followed by stagnation and a further decline in the early 1980s, again with marked inter-country variations. The region's resource endowment emerged as substantial and diverse, with particular strengths in hydrocarbons, hydropower, several base metals, beef cattle, a number of peasant- and plantation-grown tropical crops, forest timber, and freshwater and marine pelagic fish. Some of these are subjected to initial processing before export; but few forward linkages have been established with the domestic manufacturing sector.

This chapter will focus on a number of current constraints on future industrial expansion. Adopting an inter-country comparative framework, three levels of economic relations, national, regional and global, are differentiated, with special consideration of the influence of South Africa. At each level the relevance of regional co-operation is assessed as a means of overcoming national constraints.

4.2 Within the nation state

At the national level the first general constraint is formed by deficiencies or imbalances in known resource endowments. Iron ore and a few non-metallic minerals - construction sand and gravel, limestone, gypsum, asbestos, china clay, phosphate rock, coal - are theoretically exploitable in most SADCC countries¹; but individual countries show deficiencies for the majority of basic materials.

The scope for resource matching is quite extensive. In several cases large-scale extraction in one country is or could be sufficient to supply a general regional deficit. These include petroleum products, petrochemicals, canned and frozen fish, fish meal and oil in Angola; non-ferrous metals in

1. Lesotho stands out as deficient in all but a few exploitable mineral resources.

Zambia; chrome, iron and steel in Zimbabwe; wood pulp in Swaziland; wool and mohair in Lesotho; meat byproducts in Botswana; and sisal in Tanzania. Two or more countries are actual or prospective large exporters, of such products as natural gas, coal, nickel, tea, coffee, sugar, cashew nuts, tobacco and cotton. To a certain extent predominantly tropical countries may complement those with sub-tropical or temperate arable farming zones, the latter yielding surpluses in citrus fruit and cereals.

The obstacles to regional integration in the use of industrial raw materials are in most cases those which confront industrial expansion in general. More specifically, the priority which has to be accorded to overseas, hard-currency earning exports and the frequent lack of intermediate manufacturing capacity of sufficiently diverse product mix are major obstacles. Most industrial inputs are imported already manufactured rather than in the raw state. A greater use of regional as well as national sources of raw materials, whether currently produced or not, may tip the balance of viability in a number of industries. The demand (volume and range) of materials could also be expected to rise with sustained growth from the present very retarded levels of manufacturing output.

A second general constraint is the low volume of domestic consumption of manufactures. The heavy competition in overseas markets forces new enterprises outside export processing and final assembly to rely primarily on domestic markets. In the three smallest countries these are so limited as to render unviable many manufacturing processes. Nor would the position alter greatly at rather higher levels of income. In most of the other countries aggregate demand for consumer goods is sufficient to sustain a range of final-stage manufacturing or assembly operations, but it is impossible to obtain sufficient economies of scale for most basic industries and intermediate stages of manufacture at the national level. Even Zimbabwe, with by far the biggest domestic production and consumption of manufactures, capital goods production is very limited. In both Zimbabwe and Zambia production in a number of consumer-oriented light industries may be approaching the limits of the local market.

The implications for regional co-operation, although contingent of course on an array of economic and political considerations, have already been touched upon in chapter 2, in which the inter-country contrasts were briefly outlined. Where export-based industries cannot be established on an internationally competitive basis, regional complementarities could become a principal means of achieving viability within the region. While the smaller countries would rest heavily on such complementarities, the larger ones could

create greater opportunities for specialisation in the more complex and capital-intensive industrial processes. As even an integrated market would be a relatively limited one for certain products, given the region's modest population, the complementarities could also create the basis for competitive overseas exports.

Two possible opportunities for complementarities may be cited. In crude and semi-manufactured steel, rough estimates for the early 1980s (see tables A2.3 and A2.11) suggest that Zimbabwe's exports (US\$190m in 1980) were not far below total regional imports (US\$235m); yet very little Zimbabwean steel went to other SADCC countries (1982). At the same time, the possibility of building steel-making plants has been raised in several member countries e.g., on a national basis in Tanzania and on a bilateral basis between Mozambique and Angola. Whether or not such schemes prove viable, they would consume heavy capital expenditure in conditions of endemic world overproduction. A complementary regional framework would also open prospects for expanding downstream production (semi-manufactures, fabrication).

In petroleum refining (see table A3.18), on the other hand, four countries already possess refineries, while Angola produces far in excess of the regional consumption of oil. Three refineries are adjusted to Middle Eastern rather than Angolan crude and furthermore yield a product mix which does not suit regional demand. A possible regional solution would be to instal additional capacity in Angola adapted to regional requirements and to close down the other three, which incur high production costs and may at times be loss-makers. But the other three would then lose substantial local value because their commercial flexibility in oil purchases would be reduced. In this as in a number of other cases there are real dilemmas in weighing the merits of national and regional solutions; the latter may not always be attainable on an equitable basis within the planning limits of a given sub-sector.

A third constraint is scarce domestic savings. Even at a respectable savings ratio, basic infrastructure, the extraction of primary resources, and government services inevitably compete with manufacturing investment in the government budget, which is the principal domestic source of funds. In the smaller economies single investments may by themselves commit a sizeable share of available funds. There is in consequence a heavy dependence on foreign.

The predominance of the primary sector in the national economy leads to unstable domestic demand. Apart from the long-term risk of resource depletion, drought, or declining prices for raw material exports can substantially and suddenly reduce peasants' and miners' incomes and local purchases by the

mining industry, while reduced export earnings restrict the purchase of imported inputs. The result is an increased level of risk in manufacturing investment and an incentive to maximise short-term returns.

Low labour productivity is a frequently cited factor, and is clearly related to an inadequate level of education and industrial training for many skill categories, together with inefficient management and chronic shortages of skilled personnel. Partial remedies may lie in promoting functional and on-the-job training, with SADCC programmes giving higher-level backup in a number of areas. But there are other constraints: external disruptions, worker impoverishment and declining real wages, shortages of basic consumer goods, lack of worker motivation, labour hoarding and corruption. In the last few years the intensification of such difficulties may have led to declines in productivity in several areas.

Fifth, there are sharp urban/rural imbalances in the distribution of demand and the location of production capacity. As described in chapter 2, the main concentrations are found at ports, along lines of rail, and in the two inland centres, the Zambian copperbelt and the Zimbabwean highveld. The density of rural population is itself highly uneven. The wide dispersal of consumers leads to high distribution costs and a fragmentary retail network. The road infrastructure and transport services are often weakest in rural areas away from the trunk roads. Indeed, peasant farmers may have trouble in getting access to manufactured goods at all.

These difficulties are part of a much broader context of rural development in which the relation between peasant market production and supplies of basic consumer goods and implements has increasingly moved centre-stage. They also touch such central policy issues as the rural to urban transfer of value through price mechanisms, the provision of social infrastructure and services, and labour migration. Here, the scope for regional co-operation hinges in the main on national programmes, whose success will expand the regional market for manufactures destined for rural consumption.

Town/country differences are intensified by inequalities of income distribution, which perpetuate a pre-existing colonial bias towards elite consumers, few of whom reside outside the larger towns. The income inequalities are more sharply drawn in some member countries than in others. They serve to retard the growth of domestic production, since the more affluent consumers have distinct preferences for imported goods. Lingering colonial traditions merge with an elite identification of imports with status,

affluence and reliability. As a recent report on SADCC pointed out¹: 'The stress on "quality" is all too often simply an elite preference for luxury goods, at the expense of mass consumption goods'.

It is inevitable that local products, particularly from newly established industries, will on occasion suffer from quality and marketing problems. Poor quality is a consequence of such factors as poor management and line supervision, inadequately trained labour, variable quality inputs, scarce supplies, and irregular production. Poor quality should not be confused with simple design. An unsophisticated product may serve its purpose very well and may be better suited to the early stages of industrialization. But competition against established brand names and capturing markets presently being served by TNC's may prove difficult even for high-quality products. Active national standards authorities will play an essential part in sustained product improvement, with regional support in determining standards and establishing specialised services. The latter are already provided in certain fields by Tanzania, while work on the standards has started under the SADCC industry programme.

A number of factors lead to interruptions or slowdowns in production, one being inadequate local service and repair facilities. Skill shortages, the relatively small concentrations of industrial plant in all except the largest centres and the multiplicity of makes and functions of machinery hinder specialisation in service and repair facilities, raises the expense of stocking spare parts, and blocks local interlinkages, tying plants to foreign capital goods manufacturers.

The chronic shortage of spare parts is a familiar accompanying feature. It can usually be ascribed to foreign exchange scarcity, to be discussed below, and is exacerbated by its low priority against urgent competing demands for machinery, essential inputs, and scarce mass consumer goods. The loss of output resulting from severely run-down machinery may, however, lead to even greater foreign exchange losses. There is likely to be considerable scope for regional co-operation in information exchange, in pooling key stocks, in sharing repair facilities and skilled personnel, and in procurement practices.

4.3 The regional context

Looking at the region as a whole, one of the most striking features to emerge from the survey in chapter two is the uneven levels of industrialisation between the member countries, a polarisation which has

1. J. Hanlon, SADCC: progress, projects, prospects, (London: EIU, 1984), p.78.

continued to deepen in recent years. It is of course possible, although far from axiomatic, that such polarisation might coincide with an optimal rate of growth, the external boundaries merely being defined regionally instead of nationally. But the commitment of an association of nation-states to co-operative effort is also a commitment to a more or less equitable distribution of the benefits of such cooperation. One of the most fundamental long-term problems inherited by SADCC is therefore the sharp inequality in industrial development between its members.

In such a context, and taking into account also the low starting base in all but two of the countries, the traditional approach to regional integration through generalised trade liberalisation is not likely to be effective without an explicit framework of measures designed to ensure an equitable allocation of new investment and, more ambitiously, to reduce the inequalities themselves. Even without a laissez-faire trade regime, the balance of advantage in programmes of regional cooperation might be expected to lie with the relatively stronger industrial economies, which in a good many cases will have the domestic markets, infrastructure and financial resources to sustain regional projects which would not pass the test of viability in their weaker counterparts, and might also dominate regional trade.

SADCC therefore faces a central dilemma: how to exploit the potential of the regional market through complementary investments and industrial specialisation while simultaneously narrowing inequalities in industrial strength. If the principle of equity is to form part of the regional perspective, a degree of regulation in the promotion of industrial growth and of positive discrimination in favour of the less advantaged countries are both implied. The lack of complementarities between national production structures is a rather more complex problem. Indications of possible complementarities were outlined in chapter two at the level of industrial branches, but these are too broad in coverage to do more than illustrate apparent strengths and weaknesses, which may be misleading if a single product predominates. The potential for complementarity may be quite large at the plant level. In one reported case Tanzania and Mozambique both make tubes and tyres, but not to the same specifications, affording an opportunity, which has been taken up, for an expansion of output on each side through reciprocal trade. Enterprises in the smaller national manufacturing sectors may suffer from competition by equivalents in the larger countries; and consumer goods industries may be more generally duplicated on a national basis. The importance of incorporating the weaker national sectors into a complementary regional pattern in new industrial investment is thereby underscored.

The difficulties caused by transport costs and bottlenecks are well known and the impact of South African-inspired disruption will be discussed below. The backbone of the regional transport system is the rail network, which when fully operational is quite extensive. It is, however, geared to primary exports and urban imports, and lacks internal integration in several parts of the region. In addition, as already indicated, the road network is rather less well developed, particularly away from the arterial highways. The expansion and integration of the transport network will lower the cost of imports and exports and is essential for the creation of an interdependent regional production and marketing structure. At present the emphasis in SADCC transport planning, the most advanced of its sectoral programmes, is on upgrading railways and ports, which may reinforce the unbalanced industrialization pattern referred to under 2.2. Expanding the road network will need to feature strongly on the medium-term planning agenda to stimulate industrialization and markets for manufactured goods outside the large towns especially on a regional basis.

Customs procedures have an important influence on the functioning of the transport system. They differ radically from one SADCC member to the next and can be cumbersome, inhibiting overseas imports rather less than intra-regional trade. Region-wide simplification and standardisation would assist the competitiveness of local manufacturers against imports.

Different incentive policies towards foreign investment between member states may be exploited not only by new external investors but also by existing enterprises within the region seeking a more profitable environment. Competition between member states in attracting investors may lower their overall bargaining power. While national investment strategies differ radically, the shortage of capital for industry has led to a common drive to attract foreign investors; and there exists considerable scope for regional co-ordination to avoid mutually damaging contradictions.

4.4 South African regional influence

Special consideration needs to be given to South Africa's dominant power in most dimensions of regional affairs. Its impact on national economic policies and on moves towards regional co-operation is of especial concern, and one of the principal objectives of SADCC is to reduce this impact¹.

South Africa is the strongest industrial economy in the southern African sub-continent. With half the population of SADCC, its 1980 MVA was more than five times larger. In 1982 it supplied approximately a third of SADCC's imports while taking only 7 per cent of its exports. South African-based companies are directly represented in most economic sectors in the majority of

SADCC countries: in mining and in the region's largest manufacturing sector (Zimbabwe), their investment stake and operational control is dominant. Although the numbers have been greatly reduced, South Africa continues to draw migrant labour from several SADCC countries and for Lesotho migrant wages are the leading source of national income.

So wide are the disparities in economic strength that South African industry will often have a competitive advantage over local manufacturers in most branches of production unless the latter are heavily tariff-protected. Under the free-trade arrangements of SACU virtually no production for the local market takes place in its three SADCC members and South African industry supplies the great bulk of manufactured imports. More generally, South Africa's has an edge over the industrialised countries in the SADCC region in terms of transport costs, delivery times and service backup in a wide range of fabricated goods, equipment and spares.

These factors place severe constraints on the expansion of existing SADCC enterprises and the establishment of commercially viable new plants. In the domestic market South African exporters may undercut local products. In intra-regional trade they can usually offer longer credit, a powerful inducement and one which does not necessarily reduce and may even raise the price of the goods themselves. In both markets, local manufacturers face established, well-organised and financed marketing operations in which the competing product lines are part of a much larger flow of imported supplies. In the three SACU countries, South African firms controlling retail supplies buy direct from South Africa and local manufacturers sometimes stand less chance of selling to local outlets directly than they do through re-exports via South Africa. Association between local plants and South African-based enterprises, whether through ownership or through trading arrangements, tends to establish imports rather than local production of inputs and spares. In addition comes the generally better and more consistent product quality.

Comparatively efficient transport links are a major factor. These often make it cheaper and logistically simpler to purchase goods in South Africa. In the case of Zambia, the closure of the Rhodesian border during the period of sanctions reduced its imports from South Africa to only 7 per cent by 1977; but after its reopening in 1978 they more than doubled to 16 per cent in 1980¹. Other inducements offered to increase the attractions of South African routes include extended credit on rail services and freight and artificially low rail tariffs.

Pure cost considerations are, however, far from being the only economic factors favouring South African manufactures in SADCC markets. Many

proprietors, managers and technicians in SADCC countries have personal and business connections with South Africa, sometimes as members of its business community, connections which tend to be more intense than with other SADCC countries. In the biased, even hostile business culture thus created, information on SADCC products and services, particularly from other SADCC countries, is often fragmentary, inaccurate and prejudiced.

Institutional structures themselves exert a strong influence. Foreign companies, in particular, have usually regarded SADCC countries as outposts of a South African regional base for the purposes of supply, management and technical support. A more sympathetic local management attempting to expand local linkages can be blocked by a parent company hostile to SADCC or concerned to preserve existing supply links, as occurred in one recent instance in Zimbabwe. Where plants are established in SADCC countries, they are frequently managed and supplied as an appendage of the South African-based operation. Overseas trading has also been more heavily geared to South African routes since the containerisation of South African traffic in the late 1970s. The leading shipping agency in the SADCC region is South African-owned and is run as an extension of its South African operation. Institutional linkages further bias business information. Conditions, services and insurance on the South African routes are more fully and favourably presented. Conversely, it appears that SADCC's east coast railways and ports are excessively downrated in terms of handling efficiency. Because South African shippers use South African insurance agencies which, unlike their foreign counterparts, have generally refused to cover traffic through Mozambique, SADCC exports may be blocked from independent routes. The net effect is to reinforce the cost advantages of proximity for South African-manufactured exports, despite their generally higher price level.

Similar considerations influence the location of plant and movement of capital. There is a general preference, prevalent amongst transnational as well as South African-owned enterprises, for locating in South Africa rather than SADCC in order to supply the sub-continent. The issue of investment location and control has been recognized by leaders of SADCC as central to their goals of self-reliance and the reduction of dependence on South Africa. At the SADCC Summit in Gaborone in July 1984, President Nyerere of Tanzania stated: 'We hear whispers that Western economic private investment will come to SADCC through South Africa, and not directly. We should denounce such blackmail in support of apartheid'. At a conference on SADCC organised by the Commonwealth Institute in London in the same month, Mr Mramba, Tanzanian

Minister of Industries and Trade, warned that 'industrial and commercial investments into SADCC cannot be allowed to enter through the back door of the Republic of South Africa', a point reiterated by Mr Mpotokwane, Chairman of the SADCC Standing Committee of Officials: 'We do not accept our region and our states being seen as appendages of South Africa. Enterprises, agencies, or countries which seek to relate to us in that way cannot be seen by us to be co-operating'.

Investment in the SADCC region gravitates towards countries more closely tied to the South African economy and is responsive to discrimination in South African foreign policy, deepening structural dependence on South Africa and weakening independent linkages between SADCC and overseas countries. One manifestation of South African business strategy is the siting of plants generating little real value added in neighbouring SACU members so as to gain easier access to other SADCC countries for what are in effect South African manufactured exports. Transfer pricing and other techniques are also used to siphon off profits and capital to South Africa. Such practices can of course only damage trade and financial co-operation amongst SADCC members. The South African government has repeatedly taken specific steps to support South African-based manufacturers. Of major importance in recent years have been the improved incentives offered to investors locating in South Africa's 'border areas' as part of a strategy of industrial decentralisation, principally in support of its bantustan policy. So generous is the incentives package that the neighbouring SACU countries, relying on exports to the South African market as a leading element in their industrial development strategy, cannot match them. New investment has been drawn away, and a number of established enterprises have closed down or transferred into South Africa, on several occasions as a result of direct intervention by the South African government. The latter has also been prepared to obstruct new investments in pursuit of its political ends, e.g. the large Sua Pan soda ash project in Botswana was for some time used to exert pressure on Botswana to sign an Nkomati-type agreement.

The systematic South African campaign of political and military destabilisation in several SADCC countries has had serious effects in the region as a whole. The destruction caused by the campaign and its economic impact have been amply documented in UN reports and will not be described in detail here. Industry has been strongly affected. First, attacks by South African or South African-sponsored saboteurs have had industry and its supporting infrastructure as a major target. New projects being installed under aid programmes were high up on the list. Expatriate co-operating personnel have been abducted and killed and projects abandoned. Second,

attacks on the rural economic infrastructure, in particular retail outlets and means of transport, have severely disrupted the economy over wide areas, cutting off flows of industrial goods and industrial raw materials. Third, one of the principal objectives of the campaign has been to enforce dependence on South African transport routes so as to strengthen South African economic and political power in the sub-continent. In its systematically organised phase the campaign postdates the formation of SADCC in 1980 and has been explicitly directed against efforts towards regional co-operation in the timing and targets of its attacks. The bulk transport routes from SADCC's six landlocked members except those leading to South Africa itself have been the main targets. The trunk roads, railways and port installations of Angola and Mozambique have borne the brunt of the assault; and only the Tazara railway connecting Zambia with Dar es Salaam has so far not been damaged.

The effect on SADCC manufacturers outside the zones of conflict has been to disrupt their supplies of inputs; block their exports except through South Africa; substantially increase the costs of transporting both; subordinate their external economic relations to South African commercial and political interest; and give South African exporters a captive advantage. In the case of Malawi, an increased volume of imports had to be brought by long-distance road transport from South Africa and large quantities of sugar exports could not be shifted during 1984 as a consequence of transport disruption in Mozambique. The government has been compelled to consider an alternative northern route through Tanzania, including a possible new railway. On top of the increased costs, plants dependent on imported inputs have had to purchase buffer stocks, tying up operating capital. In mid-1983 up to two-thirds of current assets were being held in the form of inventories in some branches of production.

The present pattern of industrial trade and transport is thus greatly distorted in South Africa's favour and SADCC industry placed at additional competitive disadvantage with both South African and overseas imports. The situation adds force to SADCC's initial diagnosis that current structures and relationships were created and are being maintained by economic and political interests outside the region. Freed of South African-inspired manipulation and dislocation, SADCC's principal lines of communication would lie through its own ports to overseas trading partners. South African industrial exports to the region would tend to lose their cost advantage; and SADCC manufacturers, obtaining cheaper and more regular supplies, would be better placed to serve the regional market. Under the present circumstances insistence on the principles of free trade by donor agencies, whether bilateral or multilateral, and more specifically on the least-cost sourcing of supplies for assisted

projects tend to benefit South African manufacturers and undermine SADCC's efforts towards self-reliance and the reduction of external dependence.

4.5 In the world economy

As described in the two previous chapters, the primary economic nexus of the SADCC region is with the industrial market economies, which for all nine countries take the largest share in exports, manufactured imports (the three SACU countries excepted), and new investment. Many of the comments made in previous sections apply here with equal force and the discussion will focus on selected salient features.

A common factor in many of the difficulties faced by SADCC industry has been the shortage of foreign exchange, a constraint which has been persistent in eight of the SADCC countries¹ for the last decade and severe in the majority. Since the great bulk of intermediate and capital goods come from South Africa and the industrialized countries, most must be paid for in convertible currency. Conflicts of priority between finished goods and intermediates and between the needs of different sectors of the economy are perennial. The result is that capital investment programmes are retarded. New capacity is not created, perpetuating the structural imbalance. Old machinery is not replaced or repaired. Shortages of imported inputs and delays in deliveries are equally disruptive. It is far from uncommon for final products to be imported for which domestic plants were previously denied allocations of foreign exchange for essential inputs.

Industry is almost as seriously affected by the impact of foreign exchange starvation on the general economy. Fuel shortages and, again, worn-out equipment and lack of spares cause interruptions of electricity and water supplies and breakdowns in transport, particularly by road. Not infrequently factories are unable to produce even when operational, and unable to deliver their products when in production. Furthermore, the general shortage of consumer goods has become so acute over wide areas that local producers of consumer goods are caught up in a wider breakdown of the distribution and retail system, inhibiting market access.

It is essential to appreciate the underlying determinants of the shortage of foreign exchange. One of the principal contingent factors has been the price of petroleum. All but one of the SADCC countries are oil importers and the sharpest declines in both GDP and industrial production followed the oil price explosions. A second factor is the crippling expansion of foreign debt which has taken place in the majority of SADCC countries. Loan and interest

1. The exception is Botswana, a small country with a large and rapidly growing diamond mining industry.

repayments have absorbed an increasing share of foreign exchange earnings, to the detriment of imports of essential supplies. This tendency has been compounded by the high level of real interest rates in recent years.

Beyond both these factors lies one of the fundamental structural constraints on industrial development, the present lack of competitiveness of locally manufactured goods in international markets. A major obstacle to regionally integrated industrial development, finally, is the domination of the manufacturing industry by foreign-owned enterprises, in particular large manufacturing companies and TNCs. The weakness of the indigenous private sector is reflected in the fact that domestic ownership and control of the larger manufacturing enterprises almost always heavily involves the state; otherwise the great majority of enterprises of any size are foreign-owned and usually foreign-run. Apart from the South African bias discussed previously, this has a number of potentially restrictive effects. These include limited reinvestment of profits; lack of local linkages; narrowing of market choice in imports, notably through in-house trading; transfer pricing; gearing of plant specifications and technology to over-complex processes; and a lack of commitment to effective transfer of technology and training. Such effects result to some degree from the fact that an appreciable number of plants are set up either as a function of a capital equipment deal or as a means of establishing or consolidating a local market through a final-stage assembly or processing operation.

Foreign control has reinforced the division of manufacturing investment into a dualistic structure in which a core of large establishments dominate key sub-sectors, embodying the bulk of capital investment and production capacity, and a periphery of smaller enterprises, to which they have few linkages. The former tend to depend on imported inputs and to serve elite consumption patterns, complicating the building of regional complementarities in intermediate and mass consumer goods. Regional co-operation in the various aspects of investment planning is of critical importance for long-term industrial integration.

The very heavy dependence on capital goods imports is a major element in SADCC's inequal relationship with the industrialized countries. Production within the SADCC region is very small and is largely confined to tools, implements, parts and accessories, together with reconditioning and repair of machinery. In many cases the required economies of scale and level of technology preclude local investment in the capital goods industry. But TNC control of finance, trade and technology, supported by the aid and export credit policies of the developed countries, have also been significant

negative factors. SADCC governments, which are directly involved in the majority of new investments of any size, could exert considerable influence in favour of local capital goods manufacturers by breaking up purchases into smaller orders, defining quality standards for domestic abilities and resources, emphasizing appropriate technology, and above all creating a local technological capability.

Industrial development will inevitably need to rely on external sources for part of its capital requirements and most of its foreign exchange. In respect of the latter, exports of raw and processed materials will continue to bear the main burden. They remain an unstable foundation, because of fluctuations in commodity prices, and the heavy reliance on a single or few commodities. Of greater long-term significance is the secular decline in the terms of trade. Because the SADCC countries are almost wholly restricted to trading primary exports for manufactured imports, this trend very largely reflects the declining purchasing power of commodity exports in world markets since the early 1970s. Price movements have, however, been far from uniform and the experience of SADCC members has been markedly uneven (see table 4.1).

As an oil exporter Angola saw a dramatic terms of trade improvement over the decade (1970-81), whereas the relation between import and export quantities moved in the country's disfavour to render the purchasing power of exports unchanged. Botswana on the other hand, with diamonds taking a major share, suffered a terms of trade decline but increased export quantities to more than make up for adverse terms of trade. On the other hand, Malawi, Mozambique, Swaziland, and probably Tanzania¹ and Zimbabwe all suffered substantial declines in either terms of trade or export purchasing power. For Zambia, unable to escape the collapse in the price of copper, the decline was a disastrous 70 per cent, of which half occurred after 1975. The world recession of the early 1980s brought further declines, although major SADCC commodities such as oil, coffee, tea and tobacco have recently held up well. On balance the long-term decline in the terms of trade does not seem set for a major reversal; and two of SADCC's strongest commodities, diamonds and oil, have become vulnerable in recent years.

The implications for industrial development strategy in the SADCC region are ultimately serious. In base minerals and most agricultural products, increases in efficiency are unlikely to match depreciating market values and thus sustain a rise in living standards. By the same token they will be increasingly unable to function as the motor of industrialisation. Already

1. For Tanzania the sources give conflicting estimates, the lower one being the more likely. For Zimbabwe an estimate is only available from 1975.

Table 4.1. Indexes and rates of change in the terms of trade and
the purchasing power of exports, 1970-81

	1975 = 100 terms of trade				change 1970-81 (per cent)		purchasing power of exports				change 1970-81 (per cent)	
	1970	1979	1980	1981	total	annual	1970	1979	1980	1981	total	annual
Angola	56	117	143	152	171	9.5	85	51	59	83	-2	-0.2
Botswana ¹	121	101	115	88	-27	-2.9	31	181	194	193	523	18.1
Lesotho ^{1,2}	38	51	58	54	42	3.2	47	145	147	133	183	9.9
Malawi	107	85	77	81	-24	-2.5	85	111	119	98	15	1.3
Mozambique	87	75	70	71	-18	-1.8	169	32	42	33	-80	-13.8
Swaziland ¹	111	89	89	95	-14	-1.4	72	73	74	92	28	2.3
Tanzania	98	107	104	99	1	0.1	152	91	72	78	-49	-5.9
Zambia	223	100	84	67	-70	-10.4	240	110	77	66	-73	-11.1
Zimbabwe ³												

General: The terms of trade are the ratio of the export to the import unit value index. The purchasing power of exports is the export value index deflated by the import unit value index.

- Notes:**
1. Converted from constant price trade statistics in the World Tables and therefore only approximately comparable.
 2. The implied trade deflator for Lesotho appears suspect.
 3. No constant price trade series available.

Sources: UNCTAD, Handbook of International Trade and Development Statistics 1983, table 7.2; World Bank, World Tables 1984

many base metal mines are intermittent loss-makers and, where subsidised, are kept going in effect to provide large-scale employment and to earn foreign exchange. Amongst the major commodities produced in the SADCC region, only petroleum and diamonds generate high rates of profit on a large scale. In a generally deteriorating economic environment, the imperative to industrialise is thus an urgent one.

In the pattern of SADCC countries' external trade long-established colonial connections have to a certain extent persisted and the bulk of trade with the industrial market economies is with Western Europe. Under the Lomé Convention several of SADCC's main agricultural commodities (chiefly beef and sugar) are permitted entry to the EC market under national quotas at prices usually higher and more stable than prevailing world rates. Manufactured goods are to a certain extent given preferential access, but tariffs persist and are more widespread and effective in North America and Japan. Although technical considerations also played a part, the 6 per cent EC tariff on semi-finished copper was cited as a reason for the locating of Zambia's continuous cast rod plant as a joint venture in France rather than locally.¹

Despite the limited level of foreign private capital investment in recent years, the bargaining position of foreign companies has been strengthened by the growing scarcity of locally generated funds. At the same time official concessional assistance from the industrial countries has generally been closely associated, with private foreign involvement not always with beneficial results:

First, recent years have seen a strong move towards tied aid, narrowing the area of choice for SADCC governments and increasing costs. Such finance has frequently become a form of export subsidy to the capital goods manufacturers of the industrial countries.

Second, there has been a pervasive bias towards large-scale, high-technology solutions even where inappropriate, a bias frequently dictated by the companies supplying the equipment and not always resisted by SADCC governments. Such solutions may reduce local linkages and displace smaller labour-intensive producers and instead create import leakages and need for foreign exchange on a sustained basis.

Third, there has been a heavy emphasis in the allocation of development aid on "projects", on installing new capacity where old capacity, sometimes in small-scale industry already exists, and where demand is uncertain. This has contributed to low capacity utilisation and the shut-down of new plants.

1. Africa Now, February 1982, p.88-89.

4.6 Strategies of industrial development

SADCC's nine members have adopted divergent strategies of industrial development. One basic difference has been in trade orientation. The three small SACU members, fully exposed to South African industrial exports, have looked to exports as the motor of industrial growth. However small, domestic markets exist and it would appear that until recently little attempt was made to exploit their potential even on a limited scale. Such internally oriented investments as were made, were largely directed to urban elite consumption, sometimes partly displacing sizeable small-scale local industries. Attention to small-scale industry and rural demand for basic needs goods and implements has recently been stepped up. Provision within the SACU treaty for protecting infant industries could perhaps be more actively exploited. As indicated in chapter two, in view of the small size of the domestic markets the three SACU countries stand to gain appreciably in many branches of production by achieving complementarities amongst themselves and with other SADCC partners. In a few cases interlinkages are already established or planned: examples are furniture manufacturing in Lesotho using Swazi wood and wool spinning in Botswana using scoured wool from Lesotho, the latter being a SADCC project.

The SACU countries' drive for export-led growth has had mixed results. The chief objective has been to attract foreign private capital with concessionary terms and open access to the South African market, together with preferential access to several SADCC countries and to the EC under the Lomé Convention. Such capital, using largely imported inputs to produce for export, has little local commitment and is highly mobile. In the early 1980s new investment has been drawn off by a revamped South African "border industries" programme which the small SACU countries lack the resources to match. On several occasions South Africa has also intervened directly to block industrial investment in SACU countries. Nor has access to the EC been of significance in more than a handful of cases. In recent times, Botswana's textiles and clothing industry has probably shown the strongest export-based growth. A prominent role in their establishment has been played by capital transferred from Zimbabwe, its main buyer until Zimbabwean local content rules were changed. Possible future directions are a cautious approach to South African outlets, a greater emphasis on intra-regional linkages, and a more active exploration of both EC and non-EC overseas markets on a regional as well as a national basis.

Export-oriented manufacturing in the other six SADCC countries tends to fall within a narrow range. Its principal form is the processing of commodity exports, the potential for which has been outlined in chapter three. In

fabricated goods, production for overseas export have usually been limited to a few efficient enterprises. The recent success of a Tanzanian plant making car radiators indicates that possibilities exist in labour-intensive, high value added engineering processes as well as in assembly and commodity processing operations. Broader breakthroughs have nevertheless been limited to a few branches under advantageous conditions, notably Zimbabwean clothing with preferential access to South Africa and Zimbabwean steel to overseas markets with state backing. In the production of intermediate and capital goods, especially where processes are complex and scale economies are essential to viability, access to the regional market may frequently be an important platform for achieving international competitiveness.

A major weakness in export-based manufacturing is the lack of linkages to other producers. In many instances neither local production of the required inputs nor a local market for processed intermediates actually exists. Even where they do on a regional basis, the established ties are often to external products. In the case of the Tanzanian radiator manufacturer, it was reported that the main inputs of copper and steel were imported from Sweden under Swedish subsidy, even though Zambia and Zimbabwe respectively are large regional exporters of these metals.¹ Where linkages have been established, regional possibilities remain to be more fully exploited. In one case instant coffee is produced by Tanzania, but several SADCC countries continue to import an inferior South African chicory mixture.

Import substitution and reliance on the domestic market is the dominant theme in the industrial development strategies of the six non-SACU countries. Many of the problems generally associated with this strategy have arisen; in particular, foreign exchange savings have frequently been more than offset by the high import content in machinery, spares, and inputs, together with service and profit transfers.

Import substitution has nevertheless achieved a degree of success in several SADCC countries. The most obvious case is Zimbabwe, which was compelled to adopt a self-reliant approach by international sanctions during the settler rebellion. Growth in Zambia, too, was rapid in the years following release from the Central African Federation. The decline in MVA in both countries in the last decade has been due in part to civil war and the depressed copper price but also reflects the fact that local production already supplies the bulk of domestic consumption and in a number of areas markets may be saturated. In the other four countries the production-

1. African Business, November 1984, p.53.

consumption gap is much higher in most branches and the scope for import substitution is considerable even within the present retarded consumption levels. Given the relatively low demand within national boundaries, however, import substitution conceived on a regional basis opens the prospect of a much greater advance, if complementary frameworks of inter-country specialisation and market access can be established.

Regional co-operation in this field may to some extent be hampered by the sharply differing principles and objectives embodied in national development strategies. In Angola, Mozambique, Tanzania and Zambia, a substantial proportion of enterprises of any size are in social ownership and much economic planning is undertaken within state institutions. In the other five countries, production and strategic decision-making take place mostly in the private sector and the role of the state is in the main restricted to sectoral planning, industrial promotion and partnership in project implementation. Differences in powers, approach and organisation may affect co-operation between parastatal and privately-owned enterprises in separate countries, the former, for example, being able to make more secure long-term commitments than the latter. Differences also arise in the extent of influence of foreign companies over investment priorities and choice of technology, in the emphasis given to labour-intensive processes, in the degree of commitment to small industry development programmes, and in the priority accorded to 'basic needs' over elite consumption goods. In practice, however, similarities often outweigh differences, not least because foreign companies supply the plant and technology to parastatal as well as private sector projects and, in combination with funding agencies, exert considerable influence over project selection, the raising of investment finance, and choice of technology.

4.7 Trade and payments regimes

In the preceding discussion trade issues have arisen in a number of contexts. Although trade and payments have not been seen as an early priority for SADCC action, they are important issues in the field of industrial co-operation, particularly in promoting inter-country complementarity in investment and production.

A striking feature of the organisation of trade in the SADCC region is its highly centralised control. A survey of trading institutions¹ estimated that in 1979 the overwhelming bulk of foreign trade was controlled in roughly equal parts by TNCs and state trading organisations (STOs), the trend moving

1. G. Sollie, Trade patterns and institutional aspects of trade: an empirical study of trade in southern Africa, (Bergen: Chr Michelsen Institute, 1982. DERAP Working Paper A267), p.28-35.

in favour of the latter (see table 4.2). In four of the countries, most exports and imports are transacted by or through STOs, the one sizeable exception being part of Angolan oil output. In the remaining five, the STO share is concentrated mainly in agriculture, in Zimbabwe also in minerals. In the SACU countries wholesale imports are very largely organised from South Africa. The role of TNCs is likely to be rather greater than appears from statistics, through agency agreements, management contracts and in particular control of technology. A significant proportion of manufactured imports is channelled within the structures of the TNCs themselves. To counterbalance TNC-domination, regional cooperation in market intelligence, procurement practice and technology assessment could be expanded.

A potential obstacle to the expansion of intra-regional trade in manufactures is the existence of external trade agreements (see table 4.3) which put up direct or indirect barriers against other SADCC members. Trade relations with South Africa pose special difficulties. Membership of SACU, which functions as a fully-fledged customs union, allows duty free trade between Botswana, Lesotho and Swaziland, but encloses them within a high and very detailed common external tariff (CET), to which imports from other SADCC members are subject. The tariff wall is breached in the case of Botswana by the survival of bilateral colonial agreements with Zimbabwe and Malawi, which permit a large measure of free trade. These pose the additional difficulty that the partner countries effectively lose some of their ability to regulate their trade with South Africa. For Malawi the consideration is insignificant since it has a separate bilateral agreement with South Africa of its own and has little trade with Botswana. But for the Zimbabwean manufacturing sector the chances of adverse effects are very real. Bilateral trade has risen steeply since Zimbabwean independence in 1980 and the role of South African business conducted through Zimbabwe has already been noted. The risk of a possible conflict of interest was illustrated by the reported imposition in late 1984 of restrictions on imports of Botswanan clothing into Zimbabwe.

Both the Zimbabwean and Malawian trade agreements with South Africa relate to preferential tariffs and impose no additional barriers against third countries. In giving preferential access to South African goods, however, the Malawian agreement promotes South African manufacturers at the expense of those based in SADCC partner countries. It would also seem to make geographic sense only in the context of the present disruption to Malawi's main trade outlets through Mozambique by South African-supported insurgents. The Zimbabwean agreement, dating from the colonial period before sanctions and under renegotiation since 1982, differs in giving largely non-reciprocal preferences to certain classes of goods.

Table 4.2. State and private sector participation in external trade, 1979

per cent	state trading organisations ¹	transnational corporations	private domes- tic companies	unattributed
Angola	20	32		48
Mozambique	59		16	25
Tanzania	75			25
Zambia	92			8
Botswana	18	69		13
Lesotho	43	11		46 ²
Swaziland		78		22
Zimbabwe	21	57	5	17
region ³	38	42	1	19

- Notes:
1. Any state organisation participating in foreign trade.
 2. Probably consisting mostly of diamonds, which would fall under 'transnational corporations'.
 3. Namibia included in the source, all of its trade being under 'transnational corporations'. Malawi excluded for lack of data.

Source: G. Sollie, Trade patterns and institutional aspects of trade: an empirical study of trade in southern Africa, (Bergen: Chr Michelsen Institute, 1982. DERAP Working Papers A267), tables 14 and 15.

Table 4.3. Trade agreements of SADCC countries

agreement: bilateral		multilateral			
main basis: planned trade promotion	preferential duties	unidentified	SACU	PTA	Lomé
Botswana	Malawi Zimbabwe	Zambia	*		*
Lesotho		<u>Zimbabwe</u>	*	*	*
Swaziland		Malawi Mozambique Tanzania Zambia	*	*	*
Angola		<u>Mozambique</u>			(*) ¹
Mozambique	Tanzania	Malawi			*
Malawi	Zambia	Botswana Mozambique		*	*
		<u>Zimbabwe</u> South Africa			
Tanzania	Mozambique	Swaziland		*	*
		<u>Zambia</u> <u>Zimbabwe</u>			
Zambia	Malawi	Botswana Swaziland Tanzania <u>Zimbabwe</u>		*	*
Zimbabwe	<u>Mozambique</u>	Botswana South Africa		*	*
		<u>Lesotho</u> <u>Malawi</u> <u>Tanzania</u> <u>Zambia</u>			

Note: 1. Applied to join.

SACU - Southern African Customs Union
PTA - Preferential Trade Area
Lomé - Lomé Convention (EC)

General: This table is based on limited and partly outdated information. A comprehensive study of trade relations in the SADCC region is currently being undertaken for the SADCC secretariat

Sources: G. Sollie, Trade patterns and institutional aspects of trade: an empirical study of trade in southern Africa, (Bergen: Chr Michelsen Institute, 1982. DERAP Working Papers A267), table 16; J. Hanlon, SADCC: progress, projects, prospects, (London: EIU, 1984), p.72.

The other principal multilateral agreement affecting SADCC countries is the Eastern and Southern African Preferential Trade Area (PTA), a geographically broader association currently numbering 17 African member states and conforming to the regional zoning of the Economic Commission for Africa.

A chief objective of the PTA is general trade liberalisation within its zone of coverage through the reduction of tariffs and a variety of other trade barriers between members. After many years of negotiation the treaty was signed in December 1981, entered into force on 1 January 1983, and into actual operation on 1 July 1984.

Although SADCC has not yet stated a collective view, it has tended to regard the PTA as complementary to SADCC's perspective and programmes. Differences remain, however, between the free and planned trade approaches of the two bodies. Given sharply uneven levels of industrialisation, non-discriminating trade liberalisation would be likely to benefit the stronger members, contradicting SADCC's commitment to balanced development and the reduction of inequalities. SADCC members have therefore concentrated on building trade relations progressively through bilateral agreements, most of which are on a planned basis (see table 4.3). SADCC members of PTA are obliged to extend any bilateral concessions made to other SADCC members to all PTA states. In practice this factor may prove insignificant since current trade flows are small and transport costs tend to favour neighbouring SADCC rather than distant PTA members as suppliers. The SADCC member most likely to face a conflict between SADCC and PTA obligations is Tanzania, the disadvantages of whose association with more industrialised Kenya in the East African Community was a cause of the latter's demise.

To date six SADCC members have acceded to the PTA but three, who are amongst the remaining five eligible to join, have not¹. Since the PTA is not (yet) concerned with establishing a CET and since it accepts existing trade agreements, it does not alter the existing trade regime within the SADCC region except between PTA members themselves. The restrictions on extending non-PTA preferences to non-members of PTA may, however, limit the development of planned trade and hinder the building of interlinkages and complementarities within industrial sub-sectors which is central to SADCC's

1. Malawi and Tanzania were amongst the December 1981 signatories; Lesotho, Swaziland and Zimbabwe joined in 1982; and Tanzania announced its accession in March 1984. Tanzania's move raises the question whether the remaining three SADCC states will follow suit, in particular Mozambique, with which Tanzania has a countertrade agreement.

industrial programme. Ultimately, as trade arrangements between SADCC members become more multilateral in character, there could be a convergence with the PTA approach.

The PTA has also established a clearing house for transactions between members, which is administered by Zimbabwe and came into operation on February 1984. Participants are obligated to settle their accounts every two months, and to pay any deficits in US dollars. There is a clear need for such a facility in the SADCC region, and the PTA clearing house may be the most appropriate vehicle.

Nevertheless, under conditions in which convertible currency is in very short supply, the mechanism of a clearing house is unlikely to replace balanced bilateral arrangements as the principal means of expanding trade between the majority of SADCC members. It is also unlikely of itself to clear payments backlogs, one of the chief obstacles to the expansion of intra-regional trade. In addition, the greater bargaining strength of foreign companies and governments supplying manufactured goods will often win them priority in the payments queue.

Balance of payments problems vary. Lesotho and Swaziland have issued their own currencies but are still members of the Rand Monetary Area and therefore subject to the overall state of South Africa's balance of payments and monetary policy irrespective of their national circumstances. Botswana, with diamond revenues, and unlike Lesotho and Swaziland its independent currency, the Pula, since 1976 is relatively well placed; and the position of Angola as an oil exporter is temporarily compromised by the disruption of war and the collapse of other exports. Mozambique and Tanzania, on the other hand, are facing severe balance of payments crises which are likely to be resolved only in the long term. These differences, together with other constraints, suggest that the potential for expanding intra-regional manufactured trade can probably best be developed through limited, specific trade arrangements which stand a reasonable chance of meeting planned targets.

PART II. SADCC'S CONTRIBUTION: DEVELOPING INDUSTRIAL CO-ORDINATION

5. Realising the potential: The SADCC framework for industrial development

5.1 Priorities and strategies

Reviewing the analysis of the preceding three chapters, a number of pointers emerge as to the limitations and potential for regional industrial co-operation and the directions in which such co-operation might proceed. First, the individual markets for manufactured goods of the SADCC countries are relatively small in terms of both population size and income level. It would therefore be of significant economic gain for many of the industries to be able to reach the entire SADCC market, although the volume of effective demand would still be below the optimal production capacity in many product lines. Given the low income levels, there is a premium on products which can become mass consumption goods. Production techniques need to be selected which can economically service the relatively small market for individual products and which can perform adequately on relatively low levels of skills. Although export markets for manufactured goods will be very difficult to penetrate except for processed raw materials, selective priority could be attached to those product lines which could be competitive in international markets. This would reduce the dependence on primary exports as a source of foreign exchange.

Second, the economies of the region are largely agricultural or primary producing economies. Therefore, it will be necessary to give particular emphasis to industries which have forward or backward linkages to mining or agriculture.

Third, the SADCC countries, both individually and seen as a group, have strong external linkages and dependencies. Important concrete manifestations of this are the trade imbalance between primary exports and manufactured imports, large external trade flows, foreign investment and ownership, foreign exchange and debt crises, and heavy dependence on development aid. Although regional associations are not immune to manipulation, it would seem that co-operation could reduce dependence on external forces.

Fourth, the underutilisation of industrial capacity has in recent years become endemic and severe. The implied waste of resources has become an early stage main target for SADCC co-operative effort in the industrial field.

Fifth, a main factor behind the creation of SADCC and indeed a factor engendering cohesion and solidarity between its member countries has been its common front against the Republic of South Africa. The chief impetus behind the drive for regional unity has been the struggle to end colonial rule and

apartheid and to resist South African attempts to dominate the sub-region. The reduction of South Africa's economic domination is, however, also a powerful factor, and will remain a target of regional co-operation irrespective of political developments. SADCC has taken care not to associate itself with South Africa's attempts to strengthen client relationships through its own brand of regional co-operation the 'Constellation of Southern African States' (CONSAS).

Sixth, the countries of the region are all "new" nations, with many of them still struggling hard for national, political and economic unity. It is improbable that these governments in the near future will be willing or able to cede significant parts of the national sovereignty to any supranational body.

Seventh, since the individual SADCC countries are pursuing somewhat different national development patterns and strategies, it will in some cases be difficult to arrive at general solutions to co-operation. Pragmatic solutions will have to be sought on detailed and practical levels within the framework of the far-reaching strategic goals forming the foundation of regional co-operation. SAUCC's emphasis on building a momentum for development through viable initiatives and early concrete results is well suited to this approach.

Eighth, the economic situation in wide areas of the region is now severely disrupted by active South African destabilisation, in some parts creating conditions akin to war. This means, among other things, that many SADCC member governments are inevitably preoccupied with crisis management and short-term considerations and that many normal economic activities are disrupted. The tendency - to which aid donors have not always been immune - to sideline this issue as outside the framework of 'development policy', except in terms of emergency aid, seriously inhibits the long-term development effort and the implementation of regional cooperation programmes.

All these factors confront each country in the region with formidable internal problems, focussing attention on domestic development issues. With regard to the overall strategy of co-operation within SADCC it seems clear that given the conditions in the region a pragmatic, ad hoc approach is called for with the strategic goals of regional association held clearly in view. Such an approach might be regarded in some quarters as an admission of weakness. Nonetheless, as the analysis has repeatedly shown, the structural constraints are as formidable as the ultimate scope for regional development is considerable. In this environment, over-ambitious programmes and centralised executive authority carries a high risk of ineffectiveness in

implementation and of inter-country conflict over the distribution of costs and benefits. SADCC's stepwise, building-block approach appears well attuned to its difficult reality and compares favourably with the achievements of other regional organisations.

5.2 Mandates and functional responsibilities

Beside the overriding preoccupation with transport and communications and with secure food supplies, industry has been recognized by member states as being of strategic subregional importance, together with energy and manpower. "Industrial development" was designated a field of SADCC co-operation in the Lusaka Programme of Action (1980) and made the main focus of the second pledging conference (SADCC 1983, Maseru).

The Lusaka Summit "endorsed the recommendation that Tanzania be entrusted with the responsibility of preparing proposals for a strategy for the harmonization of a regional industrialization programme". Tanzania accordingly presented a comprehensive strategy paper to the first SADCC Ministerial Meeting (Harare, 11 September 1980) and a second major memorandum described as an "action plan" applying the principles and procedures of the strategic paper, to the first constituted meeting of the SADCC Council of Ministers a year later (Blantyre, 18 November 1981). The endorsement of these two documents defined the general framework of Tanzania's mandate as co-ordinating state.

The scope of the co-ordinating mandate is wide-ranging. Its boundaries have been drawn in the main by the creation of separate fields of SADCC co-ordination in allied "industrial" categories, notably energy (1980) and mining (1981). "Industry" is thus synonymous with the manufacturing sector (construction has not been designated for co-ordination).

In the critical policy area of trade, however, the terms of reference lack clear definition. Trade was specifically designated a SADCC field of action in the Lusaka Declaration, but it was not delegated as a functional responsibility in the Programme of Action. The 1980 and 1981 memoranda both accorded high priority to intra-regional trade as an instrument of subregional industrial expansion. During 1982-3, the topic came under discussion at meetings of Ministers of Industry (Arusha, 8-9 September 1982), the Council of Ministers (Maseru, 26 January 1983) and, at the latter's request, of Ministers of Finance and Trade (Arusha, October 1983). To date, no statement of policy has been adopted by the Council of Ministers. The co-ordination of trade in manufactured goods is thus limited to the terms of the 1980 and 1981 memoranda and in view of the major strategic issues raised in the formulation of such a policy, little further action has been taken.

The delegation of authority and functions conforms to the general framework of SADCC's decentralised arrangements (see table 5.1). The Tanzanian co-ordinating mandate derives jointly from the original request of the Lusaka Summit and the approval by the Council of Ministers of the 1980 and 1981 memoranda setting out the strategic and planning frameworks for the co-ordination of industrial development. The Council has responsibility for general supervision of the execution of the mandate and considers reports submitted by Tanzania at each of its thrice yearly meetings. Its approval is also required for major steps in the co-ordination process, in particular for the selection of project proposals submitted to donors at Annual Conferences.

Within the context of the sectoral mandate, the major decisions are taken and proposals formulated by the Committee of Industry Ministers, which was established by the Council of Ministers (Maseru, 26 January 1983) following an initial meeting of the ministers (Arusha, 3-9 September 1982). The Committee reports to the Council and is supported by a Sub-committee of Industry Officials. Both are convened and serviced by Tanzania as the co-ordinating state, which also organises workshops, seminars and meetings of officials and experts for particular purposes or on specified themes.

The functions of subregional co-ordination have been elaborated gradually in line with the evolution of the sectoral programme. The co-ordinating state is responsible for:

- gathering required information from member states;
- consultation and liaison with member states, other sectoral co-ordinators, the Secretariat, and other governments and agencies connected with the SADCC industrial development programme;
- promoting subregional initiatives, such as standardisation;
- research and documentation in support of the programme;
- facilitating and monitoring its implementation.

In the mobilisation of industrial investment, which has to date been the main thrust of the programme, the co-ordinator acts as strategist and catalyst, undertaking sectoral and subsectoral studies, identifying possible projects, interesting potential donors, and monitoring implementation. Formal executive responsibility, as clarified by the first meeting of Ministers of Industry (September 1982)¹, remains wholly at the national level: member states submit and implement projects at their sole discretion and negotiate directly with potential donors. In practice it may be expected that the distinction between national and regional roles will not be so sharply drawn,

1. SADCC, Industrial Development Activity Progress Report as on January 1983, (Maseru: SADCC, 1983) p.7.

Table 5.1. SADCC industrial co-ordination: institutional responsibilities and functions, 1984

Council of Ministers	Secretariat
general industrial development strategy supervision of delegated mandate in-sectoral co-ordination setting of projects	Communications Inter-sectoral liaison
Committee of Industry Ministers	Sub-Committee of Industry Officials
Industry sector policy	Preparation of policy proposals Exchange of information Expert Committees ^{1/} Policy proposals on particular aspects
Industry sector co-ordinator (Tanzania)	Industrial Co-ordination Division
Adoption of industrialization strategy and programmes Co-ordination of industry sector programmes Exchange of information Institutional machinery Liaison with other sector co-ordinators	Secretariat to Committee of Industry Ministers Formulation of strategy and programme proposals Administration of sectoral co-ordination Liaison/servicing member states and donors facilitating/supporting/monitoring implementation
Member States	National implementing agencies
Co-ordinating national/SADCC planning Supplying/endorsing SADCC project proposals Overseeing project implementation naturally Liaising with/representing ICD nationally Supplying information to ICD and project partners	Representing ICD nationally Project investigation and preparation Executing SADCC projects SADCC industry contact points Liaison with ICD and project partners Collecting and transmitting data

Note 1. To date the SADCC Committee on Standardization and Quality Control, whose first meeting took place in June 1984, is the only instance.

since the co-ordinator's research and project identification will influence national choices and its servicing, monitoring and liaison activities during the implementation phase will continue to assist both national executive agency and donor.

5.3 Institutional Activities

In line with the decentralised SADCC arrangements, Tanzania, as co-ordinator, is responsible for creating and funding the necessary institutional means for the execution of its mandate (see table 5.2). A small Co-ordinating Unit was established in the Ministry of Industries and Trade in July 1982, staffed initially by a senior official on a half-time basis with the assistance of an expert¹. In mid-1983, the Unit was scheduled to move into permanent quarters and to be "significantly strengthened by additional technical staff at present being recruited"², and by the end of the year had an establishment of three officers and supporting staff. By mid-1984 the Unit was styled the Industrial Co-ordination Division (hereafter ICD) and described as "a separate directorate with its own budget"³. The ICD's two principal tasks are to administer the sectoral programme and to serve as the secretariat to all meetings convened under sectoral auspices, in particular those of the Committee of Industry Ministers and the Sub-committee of Industry Officials. It is assisted by designated "contact points" in the industry ministries of each SADCC member state, which liaise with and represent the ICD in their respective countries. Specialised SADCC industrial development institutions or capacities within existing institutions have not as yet been created.

The co-ordinating state has thus been true to the SADCC commitment to avoid large-scale institution-building, reaffirming in mid-1984 that it is the intention of the Tanzanian Government to keep a small but effective and professional staff⁴. It is in any case inevitably constrained by the severe shortages of skilled citizen personnel and the national budgetary and planning difficulties with which most SADCC states have been confronted in recent

1. S. Rossen, Industrial Co-operation among African Countries and Related Matters, (Bergen: Chr. Michelsen Institute, DERAP Publications No.172, 1984) p.111.

2. SADCC, Record of the Council of Ministers Held in Dar-es-Salaam, United Republic of Tanzania, on the 5th May 1983.

3. SADCC Industrial Coordination Division, SADCC: Industrial Development Activity: Progress and Perspective, July 1984, (Dar-es-Salaam: Ministry of Industries and Trade, 1984), p.5-6.

4. SADCC Industrial Coordination Division, SADCC: Industrial Development Activity: Progress and Perspective, July 1984, (Dar-es-Salaam: Ministry of Industries and Trade, 1984), p.6.

Table 5.2. SADCC industrial coordination programme: institutional development and planning

mid-1981	Basic data obtained, country industrial profiles prepared to supplement 1981 memorandum.
by Nov. 1981	Initial technical assistance secured for programme articulation
during 1982	Initial sub-sectoral surveys and project identification undertaken with assistance from Tanzanian Industrial Studies and Consulting Organisation (TISCO) and the Industrial Development Unit (IDU) of the Commonwealth Secretariat; preparation of projects submitted by SADCC governments.
July 1982	Small Industrial Coordination Unit (ICU) ¹⁾ established in Ministry of Industry and Trade.
27-8 Jan. 1983	Projects submitted to donors at Annual Conference for funding pledges (SADCC 4, Maseru).
During 1983	Following up pledges, assisting and monitoring project implementation.
mid-1983	ICU 'will shortly move into permanent offices and will be significantly strengthened by additional technical staff at present being recruited'.
10-11 Jan. 1984	Industrial Projects Workshop, Harare, organised jointly with IDU to bring together project promoters and potential donors.
June 1984	Meeting of technical experts to prepare standardisation and quality control programme.

Note: 1. More recently (by July 1984) operating under the title 'SADCC Industrial Coordination Division'.

years. The effectiveness of the co-ordination effort has therefore depended heavily on external financial and technical assistance to the ICD, which commented in mid-1984 that "much of the work has been carried out by engaging short-term consultants either directly from funds made available through Donor Agencies and friendly countries or through international organizations... The present pattern of engaging short-term consultants will continue for some more time."¹

In sub-sectoral programming and project identification the fruits of this partnership have been considerable. With the technical assistance of the Tanzania Industrial Studies and Consulting Organization (TISCO), financed mainly by SIDA, and the Industrial Development Unit (IDU) of the Commonwealth Secretariat², Tanzania was able to present a three-volume package of 9 sub-sectoral profiles and 88 project proposals, 55 of them for implementation, to SADCC 1983 little more than a year after approval of its Regional Plan and 6 months after the establishment of the Co-ordinating Unit. As follow-up, the IDU also assisted the ICD in mounting an Industrial Projects Workshop (Harare, January 1984) which attracted over 200 participants, including 80 representatives of companies and financial institutions from 20 countries.

The available institutional capacity has been directed mainly into sub-sectoral project identification, project promotion, and intra-regional communication and information exchange. Shortages of indigenous skilled personnel are likely to continue to restrict the pace, range and depth of the research and planning programme at both the subregional and the national levels. In the follow-up to SADCC 1983 and the 1984 Workshop, the ICD has expanded its assistance, monitoring and evaluation of project implementation in member states, leading to a more explicit framework of co-ordination with national implementing authorities. Such co-ordination is to be "strengthened and streamlined" under the ICD's 1985/6 work programme, resulting in "the assignment of responsibilities between (it)... and the contact personnel in the member states".

5.4 Strategy

Although pragmatic in its stepwise evolution, the co-ordination programme is guided by extended expositions of strategic and planning objectives. These statements have set both the direction and the terms of reference for its practical development.

1. SADCC, Industry, (Mbabane, 1985), p.41.

2. Financed by the Commonwealth Fund for Technical Co-operation (CFTC).

A basic strategy was outlined in the Memorandum submitted by Tanzania to the first SADCC Ministerial Meeting.¹ Applying and elaborating the first three of the Lusaka Declaration's "development objectives", the paper specified five goals of industrial co-ordination:

- (a) to reduce external dependence (nationally and regionally) on imports of industrial products and inputs from outside the region;
- (b) in particular to reduce dependence on the Republic of South Africa...;
- (c) to increase the size (absolutely and relative to total national production) of the industrial sector both nationally and regionally;
- (d) to increase the scope and diversity of the industrial sectors of the member states and the region through increasing the range of final products, intermediate goods and capital goods produced;
- (e) to increase the linkages within the national and regional industrial sectors to make particular industries and industrial activity as a whole more integrated and self-reliant and less dependent on raw materials, intermediate inputs and spares from outside the region."

These goals implied particular industrial development priorities: reduction of external dependence in manufactures; internal integration and self-reliance; diversification; industrialization as a leading generator of development. Important aspects were, however, either not covered or left open by the Memorandum, allowing flexibility of interpretation at the possible expense of contradictions in policy. Dependence was related to flows of goods and services, excluding the strategically critical dimensions of technology and ownership. "Self-reliance" was depicted as an orientation and a goal rather than as a method, leaving open the means to be employed. Also implied was an emphasis on import substitution, but industries generating extra-regional imports were neither excluded nor downgraded in the context of regional co-ordination.

The paper laid down several operating criteria in terms of which the scope for regional co-ordination may be assessed. It gave clear priority to the expansion of production, for which intra-regional trade and payments mechanisms were to be essential but secondary facilitating instruments. It regarded regional co-ordination "not as an end in itself..., but a means to achieving national objectives more rapidly, more cost effectively and more fully than is possible by isolated national efforts". That each member state

1. Toward Industrial Co-ordination: Memorandum from the Government of the Republic of Tanzania, in: SADCC, Record of the Ministerial Meeting, (Harare, 11 September 1980) vol.2, Annex E.vi.

should be able to anticipate concrete net gains was therefore the foundation of co-operation. It argued further "that these net gains be achievable ... moderately quickly, that they relate to priority needs and that there is at least a certain equity in the sharing of gains". These criteria, emphasizing production, national economies, equitable distribution of gains, and early concrete results, stand in contrast to the more conventional trade liberalisation approach to regional industrial co-operation.

The paper outlined an overall strategic framework, divided into three overlapping time-horizons. Short-term attention (year 1) would be concentrated on expanding intra-regional trade in manufactures, principally by matching existing and unsatisfied demand for imports with under-utilised intra-regional production capacity. In the medium term (years 2-4), the same method would be applied to national industrial investments which are under way or in preparation, with marginal modifications if appropriate. By taking account of the emerging capacity and demand, national planning of new investment would discriminate in favour of remaining and newly created markets, regional and external. In the long term, a more general practice of co-ordinated planning was envisaged, national rather than supranational in character, but following certain commonly agreed principles, notably positive discrimination in favour of industrially weaker members, and negotiated commitments, especially on prices, quantities and periods of delivery.

Intra-regional trade subsequently formed the principal topic of discussion at the meeting of industry officials (Dar-es-Salaam, March 1981), who concentrated on identifying areas and practical methods for short-run expansion and called for regional preference in allocating foreign exchange, prompt payments for regional suppliers, and consultation over large, regionally significant projects. An initial summary of intra-regional industrial exports by country was attempted in the 1981 policy memorandum¹. The memorandum, however, was noticeably reticent on regional trade policy, going no further than to suggest that specific trade linkages be framed by trade plans of about three years' duration and payment mechanisms through central banks, in both cases negotiated between the countries concerned.

The Regional Industrial Plan, as the memorandum has since been described, was concerned less with the short-term expansion of intra-regional trade than with complementary capital investment in the medium term. Whereas trade matching took in the entire present range of imports and underutilised capacity, future industrial investment was for the first time explicitly

1. SADCC, Industrial Co-operation: Memorandum by the Government of the United Republic of Tanzania, (Blantyre, November 1981).

associated with the satisfaction of basic needs ("food, clothing, housing, health care, water and power supply, transport and communications, and education"), towards which the Plan made a preliminary listing of required industrial products and inputs (see table 5.3). On the basis of the patterns revealed, it proposed six priority industry groups (food and agricultural, building materials and construction, metals and metal products, engineering and engineering products, chemicals, and forestry products) and a complementary inter-country framework for future development (see table A5.1), in particular associating the formation of intra-regional linkages in processed intermediates with the general expansion of medium- and small-scale plants. The way forward, it suggested, would be "the preparation of feasibility studies for each project area relatable to priorities in the national plans and linkages in the regional framework".

For the long term, the Plan stressed the development of "core industries", referring in particular to primary and secondary steel, capital goods engineering, and fertiliser, pesticide and pharmaceutical industries. Although going little further than to call for "project studies" to complement the background research undertaken by UNIDO and ECA, a start was made by including several core industries, principally the fertiliser subsector, in the portfolio of projects presented to SADCC 1983.

The Plan does not identify explicitly with any particular broad approach to industrialization, which it could hardly afford to do given the radically different development paths being followed by SADCC members. There are, however, underlying tendencies. First, it gives greater weight to import substitution than hard currency earning exports, although particular export opportunities are to be exploited to the full. Furthermore, the traditional bias of import substitution towards urban elites is confronted by giving explicit priority to basic needs and mass consumption goods and by directing the initial efforts towards the agricultural sector. The limitations of final-stage simple substitution of consumer goods is to be partly outflanked by programming industry networks whose vertical integration and markets are regionally dispersed. Second, the emphasis on core industries points to a recognition of complex intermediate and capital goods manufacturing as the long-term motors of sustained industrialization, for which the regional market would be essential. Third and most radically, the sharp rejection of "free trade", together with the urgent call for structural change, directs the regional planning effort into building production capacity, the onus of success resting squarely on national commitment to the co-ordination process.

Table 5.3. SADCC priority industrial project areas: resources and branches of production

Raw materials	Metallurgy	Engineering	Chemicals and processed materials
Main ISIC Codes	37, 381	382-5	3122, 34, 35, 36
Minerals:			
Iron ore	Steel: strip	Industrial machinery:	Basic chemicals
Copper	sheet	Canning/packing/bottling	Fertilizers
Bauxite	structural	Textiles/garments/footwear	Pesticides
Aluminium sulphate	alloys	Ceramics/glass	Plastics
Phosphate rock	Aluminium	Cement/bricks	Dyes
Sulphur		Structural steel	Additives
Potash	Cables: copper	Plastics	Preservatives
Asphalt rock	steel	Sawmills/pulp/paper	Paint
Graphite	Fittings	Printing	Glue
Limestone	Hardware	Machine tools	Pharmaceuticals
Gravel		Components/parts/spares	Fibres
Sand		Agricultural machinery	Ink
Soils		Agricultural implements	Petrochemicals
Clays		Construction equipment	Rubber
Salt		Road/railway/port	Bitumen
Water		Drilling/water	Cement
Others		Pipes/pumps	Lime
Mineral fuels:		Cisterns/sanitaryware	Concrete
Petroleum		Electrical equipment:	Brickwork
Natural gas		Meters	Glass
Coal		Generators/transformers	Stockfeed
Organic:		Power lines	Woodpulp, paper
Timber		Telecommunications:	Fibreboard
Plants (medical)		Telephone, telegraph	Newsprint
Animal products		Broadcasting	Batteries
Seeds		Radio sets	Asbestos
		Electronics	
		Transport equipment:	
		Road/rail	
		River/port	
		Medical equipment:	
		Educational equipment:	
		Teaching materials	
		Workshop/lab.	

Note: Condensed and rearranged from the original list of production branches. The list was not intended to be comprehensive.

Source: SADCC, Industrial Co-operation, (Blantyre, 1981), p.3-5.

In the three years since the Plan was endorsed by the Council of Ministers, its strategic perspectives have been refined explicitly by SADCC Ministers of Industry and implicitly in the formulation of sectoral programmes. The Ministers took two major decisions at their inaugural meeting at Arusha (8-9 September 1982). The first, influenced by an appreciation that project identification required "a more substantive approach towards rationalization of industrial development in an integrated manner than hitherto experienced", was to approve sub-sectoral capacity/supply/demand analysis as the general method of "co-ordinated industrial programming". Such a method entails a pragmatic, step-wise approach, with sub-sectoral investment plans being prepared and adopted in a sequence determined by Ministers on the advice of their senior industry officials, subject to the oversight of the SADCC Council of Ministers. The realism of this approach in the difficult regional planning environment is already evident in the practical achievements of industrial programming.

Significant issues of strategy may nonetheless remain unresolved. One of these is the reconciliation of potentially competing investment priorities, for instance long-term investment in basic industry with the short-term satisfaction of basic needs, and of both with capital-intensive export processing. Another issue is the articulation of sub-sectoral regional plans which are prepared autonomously for implementation over what may often be a lengthy planning period.

The second major decision at Arusha was to define guidelines for the co-ordination of investment planning. Projects to be included in sub-sectoral plans were those "which contribute to the SADCC goal of economic independence in the context of the 1980 Lusaka Declaration and the 1981 Blantyre decisions while satisfying any of the following guidelines:

- i) The ability of the project to meet internal consumption and have a surplus to export particularly to the SADCC region;
- ii) The need for a project to obtain raw materials within SADCC;
- iii) The possibility of transporting raw materials and products within the region.

In addition to the above general guideline, the project should have:

- a funding gap in foreign exchange;
- bankability;
- a reasonable implementation period.

Subsequent presentations indicated that these guidelines were not to be taken as "final" given the need for planning flexibility and that "no doubt for the total perspective, national projects also will be taken into

consideration. The main purpose is that SADCC efforts should complement the national ones and vice versa".

The evolution of the industrial co-ordination programme, although still in a formative stage, points to a further strategic issue. Being project oriented, its main effort has been devoted to the mobilization of financial and technological resources, very largely from outside the region. The foreign exchange component of the estimated total cost of approved SADCC projects is 75 per cent (as at October 1984). Relying on foreign finance for building the industrial productive base may however be determined to the long-run objectives of economic self-reliance and self-sustained growth. To arrive at a consistency between means and ends SADCC members should increase their control over foreign corporate investment and contractual arrangements and over technology transfer. At present, policy in these areas largely remains a national responsibility. Experience in other regional economic associations suggests that without co-ordination at the regional level, the long-term structural change upon which self-reliance ultimately depends may be prejudiced.

5.5 Programme formulation and experience

5.5.1 Regional planning

The major effort in industrial co-ordination has gone into what in terms of the 1980 strategy paper may be described as medium- and long-term planning aimed principally at project identification and implementation. The Regional Plan re-arranged the priority. Industrial project areas (see table 5.4) were grouped into 35 categories of industrial products under the seven basic needs heads. A possible country distribution of industrial capacity in the categories was also proposed (see table A5.1). A subsequent meeting of the Sub-Committee of Industry officials (Arusha, 28-30 April 1982), selected 17 of the project areas and grouped them into 9 sub-sectors for project identification (see table 5.4). Studies were commissioned for each sub-sector, five from TISCO and four from TDU, to assess on a regional basis current demand, local sources of supply and external imports/exports, production capacities and utilization, projected future demand and ways of meeting it through rehabilitated, expanded or new capacity, taking account of national development projects proposed or in the pipeline. On the basis of these studies the consultants prepared the initial slate of project proposals for submission to SADCC 1983, those ready for implementation constituting in effect pre-feasibility studies.

The sequence and methodology of the 1982 exercise have since been adopted as more or less standard procedure: during 1983-84 further studies were

Table 5.4. Industrial sub-sectoral planning: status, October 1984

Ref. No.	Industry planning sub-sectors	Core industry ^{1/}	Sub-sectoral planning completed:		
			survey	demand analysis	production plan
1.	Selected April 1982:				
1	Salt				late 1982
2	Textiles				late 1982
3	Wool and mohair				
4.1	Textile chemicals ^{2/}				late 1982
4.2	Pesticides, insecticides				late 1982
5.1	Tractors			late 1982	
5.2	Farm implements				late 1982
6	Fertilizers	X			mid-1984
7	Pulp and paper		late 1982		mid-1984
8	Cement		late 1982		
P					
9	Electrical transmission and		late 1982		
P	distribution equipment				
2.	Selected January 1984:				
1	Machine tools	X			N
2	Irrigation pumps				N
3	Railway wagons, rolling stock and equipment		P		
4	Pharmaceuticals and veterinary drugs	X			N
5	Baby foods and cereal processing				N
6	Hospital equipment and materials				N
7	Industrial chemicals	X			N
8	Mining equipment		P		

Notes: 1. Those so far specified are basic chemicals, textiles, pharmaceuticals, pesticides, iron and steel, and capital goods engineering.
 2. Transferred to 2.7 for preparation of project proposals.

Study status: P - in preparation
 N - funding under negotiation.

undertaken on inadequately covered sub-sectors, several new or revised project proposals prepared, and a further eight sub-sectors selected by the Sub-Committee of Industry officials (Harare, 9 January 1984) for analysis and project identification¹ (see table 5.4). The sub-sectoral studies have become the foundation of the process of industrial co-ordination. They may be divided into three classes: preliminary surveys, restricted largely to an assessment of current supply and demand and a summary of country data with limited recommendations; more substantial demand analyses and projections, but still incomplete on data, policy advice or both; and integrated sub-sectoral plans with full economic and technical information, drawn in part from field investigations, and a package of specific recommendations regarding the size, timing and location of future investment in productive capacity over a planning period of up to ten years but usually with a view to the longer term.

The synthesis embodied in these plans assists in confronting several of the thornier issues latent in industrial development through regional co-ordination. In the first place, the plans translate SADCC principles and guidelines into specific conclusions as to the scope for investment. Priority is given to rehabilitation and upgrading of existing facilities, wherever located. Similarly, although export prospects are not ignored, the analysis is directed to meeting projected regional demand without creating competitive overcapacity. Demand, furthermore, is assessed not on narrow projections of present market conditions alone but more broadly to take account of planning priorities, political changes and the satisfaction of basic needs - the projection for salt, for instance, is raised in view of the current, deficient rate of human consumption.

Second, the sovereignty of national planning is fully maintained: investment intentions under national plans are incorporated into capacity projections before new projects are proposed, and the latter are designed to be implemented under national development agency auspices.

Third, where existing and nationally planned future capacity is assessed to fall short of the regional potential, new capacity is proposed on regional criteria. The recommendations have the considerable structural advantage of being based not on an attempted reconciliation of national proposals but on an integrated analysis of the sub-sector in its regional context: they are presented on a regional basis for national consideration, rather than vice versa.

1. As of October 1984, two (railway wagons, stock and equipment; mining equipment) were being undertaken by the co-ordinators of the sectors to which they were essential suppliers. Funding for the other six studies had apparently not yet been secured. SADCC, Industry, (Mbabane, 1985), p.36).

Fourth, while it is not possible to treat each member state equally on the preferred pattern of dispersed, medium/small-scale plants, the plans make specific recommendations as to the siting of the larger factories. They also set implicit limits on future national initiative. A member state submitting for SADCC promotion a project which would in terms of the plan create excess and regionally competitive capacity could anticipate resistance from its partner states and, to the extent that SADCC builds credibility, from potential donors as well if presented on a national basis. However, no explicit procedures, such as exclusive licensing, have been laid down to avoid national duplication of SADCC projects based on the regional market.

Fifth, the SADCC criterion of "bankability" is translated into a prognosis of the economic results to be expected of each project proposed: viability is an essential precondition for recommendation. The economics of the expansion of regional capacity in the sub-sectoral plans and project proposals are, however, no more than preliminary, and in some instances implicitly require arrangements in regional economic and planning co-operation which may take considerable time to achieve.

SADCC's clear commitment to achieving measurable early results has focussed the planning effort at the level of the industry complex. The transition from "priority project" industries to integrated sub-sectoral planning has facilitated a fuller identification of resources/uses and forward/backward linkages. Salt, for instance, is considered not only in terms of human consumption as a basic need but also as an industrial chemical. Planning at the broader level of the major industry group or the sector as a whole has received much less attention. The ICD has, however, indicated its intention to develop a long-term framework in respect of core industries.

5.5.2 Project identification and implementation

The primary purpose of the industrial planning effort has been project identification. In this area the achievement has been considerable. 55 proposals for implementation and another 33 for study were prepared during 1982 for presentation to SADCC 1983. Taking into account subsequent revisions and a handful of additions and withdrawals, the total capital cost of the 54 SADCC projects put up for implementation was an estimated US \$1,171 million as of October 1984, the foreign exchange requirement US \$883 million (see tables 5.5, A5.2 and A5.3).

The original projects were prepared at considerable speed and incorporate

Table 5.5. SADCC industrial projects for implementation: planning status

US \$1,000	Planned/under implementation			New proposals			Total	
	Ref. No.	No.	investment cost		No.	investment cost		
			total	average		total		average
1.1	Salt	6	31.4	45.2	2	0.1	0.05	31.5
1.2.1	Knitting	1	5.6	5.6	4	16.3	4.1	21.9
1.2.2	Powerlooms	-	-	-	6	16.7	2.8	16.7
1.2.3	Polyesters	1	39.1	39.1	4	62.5	15.6	101.6
1.3	Wool/mohair	1	7.0	7.0	2	3.8	1.9	10.8
1.4	Textile chemicals	-	-	-	2	7.0	3.5	7.0
1.5.1	Tractor assembly	3	11.6	3.9	-	-	-	11.6
1.5.2	Farm implements	2	7.0	3.5	10	25.1	2.5	32.1
1.6	Textiles	4	367.1	91.8	-	-	-	367.1
1.7	Pulp/paper	4	529.3	132.3	-	-	-	529.3
1.8	Cement	2	41.5	20.5	-	-	-	41.0
Total		24	1,039.1	43.3	30	131.5	4.4	1,170.7

some 24¹ already under consideration, planned or being implemented under incorporated national projects comprise as much as 89 per cent of the estimated total investment cost of US \$1,171 million and nearly 75 per cent is accounted for by the five largest fertiliser factories and pulp/paper mills; the remaining 49 projects thus total a much less ambitious US \$318 million, or an average US \$6.5 million each. The 30 new proposals are costed at only US \$131.5 million. A similar perspective applies in respect of the balance between new and rehabilitated or upgraded capacity. The former accounts for as much as US \$1,001 million (86 per cent); but deduction of the five large factories leaves no more than US \$148 million spread amongst 29 projects. Investment directed towards existing establishments, which include several large factories whose existing capital value is not included, is actually greater at US \$170 million.

Two other general features of the programme are of particular importance. The first is that it is very largely geared to producing capital equipment (tractors, farm implements) and intermediate inputs (salt, textiles, textile chemicals, pesticides and insecticides, fertilisers, pulp and paper, cement) for agriculture, clothing, printing, and construction. With the exception principally of refined salt, the emphasis is upstream of existing producers of basic needs goods and services. The second feature is its emphasis on agriculture, together with transport and communications the foremost sectors in SADCC's order of priorities.

Less than three years after SADCC 1983, it would be premature to attempt any firm assessment of the implementation of the programme, and present remarks will be confined to noting progress to date. As of October 1984², some US \$190 million out of the total foreign exchange cost of US \$883 million for projects was not being actively solicited pending further investigations or investment decisions by the respective governments. For 88 per cent of the balance of US \$692 million, initial pledges had been secured, mainly at SADCC

1. It must be stressed that the breakdowns of data in this and the following paragraph are tentative, since SADCC documents do not give complete information. It is nonetheless noteworthy that over half of the projects are new, drawn not from existing national programmes but from the demand analyses of the sub-sectoral studies. Moreover, the majority of the latter (23 out of 30) also propose new production units rather than the rehabilitation or upgrading of existing plants; in the case of the former the balance is more even (11 out of 24).

2. The following data have been drawn from SADCC reports on the implementation programme during 1983-4. Deviations from the latest tabular summary arise from factual and interpretative inconsistencies in the reports which may in part reflect the fluidity of the programme itself. In general, greater reliance has been placed on the project descriptions than the tables. For sources, see Tables A5.2 and A5.3.

3 and the Industrial Projects Workshop a year later. US \$404 million was at some stage of negotiation with potential donors. A further US \$14 million had been secured in definite offers, and US \$193 million actually disbursed. Of the latter figure, US \$187 million is accounted for by a single project which was already near the point of implementation when the project proposals were first drawn up. This apart, it would appear that only US \$20.5 million had been definitely committed or spent, although spread over 11 projects.

As the programme emphasis has shifted from project identification to implementation, the ICD has become actively involved in the follow-up phase. The Industrial Projects Workshop, in which actual and potential private sector investors joined SADCC project promoters, donor governments and international agencies, was a major step in this direction and is likely to be repeated on both sectoral and sub-sectoral levels.¹ Other channels of communication being explored are the investment promotion conference, directly connecting promoters of proposed projects with potential investors, and regular on-going communication with interested agencies, so that appropriate projects can be presented when ready without the formality and delay of a donor conference.

As well as locating potential funds and liaising between them and national implementing agencies, the ICD has assisted and at times participated in the negotiating process, supplying technical advice and preparing implementation schedules. It also monitors and evaluates the later stages of project activation. Although implementation is clearly defined as a national responsibility, practical requirements are developing a complementary framework in which the co-ordinator is actively involved in implementation while designating "contact points" in member states which represent it nationally in the exercise of a range of functions.

5.5.3 Industrial support services

Programmes in such strategically important fields as industrial technology, technical, managerial and marketing skills, applied research, standardization, quality testing and control, market and financial intelligence, and legal and negotiation support services have as yet progressed little beyond initial discussion. Nor has the collection and dissemination of industrial information extended significantly beyond ad hoc compilations to service particular requirements, although such exercises have in themselves generated valuable basic data.

1. A workshop is to be held at Arusha following SADCC 1985 to review implementation, discuss rehabilitation and identify short-term scope for investment, focussing on textiles, leather, pulp and paper, building materials and general engineering (SADCC, Industry, Mbabane, 1985, p.41).

The potential contribution of regional co-ordination in this dimension was recognized by the first meeting of Ministers of Industry (Arusha, September 1982), who "directed that programmes should be implemented in the following areas to start with:

- industrial products standardization;
- industrial consultancy services;
- industrial research and development;
- appropriate technology."

In accordance with overall SADCC policy, "the strengthening of existing facilities and their harmonization for common advantage will be the priority. The establishment of new institutions and facilities will be promoted only where essential".¹

The following meeting of the Council of Ministers (Maseru, 26 January 1983) "decided that a meeting of experts concerned with the industrial support services be held to develop a comprehensive plan for these services in the SADCC region according to requirements and to promote regional co-operation". During 1984, a meeting of experts from SADCC states on standardization and quality control (20-23 June 1984) was actually held. The meeting recommended that a SADCC standing committee in this field be set up with a general brief of regional harmonization and the authority to raise its own funds and delegate specific areas of work to member countries. A project proposal is currently being prepared to fund the resulting work programme.

A second and potentially important initiative taken during 1984 was to devote an industry programme specifically to the rehabilitation of under-utilised capacity. Its aim is "to identify the characteristic package of problems facing a particular industrial subsector and prepare the necessary cost budget for remedial measures to be undertaken", and then to implement the measures on a sub-sectoral basis.

5.6 Perspectives for industrial co-operation

It may be concluded from the discussion in the previous chapters that it would be inappropriate to attempt to pre-determine a unilinear trajectory and an elaborate framework for industrial integration in the SADCC region. This conclusion rests on six principal considerations. First, the structural economic and geographical constraints are formidable, and although the potential for overcoming them through regional co-operation is considerable,

1. SADCC Industrial Coordination Division, SADCC: Industrial Development Activity: Progress and Perspective, July 1984, (Dar-es-Salaam: Ministry of Industries and Trade, 1984), p.38.

the complex processes and the time needed both place a premium on a flexible approach in the early stages.

Second, industrial integration through complementarity and specialisation cannot solve all the region's structural problems, and holistic methods may in some fields create more problems than they resolve. In this respect industry may differ from other sectors, notably essential infrastructure such as railways and large-scale energy supplies, in which a more integrated approach may be advisable from the outset.

Third, the final goal of development strategy is not integration but development, towards which integration is one and not always the most powerful policy instrument. This view has from the outset been one of the central principles of SADCC.

Fourth, the unique political circumstances of the southern African sub-continent, above all the long-term destabilisation campaign of South Africa, have an often unpredictable influence on economic policies and co-operation strategies.

Fifth, the differences in national development goals between SADCC member states suggest that a heavy emphasis on integration, particularly in the early stages, may lead to conflict and place unacceptable limitations on national policy-making.

Sixth, the conventional approach to regional economic co-operation amongst developing countries, which has tended to give priority to setting out in advance the detailed constitutional framework, legal instruments, institutions and programmatic goals of the association, has not on the whole been particularly successful, even where the potential for such co-operation has been stronger than in the SADCC region. SADCC states have reversed the usual order of priorities, concentrating on the early achievement of concrete progress within a simple, limited framework of association whose evolution will rest on the expansion of opportunity and the development of programmes.

The stepwise approach towards regional co-operation accords well with the clear general principles and pragmatic procedures which are one of SADCC's chief hallmarks. Its sectoral programmes are in their formative stages or still at the level of discussion, leaving wide scope for adjusting the directions, pace and methods of their implementation as experience accumulates. This is perhaps more important in industry than in other key sectors of co-operation in view of the complexity, diversity and fluidity of the decision-making context. Whereas most branches of infrastructure are dominated by centralised, usually state-owned organizations, with similar institutional and technical characteristics, even in centrally planned

economies industrial performance depends to a substantial degree on managerial autonomy at the group and plant levels. Given the critical shortages in technical and managerial manpower, which are unlikely to be adequately met by technical assistance personnel, an early emphasis on centralised, interventionist regional programming is not likely to be effective.

The stepwise approach conceived here envisages four progressive levels of regional industrial co-operation: communication and information exchange, the co-ordination of services, developing industrial manpower and capital, and co-ordinating industrial investment and production. Concomitant with the latter, which itself covers the entire range up to full-scale integration, are mechanisms of trade and payments. The first three categories in effect cover industrial support services, the fourth the planning of the production process itself. None is, of course, exclusive of the others and the order in which they are listed indicates not a sequence of planning stages but a broad grading of priorities in the allocation of planning effort to which there will be frequent particular exceptions. The background assumptions are, however, that the threshold for progress is generally higher at each stage; that achievements in a less demanding stage will build a platform and certain essential preconditions for further progress; and that so long as strategic guidelines are set, a stepwise approach accords well with SADCC's pragmatism in hostile conditions.

6. Developing industrial cooperation

6.1 Communication and information

As SADCC's approach builds on coordination, proper lines and methods of communication between and within the states involved are essential. Since the start, SADCC has also emphasized communication and consultation with donors and funding agencies by e.g. inviting representatives of such institutions to annual conferences. The communication network has been important in ensuring the maximum degree of consensus on the general industrial strategy and on the composition of the project portfolio giving concrete content to that strategy. The institutions and institutional links involved were briefly described in chapter 5. Will the administrative machinery for the industrial sector be appropriate for a continuing support of industrial development?

Sectoral co-ordination activity has so far focussed largely on planning. Apart from the consultations between SADCC states, both on the project and strategy level, the task has largely been one of study. It has been relatively easy to involve donors in funding such studies and to acquire consultancy and technical assistance inputs through the normal channels. Most aid agencies are well equipped and willing to offer assistance of this kind, limited as it is in funding requirements, time and responsibilities. For these purposes, the present industry sector administration has been appropriate, and it differs little from those other sectoral administrations which mainly manage infrastructural projects.

As projects are implemented, the need for communication and information will change in various ways, and with them the administrative requirements. There will firstly be a need for monitoring of implementation. Experience in conducting projects of similar types needs to be exchanged across national borders and to be stored and made easily accessible to other SADCC members. Ideas regarding solutions to practical problems, new products and new production processes will be generated as experience accumulates. As such ideas will often evolve from the need for inputs or in the process of product marketing of a given SADCC industry, an efficient spreading of ideas and follow-up mechanisms could enhance a pattern of SADCC industrial growth which would emphasise interlinkages.

Systematic communication between the various projects under implementation and the IDC could also play a more concrete role in detecting problem areas where a solution would usually involve SADCC as a whole rather than the individual country, e.g., in the case of marketing problems within SADCC this would be when problem solving required such technical or financial resources that a donor could best be mobilised through a joint approach.

Secondly, it is widely recognized that technological and management expertise as well as capital for industrial production is largely held in the private sector. Business interests in the region should therefore be consulted when priorities for (joint) projects are established. Private companies or parastatals are usually best equipped for implementation. It will therefore be increasingly important to develop good lines of communication between the SADCC industrial administration and industrialists in the private and parastatal sectors. Equally important, SADCC could increasingly act as a facilitator for links between industrialists in the SADCC countries and other industrialists both inside and outside SADCC.

Thirdly, forms of communication in the industrial field will probably also have to change as implementation proceeds. Forms of communication and cooperation between SADCC authorities, industrialists and donors will be required which are different from the present ones. Some part of the industrial sector administration would have to be in more direct contact with firms than it is at present. Multinationals would have to relate both to the individual implementing country and the SADCC context.

The most important and probably most difficult change to be brought about in this respect will probably be in donor attitudes to industrial projects. Aid agencies could take a more long term continuous interest in the production side of industrial projects in addition to their present emphasis on the capital and manpower side. This would for instance entail a greater interest in already operative projects and in the frequently noted underutilization of capital. In cases where firms outside SADCC are involved, there will usually be as many as five parties: the firm, the SADCC domicile country, the SADCC industry donor, the IDC and the TNC. Project problems can only be solved properly if the information exchanges between these parties are arranged efficiently.

Fourthly, and simultaneously with the start of production in SADCC industries, better marketing information will be needed. This will be the case particularly in intra-SADCC trade, but SADCC will also have an important facilitating role to play in providing information helping member countries to exploit their external SADCC trade opportunities to the best advantage. Some ideas and practical suggestions are developed in chapter 9 below.

As SADCC projects increase their share of industrial production in the sub region it is likely that the need for greater inter-sectoral coordination will be felt. The work under way in food security, mining and agricultural research should be related to industrial activities.

As is often pointed out, the SADCC countries widely vary in their

approach to industrial development. Although this may be interpreted as an obstacle to co-operation, the positive side of it is the broad range of experience to which it gives rise. As presently set up, SADCC provides for exchange of such experience only incidentally through meetings of politicians and officials. It may be fruitful to develop a more regular forum where politicians, officials and businessmen could inform each other of their experience with the different industrial strategies and policies adopted in the region.

The flow of information between countries could be expanded beyond the fields pertaining to SADCC projects and products. One particular area of interest could be small-scale industry and handicraft development. Although the field does not particularly lend itself to international cooperation it is very much in need of ideas and experience. Again SADCC could be an important facilitator for the information process at the national and sub-regional levels. The institutions doing research and/or serving as inventories in the field of appropriate technology and which are found in some form in all SADCC countries would be a natural starting point for such an information system.

6.2 Coordination of services

If one regards the coordination of industrial services as the logical step following an improvement of the information network it may appear that SADCC has tended rather to concentrate on the more advanced task of co-ordinating the infrastructure and new industrial projects. It may therefore be fruitful to reconsider the area of service coordination with the aim of locating additional niches for SADCC activities. In particular, a new niche would be industrial rehabilitation and improvement of capacity utilization. In these fields industrial hardware is probably less important than services and their coordination.

It is therefore encouraging that a main section in the SADCC industrial sector programme of work 1985-1986 as presented at Mbabane January/February 1985 is devoted to "Industrial Support Services" and that a workshop addressing the rehabilitation question is planned after the annual conference.

6.2.1 Research and Development

The R&D activities in the industrial sector have so far been connected to project analysis in various forms. The ICD in Tanzania and the IDU of the Commonwealth Secretariat have been dealing with project identification and pre-feasibility studies through a number of consultants. Groundwork has also been done and organized by the implementing countries and firms.

Generally, SADCC has not taken the pre-investment work as far as fully-fledged feasibility studies. This has meant that investors, mostly

foreign partners, have had considerable scope for shaping projects. The techno-economic expertise of the investor is of course highly valuable, but investors are often less familiar with the technological situation in the region and perhaps less interested in considering technology choice in a SADCC context. Through feasibility studies, SADCC may achieve a better balance between external techno-economic expertise and the need to promote technology appropriate to the SADCC context.

Within the SADCC strategy drawn up, a wide range of projects and products are possible. There were therefore few strategic difficulties in putting together the first batch of projects. As successive batches are processed it will be increasingly important to regard the projects' relation to the overall strategy and to other industrial activities planned or ongoing in the area to capture a maximum of linkage opportunities. As has been pointed out at various points in chapters 2-4, the opportunities for matching resources and for forward and backward linkages remain underexploited in the region. R+D activities focussing on interindustry relationships across the region would help to create viable new industries and should be contained in the Industrial Development Plan to be started as a part of the 1985-86 Programme of work in the industrial sector.

In research and development work SADCC has been able to draw on only a limited number of researchers and institutions from within the region. To a large extent this reflects the general scarcity of qualified academic manpower. To some extent it may however be due to a lack of emphasis on using regional manpower for industrial research and development. There are two ways to avoid the loss of opportunities for building local R+D expertise. Firstly, suitable academic institutions could be drawn into the SADCC information network, and their research interests, expertise and programmes related to SADCC sectoral work. Secondly, approved regional research institutions could be given a certain preference in tendering for SADCC consultancies. The competence-building process could also be enhanced by establishing incentives for foreign consultancy firms to involve regionally-based researchers or institutions in SADCC consultancies.

6.2.2 Technology

Meeting at Arusha in 1982, the Industry Ministers Committee decided on the implementation of a programme of appropriate technology as part of the move to improve industrial support services in the region. The programme for standardisation and quality control also decided upon was however given priority. So far, efforts in the area of appropriate technology have therefore been limited. The move already made to involve SADCC at a more

detailed level in technological decision making is nevertheless promising.

The processes whereby new technology is produced and disseminated and technological decisions made are so complex that it is hard to come up with concretely useful conclusions at the general level. It is also hard to see that in the SADCC context any single institution could effectively work as an implementor of technology objectives. To influence technological decisions in any given way, SADCC as a general policy maker would have to establish frameworks and incentives which would influence concrete project decisions. The first step could perhaps involve a study of the technology orientation in the industrial policies of member countries. Secondly at some stage there should be an attempt at co-ordination to avoid harmful competition between countries to attract foreign investors.

The latter is particularly relevant in cases where the concern is adaptation of foreign technology. The sub-sector or project-oriented approach that SADCC has taken in new industrial development may prove valuable in giving concrete content to co-ordinate technology policies. For example, in promoting the second batch of SADCC projects consisting of a finite and reasonably well-defined set of possible industrial plants it would probably be manageable to lay down closely specified plant requirements for a majority of the projects. Such requirements could be patterned on a plant which had been proven to work well either in the region or in similar development environments. The latter would perhaps mean that SADCC countries would take their technology patterns from more advanced developing countries rather than Europe, the US and Japan. Whereas this could be seen to constitute a welcome advance in technological and economic co-operation among developing countries, it would cut across the industrialized country donor tendency to link aid and capital goods supply. This might strain aid relationships but SADCC should be able to handle such problems.

Another related area for concern with technology is the upgrading of indigenous technology. Small improvements in production processes used by craftsmen and within the household (e.g. post-harvest activities) may have a substantial effect on overall economic efficiency and material well-being. The many relatively simple ideas floated in this field need to be organized, tested out and successful ones disseminated. All SADCC countries have "intermediate technology centres", groups or ministerial units dealing with the application of intermediate technology. SADCC could facilitate the linking up of these bodies. Building on existing institutions, such links could evolve into a network for dissemination of ideas as mentioned above and also provide a conduit for relevant experience from developing countries

outside SADCC. Later stages could involve the exchange of personnel, and eventually the creation of expert groups implementing activities in various sectors of small scale industrial technology.

6.2.3 Specialized industrial services

An industrial plant requires special skills and inputs from various sources. Important among them are industrial engineering, mechanical expertise beyond normal maintenance requirements, product design, purchasing and marketing expertise, quality control, legal and accounting expertise. They may be supplied as consultancy services for ad hoc problems (e.g. setting up an appropriate accounting system) or on a more regular basis (e.g. a PR firm taking care of advertising).

Whereas firms for such specialized services are thriving in the industrialized areas of Europe, US and Japan, they are scarcely viable in any of the SADCC countries, mainly because of the relatively low number and small size of potential client firms. Still, non-SADCC-area consultancy firms manage to do profitable business in the field.

SADCC has so far explicitly reviewed and begun to implement a programme for one of the areas mentioned above; standardisation and quality control. Activities in several other fields could prove increasingly useful as the implementation of individual projects progresses. In particular, a stronger emphasis on rehabilitation of existing firms and a concerted approach to the problem of low capacity utilization would make appropriate timely and cheap industrial services indispensable. Such services would raise the ability of firms to adapt to a rapidly changing environment, both externally and internally, and thus help to improve their performance.

In principle it seems clear that the industrial services sector could be improved if those supplying such services were able to look at SADCC as one unified market, as indeed some of the foreign-owned companies do already. As many of the services envisaged would also find a market in other sectors than industry it would probably be advantageous to take a cross-sectoral view in further work in this area. Finally, there would seem to be a place for donor assistance in this area, most aid organisations (who so far have tended to use consultancy firms from their own countries) having expressed strongly their support for indigenous industrialization and rehabilitation of existing facilities.

6.2.4 Enhancing bargaining strength

External relations of SADCC countries which involve bargaining largely take two concrete forms: commercial business relations with transnationals and

donor relations. The former are often problematic and since most transnationals operate in the manufacturing sector, that sector is particularly affected. Although multinational bargaining has not been made an item on the SADCC agenda, it is clear that the need to negotiate and make agreements with multinationals will grow as more industrial projects are implemented. It may be argued that until such time and until individual countries can no longer cope with situations there is no need to discuss these problems in a SADCC framework, as this may endanger good relationships with transnationals. On the other hand, problems that would warrant attention (not particularly related to SADCC industrial projects) exist in SADCC countries, and a SADCC code of conduct for transnationals could be established and enforced fairly quickly.

The possibility has also been raised that SADCC could be manipulated to enhance transnational operations in southern Africa. The urge to industrialize may, it is alleged, lead to a granting of SADCC status for industrial projects which will in the long run benefit neither member countries or the region as a whole. Clearer SADCC rules and policies may help prevent this.

SADCC has generally enjoyed excellent donor relations. The countries have taken care to communicate their needs and problems to donors who have on their side found it useful to have a counterpart organization adopting a regional view. But individual SADCC and donor countries have different procedures and organizations for receiving/delivering aid, and this in particular has been a source of problems when several countries on the donor and recipient side cooperate on a single project. SADCC would appear a suitable body to initiate a discussion on the question of unification of aid procedures.

6.3 Manpower development

The shortage of skilled manpower is one of the main obstacles to long-term industrial expansion in the SADCC area. It is important however, that the concept of skill in this context is interpreted broadly, far beyond the limits of formal and school-taught skills.

As SADCC industrial projects are progressively implemented, opportunities for linking the productive activities with training both at technical and management levels will undoubtedly arise.

SADCC responsibility for the sector "manpower development" lies with Swaziland. The co-ordinating unit is the Regional Training Council, which consists of senior officials of SADCC governments and is headed by a Principal Secretary in the Swaziland Department of Economic Planning and Statistics.

The main focus for the early work was a mapping of educational institutions as a basis for exchange activities and in preparation for a coordinated expansion of the manpower development systems within SADCC. Five different studies of training and two concrete projects have been started with considerable donor support. The only study so far specifically directed towards the industrial sector deals with the sugar industry. Studies of technical training in the mining sector and management and public administration have been planned. In view of the importance of the industrial sector within SADCC, the omission of a general study of industrial training in the manpower sector study programme should be corrected. Among issues which should be clarified before actual SADCC training projects become implemented are: the relations between SADCC activities and national activities; the relative emphasis needed on training for different skill levels; the balance of resources between school and on-the-job training; and the role of foreign investors and training abroad.

7. Co-ordinating industrial production

7.1 Capacity utilization

In view of the fact that capacity underutilization is a major problem and that in some circumstances it is much more rewarding financially to rehabilitate plants than to build anew, a policy of taking stock is recommended. Carefully evaluating the present landscape of plants, and identifying their problems, is of course less dramatic and appealing than embarking upon grand new schemes. But as a rapid build-up of output is desired this should be tried first. This is not, of course, to say that no new plants or facilities should be built under the auspices of SADCC.

The benefits of co-operation in industry and trade are commonly expressed in terms of market enlargement, and the region would provide markets for intermediate and final products which do not exist at the domestic level (cf. a.o. 2.5). But at the present time in most SADCC countries the expansion of industry is less constrained by lack of demand than by serious deficiencies on the supply side.

Co-operation between the SADCC countries could relieve these supply constraints. Although the solutions would not necessarily be perfect, this is greatly preferable to the present situation in which gross underutilization of capacity is imposed on industry by the scarcity of foreign exchange. Attempts to mitigate the latter type of supply constraints are made through the various bilateral and countertrade arrangements that are being established between different SADCC countries.

7.2. Domestic sourcing

A more intensive use could be made of domestic sources (energy, raw materials and parts), and new plants should be commissioned and built with this criterion in mind. The SADCC region, as has been pointed out above, can supply many of the essential minerals for the basic metals and chemical industries (cf. 3.1.2, 3.4). Even in the case of capital equipment (aid donors frequently attempt to tie large orders to their proposals) there is likely to be scope for more domestic content, at least in ancillary activities such as warehousing, parts, handling, packaging and distribution.

7.3. Small scale industry

Industry in SADCC is generally not owned and run by citizens. The exceptions to this rule are largely parastatals (often run by expatriate experts) and locally owned small-scale industries which have frequently grown from an artisan workshop.

This type of small-scale industry represents one important opportunity for the growth of an industry based on indigenously developed skills, local

initiative and (often) local or suitably adapted technology, which all SADCC countries strive to support. Opportunities exist, among others, in fish, agricultural crops and even mineral processing (cf 3.1.2, 3.2, 3.3). (Since it is important to focus on the process leading from an artisan workshop or even "backyard" activities to an industry in the more formal sense, the term "small-scale" should include enterprises with up to five employees. "Medium scale" then indicates an industry with six employees or more, which may supply the whole market of country.)

More attention to small- and medium-scale industries within the SADCC area also makes sense for other reasons. Firstly, the transport problems and associated costs of a range of manufactured goods may make it economically sensible to operate a number of smaller plants rather than a few big ones.

Secondly, most SADCC countries are in a strategic situation where they have to place heavy emphasis on securing domestic supply. Thus, there will be non-economic arguments against making large parts of the country totally dependent on external supply of strategically valuable goods.

Thirdly, there are economic risks in relying on one major supplier for the purchase of consumption or intermediate goods rather than on several smaller ones. (This has been a possible reason for difficulties of large community-initiated enterprises within CEAO.)

Given the importance of focussing the development of small- and medium-scale industries at the national level, there is little reason for SADCC to be involved in detailed policy-making and implementation in this field. SADCC could nevertheless emphasise the need for development of small- and medium-scale industry in its development strategy and perform important tasks in studying those problems and opportunities for small- and medium-scale industry which may be general for the SADCC area. Within the more general SADCC information and technology framework set out in 6.1 and 6.2 above the following specific points could be studied:

- applied research and practical inquiry into the question of optimal size of different types of industrial plant, taking into consideration the conditions in the SADCC area;
- opportunities for clusters of smaller industries supplying inputs or services and further processing outputs of the larger SADCC plants (research on this subject has been initiated in the textiles sub-sector);
- methods for making government supply contracts more accessible to small- and medium-scale industry in the sub-region.

7.4. Mechanisms for industrial specialisation

7.4.1 Product and process selection

Projects should be appraised just as rigorously from the point of view of what they are to produce as they should be from the standpoint of how they will produce. Product and process are closely related. What is important for new plants in SADCC countries is that the desired product characteristics be made explicit and then used to shape the choice of production technology. If this were done more thoroughly, one might well find greater scope for local or regional inputs and indeed locally or regionally produced capital goods.

7.4.2 Project allocation and proposals

The question of project allocation has proved to be a stumbling-block for regional co-operation schemes in the past. The different stages of industrial and infrastructural development of member countries make some countries persistently more attractive for industrial location than others.

SADCC cohesion would quickly be undermined if the overwhelming bulk of new projects were located in one member state, whatever the rationale in strictly economic terms. Unless conscious efforts at rational location decisions are to be abandoned, agreement on criteria for project allocation will be needed at an early stage. It will probably be unwise, in determining the rules of allocation, to give too little weight to productivity considerations in order to satisfy those of equity, though the allocation of investments should not purely be a matter of laissez-faire (cf. 4.2). It is also suggested that there should be no attempt to allocate industries to member countries in advance of investors coming forward with specific project proposals.

This point raises the question of who is likely to be proposing projects in the first place. The nature of SADCC is such that there will be no central machinery responsible for drawing up lists of project proposals. Instead, each individual member will pursue its own new projects. A possible method of co-operation is suggested by experiences in ASEAN. There, recognized regional industry associations or federations are invited to identify potential joint ventures. In that way, both the capabilities of public officials, taking the initiative, and of private business, offering a speedy assessment of the ideas' merits, are harnessed. A prerequisite for this type of co-ordination is, of course, the existence of well-run trade or industry associations. But in practice what appears really to matter for ASEAN is not so much the framework of formal agreements as the confidence which the businessmen get from being involved together, and sharing doubts and successes.

7.4.3 Project operating procedures

Just as it will be important to have a set of rules for strategic

decisions, it will be important to agree on a set of operating procedures. Such rules would help overcome one of the great problems of co-operation schemes - lack of information on the activities of partners - and could be formulated with the following questions in mind:

- what type of project is suitable for SADCC, what type is better suited for domestic use;
- what procedures for formal project appraisal are to be adopted;
- can agreement be reached regarding a common SADCC interest rate and when suitable, payback period;
- can a common timetabling system be arranged for decisions on project expansion or creation;
- can consultation with other countries' experts, businessmen or others be facilitated?

7.4.4 Project exclusivity and licensing

To prevent the danger of duplicating industrial projects, a system of industrial licensing may be needed. To avoid overlaps, the industrial licensing committee should consist of members of all SADCC countries. A licence could be made to be a legal necessity to implement an industrial project, and project or product definitions would have to be published from time to time. The license should be formulated in such a way that entrepreneurial initiative is not stifled by unnecessary requirements, bureaucracy or ambiguities.

Imprecise drafting of industry or product definitions might block the production of certain commodities until the licensing body has determined whether a license is required at all and if so, whether it should be granted and under what conditions. Questions of licensing might also have to include consideration of near substitutes, as very different commodities can become substitutes for each other.

Conflicts connected with existing overlaps or double licencing may also need to be solved. Should an existing enterprise close down or gradually phase out its production line? Should it abandon its expansion plans? Or would it, on the contrary, complement the proposed SADCC project.

In an integrated industrial complex, as SADCC may eventually hope to become, not only rival producers present industrial licensing problems. There are also the interests of users who may have to change inputs, qualities, and standards if a new SADCC project results in the scheduling out of existing supply. In particular, it can be expected that enterprises which are using imported inputs will be worried at the prospects of having to use, perhaps exclusively, a new SADCC-sourced product differing from what they are

accustomed to. Almost by definition, new SADCC products will enjoy a certain protection from competition. This may mean that a firm in country A originally buying inputs in international markets, where it was able to play off one supplier against another, would be confined to a supplier in country B who might not necessarily keep qualities, specifications, prices or delivery schedules to the satisfaction of the user in country A. The licensing arrangements will thus have to provide against abuse of licenses.

7.5 Coordination of the general policy environment

However successful the members of SADCC are in overcoming the constraints to industrialization, their efforts will be undermined unless the framework of overall economic policy is also conducive to growth and development. In recent years domestic economic policy in African countries has at times been considered sub-optimal. Internally inconsistent or arbitrarily applied policies can only harm SADCC co-operation. In the area of exchange rates (often kept unrealistically high by policy-makers), prices (distortions resulting from price fixing are common), incomes (urban and/or public sector incomes have sometimes been raised by government action to the detriment of other sectors) and other areas, there is a continuing need to re-examine existing policies to ensure that they do not frustrate regional industrial co-operation within SADCC.

8. Industrial co-operation, trade and payments

8.1 Introduction

Increased complementarity in production and international trade are essential to structural change and specialization in industry. The matter of concern in the present chapter is the role which regional co-operation in trade policy may play. The answers are in many respects specific, practical, and applicable within a short time-horizon, and it is with these that the following discussion will largely be concerned. But there are also important strategic issues at stake with potentially long-term implications for both industrial expansion and development policy in general, negative as well as positive.

The fundamental issue is whether short-term protection will ultimately pay off in self-sustained, internationally competitive industrialization, and what time it will take to reach that threshold. In the case of most SADCC industries, the time-horizon will inevitably be long. In addition, the high domestic costs of goods which are subjected to heavy protection will in most cases have to be borne by the agricultural producers, farm workers and peasants, who are amongst the poorest of society. But there seems to be no alternative to some form of protection, as in most branches of industry domestic producers are not able to compete with imports on free-market terms.

SADCC itself has yet to adopt a regional trade policy. The Lusaka Declaration took a notably cautious and restricted view:

"For trade development we recognise that many of us have existing bilateral and multilateral trade and customs arrangements. But even within these constraints we believe that there is room for substantial increases in trade among ourselves. To this end existing payment systems and customs instruments will be studied in order to build up a regional trade system based on bilaterally negotiated annual trade targets and product lists."

Thus intra-regional trade liberalization is envisaged, but not necessarily on a common regional basis. It is seen not as a basic framework for regional economic co-operation but as a means of achieving particular economic goals in production and the reduction of dependence. In the latter respect it fits well with the strong orientation towards import substitution. There is, however, no reference in the Declaration to the question of a regional position on SADCC countries' trade with third countries, referred to below as external trade. Trade policy remains the subject of active debate within SADCC and two internal studies were prepared in the course of 1983; action on interregional trade is likely in the not too distant future¹.

1. This was indicated by the Vice-President of Botswana and Chairman of the Council of Ministers, Peter Mmusi, at a recent conference on SADCC (Commonwealth Institute, London, SADCC: Development in the Region: Progress and Problems. Conference report, 18-20 July 1984, p.11.) A study on intra-regional trade policy has been commissioned by the Secretariat for presentation at the end of 1985.

Payment mechanisms have received less attention in the industrial context; a report on payment arrangements between SADCC members, however, was submitted in 1984.

Concern for action in the area of trade was expressed at the Commonwealth Institute's SADCC Conference (London, 18-20 July 1984) by private sector representatives and was acknowledged by the Tanzanian Minister of Industries and Trade, Basil Mramba. The topic received close attention in the 1980 industry strategy paper, in which the central emphasis was on the pragmatic, stepwise expansion of intra-regional trade and related aspects of external trade policy. Industrial co-ordination strategy "must include regional trade since co-ordination of production requires trade to be meaningful".¹

Trade is integral to each of the three levels of industrial co-ordination in SADCC's strategy: for the short-term matching of under-utilised capacity to unsatisfied demand; for the building of interlinked chains of production; and for the establishment of core industries where economies of scale may frequently require a regional market for full capacity utilization.

External trade issues tended to be treated mostly as a function of intra-regional trade issues. Nevertheless, external trade has been and will long remain dominant in trade flows, it will therefore be important to consider in what ways regionally co-ordinated external trade policies might enhance the achievement of SADCC's industrial development goals. Trade in services, an important component of industrial trade relations, are also included within the scope of trade policy.

Payment and credit mechanisms have a bearing on both (intra-regional and external) trade and economic and financial issues. The absence of an articulated position on trade and payments may endanger the actual implementation of manufacturing projects. Discussion and research on these topics and now taking place under SADCC auspices. Trade and payments however require not only a basic regional framework of agreement but also an ongoing facility for monitoring, servicing and policy advice. It is therefore suggested that they be designated a functional area of co-ordination in accordance with standard SADCC practice.

8.2 External trade

8.2.1 Exports of manufactured goods

External exports by SADCC countries are a means of expanding and diversifying the markets and developing the international competitiveness of domestically manufactured goods. Export generates essential convertible

1. SADCC, Toward Industrial Co-ordination, (Harare, September 1980), vol.2, p.29.

currency for imports of capital goods and inputs to industry which cannot be produced domestically.

Prospects for increasing either the volume of export or the fraction of manufactures to total exports are necessarily limited in the current international trading environment. Although lack of basic comparative trade data renders any assessment highly tentative, it would appear that excluding processed raw materials, intra-regional flows exceed external flows of manufactured exports¹ for all SADCC countries except Tanzania and possibly Zimbabwe. The combined values are in any case so small - at a very rough estimate below 6 per cent of total exports in the late 1970s - that expansion in either category must start from a very low base. The one major exception is Zimbabwe, whose manufactured exports comprised 20-25 per cent of the national total and over 60 per cent of regional manufactured exports in the late 1970s.

In manufacturing beyond first-stage processing the scope for regional co-operation in expanding exports is likely to be restricted in the short and medium term to particular sub-sectors or individual projects. At this level, instances may arise in which regional demand absorbs only part of the volume of output required for optimal efficiency or lacks in diversity to provide a market for important or specialised by-products. In such cases the co-ordination of regional production might be extended to securing export outlets as part of the overall negotiated package. This approach would require that the terms of reference for sub-sectoral and project identification analyses include export potential alongside the assessment of projected regional demand.

More generally, attempts may be made to diversify the economic and institutional linkages beyond the usual nexus with the governments and TNCs of the industrialised countries. In particular, contacts between state trading and industrial development organizations in industrialized and other developing countries and their SADCC counterparts may assist in establishing export outlets for medium- and small-scale enterprises.²

In the long term the markets of the industrialised countries will be important for SADCC manufactures and the reduction of import barriers in industrialized countries will remain of prime concern. SADCC members are likely to carry more weight as a single negotiating bloc than as a collection of individual nations. At present SADCC is not framed as a medium for multilateral negotiations or trade relations, but the adoption of a general

1. Here defined as SITC 5 to 8 less 667 (precious stones) and 68 (non-ferrous metals).

2. It is noteworthy that India has been one of the most active co-operators in SADCC's smaller industrial projects (see table A4.4).

framework for regional trade policy might open up this avenue without compromising its constitution as an agency of co-ordination.

8.2.2 Exports of raw and processed primary products

Raw materials currently contribute the overwhelming bulk of external export earnings and will continue to bear the main burden of financing industrial development for an extended period. A central aim will be to improve the prices and terms of access for major commodities in the markets of the industrialised countries. "Improvement" may be defined here to include the mitigation of the dramatic fall in real prices which has in recent years taken place for most SADCC countries. Negotiations with governments and international organizations may be conducted under the auspices of SADCC rather than individual members so as to increase negotiating power. The focus would be on the reduction or removal of trade barriers, tariff and non-tariff, to the entry of SADCC commodities and on related financial arrangements. Co-ordination could apply to negotiations both directly with countries and organizations over one or several commodities and more generally in multilateral contexts such as the Lomé Convention.

The scope for regional co-operation would need careful assessment in each case so as to avoid the proliferation of ineffective institutional structures. Some 14 raw material or slightly processed commodities accounted for more than 90 per cent of regional commodity exports over 1976-8 and for nearly three-quarters of total exports (see table 8.1). In five of these, particular SADCC countries are currently sole or dominant producers, and regional co-operation is unlikely greatly to strengthen national bargaining power aside from the general benefits to be gained from SADCC-sponsored inter-governmental or multilateral negotiations. The same applies to several relatively minor but nationally significant commodities, including spices (Tanzania), copra and prawns (Mozambique), fish meal (Angola), groundnuts (Malawi), wool and mohair (Lesotho), and gold (Zimbabwe). In the remaining nine, accounting for over two-fifths of commodity exports, two or more SADCC members are major producers and some form of regional or inter-country co-operation may be beneficial. To a limited extent, the same may also apply to base minerals regarded as a group.

Inevitably, SADCC's intrinsic bargaining strength is limited in most cases, but it should be noted that the region has a substantial share in world exports in as many as half the listed commodities. Diamonds may be singled out for particular attention. The SADCC region has recently surpassed South Africa (excluding Namibia) as a producer and ranks third in the world after the USSR, and yet diamonds continue to be marketed through a tightly regulated world monopoly, the Central Selling Organization, which is controlled by De

Beers Corporation, in turn an associate company of the foremost South African-based TNC, the Anglo-American Corporation. De Beers/Anglo-American are also strongly entrenched in the two principal diamond-producing nations, Botswana and Angola, through ownership linkages and technical, managerial and marketing contracts. Historically, the CSO monopoly has for the most part succeeded in maintaining high and stable diamond prices, but the cost for the region has been subordination to South African corporate interests. In the fields of marketing and corporate strategy the first potential aims for co-ordination through SADCC should be a greater insight and influence in the CSO.

Other commodities may also benefit from particular forms of regional co-operation. A particular instance is the export of beef to the EEC, its principal market, which is subject to a negotiated framework of national quotas, prices, health standards, and disease control. SADCC co-operation might e.g. influence bilateral and ACP negotiating forums and seek to introduce reciprocal exchange between members in the take-up of national quotas, which is bound to vary with climatic and other factors.

In several other areas commodity exports could benefit jointly from co-ordinating measures. Firstly, one could improve and share market intelligence. Regular meetings of officials directly involved in production and trade promotion, possibly through formation of "Commodity Committees", would provide one important means of sharing information and experience which would be of particular benefit to the smaller and more recent producers. There is, however, a need for back-up services of the kind which might best be undertaken by a small regional centre or unit for applied market research. In accordance with normal SADCC practice, the unit would be created or developed within an existing research institution with access to good telecommunications with the major market destinations as well as other SADCC countries. The unit would operate on behalf of SADCC as a whole and undertake specific commissions as required by member states. It should not only cover the immediate market conditions and prospects but also the interests, strategies and operations of the TNCs.

A second possibility is co-operation between exporters in the marketing operation itself. At its maximum this would involve single channel marketing of the commodity in question, including the use of common brand names for retail promotion. Most suited to such an approach would be food products requiring at most limited further processing, such as tea, coffee and

1. The EEC's STABEX is the foremost current scheme in the SADCC context.

Table 8.1. Principal SADCC commodity exports and regional co-operation

commodity	average value of regional exports 1976-78 US\$ ^a	principal exporting countries	share of exports from:			share of:		other producing countries	share of national exports
			SADCC	developing countries	world	national exports	regional commodity exports		
			%	%	% rank	%	%		%
Single exporter dominant:									
copper	* 963	all	100	24.3	16.0				
		Zambia	89			4th	94	30.0	Botswana ⁴ 29
petroleum	314 ¹	all	100	0.2	0.2			9.8	Zimbabwe 5
		Angola	100				35		-
chromium ⁶	* 61	all	100		5.6 ⁵			1.9	-
		Zimbabwe	100			4th ⁵	7		
asbestos	* 110	all	100		5.3 ⁵			3.4	Swaziland 12
		Zimbabwe	85			4th ⁵	11		
sisal	* 35	all	100	37.2	36.5			1.1	Angola 1
		Tanzania	75			2nd	5		Mozambique 2
sub-total	1483							46.2	
Major foreign exchange earner for several SADCC countries:									
meat	107	all	100	6.7	1.2			3.3	Swaziland 5
		Zimbabwe	54				6		
		Botswana	41				23		
tobacco	* 263	all	100	17.6	8.1			8.2	Zambia 1
		Zimbabwe	47			(5th)	14		Mozambique 4
		Malawi	35			(6th)	49		Angola 0
		Tanzania	11				6		
diamonds	* 171 ¹	all	100 ¹		18.5 ⁷			5.3	Tanzania 6
		Botswana	37 ²			4th	33		Lesotho 33
		Angola	41 ²			5/6th	8		
coffee	408	all	100	4.2	3.9			12.7	Zimbabwe 2
		Angola	51				24		Zambia
		Tanzania	45				35		
tea	73	all	100	5.8	4.7			2.3	Mozambique 6
		Malawi	51				20		Zimbabwe 1
		Tanzania	26				4		
sugar	123	all	100	4.0	1.6			3.8	Mozambique 8
		Swaziland	52				34		Tanzania 1
		Zimbabwe	20				3		
		Malawi	15				10		
cashew nuts (*)	70	all	100					2.2	
		Mozambique	55				27		
		Tanzania	45				6		
cotton	155	all	100	5.3	2.7			4.8	Angola 2
		Tanzania	39				12		Mozambique 9
		Zimbabwe	38				7		
timber/wood pulp ³	65	all	100					2.0	Angola 1
		Swaziland	68				23		Mozambique 3
									Zimbabwe 0
sub-total	1435							44.7	
total	2918						74	90.9	

- Notes: * The SADCC region has a significant share in world exports
1. Since considerably increased
 2. Probably seriously underestimated
 3. Regional expansion under way, notably in Mozambique and Tanzania
 4. Exported as copper/nickel matte
 5. By volume of production 1978-80; the proportion of exports will be higher
 6. Exported mainly as ferro-chrome
 7. By volume of production 1980-82

General: The average annual value of exports over the period 1976-78 has been employed in order to obtain as complete and comparative a set of national data as possible. The statistics have, however, been taken from a variety of sources and must be regarded as approximate. The proportionate significance of several commodities has also changed markedly in the intervening years, notably petroleum and diamonds.

Sources: International trade reference annuals and special reports; national statements of foreign trade

possibly nuts and tropical fruits. For others, joint services and facilities in wholesale marketing might assist depending on the character of the market itself. Specialised procedures or the dominance of contractual arrangements between extractive and processing TNCs, as in the case of many minerals, may rule out effective co-operation in a number of commodities.

A third benefit may derive from co-operation in transporting the bulkier commodities to their principal overseas outlets. Freight, storage, handling and forwarding are possible areas of cost reduction through co-ordination and pooling of shipments. Whether the appropriate mechanism takes the form of joint institutions, such as participation in a regional shipping line or a joint freight agency, or of co-ordination between producers to reduce costs and achieve the best terms will depend both on the commodity in question and on wider considerations of (transport) policy.

Terms of reference, institutions and procedures appropriate to the forms of co-operation described above will depend on the general disposition of trade as a SADCC policy area. Negotiation through the medium of SADCC might be considered the province of the Secretariat or the trade sector co-ordinator. "Commodity committees" might operate primarily at the senior official and expert levels, with representation from both the trade and the producing sector administrations together with state trading organizations as appropriate. They could usually be convened by existing sector co-ordinators, perhaps as a functional extension of the work of the respective co-ordinating units but with links to other sectors (for instance, between industry and forestry with respect to wood pulp) and to the trade sector co-ordinator, if designated.

8.2.3 Imports

External imports policy is closely bound up with issues of balance of payments and intra-regional trade. As many manufacturing branches in SADCC countries heavily rely on external imports of capital goods and intermediates, shortages of foreign exchange have in recent years become one of the major causes of industrial decline. Solutions are for the most part to be sought within the wider policy framework of trade and finance and are likely to be pursued through national and world rather than regional channels.

Regional co-operation however may assist through the sharing of national information and experiences on sources of imports and terms of finance and on contracts. More particularly, a register of information could be built up in the ICD or a designated agency such as the market research centre described above, on products, specifications, applications,

technological alternatives, and on the supplying companies, their reputations and past behaviour. An information bank of this kind would enable SADCC members at least to avoid repetitions of costly and exploitative deals, and could draw on the resources of related international and NGO research institutions throughout the world.

Several of the forms of regional co-operation described under "external exports" above are also applicable to imports, including the reduction of freight, handling and storage costs. Regular purchases of common supplies could perhaps be pooled so as to reduce not only cif costs but also unit prices in supply contracts. The monitoring of supply sources and of TNC behaviour by a "market research centre" could add significantly to diversity of choice and bargaining power. There may also be a case for appointing a local or external agency to oversee quality and price controls for the SADCC region as a whole and to impose approved criteria.

Concerning service imports a special case may be made for the monitoring and vetting of consultancy firms, on which SADCC countries will inevitably rely heavily and whose changes make appreciable inroads into the balance of payments. A SADCC roster might perhaps be maintained by the Secretariat, based on information from sector co-ordinators which could then be made available to project implementors and state development organizations. Such information could be combined periodically with expert assessments of consultancy resources and performance.

8.2.4 Industrial Co-operation, trade and North-South relations

The renegotiation of economic relations between the developed and the developing world has come to a virtual halt in recent years. SADCC has to seek substantive adjustments in the harsh political and economic climate created by the world recession. Participation in North-South and developing country forums, in which most or all SADCC members participate anyway as individual members, may help projecting SADCC's regional identity and concerns.

In the light of the general failure of North-South negotiations over the past two decades, the concept of a unilateral inter-regional application of the principles of the New International Economic Order, or "mini-NIEO", has found increasing favour with a group of so-called "like-minded" industrialized countries (such as Sweden, Norway, and the Netherlands). It has recently been suggested¹ that a region-to-region association be formed between the like-minded group and SADCC. At present, trade and private

1. B.E. Tunold, 'Southern Africa focus for new cooperation scheme', ICDA News, March 1984 (International Coalition for Development Action).

capital flows between the two are small except in the case of the Netherlands; but official commitment in the form of development assistance is substantial, and given that development co-ordination is SADCC's raison d'etre, the suggestion merits close examination.

8.3 Intra-regional trade

8.3.1 General considerations

Given the constraints imposed by small domestic markets and the limited scope for industrialization led by manufactured exports, market expansion will to an important extent depend on regional co-operation.

The two general means of trade promotion are liberalization within the region and protection of the region against external imports. For all three dimensions of the SADCC industrial co-ordination programme - capacity/demand matching, investment planning, and core industries - the reduction of intra-SADCC trade and payments barriers is an essential facilitator; while external protection for extended periods may often be necessary for the viability of new or expanded industrial capacity. The current discussion within SADCC on regional trade policy would appear to concentrate on intra-regional trade, an emphasis which is consistent with the evolution of industrial co-ordination. Consideration of external protection cannot be long delayed, however, since it may be needed to assure the viability of certain activities, without which the interdependence of production and supplies in the regional would be disturbed.

SADCC has always stressed that its primary concern is investment and production, and that co-operation in trade is to be seen as an enabling instrument. An approach of this kind nonetheless requires an overall framework of principles and procedures agreed at the regional level. Agreement on common regional trade measures, including decision-making procedures, institutions, and substantive instruments, will also become increasingly desirable.

8.3.2 Inter-regional trade in an industrial programming perspective

The obvious starting-point in the formulation of a regional industrial trade policy is the existing programme of co-ordinated investment, which will stimulate trade in inputs and final products among member countries. Long-term contracts between producing and consuming enterprises, with appropriate guarantees by the governments concerned, could be a principal instrument. They would be based on the principle of commercial viability which applies to all SADCC projects and on the assessed shortfalls in regional demand identified by the sub-sectoral surveys.

Another measure would be the reduction or removal of interstate trade

barriers. Preferential treatment could apply either specifically to the goods concerned or to the classes of products traded. It could be effected once again through case-by-case agreement by the governments directly concerned, and could with advantage be included in project implementation packages. Problems might arise for members of SACU. Any tariff reduction by member states also being PTA members would have to be extended to all PTA signatories in view of that treaty's MFN clause. But the shape of the programme would remain that of a proliferating network of inter-state project- or product-linked agreements promoted by a SADCC-endorsed policy framework and logistical support through the industrial co-ordinator.

8.3.3 Bilateral trade agreements and demand/capacity matching

Bilateral trade agreements exist between several SADCC members and have proliferated since SADCC's formation. Indeed, the Lusaka Declaration's advocacy of "a regional trade system based on bilaterally negotiated annual trade targets and product lists" tends to support bilateralism as a stepwise means to a more generalized intra-regional system of trade facilitation.

The major attraction of bilateralism is that an agreement with only two partners is likely to be reached faster, stated less ambiguously and policed more easily than one with up to nine partners. Many of the institutional arrangements will tend to proceed more smoothly with fewer members. Given the geographical dispersion of the SADCC members, and the often inadequate transport linkages between them, bilateral agreements between two geographically close partners may often be preferable to the theoretically more attractive single regional supply source exploiting economies of scale.

Bilateralism is not, however, without its problems. One is the duplication of production units mentioned before. The sub-sectoral planning process, which may be able to achieve less in the way of co-ordinating the division of industrial processes between members to improve efficiency and the chances of long-term viability, is also made more difficult. Regional commitments may furthermore become subordinated to bilateral interests in possibly unrelated fields. The case of the Andean Pact's experience in the automobile industry provides a warning of how untrammelled bilateral agreements can erode the principles of industrial co-operation. Here, countries which had been allocated production rights to certain components through the organization's central mechanism, frequently bargained their reallocation with other countries, sometimes as quid pro quo for other agreements quite unrelated to the automobile industry.

The complexity of interests and instruments involved in existing bilateral trade agreements suggest the advisability of a comprehensive

study, giving close attention to the relationship between bi- and multilateral arrangements. Standardised instruments and procedures might be designed for bilateral arrangements. It would also seem appropriate that new bilateral agreements covering manufactured goods or extensions of existing agreements should take account of sectoral co-ordination planning so as not to contradict existing initiatives or preempt future offers.

8.3.4 Trade promotion

There are several specific possibilities for promoting trade in manufactures. One is the establishment of a register of manufacturing enterprises and their principal products in each member country.¹ The register could be prepared in the ICD and updated at regular intervals, information being collected and then disseminated through the country representatives. The register could function as a first point of reference in checking import license applications and in seeking to resolve input shortages at existing plants. It could also be part of a wider SADCC information service to enterprises and national development agencies operated by the ICD. The service might include a data-bank on SADCC-manufactured products, processes and technological specifications. This aspect concerns primarily technology policy, but it is likely that an active initiative in obtaining, standardising and disseminating market information of this kind will directly strengthen inter-agency and inter-enterprise trade linkages within SADCC.

Complementary to information services would be the institution of regular trade fairs, held perhaps every first or second year and rotated around the SADCC countries. These could provide a useful meeting-ground for producers within SADCC, and if organized properly would function as more than a selling front for foreign suppliers. Alongside the fairs there is a clear need to provide mechanisms for direct contact between SADCC enterprises at the managerial level. Unlike TNC subsidiaries, relatively few can afford either to maintain extensive marketing networks and promotional efforts or to fund regular sales or purchasing field visits. It could be part of the ICD's programme, in liaison with national industrial development agencies and representative commercial bodies, to co-ordinate a range of exchanges, including trade delegations, study visits, sub-sectoral workshops, and training secondments to particular enterprises, the latter

1. A list of manufacturers and locally-made products in the field of tractors, agricultural machinery and implements, together with drawings and functional descriptions, was appended to the sub-sectoral studies on "farm implements" and "tractors and tractor components" presented at SADCC 1983.

being of use in the start-up of new plants and the supply of intermediate inputs.

A further development would be to encourage promotional campaigns which use production within SADCC as a specific selling-point. Consumer preference for foreign goods is a major market constraint on local producers of retail goods. SADCC branding or use of a standard SADCC symbol, whether made available to all local producers or restricted to SADCC-sponsored projects, might assist in shifting consumer preferences. It does, however, carry the risk of creating a poor SADCC image if quality is consistently inferior to that of imported goods, and a procedure for licensing and regular testing would need to form an integral part of the scheme.

Local producers, particularly medium- or small-scale enterprises, may frequently benefit from basic marketing advice to expand their market outreach across national borders. This could form part of a service programme, one of whose features might be a "marketing package" designed specifically for local enterprises and local conditions. It would include information on legal requirements and institutional procedures, as well as advice on general marketing strategy. A particular, and probably significant, example of the latter is export pricing. Prices quoted to potential importers of SADCC products may appear unacceptably high only because the SADCC exporter/producer simply applies the price he fetches in his protected home market. If his home market however leaves him with spare capacity he may however win export orders by pricing marginally.

8.3.5 Infrastructural and institutional mechanisms

The formidable infrastructural constraints upon local industry are well known and need little further elaboration. The severity of the transport constraint must here be stressed in the context of trade. Rehabilitation of the primary networks, especially railways, will go a long way to assure supplies of bulk and imported inputs to industrial production. From the standpoint of the manufacturing sector, though the emphasis on primary networks will in a sense only deepen the structural bias in favour of primary exports and manufactured imports, for local manufactures are directed mainly to local consumers and mass markets within the region. Until the rehabilitation, extension and reliable operation of the overland transport system sees substantial progress, intra-regional manufactured exports will continue at a disadvantage in terms of cost, in-transit damage, and delivery time. Attention needs to be focussed not only on inter-urban arteries but also the rural road networks which connect "basic needs" manufactueres with their mass rural markets and industrial workers with their essential food supplies.

While for the most part infrastructure falls under other sectoral programmes, institutional mechanisms may in some cases be improved or revised to facilitate intra-regional trade. The most important reforms would be to streamline and to standardise intra-regional import and export procedures, especially license applications and customs formalities. SADCC members might consider the design of a common customs nomenclature for the sub-region, harmonised with the criteria applied by PTA, as a medium-term objective.

8.3.6 Different levels of trade agreements

There are various levels of ambition in a regional grouping. There is the level of simultaneous bilateral agreement between various members, there are extensive agreements between several members and agreements between all members. What is important is that SADCC should offer a framework which can accommodate different members moving toward more complete integration at different speeds. The present lack of such a framework leaves progress to the proliferation of bilateral agreements which may introduce obstacles to the development of a co-ordinated intra-regional trade system.

The reduction of intra-regional trade barriers is in general terms an essential element in an industrialization strategy which relies substantially on import substitution and the fostering of complementarity within the regional market. Applied as an across-the-board programme, however, there is the risk that trade liberalization might succeed in removing relatively insignificant barriers at the expense of major new contradictions. In the case of SADCC, the most formidable difficulty is likely to be the uneven spread of industrial development within the region. Zimbabwe has by far the largest, most diversified and competitive manufacturing sector of the SADCC countries and accounts for probably two-thirds of exports of manufactures within the region. General reductions in trade restrictions would tend only to increase this imbalance.

In the long term the equitable allocation of new investment through SADCC programmes may become the principal regional instrument for correcting historical intra-regional distortions. It is clear in the meantime that any general trade liberalization framework will need to incorporate procedures of positive discrimination. These might include region-wide differentials in favour of a range of products from the least developed countries of the sub-region, rights of national exemption from common lists according to agreed criteria, and the case-by-case extension of an initially limited commodity list in step with the actual evolution of trade flows and of industrial interlinkages under SADCC programmes. Specific differentials in favour of the lesser developed countries in respect of particular classes of goods might be

agreed on the basis of criteria of equitable distribution, in particular but not only "infant industries". It may in fact be easier to envisage progress through overlapping sets of agreements between groups of countries within an overarching SADCC framework of principles and region-wide instruments, since in terms of geography as well as economic dependency patterns SADCC is not a cohesive trading bloc and the interests of more peripherally connected members such as Lesotho, Swaziland and Angola are likely to remain differentiated.

Cross-cutting participation in multilateral trade agreements may introduce additional obstacles to the formulation of a SADCC policy on intra-regional trade, although on the whole potentially serious difficulties appear to be few. The PTA, of which six SADCC states are members, is concerned primarily with trade barrier reductions between members and is regarded by SADCC as complementary to its aims. For SADCC members of PTA, the MFN clause, which obliges them to extend concessions for SADCC partners to other PTA states, is not often likely to be a significant factor, since current trade flows are small and transport costs tend to favour neighbouring SADCC suppliers.

In general, conflict between SADCC and PTA as presently constituted may on occasion arise in matters of detailed application, and there remains some overlap in functions and objectives. These should be resolvable if appropriate and effective methods of consultation between the two are established and if SADCC members of PTA co-ordinate their positions in respect of the latter.

The other principal multilateral agreement of relevance is SACU, which is based on a common external tariff regime and virtually free internal trade. In general, the three SADCC members of SACU appear to have covered the bulk of their intra-SADCC trade with bilateral agreements, but the probability that full SACU tariffs would have to be applied to imports outside the terms of the agreements and from other states is clearly a hindrance to regional expansion and diversification.

The range and above all the implications of the current complex of intra-SADCC trade arrangements are far from well established, and a thorough-going assessment would seem to be an early priority. The issues to be borne in mind include the relationship between bilateral, inter-state and regional trade instruments in furthering SADCC's aims: the likely extent of trade creation and trade diversion effects; the extent to which membership of other groupings such as the Lomé Convention will encourage a re-orientation of industry towards developed country demand patterns and away from SADCC members' needs; and the impact of tariff and non-tariff barrier changes induced by membership of Lomé, SACU and the PTA on the trade policy posture adopted towards SADCC.

8.3.7 Other non-tariff preferential instruments

Several alternative instruments may be used to discriminate in favour of regionally-produced goods. The first would be systematic preferences in import licensing, although these could not generally be deployed by SACU members, while PTA members would need to include partner states. The vetting of licences could be backed up, as suggested earlier, by an active policy of identifying regional as well as national producers of equivalents to the external supplies requested. The latter could also be differentiated to favour inputs to local producers supplying the regional market, and indeed such discrimination may be an essential support to SADCC projects based on regional economies of scale. Preferences in favour of local producers, in other words, should be conceived on a regional rather than a national basis wherever national interests permit this.

Similar preferences could apply in the purchasing policy of government and parastatal organizations, very important consumers in most SADCC countries. In the key area of tendering, the policy might include not only active assistance to local enterprises to submit bids but also a regional premium in appraising prices. In some cases the policy may imply extending existing national policy to the regional level.

"Unpacking" donor packages

A particular field of preferential action could be the "unpacking" of donor packages, an area of considerable strategic importance to the long-term development of indigenous capital goods industries.

Present and future manufacturers of capital goods in the SADCC region have to compete with foreign donor packages. Even if SADCC suppliers cannot supply the total complex package of a donor-financed project such as power stations, transport and communications installations or industrial projects, there are today manufacturers within the SADCC region who could supply elements of such projects at competitive qualities, specifications and sometimes also prices. But the nature of donor financing of project packages is often such as to make it impossible for SADCC manufacturers to participate in the supply arrangements. At best, local firms will be engaged in erection work and supply of local services, but seldom in the supply of hardware.

Donor assistance to the SADCC region does not produce maximum benefits when it excludes supplies from other SADCC members as components in the donor package. Some attempts are made to un- the procurement within the framework of a donor package, but seldom to such an extent as to enable manufacturers in one SADCC country to participate in the donor-financed supplies to another member country.

Since high proportions of capital expenditure on development projects and even of gross fixed capital formation are foreign-financed, this feature is one of the critical potential blockages to sustained industrialization, particularly in view of the hardening donor tendency towards tied bilateral finance in effect acting to subsidise home equipment and machinery exporters. SADCC's industrial projects rely heavily on attracting such finance, and there is an urgent need to develop a technical and planning capability, preferably on a regional basis through the ICD, for disaggregating and renegotiating donor packages and for identifying regional sources of technology and inputs. It cannot be stated too strongly that insistence by donor governments and multilateral agencies on least-cost purchasing may unavoidably give the edge to foreign-based TNC suppliers, especially South African companies and the South African-based subsidiaries of TNCs. It is therefore imperative that SADCC, in its prime role as co-ordinator of development assistance, adopts and negotiates with its donor co-operators clear strategic ground-rules on the local sourcing of project inputs and services, adopting in particular a regional rather than a national or local framework.

8.3.9 Rules of origin, local content and ownership

A major implication of the preceding discussion is the need for agreement on common objectives, criteria and operational procedures for regional schemes. Areas of potential conflict in implementation, notably between regional and national interests and between actual short-term costs and potential long-term gains will have to be identified. In evaluating supply bids, for instance, the choice may not infrequently lie between cheap external imports and more expensive regional producers. Standard preferential margins may tip the balance in favour of the latter, but may well be adhered to in practice only if explicitly determined as SADCC policy. They would also be applicable only to public purchasing authorities unless some mechanism were devised either to compensate private sector enterprises or to force them to buy internally through tariffs or import licence controls. The more expensive bid may also have been made by a poorly administered or new and inexperienced local firm. Such considerations point to the need not only for a more thorough going evaluation procedure but also for detailed agreement at SADCC ministerial level on criteria beyond simple cost minimization and on acceptable levels of cost.

A second potential point of breakdown in internal trade co-operation lies in the determination of local content. Instances will arise in which a firm in one SADCC country which does little more than repackage or assemble imported manufactures can take advantage of trade liberalization by another

country -- perhaps under a SADCC-sponsored programme -- to undercut more truly local producers. A prior requirement is therefore again that explicit regional standards for determining local content and thresholds for inclusion in liberalization measures be adopted at SADCC ministerial level. It would also be realistic to anticipate that a SADCC-sponsored procedure will be needed to evaluate claims for exemption and cases of possible evasion, subject to final decision by the Committee of Industry Ministers or, ultimately, the Council of Ministers itself.

Finally, the question of ownership has a significant bearing on intra-regional trade expansion. Many manufacturing enterprises are foreign-owned, of which the largest share is South African. Even more pervasive is foreign and particularly TNC influence through control of technology, skilled personnel and finance. The principal effect of liberalizing internal trade barriers may be to increase the marketing power of foreign-owned subsidiaries at the expense of locally-owned firms, particularly in the more highly protected economies. It may be argued that the anticipated resultant increases in overall regional investment and production are the overriding objective. But there is evidence¹ that whatever the short-term gains, in the long term reliance on foreign corporate investment in industrial development strategy tends to depress industrial growth and canalise trade into intra-TNC transactions with the industrialized countries. Furthermore, if a basic contradiction in SADCC's strategy of industrial development which stresses a reduction of dependence and equitable development is to be avoided, a comprehensive long-term policy on foreign private capital is integral to regional trade policy. The dilemma may be most starkly summarized in the case of Zimbabwe, two-thirds of whose industrial capital stock is foreign-owned, much of it by South African-based firms, and which is already responsible, as indicated earlier, for some two-thirds of intra SADCC-trade in manufactures.²

1. C. Stoneman, 'Industrialization and self-reliance in Zimbabwe', in: M. Fransman (ed.), Industry and accumulation in Africa, (London: Heinemann, 1982), p.286-90.

2. It may be noted that the Protocol to the PTA Treaty limits preferences to goods produced by enterprises in which nationals from a majority of management and hold 51 per cent of the equity. Zimbabwe is, amongst others, permitted a five-year interim period at a minimum 30 per cent equity holding. A recent assessment is, however, that over 70 per cent of manufacturing output in Zimbabwe is accounted for by firms with less than a 10 per cent local equity stake. S. Rossen, Industrial cooperation among African countries and related matters, (Bergen: Chr Michelsen Institute, 1984. DERAP Publication No.172), p.66, 117.

8.3.6 Protection and external tariffs

Intra-regional trade liberalization is an important means of integrating and expanding the regional market for industrial goods and developing manufacturing complementarity on a regional basis. For an industrial development strategy based largely upon dependence reduction and import substitution it cannot, however, be expected to achieve significant long-term results in the absence of protective measures against manufactured imports from more developed industrial economies.

What form protection should take, at what levels it should be set, are matters for analysis and political choice. A common external tariff, the traditional blanket device for protecting a multinational regional market, would theoretically be available, but in practice it is likely to be regarded as implausible as a region-wide solution. There are two main reasons. In the case of Lesotho, Swaziland, and Botswana, to erect barriers against South African goods would not only raise costs to both industry and consumers but perhaps more importantly, force their withdrawal from SACU, which permits at most the limited protection of 'internal industries'. Withdrawal would impose political risks in addition to economic losses: without the obligations of a multilateral treaty, South Africa might, as it has repeatedly done, use unilateral economic weapons in support of its political ends¹. In addition, transfers from South Africa in terms of the SACU formula make up over half of all government revenue in Swaziland and Lesotho and are reportedly computed to include an element of compensation for the general disadvantages of belonging to the customs union². The budgetary effects of withdrawal is likely to be prohibitive to Lesotho even in the long run and unacceptable to Swaziland and Botswana at least in the short term, although Botswana can count on substantial mining resources.

The second reason is the spatial structure of industry in the SADCC region. Manufacturing is mainly located at capitals, and especially ports, and overland distances between centres of consumption can be very large. This imposes high transport costs on the distribution of regionally produced goods. Effective protection to make these competitive might have to

1. It may be observed that SACU is by no means an infallible guarantee. South Africa has used border controls to attempt to force both Lesotho and Botswana to recognize the legitimacy of its 'independent' bantustan administrations; and has recently disrupted imports to Lesotho in order to exert political pressure on the government.

2. G. Sollie, Trade patterns and institutional aspects of trade: an empirical study of trade in southern Africa, (Bergen: Chr Michelsen Institute, 1982. DERAP Working Paper A267), p.54.

be so high as to be prohibitive for local manufacturers dependent on external imports.

On both counts, therefore, a common external tariff is not a realistic policy prescription. Yet it cannot be denied that perpetuation of the present highly unequal range in national levels of protection, from non-existent to stringent and highly selective, would not be conducive either to planned regional complementarity in investment or to the equitable expansion of intra-regional industrial trade. Although direct re-exports through the duty-free corridors could be stopped by non-SACU states through rules of origin, a major problem would continue to be posed by 'transit' plants set up in SACU states solely as conduits of external exports. Field studies established among others, that a plant in Botswana selling air conditioners to Zimbabwean customers, with duty-free access to their market, was in fact a South African subsidiary. Botswanan value added was minimal, so that in effect a Zimbabwean firm was being persistently under-bid by a South African firm. Clarifying the degree of SADCC content in these goods would go some way to mitigating this problem, with the importing country imposing tariffs accordingly. But preventing evasion could prove difficult, and would require close co-operation between two countries with inherently opposed interests.

Differences between the external postures of other SADCC countries are likely to be both less marked and to undermine the home and intra-regional export markets for SADCC manufactures. Given the structural diversity and disaggregation of SADCC economies, a nationally differentiated external tariff structure may not be inappropriate, although it must be pointed out that the existence of external bilateral trade agreements such as that between Malawi and South Africa, which appears to allow duty-free access to a wide range of South African manufactured goods, is conducive neither to the furtherance of SADCC industrial objectives nor to SADCC trade co-operation.

Nationally determined tariff walls of varying heights, coupled with effective rules of origin and local content to be applied in particular to SADCC members to whom tariffs are forbidden, may be the most realistic regional policy for the foreseeable future. An explicit statement of SADCC policy on trade may nevertheless improve confidence amongst potential external investors and sources of finance by determining the regional market framework within which their commitments are to be realised.

Co-ordination of trade policy is also highly desirable so as to prevent external agents, above all South African-based enterprises, from exploiting differences to play one member off against another. In this area, functional responsibility could best be delegated to a member state in line with the

usual practice. The sectoral brief should include not only the evaluation of the function and effectiveness of national tariff instruments but also the monitoring of their practical application and ongoing policy advice on regional harmonisation and prevention of conflict and evasion. The relation of external tariffs to other restrictive instruments and to multilateral obligations would also be integral to the co-ordinating effort, and might be coupled with an attempt to build up a core of information and expertise, either within a trade sector co-ordinating unit or in an appropriate research institution.

8.4 Payments and credit arrangements

An essential complement to measures aimed at the planned expansion of intra-regional trade will be the creation of appropriate mechanisms of exchange, payment and credit. The majority of SADCC states are in deep balance of payments difficulties and are likely to remain so given the current world economic climate.

This constraint has three broad consequences. First, foreign exchange is frequently unavailable for essential external imports of capital equipment and industrial inputs which must be paid for in convertible currency. Second, priority in the allocation of such foreign exchange as is available tends to go to external rather than intra-regional commitments, severely restricting the financing of bilateral deficits with other SADCC countries, whether temporary or long-term. There will also be a strong incentive to give preference to those purchasers, both within and outside the SADCC region, who can pay for exports in convertible currency, with possibly disruptive effects on the planning of interlinked regional industrial production. Third, balance of payments deficits are often regulated by quantitative restrictions on imports rather than adjustments in exchange rates. As a result a number of SADCC currencies tend to become overvalued, but at widely differing rates, so that export prices expressed in convertible currency at the official rates become distorted.

The basic character of the foreign exchange constraint cannot be transformed in the short term by regional co-operation alone, but co-operative methods may achieve some improvements. Trade and payments, e.g., could be co-ordinated.

Touching as it does important areas of national commercial and financial policy, co-ordination would probably be most effective if directly undertaken and supervised by the Council of Ministers itself. Furthermore, representation and negotiation on behalf of SADCC, which are likely to become necessary in relations with governments and trading blocs, might perhaps most suitably be

prosecuted under the immediate authority of the Council. A division of responsibilities for practical tasks between the Secretariat and the present sector co-ordinators might provide a solution in harmony with SADCC's general mode of operation.

8.4.1. Barter and countertrade

In view of the chronic shortages of foreign exchange, official interest has grown within SADCC in barter exchange as a means of bypassing the need for financial transactions. In its simplest form barter would comprise the exchange between two enterprises in different countries of matching values of each other's products, and the number of participants could be increased to create transaction chains or circuits. However, the potential complications multiply exponentially as the number of products, enterprises and countries increases. Finalising the matching of products, quantities, values and delivery schedules and synchronising the whole process in a dynamic production context which is subject to numerous unpredictable disruptive influences places a heavy emphasis on sophisticated and flexible managerial oversight, for in an interdependent process the failure of any significant component would threaten the complete cycle of exchange. The transaction chain is also more vulnerable to difficulties in valuation, transfer pricing, and customs and exchange control procedures.

In general, the chances of viability are greater in chains restricted to two countries and in reciprocal agreements between large, diversified enterprises, notably parastatal producing or development corporations and foreign-based TNCs, which within an overall equality of exchange can devise their own internal clearing procedures and cover temporary imbalances. The limitations should nevertheless not be underestimated. The 1983 UNIDO mission encountered an instance in which even a simple triangular exchange could not be consummated for organisational reasons. A Zimbabwean producer required a raw material input from a Zambian state corporation, for which it could pay by delivering part of its output to a second Zambian state corporation which needed it. But although all three parties were to benefit, the deal fell through for lack of an approval mechanism in Zambia which would allow one parastatal to be paid by another for goods delivered from abroad. The obstacles and complexities confronting exchanges between individual enterprises point to the need for procedural frameworks negotiated and operated by governments, and indeed countertrade already plays a varying role in bilateral agreements between SADCC member states. Agreements may determine the product range, target quantities or values, and rates of valuation; and also provide a forum for regular revision. The range of the conventionally bilateral framework may

be expanded if a partner with a surplus of imports from another partner is able to export that surplus to a third country under similar arrangements. It is possible to envisage an extensive network of bilateral barter arrangements, incorporating switching procedures where possible so as to match supply and demand on a regional basis.

Barter is only one of the many forms of countertrade, which all have an element of reciprocity in common: a purchase by one party in a transaction is (partly) balanced by a purchase by the other party. This reduces the amount of foreign exchange needed. There are several advantages to barter or countertrade agreements in the SADCC context. First, exports within the stated limits would be cleared by the exporting governments and the producers paid in local currency, saving foreign exchange. Second, payments would usually be assured by the inter-governmental commitments. Third, if based on volume or guaranteed values, producers and governments could count on a return at least partly independent of unpredictable fluctuations in their partner's currency exchange rate. Fourth, trade may be linked closely to production capacity, down to the existing and planned surplus output of particular products by specific plants. Fifth, trade may be brought out of the passive regulation of market exchanges and more directly into the production planning process. These last two advantages coincide well with SADCC's emphasis on trade as a facilitator of production and on the planning of industrial capacity utilisation and investment.

Barter and countertrade are nonetheless subject to limitations as a mechanism of exchange. A recurrent and sometimes overlooked difficulty is likely to arise in the differential overvaluing of official exchange rates, which is discussed in the following section. The wide variations in rates, as well as their fluctuations, complicate the unit valuation of goods to be bartered. A second difficulty may arise in covering deviations from planned targets, which must be resolved by non-barter mechanisms if they are persistent. A further potential constraint is likely to be the level of planning and monitoring effort required, particularly if an extensive list of barter products is to be covered and switching arrangements between a number of bilateral agreements are to be operated. To a certain extent these problems could be resolved in regular and detailed negotiations under bilateral trade agreements

At both the enterprise and the government levels, SADCC trade co-ordination might assist the use of barter and countertrade in several ways, by proposing standardised negotiating and monitoring procedures; by identifying concrete opportunities for exchange through the capacity demand

matching process; by monitoring the actual progress of projected trade; and by providing a reference point for resolving institutional and procedural blockages. These functions might best be undertaken as the principal task of a SADCC trade monitoring unit which would remain in close two-way communication with ministries of trade, state trading organisations, and transport authorities (road, rail and harbour).

The regional potential and flexibility of such trade could be substantially improved by regular meetings of trade ministers and senior officials, supported by detailed data-gathering and pre-planning, to coordinate the operation of bilateral agreements, particularly in switching arrangements for surplus commodities. Together with a monitoring service as described above, these procedures could approximate a multilateral countertrade system in an expanding range of commodities, although members would need to be prepared to adjust bilateral agreements in the light of regional requirements. In such a regional network commodities would not physically follow the inter-country transaction chain but be dispatched under the switching arrangements direct from producer to purchaser by the most efficient route.

A decision will need to be made whether the co-ordinating responsibility in this field should devolve to a separate trade co-ordinator or to existing sector co-ordinators. It may be noted here that the great majority of commodities affected will be either manufacturing inputs and products or primary food commodities, and thus of close interest to the existing industry and food security co-ordination programmes.

8.4.2. Bilateral payments

Many transactions will not be handled through barter, whose flexibility may in any case depend upon the backing of a workable payments system. At present the majority of intra-regional payments are made on a bilateral basis, to a certain extent parallel with inter-state trade agreements

Existing bilateral arrangements impose serious constraints on intra-regional trade expansion. In most cases chronic balance of payments crises and the exhaustion of foreign exchange reserves induce SADCC governments to require settlement in convertible currency for exports within the region as well. In many cases such settlement cannot be made, or only after long delay. Imports from the industrialised countries, whose TNCs and governments are able to exert far more powerful leverage in securing payment, may also be given priority. Complementary intra-regional trade thereby suffers a strong disincentive. An initial step would be a general agreement under SADCC auspices for members to accept payment from each other in their own non-convertible currencies.

Bilateral payments in SADCC currencies would still, however, run up against two further problems. In the first place, they are likely to be acceptable only if over a given trading period the goods and services to be bought in return are competitive in quality and price at least with alternative regional sources of supply. Overvalued and fluctuating exchange rates, as well as different methods of valuation, may prove a persistent obstacle here, particularly between countries with relatively "open" economies (Botswana, Lesotho, Swaziland, Zimbabwe) and relatively "closed" systems (Angola, Mozambique, Tanzania), in which internal barter exchange and black marketeering may be significant features.

A further and equally intractable problem is the handling of trade imbalances. A country running into deficit with a bilateral partner whom it pays in its own currency in effect extracts forced credit, since its currency cannot be realised except in the purchase of unwanted or uncompetitive goods. If part of its imports represents hard currency in the form of imported inputs and fuel already paid for by its partner, there is even an incentive to increase the imbalance. Settlement in non-convertible currency may thus become a credit and foreign exchange burden on the exporting country in surplus. The stipulation that at specified intervals outstanding balances should be settled in convertible currency would reduce the incentive to run deficits.

SADCC's industrial investment programme may not escape the impact of these difficulties. A payments breakdown may not only lead to the demise of individual projects, but also damage confidence in the programme as a whole. Countries may also be reluctant to host regional projects entailing substantial recurrent foreign exchange costs in imported inputs for whose products their partners pay in local currencies. In the short term, regional importers of SADCC project outputs might agree to guarantee regular payments which also include a convertible currency component. A further possibility would be the establishment of a regional fund, to which SADCC projects might have priority access, supplying essential hard currency to industrial enterprises exporting products which conform to SADCC's prescribed "basic needs" and core industry criteria to member countries. Although donor countries have generally proved very reluctant to finance balance of payments deficits directly, an approach might be made through SADCC to secure contributions to the fund, or alternatively, as a standard element in tied project aid, part-financing of the anticipated cost of the imported inputs over a specified period.

8.4.3. Multilateral payments arrangements

The limited scope for improvement within the bilateral arrangements is

apparent. There is also a basic structural limitation. The ceiling to the volume of trade between any pair of countries will be set by the one with the smaller aggregate demand for the commodities which the other can produce or with the smaller capacity to export commodities required by the other. A fuller exploitation of complementary advantages and production potential may be achieved if a country balances its trade against several partners together, accepting imbalances in the individual pairings. Since SADCC currencies are non-convertible, a multilateral payments mechanism would be essential to the working of the system to overcome the convertible currency deficit.

A SADCC multilateral payments system would enable individual members to run long-term deficits and surpluses against other members so long as they were able to maintain an average overall balance with the region as a whole. Provided that each member remained more or less in balance, there would be no need to use convertible currency in settling regional accounts. The system would be administered by a clearing house and operate in terms of a regional unit of account into which all transactions would be converted for settlement, the conversion being at each currency's official rate of exchange at the moment of transaction.

The success of the system would depend crucially on mutual confidence. In view of the fragility of the majority of the SADCC economies, the unit of account could best be held at par with the SDR or with a basket of convertible currencies weighted to the region's international trading pattern. Members could then run up export surpluses against individual trading partners and the region as a whole without the risk of serious damage from subsequent currency fluctuations.

The system would, however, need to be more than an accounting mechanism. Country imbalances would be tolerable within a defined period of settlement, but would then have to be cleared or otherwise settled, probably in convertible currency, perhaps in commodities. The system would therefore need both a monitoring mechanism and a means of regulation whereby the necessary adjustments could be collectively negotiated.

A more radical measure to anchor confidence, and one which could possibly extend its role to credit functions, would be to back the unit with a convertible reserve, perhaps comprising export commodities rather than currency. This step would require a difficult initial sacrifice in immediate external export earnings, but would go some way towards permanently establishing the payments mechanism, with short- as well as long-term benefits to all members.

It is not appropriate to propose how such a scheme might be put into

effect. If limited to SADCC members, it would have the advantage of being tailored to SADCC's needs and objectives, and open to further development at their sole discretion. On the other hand, the PTA has recently instituted its own unit of account with Zimbabwe operating the clearing house. The majority of SADCC members thereby already have access to a regional clearing system, and there seems to be no intrinsic reason why, subject to negotiation, the remaining members could not join while reserving their position on the Treaty's commitments on trade.

The last-mentioned point raises a distinction which may be of importance in the SADCC context, namely that while improved payments arrangements are probably indispensable to the expansion of intra-regional trade, the reverse is not necessarily the case. But these improved arrangements would complement trade expansion plans within SADCC. Since a high proportion of intra-regional trade is in manufactures, it is above all to industrial development that such procedures are relevant.

8.4.4 Export finance and credit

Parallel to the multilateral payments system, a distinct short-term credit facility or regional revolving fund is desirable to finance the temporary imbalances inevitably arising within the region which might soon immobilise the payments mechanism. The facility would comprise convertible currencies, on which deficit states would draw to pay partners in surplus within the mechanism. To keep this short term credit facility viable, a high degree of self-discipline and a serious willingness to adjust their trade balance would be required of debtor countries. A permanent framework of regional trade planning would be an essential complement to regulate each country's balance with the region as a whole.

It is suggested that in view of the critical shortages of foreign exchange, SADCC's donors might be approached to contribute finance on concessionary terms in order to set the fund in motion, particularly since it would be a cost-effective way of improving the performance of their project aid and increasing their equipment exports. The financial pump-priming could be matched by commitments from member states, and would be non-repeatable, since once in operation the fund would be self-reproducing (although it would need to be expanded by members as intra-regional trade grows). A framework of procedures and rules of access and repayment guaranteeing the short-term character of credit should be negotiated and embodied in a formal memorandum of establishment at summit level.

* related measure to assist domestic manufacturing enterprises in competing with expatriate firms would be the creation of an export credit

fund. Bilateral and multilateral donors might be invited to direct a percentage of tied project aid to this fund for intra-SADCC trade. The mere existence of such an export credit fund within SADCC would act as a double incentive for intra-regional suppliers of manufactures and raw materials. On the one hand, importing countries would look to other member states for supplies if export credit terms were as attractive as those offered by overseas or South African suppliers. On the other, SADCC manufacturers would have an incentive to tender for supply contracts in member states.

There is little doubt that the existence of such facilities within SADCC would be beneficial to both buyers and producers. In order to maintain the dynamism of such a system it would, however, be necessary to establish a credit control and recovery mechanism which would be at least as effective as that which applies to suppliers' credits and export credits generally. The quality and creditworthiness of suppliers and of buyers, the nature of supply contracts, bank guarantees and central bank approvals, and institutional arrangements for credit issuance, would have to be developed for the SADCC system, as in the case of national arrangements elsewhere.

If such a fund were established under SADCC auspices, it should be equitable, acceptable and productive and based on agreed criteria. Access to funds might, for example be determined for each country on the basis of its percentage share in total SADCC imports from member countries. The higher this percentage, the more export credit it would be able to provide for its own exporters to other SADCC markets. In such a system, the existence of the SADCC export credit fund would probably tend to restore equilibrium by trade expansion. Alternatively, a country's percentage share in SADCC's total internal trade (established on the basis of exports and imports averages over a period) could be considered as a basis for allocations. The access formula would also have to take into account the length of credit - as in the former proposal, funds should not become immobilized in the form of long-term credit. The fund might give preferential terms to particular classes of product, to least industrially developed members, and to SADCC-sponsored projects, especially those depending on regional economies of sale and supplying intermediate inputs to other SADCC producers.

8.5. Priorities and steps

Several general conclusions are suggested by the preceding discussion. First; as a policy issue trade in the SADCC context is contingent upon and subordinated to the overriding priorities of restructuring and expanding industrial production on a planned regional basis. Regional policies on technology and on enterprise ownership and control are fundamental to the

long-run evolution of the patterns of trade. Second, the scope for a swift reorientation and expansion of industrial trade is necessarily limited. Third, while external trade offers generally little opportunity for regional influence, co-ordinated SADCC action in the field of intra-regional trade is both strategically crucial and potentially effective in a number of fields.

The sets of possible measures indicated here with regard to intra-regional trade promotion, selective liberalisation, external protection, a regional payments system, and regional export financing would all have their own time horizon. Early concrete results, important to developing a regional momentum and commitment, may be best achieved through specific, project-related initiatives under the aegis of the existing industry programme and through regional action in areas which do not contradict members' existing trade commitments, particularly, in other words, in trade promotion and in non-tariff regional preferences over external manufactured imports. It is also important that members take SADCC regional interests fully into account in regulating their multilateral commitments and their national investment and trade programmes.

Initiatives should be taken on the basis of a regional trade policy framework, within which the scope of regional co-ordination can be determined and the appropriate functions allocated for implementation. Once adopted, the policy would allow a range of supporting and promotional services to be built up. Of these, perhaps the most valuable in the medium term will be information and policy coordination. Attention could then be focussed on those initiatives of long-term strategic significance for which coordination alone is not likely to be sufficient and which may therefore require the detailed negotiation of agreements, treaties or institutional arrangements. These include regional policy on protection, on technology and ownership, on clearing arrangements, and on regional export financing. Work in these areas should not be delayed too long and should be closely related to the requirements of the sectoral production planning process.

	<u>Page</u>
A. <u>STATISTICAL ANNEX</u>	
a. Statistical codes	167
b. Symbols and abbreviations	170
c. Methodological note on tables A2.5 - A2.22	170
d. List of tables	172
e. Tables	177

a. Statistical Codes

Index of Commodities by Industrial Branch and ISIC Code

311	FOOD PRODUCTS	321	TEXTILES
311101	BEEF AND VEAL, FRESH	321101	COTTON LINTERS
311104	MUTTON AND LAMB, FRESH	321109	COTTON YARN, PURE AND MIXED (TOTAL)
311107	PORK, FRESH	321113	COTTON YARN, PURE
311110	POULTRY, DRESSED, FRESH	321119	YARN OF MAN-MADE STAPLE
311116	BACON, DRIED, SALTED OR SMOKED PIG MEAT	321122	JUTE YARN
311119	OTHER MEAT, DRIED, SALTED OR SMOKED	321125	YARN OF OTHER VEGETABLE TEXTILE FIBRES
311122	SAUSAGES	321128	COTTON WOVEN FABRICS
311128	MEAT, TINNED	321128A	COTTON WOVEN FABRICS
311131	LARD	321128B	COTTON WOVEN FABRICS
311134	HIDES, CATTLE AND HORSE, UNDRESSED	321140	JUTE FABRICS
311137	SKINS, CALF GOAT AND SHEEP, UNDRESSED	321140A	JUTE FABRICS
311201	MILK AND CREAM, CONDENSED	321140B	JUTE FABRICS
311204	MILK AND CREAM, DRIED	321201	BLANKETS
311207	BUTTER	321304	SOCK, OTHER STOCKINGS EXCEPT WOMEN'S
311210	CHEESE	321501	CORDAGE, ROPE AND TWINE
311213	ICE-CREAM	321501A	CORDAGE, ROPE AND TWINE: FISHNETS
311301	FRUITS, DRIED	322	WEARING APPAREL, EXCEPT FOOTWEAR
311304	JAMS, MARMALADE AND FRUIT JELLIES	322001	JACKETS, MENS'S AND BOYS'
311307	FRUIT AND VEGETABLE JUICES, CONCENTRATED	322007	RAINCOATS, MEN'S AND BOYS'
311310	FRUIT AND VEGETABLE JUICES, UNCONCENTRATED	322010	SUITS, MEN'S AND BOYS'
311322	VEGETABLES, TINNED OR BOTTLED	322013	TROUSERS, MEN'S AND BOYS'
311401	FISH, FROZEN	322016	BLOUSES, WOMEN'S AND GIRLS'
311404	FISH, SALTED, DRIED OR SMOKED	322022	DRESSES, WOMEN'S AND GIRLS'
311407	FISH, TINNED	322025	RAINCOATS, WOMEN'S AND GIRLS'
3115	FISH MEAL	322028	SKIRTS, SLACKS AND SHORTS, WOMEN'S
311501	MARGARINE, LARD AND OTHER PREPARED FATS	322031	SUITS, WOMEN'S AND GIRLS'
311504	OILS AND FATS OF AQUATIC ANIMAL ORIGIN	322034	SHIRTS, MEN'S AND BOYS'
311513	OIL, SOYA BEAN, REFINED	322040	UNDERWEAR, WOMEN'S AND GIRLS'
311519	OIL, COTTON-SEED, REFINED	323	LEATHER PRODUCTS
311525	OIL, GROUNDNUT, REFINED	323101A	HEAVY LEATHER
31153	VEGETABLE OIL N.E.C.	323104B	LIGHT LEATHER
311534	OILS, OTHER, OF VEGETABLE ORIGIN, CRUDE	324	FOOTWEAR, EXCEPT RUBBER OR PLASTIC

.../...

Index of Commodities by Industrial Branch and ISIC Code (continued).

311537	OILS, OTHER, OF VEGETABLE ORIGIN, REFINED	324000	FOOTWEAR, TOTAL, EXCLUDING RUBBER
311601	FLOUR, WHEAT	324007	FOOTWEAR, LEATHER, WOMEN'S
311604	MEAL AND GROATS OF ALL CEREALS	324010	FOOTWEAR, OTHER (SPORTS, ETC.)
311607	FLOUR, CEREAL, OTHER THAN WHEAT	331	WOOD PRODUCTS, EXCEPT FURNITURE
311701	MACARONI AND NOODLE PRODUCTS, UNCOOKED	331101	WOODEN RAILWAY SLEEPERS
311704	BREAD AND OTHER ORDINARY BAKERS' WARES	331104	SAWNWOOD, CONIFEROUS
311707	BISCUITS	331107	SAWNWOOD, BROADLEAVED
311801	RAW SUGAR	331110	VENEER SHEETS
311804	REFINED SUGAR	331113	BLOCKBOARD
311904	SUGAR CONFECTIONERY	331116	PLYWOOD
311913	CHOCOLATE AND CHOCOLATE PRODUCTS	331122	PARTICLE BOARD
312104	VINEGAR	341	PAPER AND PRODUCTS
312201	PREPARED ANIMAL FEEDS	341101	WOOD PULP, MECHANICAL
313	BEVERAGES	341104	PULP OF FIBRES OTHER THAN WOOD
313101	DISTILLED ALCOHOLIC BEVERAGES	341110	WOOD PULP, SULPHATE AND SODA
313104	ETHYL ALCOHOL FOR ALL PURPOSES	341116	WOOD PULP, SEMI-CHEMICAL
313301	MALT	341119	NEWSPRINT
313304	BEER	341122	OTHER PRINTING AND WRITING PAPER
313401	MINERAL WATERS	341125	KRAFT PAPER AND KRAFT PAPERBOARD
313404	SOFT DRINKS	341131	OTHER MACHINE-MADE PAPER AND PAPERBOARD
314	TOBACCO	341134	FIBREBOARD, COMPRESSED
314001	TOBACCO, PREPARED LEAF	341201	PACKING CONTAINERS OF PAPER, PAPERBOARD
314007	CIGARETTES		
314010	TOBACCO, MANUFACTURED		
351	INDUSTRIAL CHEMICALS	369910	CONCRETE BLOCKS AND BRICKS
351101	SULPHUR, RECOVERED AS BY-PRODUCT	369913A	CONCRETE PIPES
351102	SULPHUR, RECOVERED FROM PYRITES ETC..	369916A	CONCRETE, OTHER PRODUCTS
351105	ACETYLENE	371	IRON AND STEEL
351125	GLYCERINE (GLYCEROL)	371	IRON AND STEEL PRODUCTS N.E.C.
351147	SULPHURIC ACID	371004	FERRO-MANGANESE
3512	FERTILISER, N.E.C.	371010	PIG IRON, STEEL-MAKING
351201	NITROGENOUS FERTILIZERS	371013	OTHER FERRO-ALLOYS
351204	SUPERPHOSPHATES	371019	CRUDE STEEL, INGOTS
351213B	MULTINUTRIENT FERTILIZERS, P O CONTENT	371028	WIRE RODS
351216	INSECTICIDES, FUNGICIDES, DISINFECTANTS	37103	STEEL BARS, ROLLED STEEL

.../...

Index of Commodities by Industrial Branch and ISIC Code (continued)

352	OTHER CHEMICAL PRODUCTS	371058	SHEETS, GALVANISED
352101A	PAINTS, CELLULOSE	371070	WIRE, PLAIN
352104A	PAINTS, WATER	371085	STEEL CASTINGS IN THE ROUGH STATE
352107A	PAINTS, OTHER	372	NON-FERROUS METALS
352301	SOAP	372001	COPPER, BLISTER AND OTHER UNREFINED
352304	WASHING POWDER AND DETERGENTS	372004	COPPER, REFINED UNWROUGHT (TOTAL)
352904	PRINTERS' INK	372031	ALUMINUM PLATES, SHEETS, STRIPS, FOIL
352907	EXPLOSIVES	372037	LEAD, REFINED, UNWROUGHT (TOTAL)
353	PETROLEUM REFINERIES	372043	ZINC, UNWROUGHT (TOTAL PRODUCTION)
3530001		372049	TIN, UNWROUGHT, (TOTAL PRODUCTION)
353000A		381	FABRICATED METAL PRODUCTS
353001A	AVIATION GASOLINE	3811	MACHETES, HOES
353004A	JET FUELS	381101	RAZOR BLADES
353007A	MOTOR GASOLINE	3819	ENAMELWARE
353013A	KEROSENE	381913	NAILS, SCREWS, NUTS, BOLTS, RIVETS ETC
353019A	DISTILLATION FUEL OILS	381916A	CONTAINERS, ONE CUBIC METRE AND OVER
353022A	RESIDUAL FUEL OILS	382	MACHINERY, NON-ELECTRICAL
353034A	BITUMEN (ASPHALT)	382218	PLOUGHS
3530372	LIQUEFIED PETROLEUM GAS	382261A	TRACTORS (10HP+), NOT INDUSTRIAL, ROAD
353037A		382925A	AIR-CONDITIONING MACHINES
354	PETROLEUM AND COAL PRODUCTS	382964	WASHING MACHINES FOR HOUSEHOLD USE
354007	COKE-OVEN COKE	383	MACHINERY, ELECTRICAL
354013A	GAS PRODUCED BY COKERIES	383204	RADIO RECEIVERS
354013B	GAS PRODUCED BY COKERIES	383243	SOUND RECORDERS
355	RUBBER PRODUCTS	383240	GRAMOPHONE RECORDS
355101	INNER TUBES, RUBBER, FOR MOTOR VEHICLES	383301	VACUUM CLEANERS
355102	INNER TUBES, RUBBER, FOR CYCLES	383907	WIRE AND CABLE, INSULATED
355107	TIRES FOR BICYCLES AND MOTOR-CYCLES	383910	BATTERIES AND CELLS, PRIMARY
355110	TIRES FOR ROAD MOTOR VEHICLES	383913	ACCUMULATORS, ELECTRIC, FOR VEHICLES
355916	RUBBER FOOTWEAR	384	TRANSPORT EQUIPMENT
362	GLASS AND PRODUCTS	384116A	OTHER SEA-GOING MERCHANT VESSELS
362010A	GLASS, BOTTLES, OTHER GLASS CONTAINERS	384210A	GOODS WAGONS AND VANS
362010B	GLASS, BOTTLES, OTHER GLASS CONTAINERS	384307	PASSENGER CARS, ASSEMBLED
369	OTHER NON-METALLIC MINERAL PRODUCTS	384312	BUSES AND MOTOR COACHES, ASSEMBLED
369101A	BUILDING BRICKS, MADE OF CLAY	384315	LORRIES, INCL. ARTICULATED, ASSEMBLED
369101B	BUILDING BRICKS, MADE OF CLAY	384318	
369104A	TILES, ROOFING, MADE OF CLAY	384319	ROAD TRACTORS FOR TRACTOR-TRAILERS
369201	QUICKLIME	384322	TRAILERS AND SEMI-TRAILERS
369204	CEMENT	384401	MOTOR-CYCLES, SCOOTERS ETC.
369901A	ASBESTOS-CEMENT ARTICLES	384404	BICYCLES

b. Symbols and Abbreviations

Quantity

M	-	million
t	-	tonne
hl	-	hectolitre
ha	-	hectare
m	-	metre
pr(s)	-	pair(s)

Statistics

blank space	-	no recorded data
-	-	zero
..	-	greater than zero but negligible
()	-	estimated or extrapolated data

Index of Commodities by SITC - Section

0	-	Food
1	-	Beverages, tobacco
2	-	Crude materials
3	-	Fuels
4	-	Oils, fats
5	-	Chemicals
6	-	Manufactured goods
7	-	Machinery
8	-	Miscellaneous manufacturers
9	-	Miscellaneous manufacturers

c. Methodological note on tables A2.5-A2.22

Tables A2.5 - A2.22 gives individual estimates of the 'present' supply and demand for categories of manufactured products for seven SADCC countries. For Angola and Mozambique no such estimates could be made due to insufficient data. The estimates are all valued in current US\$ and defined in terms of 3-digit ISIC groups. Even so, there are various differences and similarities built into these estimates, the most noteworthy being:

a) Reference year

This should ideally be a common and recent one. No such single year for which all relevant statistics were available did however exist. 1980, being the most recent year for which detailed statistics existed in a majority of cases, was therefore chosen as the reference year. Estimates for which 1980 statistics were not available rely on statistics from the closest possible year.

b) Prices

These should ideally be exclusive of indirect taxes because such taxes may vary significantly between countries. In practice estimates reflect the various price systems adopted in the primary statistics upon which they are based. Thus:

- For domestic production the 'ideal' tax-exclusive price would correspond to the factor cost. Estimates of this nature are only available for Malawi and Tanzania.¹ The estimates for Botswana, Zambia and Zimbabwe all refer to market prices, while the nature of the estimates for Lesotho and Swaziland is unknown. Cautious comparison between countries is possible if one keeps in mind that the really heavy taxation is normally concentrated upon a few commodities (such as beverages and tobacco).

- For imports the 'ideal' tax exclusive price would correspond to the CIF value. Again, the estimates of Malawi and Tanzania are the only ones of this nature. The estimates for Botswana as well as (presumably) Lesotho and Swaziland reflect the CIF + Duty value. Please note that these three countries, being members of the SACU admit most of their imports (i.e. imports from the Republic of South Africa) duty-free. On average the imports are therefore at a 'near CIF' value, which however does not relate to world market prices but to assumedly somewhat higher RSA prices. The imports of Zambia and Zimbabwe are valued FOB. To the extent that these countries import from overseas their recorded import values may consequently fall significantly short of the comparable CIF values.

- For exports the 'ideal' tax-exclusive price would correspond to the FOB value. All export estimates are (assumedly) of this nature.c)

Re-exports

The treatment of re-exports should ideally be the same for all countries and, especially, for the exports and imports of each individual country. This ideal is largely achieved; both exports and imports are in most cases inclusive of re-exports.

1. This should not be taken as an indication of the superior quality of these estimates. In fact, the estimates for these two countries are less reliable than the others.

d. List of Tables

Table A1.1	Manufacturing value added at current and constant prices, 1970-81
Table A1.2	Manufacturing value added at constant (1975) prices, by country and branch, 1970, 1975, 1980
Table A1.3	Branch shares in national manufacturing value added at constant (1975) prices, 1970, 1975, 1980
Table A1.4	Relative industrialization: average annual values by industrial branch for Malawi, Tanzania, Zambia and Zimbabwe, 1975-81
Table A1.5	Index of manufacturing value added by country and Branch, 1972-81
Table A1.6	Gross manufacturing output at constant (1975) prices, by country and branch
Table A1.7	Gross manufacturing output at constant (1975) prices by branch: Zimbabwe, 1970-80
Table A1.8	Wages and salaries at constant (1975) prices, by country and branch, 1970, 1975, 1980
Table A1.9	Average number of employees by country and branch, 1970, 1975, 1980
Table A1.10	Average number of employees by branch: Zimbabwe 1970-80
Table A1.11	Share of manufacturing value added in gross output by country and branch, current prices 1970, 1975, 1980
Table A1.12	Share of wages and salaries in gross output by country and branch, current prices 1970, 1975, 1980
Table A1.13	Manufacturing value added per employee by country and branch, constant prices 1970, 1975, 1980
Table A1.14	Share of manufacturing value added in gross output at current prices: Zimbabwe 1970-80
Table A1.15	Country matrix of the volume of manufacturing production 1973 and 1980: all commodities
Table A1.16	Volume and rates of growth of manufacturing production, by country and commodity 1972-81: selected commodities
Table A1.17	Rates of growth in manufacturing production by country and ISIC code, 1972-81: selected commodities
Table A1.18	Rates of growth in manufacturing production 1972-81: selected commodities by country in rank order
Table A1.19	Conversion factors

List of Tables (continued)

Table A2.1	Direction of regional trade by major origins and destinations: value, 1979 and 1982
Table A2.2	Country matrix of intra-regional trade, 1979 and 1982
Table A2.3	Zimbabwe: Direction of trade by SITC section, 1982
Table A2.4	Matrix of intra-regional trade flows in industrial commodities, 1980-81
Table A2.5	Botswana: Supply and disposition of manufactures by industrial branch, current prices 1980
Table A2.6	Lesotho: Supply and disposition of manufactures by industrial branch, current prices 1980
Table A2.7	Malawi: Supply and disposition of manufactures by industrial branch, current prices 1980
Table A2.8	Swaziland: Supply and disposition of manufactures by industrial branch, current prices 1980
Table A2.9	Tanzania: Supply and disposition of manufactures by industrial branch, current prices 1980
Table A2.10	Zambia: Supply and disposition of manufactures by industrial branch, current prices 1980
Table A2.11	Zimbabwe: Supply and disposition of manufactures by industrial branch, current prices 1980
Table A2.12	Botswana: Some coefficients describing supply and disposition of manufactures
Table A2.13	Lesotho: Some coefficients describing supply and disposition of manufactures
Table A2.14	Malawi: Some coefficients describing supply and disposition of manufactures
Table A2.15	Swaziland: Some coefficients describing supply and disposition of manufactures
Table A2.16	Tanzania: Some coefficients describing supply and disposition of manufactures
Table A2.17	Zambia: Some coefficients describing supply and disposition of manufactures
Table A2.18	Zimbabwe: Some coefficients describing supply and disposition of manufactures
Table A2.19	Percentage distribution of imports by country
Table A2.20	Percentage distribution of exports by country

List of Tables (continued)

Table A2.21	Percentage distribution of domestic production by country
Table A2.22	Percentage distribution of domestic consumption by country
Table A3.1	Metallic mineral resources and capacities in the SADCC region, 1978-79
Table A3.2	Non-fuel mining operations in the SADCC region, 1982-83: mines ranked by ore production capacity
Table A3.3	Production, exports and imports of minerals in the SADCC region, 1978-83
Table A3.4	Sources of imports of selected mineral ores and products: Malawi, Tanzania, Zambia
Table A3.5	Base metal smelting and refining capacity, 1981-82
Table A3.6	Industrial uses of minerals produced or identified in the SADCC region
Table A3.7	Fertilizer consumption in the SADCC region, 1980/81
Table A3.8	Land use and land distribution
Table A3.9	Growth in volume of agricultural production
Table A3.10	Agricultural production and trade by crop and country, average 1974-76 and 1980-82
Table A3.11	Production and trade in animal and vegetable oil and meal, average 1974-76 and 1980-82
Table A3.12	Summary of regional agricultural production, trade and growth rates, average 1974-76 and 1980-82
Table A3.13	Livestock numbers, by species and country, 1980-82 and average 1974-76
Table A3.14	Manmade forest reserves, 1981-82
Table A3.15	FAO estimates of production and trade in industrial wood products, 1982
Table A3.16	Nominal marine catch of SADCC countries by species group, 1982
Table A3.17	Nominal marine catch in Angolan waters, 1982
Table A3.18	Production and trade in processed fish products, 1979-82
Table A3.19	Petroleum supply and consumption in the SADCC region, 1981
Table A3.20	Resource, supply and consumption of coal in the SADCC region, 1981-83

List of Tables (continued)

Table A5.1	SADCC proposed complementary framework for development of basic needs industries
Table A5.2	SADCC industrial projects: summary description
Table A5.3	SADCC industrial projects for implementation: status and funding, October 1984
Table A5.4	Classification of SADCC industry planning categories by ISIC code
Table A5.5	SADCC industrial projects for implementation prospective donor countries

Table A1.1. Manufacturing value added at current and constant prices, 1970-81

US\$ million	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
(a) current prices												
Angola	79.6	91.2	115.0	183.9	215.1	98	73	88	97	112	131	147
Botswana	4.9	6.4	7.9	12.8	14.9	21.2	24.0	30.0	29.5	52.5	37.6	56.7
Lesotho	2.9	3.4	3.6	5.6	7.1	7.7	7.1	8.2	9.2	11.9	15.4	15.7
Malawi	38.1	41.4	50.6	55.1	64.0	79.3	80.1	96.7	116.5	148.1	182.9	(220)
Mozambique	104.4	167.7	198.1	291.4	360.9	299.0	188.6	206.5	267.0	302.8	316.7	368.8
Swaziland	16.5	16.4	17.2	23.4	27.2	28.8	28.0	34.1	40.1	46.7	56.2	64.5
Tanzania	115.9	118.6	160.2	179.5	207.5	239.3	280.3	335.6	381.3	404.8	424.0	404.4
Zambia	181.0	209.7	254.1	300.9	370.9	389.3	386.0	397.8	472.2	547.1	636.4	621.7
Zimbabwe	292.7	351.5	438.1	586.3	747.8	801.1	766.8	732.5	759.2	998.5	1312.6	1589.0
Total	836	1006	1245	1639	2016	1964	1834	1929	2172	2624	3113	3488
(b) constant (1975) prices												
Angola	140.1	154.4	198.5	284.0	329.7	97.8	63.3	67.2	68.0	70.2	74.5	77.4
Botswana	7.7	9.2	11.3	15.4	17.8	21.2	22.9	26.0	23.3	23.5	23.8	26.9
Lesotho	5.5	3.4	4.6	6.7	7.4	7.7	6.7	6.9	7.1	7.5	11.0	10.3
Malawi	57.7	58.2	70.3	70.4	71.6	79.3	67.2	82.3	95.5	103.9	108.7	(109)
Mozambique	220.3	321.7	360.3	421.1	400.8	299.0	164.0	155.8	173.4	175.6	164.0	168.7
Swaziland	25.0	23.8	23.1	28.3	31.0	28.8	24.0	25.6	27.1	29.3	30.7	31.6
Tanzania	196.8	215.6	233.8	248.5	247.5	239.3	249.2	273.5	278.2	260.0	216.5	153.6
Zambia	287.4	321.0	361.9	404.8	441.9	389.3	338.4	284.6	296.9	304.6	310.8	278.8
Zimbabwe	398.9	462.7	552.5	696.4	817.0	801.1	688.3	600.5	573.3	604.4	733.9	741.4
Total	1340	1569	1816	2176	2275	1964	1624	1522	1543	1591	1674	1598

General: Current prices in national currencies have been converted to dollars and constant prices by the annual average exchange rate and implicit MVA (or, where lacking, GDP) deflator in the source.

Source: World Bank, World Tables 1984.

Table A1.4. Relative industrialisation: average annual values by industrial branch for Malawi, Tanzania, Zambia and Zimbabwe, 1975-81

ISIC	All countries				Developing countries				Comparable group ¹			
	MAL	TAN ²	ZAM	ZIM	MAL	TAN ²	ZAM	ZIM	MAL	TAN ²	ZAM	ZIM
311/2 food	1.58	0.87	0.54*	0.76	1.59	0.91	0.51*	0.68	1.63	0.68	0.51*	0.67
313 beverages	1.30	0.99	0.90	1.30	1.21	1.02	0.82	1.18	0.75	0.64	0.85	0.79
314 tobacco	0.85	0.97	0.39*	1.18	0.96	1.06	0.38*	1.13	0.88	1.11	0.47*	1.18
321 textiles	0.47*	1.08	0.64	1.06	0.58	1.14	0.76	1.39	0.55	0.94	0.51	1.54
322 clothing	1.19	0.92	<u>3.38</u>	1.82	1.42	1.11	<u>3.34</u>	2.01	1.40	0.89	1.36	<u>3.57</u>
323 leather	0.82	<u>3.70</u>	<u>1.52</u>	0.23*	0.99	<u>3.99</u>	<u>1.68</u>	0.31*	0.86	<u>3.73</u>	0.77	<u>0.36*</u>
324 footwear	0.63	<u>2.25</u>	0.40	2.30	0.75	<u>2.36</u>	0.45	<u>3.60</u>	0.41	<u>1.52</u>	0.31*	<u>2.80</u>
331 wood	1.70	0.71	1.64	0.82	1.21	0.61	1.42	0.75	0.84	0.62	1.27	0.81
332 furniture	0.52	1.15	<u>2.68</u>	1.64	0.48*	1.06	<u>2.75</u>	<u>2.12</u>	0.54	1.18	1.53	<u>2.38</u>
341 paper	1.28	0.84	1.73	1.63	1.24	0.88	1.67	1.29	1.18	0.46	1.01	1.08
342 printing, publ.	1.26	<u>2.79</u>	1.65	<u>2.65</u>	0.97	<u>2.70</u>	1.41	1.80	1.10	<u>2.63</u>	1.23	<u>2.24</u>
351 ind. chemicals	..	<u>2.83</u>	<u>2.95</u>	1.96	..	2.73	<u>2.85</u>	1.84	..	<u>2.91</u>	1.13	1.77
352 other chemicals	..	0.66	<u>2.28</u>	1.54	..	0.96	<u>2.40</u>	1.20	..	0.94	1.07	1.12
353 petr. refineries	-	0.71	1.27	0.01*	-	2.02	2.07	0.02*	-	1.39	0.74	0.03*
354 oil/coal prod.	-	-	1.21	1.54	-	-	1.68	1.92	-	-	1.39	1.37
355 rubber prod.	1.21	<u>3.38</u>	<u>4.39</u>	1.28	2.13	<u>4.66</u>	<u>5.41</u>	1.37	<u>2.99</u>	<u>2.96</u>	1.22	1.36
356 plastics	1.50	<u>3.41</u>	1.25	2.08	2.02	<u>4.90</u>	1.23	1.51	0.98	<u>3.04</u>	0.78	0.78
361 pottery etc	..	-	0.63	0.19*	..	-	0.75	0.27*	..	-	0.30*	
362 glass	-	0.30*	0.53	0.07*	-	0.51	0.93	0.12*	-	0.51	0.27*	0.15*
369 non-metallic min.	1.27	0.81	1.24	1.07	1.69	1.01	1.27	1.05	1.56	0.80	0.78	0.84
371 iron & steel	-	1.43	1.65	<u>5.55</u>	-	1.74	2.16	<u>6.70</u>	-	1.29	1.40	<u>10.42</u>
372 non-ferr. metals ³	-	2.59	0.89	2.63	-	2.46	1.35	4.77	-	2.55	0.29*	<u>9.15</u>
381 metal products	..	0.94	<u>2.92</u>	2.53	..	1.07	<u>3.12</u>	<u>2.73</u>	..	0.70	1.28	<u>2.61</u>
382 machinery: non-elec.	..	1.29	<u>3.54</u>	2.22	..	1.29	<u>4.11</u>	2.71	..	1.80	<u>2.00</u>	<u>4.55</u>
383 machinery: elec.	..	1.85	<u>2.51</u>	1.04	..	<u>2.31</u>	<u>3.03</u>	1.31	..	<u>2.25</u>	1.15	1.06
384 trans. equipment	..	<u>2.78</u>	2.13	1.34	..	<u>3.62</u>	2.42	1.39	..	2.74	0.71	1.01
385 prof., scientific	-	-	0.32*	0.26*	-	-	0.29*	0.31*	-	-	0.69	0.34
390 other	<u>2.74</u>	1.94	0.61	1.06	2.33	1.74	0.63	1.20	2.05	1.69	0.50	1.11
total manufacturing	1.19	0.79	1.14	<u>1.68</u>	1.21	0.82	1.19	<u>1.77</u>	1.19	0.92	0.88	<u>1.68</u>

Table A1.4. Relative industrialisation: average annual values by industrial branch for Malawi, Tanzania, Zambia and Zimbabwe, 1975-81
(continued)

Notes: 1. Countries are grouped as follows (numbers in brackets):

1. All countries (136)	3. market economies (128)	5. small countries (100)	7. ample resources (41)	9. industrial orientation (22)
2. centrally planned (8)	4. large countries (28)	6. modest resources (59)	8. primary orientation (19)	

Malawi, Tanzania and Zimbabwe fall under group 6, Zambia under group 9. It should be noted that this classification does not distinguish between developed and developing countries. The dividing point between 'large' and 'small' countries is taken to be a mid-year 1970 population of 20 million.

2. 1975-79.

3. In the case of Zambia, non-ferrous metal refining has been included in the mining sector, of which it forms an integral part, rather than manufacturing (ISIC 372). It is not clear whether the same applies in the case of Zimbabwe.

General: The relative degree of industrialisation is here defined as the ratio between the actual values for the country in question (in constant 1975 US\$) and the expected values, being the averages for the specified country groups. Taking into account the variability of the country data from which the group averages are derived, the relative size of an industrial branch can be regarded as normal when close to one (unity), leading (underlined) when greater than the group standard deviation, and lagging (asterisked) when less than the group standard deviation. The criteria are thus statistical rather than evaluative. The statistical method and assumptions are described in the introduction to the source.

Source: UNIDO, Measuring the relative degree of industrialisation, (UNIDO/IS, 1984)

Table A1.5. Index of manufacturing value added by country and branch, 1972-81
 Unit: In constant US\$, 1975 = 100

Angola											
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	280	273	233	100	167	167	167	167	167	167	-5.6
313	75	95	100	100	100	104	104	108	108	112	4.6
314	103	108	129	100	100	96	96	100	100	100	-0.3
341	100	117	100	100	100	100	100	100	100	100	0.0
353	93	101	152	100	106	127	130	127	130	131	3.9
369	69	84	93	100	33	33	44	44	44	44	-4.9
372	100	100	100	100	100	100	100	100	100	100	0.0
Botswana											
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	78	95	96	100	107	108	101	122	91	125	5.4
313	126	186	76	100	116	69	53	140	160		2.7
314	100	100	100	100	100	100	100	100			0.0
Lesotho											
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	100	100	100	100	119	119	122	125	131	131	3.0
											.../...

Table A1.5. Index of manufacturing value added by country and branch, 1972-81
 Unit: In constant US\$, 1975 = 100
 (continued)

Malawi	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	57	75	85	100	106	115	122	121	130	166	12.6
313	42	51	73	100	97	101	117	125	128	154	15.5
314	68	79	85	100	81	73	87	99	94	96	3.9
321	91	88	92	100	84	97	114	130	115	131	4.1
322	93	97	87	100	72	85	66	66	67	75	-2.4
323	91	88	92	100	84	97	114	130	115	131	4.1
324	91	88	92	100	84	97	114	130	115	131	4.1
331	83	93	94	100	108	106	121	130	126	130	5.1
332	58	76	93	100	94	102	125	110	139	146	10.8
341	58	76	93	100	94	102	125	110	139	146	10.8
342	58	76	93	100	94	102	125	110	139	146	10.8
353	100	100	100	100	100	100	100	100	100	100	0.0
354	100	100	100	100	100	100	100	100	100	100	0.0
361	72	82	81	100	78	86	94	103	84	79	1.0
362	100	100	100	100	100	100	100	100	100	100	0.0
369	72	82	81	100	78	86	94	103	84	79	1.0
371	100	100	100	100	100	100	100	100	100	100	0.0
372	100	100	100	100	100	100	100	100	100	100	0.0
385	100	100	100	100	100	100	100	100	100	100	0.0
390	58	76	94	100	95	102	125	110	139	146	10.8

.../...

Table A1.5. Index of manufacturing value added by country and branch, 1972-81
 Unit: In constant US\$, 1975 = 100
 (continued)

Mozambique											
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	121	131	120	100	104	108	112	123	100	111	-1.0
313	97	121	122	100	109	121	124	126	100	95	-0.2
314	101	114	111	100	105	112	115	115	119	119	1.8
321	119	155	143	100	109	114					
322	173	168	119	100	103	112					
323	89	97	100	100	102	104					
331	185	246	134	100	100	100	92	92	88	85	-8.3
332	131	134	134	100	102	108					
341	127	150	124	100	107	116	116	116	174	174	3.6
352	98	97	98	100	102	104					
353	145	161	96	100	93	108	92	95	107	96	-4.5
354	100	100	100	100	100	100	100	100			0.0
355	125	136	93	100	101	103					
356	242	391	99	100	101	105					
361	315	277	254	100	108	131					
362	140	272	182	100	110	120					
369	201	255	200	100	117	139	141	118	119	215	0.8
372	100	100	100	100	100	100	100	100			0.0
381	170	204	167	100	110	116					
385	100	100	100	100	100	100	100	100			0.0
Swaziland											
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311B	88	79	124	100	97	127	115	113	123	130	4.4
331A	77	105	110	100	102	105	110	129	129	113	4.4
341	87	94	100	100	99	106	108	113	114	111	2.7

.../...

Table A1.5. Index of manufacturing value added by country and branch, 1972-81
 Unit: In constant US\$, 1975 = 100
 (continued)

Tanzania	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	79	102	94	100	99	96	121	110	109	109	3.6
313	101	108	109	100	103	115	127	117	99	100	0.1
314	94	82	132	100	103	116	116	123	141	115	2.3
321	85	92	99	100	95	88	95	102	97	64	-3.1
322	85	92	99	100	95	88	95	102			2.0
323	55	52	62	100	137	234	236	160			12.6
324	55	52	62	100	137	234	236	160	115		3.4
331	281	147	109	100	97	72	82	100	106	109	-10.0
332	281	147	109	100	97	72	82	100	106	109	-10.0
351	71	55	41	100	73	68	33	66	55	55	-2.8
352	77	99	105	100	104	106	163	87	47	51	-4.5
353	114	109	113	100	112	91	88	70	71	65	-6.1
354	100	100	100	100	100	100	100	100	100	100	0.0
361	100	100	100	100	100	100	100	100	100	100	0.0
362	63	75	88	100	100	113	150	138	200	200	13.7
369	89	118	109	100	92	93	102	109	131	153	6.2
371	81	81	102	100	101	107	118	117	66	39	-7.8
372	111	103	113	100	106	123	125	124	123	137	2.4
381	92	69	75	100	82	132	102	81			-1.4
383	73	90	95	100	115	129	141	142	143	118	5.5
385	100	100	100	100	100	100	100	100	100	100	0.0

.../...

Table A1.5. Index of manufacturing value added by country and branch, 1972-81
 Unit: In constant US\$, 1975 = 100
 (continued)

Zambia	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	92	96	102	100	97	94	87	88	89	97	0.5
313	92	96	102	100	97	94	87	88	89	97	0.6
314	92	96	102	100	97	94	87	88	89	97	0.6
321	86	85	101	100	101	86	126	125	149	156	6.8
322	86	85	101	100	101	86	126	125	149	156	6.8
331	92	113	135	100	78	93	76	84	75	79	-1.7
341	86	87	88	100	81	89	106	84	92	74	-1.7
351	80	93	111	100	99	102	100	99	104	99	2.4
352	80	93	111	100	99	102	100	99	104	99	2.4
353	36	49	91	100	102	102	114	120	108	102	12.3
354	80	93	111	100	99	102	100	99	104	99	2.4
355	80	93	111	100	99	102	100	99	104	99	2.4
356	80	93	111	100	99	102	100	99	104	99	2.4
361	95	87	96	100	90	86	114	106	119	83	-1.5
362	95	87	96	100	90	86	114	106	119	83	-1.5
369	98	91	96	100	83	70	57	55	69	70	-3.7
371	97	101	134	100	102	112	122	117	115	102	0.5
372	164	125	120	100	105	92	106	92	79	71	-8.9
381	94	103	106	100	98	84	76	61	74	65	-4.0
382	94	103	106	100	98	84	76	61	74	65	-4.0
383	94	103	106	100	98	84	76	61	74	65	-4.0
384	94	103	106	100	98	84	76	61	74	65	-4.0
385	94	103	106	100	98	84	76	61	74	65	-4.0
390	94	103	106	100	98	84	76	61	74	65	-4.0

.../...

Table A1.5. Index of manufacturing value added by country and branch, 1972-81
 Unit: In constant US\$, 1975 = 100
 (continued)

Zimbabwe	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	growth %
311	87	99	99	100	105	114	110	119	126	138	5.3
313	78	92	96	100	103	96	99	102	121	113	4.2
314	79	83	95	100	104	99	96	100	117	109	3.6
321	91	98	103	100	91	91	90	97	114	129	4.0
322	104	106	108	100	92	85	75	83	98	127	2.2
323	90	94	101	100	93						
324	92	88	99	100	104	106	104	115	135	175	7.4
331	101	107	111	100	101	91	86	108	135	144	4.0
332	93	100	109	100	84	69	70	88	110	118	2.7
341	81	89	107	100	81	81	80	90	105	119	4.4
342	103	104	110	100	98	90	99	111	130	148	4.1
351	87	87	95	100	89	88	88	90	109	127	4.3
352	87	87	95	100	89	88	88	90	109	127	4.3
353	87	87	95	100	89	88	88	90	109	127	4.3
354	96	96	100	100	89	76	70	79	92	78	-2.3
355	100	94	90	100	93						
356	85	99	125	100	93						
361	91	99	109	100	87	70	56	70	82	98	0.8
362	91	99	109	100	87	70	56	70	82	98	0.8
369	91	99	109	100	87	70	56	70	82	98	0.8
371	81	93	101	100	92	80	79	91	101	106	3.0
372	81	93	101	100	92	80	79	91	101	106	3.0
381	81	93	101	100	92	80	79	91	101	106	3.0
382	81	93	101	100	92	80	79	91	101	106	3.0
383	81	93	101	100	92	80	79	91	101	106	3.0
384	102	92	96	100	79	75	65	74	92	124	2.2
385	90	94	101	100	93						
390	95	105	108	100	100	106	106	115	149	138	4.2

General: The annual growth rates in the final column are between the first and last years recorded.

ISIC categories: 311B - includes 313,314
 331A - includes 332
 381C - includes 382,383,384

Source: UNIDO database

Table A1.6. Gross manufacturing output at constant (1975) prices, by country and branch
US\$m

ISIC	Mozambique Lesotho			Swaziland			Malawi		Tanzania		Zambia		Zimbabwe		
	1970	1972	1975	1970	1976	1980	1970	1975	1970	1974	1970	1975	1970	1975	1980
311	292.1	0.6	2.6	37.0	63.9	96.2	39.1	63.2	132.4	154.9	166.7	198.0	263.2	453.7	439.5
313	34.0			3.0	5.3	8.0	9.1	20.7	21.2	29.9	115.6	145.4	62.2	112.0	90.9
314	28.7					0	27.8	33.2	22.3	27.1	35.6	43.9	32.0	48.8	48.9
321	94.7				3.2	8.7	10.5	16.7	75.4	102.4	20.0	46.0	109.5	238.5	221.0
322	15.4	0.4	1.4				7.1	9.8	9.5	15.2	40.0	60.0	68.9	116.0	87.4
323	1.5	0.8	0.4					2.0	6.4	8.9	4.4	2.3			
324	1.8					0			6.4	14.9	4.4	13.5	19.3	39.3	37.2
331	36.2			26.1	43.1	11.2	1.6	3.7	9.5	10.7	11.1	31.8	22.1	28.9	39.0
332	7.3	0.7	1.9				1.1	1.1	10.9	4.7	13.3	18.2	20.3	34.5	32.5
341	7.3				2.7	42.7	1.0	4.4	0.9	9.4	11.1	21.6	28.7	70.0	43.8
342	15.6	0.3	1.3				2.5	5.4	10.7	19.6	13.3	30.4	36.4	60.6	55.6
351	6.4					24.9	10.9	29.2	6.4	51.4	17.8	26.8	69.5	142.8	133.3
352	16.5								19.5	21.9	51.1	107.3	53.1	104.1	89.9
353	46.7						0	0	9.0	14.6	0	12.5			
354	0						0	0	0	0	2.2	4.2			
355	6.6						2.3	3.3	2.4	23.7	26.7	36.6	20.9	41.7	37.6
356	3.4							0.9		8.9	4.4	9.4	14.6	32.7	30.9
361	0	0	0.2				0	0	0	0	1.6	1.6	45.9	84.5	53.9
362	4.9					2.2	0	0	1.2	1.5	0	4.8			
369	34.2	0.5	0.8				4.8	5.8	11.2	13.9	34.0	42.0			
371	10.6						0	0	0	31.8	8.9	12.5	76.5	238.8	217.0
372	0						0	0	4.8		0	4.2	18.1	30.5	27.6
381	30.7	0.1	0.1				9.7	5.5	8.9	19.3	24.8	55.6	102.3	89.9	174.1
382	1.8						3.8	4.0	0.8	5.2	4.3	17.8	31.7	32.0	65.7
383	5.8								0.9	5.0	13.0	13.3	27.0	39.8	68.1
384	26.5						0		5.5	16.2	31.6	20.0	49.3	39.1	90.7
385	0						0	0	0	0	0	0.5	12.7	23.9	26.5
390	3.2	0.3	2.6	6.5	7.0	0.5	0	0	8.1	9.4	2.2	5.2			
300	732.1	3.8	11.2	72.5	125.1	207.9	125.3	215.6	413.8	648.3	691.4	1088.7	1174.6	2300.1	2001.7

Source: UNIDO database

Table A1.7. Gross output at constant prices by branch: Zimbabwe 1970-80
US\$m

ISIC	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1970-74	1974-80	1970-80
311	263	283	334	423	445	453	429	431	394	391	439	14.0	-0.2	5.3
313	62	67	82	94	108	112	99	94	92	79	90	14.9	-2.8	3.9
314	31	34	38	42	46	48	50	44	43	45	48	9.6	1.0	4.3
321	109	132	168	203	266	238	219	206	185	186	221	24.9	-3.1	7.3
322	68	76	88	105	121	115	90	74	62	68	87	15.4	-5.4	2.4
324	19	21	27	31	39	39	32	30	28	32	37	19.6	-1.0	6.8
331	22	24	27	31	34	28	26	22	20	29	38	12.0	1.9	5.8
332	20	22	27	32	39	34	27	21	21	22	32	17.8	-3.1	4.8
341	28	30	37	48	63	70	47	41	39	34	43	21.9	-5.9	4.3
342	36	38	44	53	62	60	47	44	40	45	55	14.5	-1.9	4.3
351	69	81	97	96	141	142	116	117	110	93	133	19.4	-1.0	6.7
352	53	61	70	82	100	104	85	77	70	70	89	17.3	-1.9	5.4
355	20	22	26	30	38	41	33	32	28	32	37	16.7	-0.4	6.1
356	14	17	22	28	38	32	27	25	22	24	30	27.4	-3.6	7.8
361	45	52	64	77	86	84	65	54	42	43	53	17.2	-7.6	1.6
371	76	95	108	141	194	238	204	169	167	183	217	26.3	1.8	11.0
372	18	16	20	28	32	30	26	21	21	23	27	15.7	-2.6	4.3
381	89	106	125	146	182	174	138	116	106	109	132	19.4	-5.2	4.0
382	31	40	47	55	68	65	52	43	40	41	50	21.2	-5.2	4.6
383	39	42	46	56	78	68	51	51	44	44	55	18.7	-5.7	3.4
384	39	51	64	78	84	90	65	61	48	45	50	21.2	-8.2	2.6
385	12	14	17	21	26	23	20	19	19	20	26	20.0	0.1	7.7
300	1174	1335	1589	1912	2302	2300	1958	1803	1649	1667	2001	18.3	-2.3	5.5

Source: UNIDO database

Table A1.8. Wages and salaries at constant (1975) prices, by country and branch 1970, 1975, 1980
US\$000

ISIC	Angola Mozambique Lesotho				Swaziland			Malawi		Tanzania		Zambia		Zimbabwe		
	1970	1970	1972	1975	1970	1976	1980	1970	1975	1970	1974	1970	1975	1970	1975	1980
311	9590	12242	46	147	2224	4901	15039	2230	4180	7677	11942	11386	22702	18429	45584	86524
313	4382	2504			252	556	1715	492	1288	785	3593	6274	10399	7347	18457	29923
314	1356	1425					0	1987	2906	2088	3316	1862	2799	6175	12539	23335
321	6051	4590				362	1384	867	1828	7806	18002	2128	6707	11278	26656	50695
322	278	1286	98	239				509	973	727	1582	5210	11942	11792	23509	36093
323	69	139	46	79					305	225	535	84	393			
324	173	173					0			516	1437	84	2357	2922	9513	15339
331	382	4417			2855	4854	3327	258	479	1212	2170	1764	3048	3782	6750	17723
332		973	74	422				160	89	810	742	1974	3883	3820	9497	13687
341	2191	347				424	10580	523	218	67	1025	1106	258	3491	10012	12673
342	2191	2817	84	207					1097	1303	2298	4089	7443	9970	21464	33639
351	4869	834					1978	537	1366	323	2463	2591	4516	4903	12726	20814
352		1008								855	1365	4089	9017	6599	16862	25242
353	1043	1043						0	0	1516	2449	0	3390			
354	0	0						0	0	0	0	98	1130			
355	1704	556						232	325	253	1565	2689	4698	2759	6184	11284
356	695	243							72		681	378	1000	1962	5111	9653
361		0		58			0	0	0	0	0	126	335	7015	17490	21956
362	208	695					551	0	0	162	265	0	1004			
369	2921	2225						543	920	1292	2238	5140	8289			
371	556	347					0	0	0	0	1039	1512	2353	12333	45282	75346
372	0	0					0	0	0	159	0	0	349	1200	3663	6109
381	834	3164	23	45			2231	286	744	830	2643	6596	20191	14292	43928	57601
382	278	278					1803	199	106	300	892	1778	4573	5310	16329	21412
383	1008	278							146	593	958	1274	4311	4931	12781	19735
384	1912	3164					0		502	838	2259	1428	4172	6429	19125	19550
385	0	0					0	0	0	0	0	0	48	2308	6130	10342
390	208	278	19	340	497	952	377	0	0	795	875	336	958			
300	42710	45040			5830	12051	38991	8830	17552	31142	66348	64005	144606	149058	389602	618684

Source: UNIDO database

Table A1.9. Average number of employees by country and branch 1970, 1975, 1980

ISIC	Angola			Mozambique			Lesotho			Swaziland			Malawi			Tanzania	
	1970	1970	1973	1972	1975	1980	1970	1976	1980	1970	1975	1979	1970	1974			
311	18400	36541	41640	63	285		2129	3806	4069	5752	8582	6816	15131	15933			
313	2600	2077	3095				180	322	345	579	1211	1578	679	2493			
314	1300	756	1016						0	4049	5376	6124	2471	4468			
321	19600	11072	11273					463	670	2055	3179	4088	15460	22302			
322	400	2372	4211	432	586					1320	1898	1263	1281	1908			
323	200	222	375	105	102					56	143	65	181	453			
324	200	385	820						0	135	316	380	674	1463			
331	500	12470	10312				2657	2576	2540	770	1046	1304	2426	3206			
332		1582	1827	360	444					335	118	489	1146	855			
341	6700	373	516					188	1163	56	246	197	117	1156			
342	1800	2554	3293	150	175					674	950	893	1247	1761			
351	8500	523	607						527	31	131	298	435	1464			
352		671	1516							708	1030	970	975	1200			
353	400	399	368							0	0	0	324	410			
354	0	0	0							0	0	0	0	0			
355	1400	846	999							91	201	190	232	1252			
356	800	329	742							26	103	645		528			
361		0	81	32	48				0	0	0	0	0	0			
362	300	675	787						234	0	0	0	244	213			
369	5500	3368	3820	202	199					228	1732	1895	1529	1949			
371	500	409	1131						0	0	0	0	0	888			
372	0	0	0						0	0	0	0	167				
381	1200	3827	6117	35	47				504	502	1050	1628	1099	2259			
382	200	182	651						565	145	132	0	603	721			
383	700	162	941							94	104	138	268	761			
384	1800	3040	2733						0	38	456	0	771	1565			
385	0	0	0						0	0	0	0	0	0			
390	200	316	632	25	91		409	485	140	0	0	284	854	766			
300	73200	85151	99503	1404	1977		5375	7840	10757	17644	28004	29245	48314	69974			

Source: UNIDO database

Table A1.10. Average number of employees by branch: Zimbabwe 1970-80

ISIC	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1970-74	1974-80	1970-80
311	15070	16858	17278	18514	19758	20939	20933	21952	22555	22748	23971	7.0	3.3	4.8
313	4679	5065	5735	5870	6494	6792	6931	6991	6885	6197	6287	8.5	-0.5	3.0
314	3998	4737	4600	4722	5072	4959	5621	5302	5271	5218	6117	6.1	3.2	4.3
321	11124	12193	13813	13884	15135	14929	15413	15509	15023	15964	17373	8.0	2.3	4.6
322	12115	13153	13873	14262	14500	14587	14023	12406	11765	13061	14624	4.6	0.1	1.9
323	245	259	311	281	312	310	371	512	496	585	620	6.2	12.1	9.7
324	2942	3107	3583	3904	4322	4134	4101	3959	3863	3819	4546	10.1	0.8	4.4
331	4697	5264	5862	5258	4485	4370	4371	4234	4034	8300	8678	-1.1	11.6	6.3
332	4462	5035	5045	5084	5355	5215	4733	4013	3906	4363	5094	4.7	-0.8	1.3
341	1995	2190	2237	2368	2368	2908	2290	2300	2336	2030	2469	4.4	0.7	2.2
342	3561	3358	3972	4117	4300	4386	4248	4230	4272	4677	5143	4.8	3.0	3.7
351	2140	2265	2424	2473	2664	2656	2438	2624	2704	2770	2941	5.6	1.7	3.2
352	3406	3660	3785	3910	4163	4280	4171	3904	3788	3690	3976	5.1	-0.8	1.6
353	13	14	15	16	17	14	13	14	14	15	16	6.9	-1.0	2.1
354	13	37	68	95	135	164	151	162	168	171	182	79.5	5.1	30.2
355	1311	1376	1454	1539	1671	1824	1825	1855	1805	2125	2259	6.3	5.2	5.6
356	1429	1557	1849	1838	1894	1938	1870	1808	1945	2041	2206	7.3	2.6	4.4
361	80	115	144	171	188	203	288	288	302	289	391	23.8	13.0	17.2
362	399	506	557	605	598	600	478	489	509	488	583	10.6	-0.4	3.9
369	5662	7050	7746	8248	8145	8014	6817	5921	5479	5644	6136	9.5	-4.6	0.8
371	6473	7410	8224	9557	11721	13060	13457	12363	11582	12233	13255	16.0	2.1	7.4
372	975	1015	1067	1168	1322	1684	1731	1591	1490	1574	1705	7.9	4.3	5.7
381	9905	11721	13132	14279	16058	15981	14388	13234	12750	13300	15240	12.8	-0.9	4.4
382	2926	3332	3813	4265	4905	5019	4519	4156	4004	4177	4786	13.8	-0.4	5.0
383	3499	3998	3928	4476	5043	5138	4496	4646	4386	4960	5280	9.6	0.8	4.2
384	3297	3976	4731	4916	5118	5660	4868	4467	4254	4729	4295	11.6	-2.9	2.7
385	124	131	157	142	157	156	150	172	166	168	179	6.1	2.2	3.7
390	1659	1752	2101	1898	2111	2094	1934	2131	2062	2087	2395	6.2	2.1	3.7
300	108199	121134	131523	137859	148012	152014	146629	141233	137814	147423	160747	8.1	1.4	4.0

Source: UNIDO database

**Table A1.11. Share of manufacturing value added in gross output by country and branch, current prices
1970, 1975, 1980
per cent**

ISIC	Mozambique			Lesotho			Swaziland			Malawi		Tanzania		Zambia		Zimbabwe		
	1970	1972	1975	1970	1976	1980	1970	1975	1970	1974	1970	1975	1970	1975	1970	1975	1980	
311	41.3	23.5	10.0	18.5	42.4	21.9	20.8	19.4	21.0	24.6	23.1	16.6	21.8	20.9	24.6			
313	79.3			24.7	56.6	29.2	68.8	21.8	59.3	32.8	75.4	76.0	59.5	57.3	56.3			
314	74.4						15.7	13.2	52.0	50.9	73.3	76.0	58.6	58.9	62.5			
321	38.4				6.7	17.4	38.5	25.4	39.1	32.5	25.8	27.5	31.8	29.9	37.1			
322	39.5	59.7	20.3					13.0	23.1	20.7	42.0	28.9	43.3	46.1	44.8			
323	40.0	12.0	35.2						18.9	41.7	38.3	36.8						
324	40.0								35.0	22.9	38.3	36.7	47.4	51.0	51.0			
331	44.5			45.0	54.2	37.9	36.5	47.2	27.8	31.9	48.4	17.3	46.7	47.5	54.1			
332	54.0	19.9	29.1				35.5	17.3	58.5	40.0	46.0	53.3	48.4	47.7	44.9			
341	38.0				34.5	40.1	26.4	18.3	31.3	27.0	35.6	28.5	44.5	36.8	38.3			
342	57.7	10.5	45.8				43.9	18.1	45.0	50.3	39.3	32.3	60.3	61.7	59.1			
351	72.4					24.0	32.6	15.5	13.5	24.6	7.5	45.6						
352	45.1								22.6	22.4	19.9	22.6	50.3	47.3	49.5			
353	30.8								87.7	64.8		81.7						
354											44.0	81.6						
355	55.6						42.2	20.8	33.3	30.7	26.3	37.4	47.9	45.0	45.3			
356	50.0							40.6		43.8	22.0	33.5	44.6	48.1	46.2			
361											27.1	27.5						
362	62.7					30.0			37.4	45.9		27.8						
369	57.1						56.8	37.6	43.1	38.8	55.9	33.4						
371	30.3									17.2	65.7	46.4	52.3	49.4	48.2			
372									20.1			24.1	30.4	35.2	34.2			
381	44.7					25.2	35.1	27.4	24.2	23.4	39.0	27.4	44.5	47.5	50.7			
382	58.3					10.1	19.3	23.1	39.5	35.8	34.9	33.2	42.5	53.0	56.5			
383	48.1							24.3	22.4	28.2	25.3	32.0	39.4	39.8	44.3			
384	47.1							31.2	20.7	23.1	21.9	42.7	38.8	37.7	42.4			
385												17.9						
390	65.9	14.7	5.8	18.5	26.5	26.8			7.4	27.7	29.0	36.2						
300	45.7	27.9	31.3	28.3	45.1	26.9	29.1	20.1	32.2	29.8	40.5	37.0	40.3	40.1	41.3			

Source: UNIDO database

**Table A1.12. Share of wages and salaries in gross output by country and branch, current prices 1970, 1975, 1980
per cent**

ISIC	Mozambique			Lesotho			Swaziland			Malawi		Tanzania		Zambia		Zimbabwe		
	1970	1972	1975	1970	1976	1980	1970	1975	1970	1975	1970	1974	1970	1975	1970	1975	1980	
311	8.8	10.1	5.7	9.1	6.6	8.5	8.7	6.6	9.8	9.2	10.8	11.5	9.5	10.0	11.0			
313	15.5			12.6	9.1	11.8	8.2	6.2	6.3	14.3	8.6	7.2	16.1	16.5	18.4			
314	10.5						10.9	8.8	15.9	14.6	8.3	6.4	26.3	25.7	26.7			
321	10.2				9.7	8.6	12.5	11.0	17.6	21.0	16.9	14.6	14.0	11.2	12.8			
322	17.6	32.6	17.7				10.9	9.9	13.0	12.4	20.7	19.9	23.3	20.3	23.1			
323	20.0	7.2	22.2					15.5	6.0	7.2	3.0	17.4						
324	20.0								13.7	11.5	3.0	17.4	20.6	24.2	23.0			
331	25.7			16.6	9.7	16.2	25.3	13.0	21.6	24.2	25.2	9.6	23.3	23.3	25.4			
332	28.0	12.6	21.8				21.4	7.7	12.6	18.9	23.5	21.4	25.6	27.6	23.6			
341	10.0				13.4	13.5		4.9	12.0	13.1	15.8	12.0	16.6	14.3	16.2			
342	38.0	38.0	16.3					20.5	20.7	14.0	48.7	24.5	37.3	35.4	33.8			
351	27.6					4.3	7.5	4.7	8.6	5.7	23.1	16.8	9.6	8.9	8.7			
352	12.8								7.5	7.4	12.7	8.4	16.9	16.2	15.7			
353	4.7								28.5	20.1		27.2						
354											7.0	27.2						
355	17.8						15.1	9.9	18.1	7.9	16.0	12.8	18.0	14.8	16.8			
356	15.2							7.4		9.2	13.5	10.6	18.3	15.6	17.5			
361			31.2								12.9	21.2	20.8	20.7	22.8			
362	29.9					13.9			23.2	21.3		21.1						
369	13.7						17.3	15.9	19.6	19.2	24.0	19.7						
371	6.9									3.9	27.0	18.9	22.0	19.0	19.4			
372									5.7			8.4	9.0	12.0	12.4			
381	21.8	28.6	36.3			12.6	12.4	8.4	7.3	12.7	18.8	19.7	21.6	25.2	24.3			
382	33.3					25.7	7.5	13.3	9.8	24.5	15.9	14.4	22.6	24.8	23.9			
383	10.1							15.0	20.2	8.8	15.2	16.0	16.9	18.8	19.9			
384	25.2							9.1	8.8	8.5	11.3	8.5	22.4	21.1	21.6			
385												10.5	24.8	25.6	21.8			
390	18.2	8.8	13.3	11.7	11.7	39.9			16.7	11.2	24.0	18.5						
300	13.0			12.2	8.3	10.2	10.7	8.1	12.8	12.2	14.7	13.3	17.3	16.9	17.3			

Source: UNIDO database

**Table A1.13. Manufacturing value added per employee by country and branch,
constant prices 1970, 1975, 1980
US\$000**

ISIC	Mozambique		Lesotho		Swaziland			Malawi		Tanzania	
	1970	1973	1972	1975	1970	1976	1980	1970	1975	1970	1974
311	3.3	2.1	2.2	0.9	3.2	7.1	5.2	1.4	1.4	1.8	2.4
313	13.0	8.5			4.2	9.2	6.7	10.8	3.7	18.5	3.9
314	28.2	15.9						1.1	0.8	4.7	3.1
321	3.3	3.1				0.5	2.3	2.0	1.3	1.9	1.5
322	2.6	2.1	0.5	0.5				1.3	0.7	1.7	1.6
323	2.6	3.1	0.9	1.2				3.1	1.9	6.7	8.2
324	1.9	2.3						1.3	1.0	3.3	2.3
331	1.3	1.3			4.4	9.0	1.7	0.7	1.7	1.1	1.1
332	2.5	2.1	0.4	1.3				1.2	1.7	5.6	2.2
341	7.5	6.0				5.0	14.7	4.5	3.3	2.5	2.2
342	3.5	3.5	0.2	3.3				1.6	1.0	3.9	5.6
351	8.8	5.3					11.4			2.0	8.6
352	11.2	8.3								4.5	4.1
353	36.0	8.3								24.4	23.0
354											
355	4.3	4.5							3.4	3.4	5.8
356	5.1	4.2							3.9		7.3
361		0.7	1.3	11.0							
362	4.6	4.4					2.8			1.8	3.2
369	5.8	4.5	0.2	4.8				11.9	1.3	3.1	2.8
371	7.9	3.1									6.2
372										5.7	
381	3.6	3.2	8.0	1.2			4.8	2.5	2.3	4.2	2.6
382	5.6	3.8					0.7		1.4	3.4	2.2
383	17.2	4.7							2.3	4.2	4.8
384	4.1	3.8							3.8	4.3	4.7
385											
390	6.7	3.4	1.7	1.6	2.9	3.8	1.0			0.7	3.4
300	3.9	3.0	0.7	1.8	3.8	7.2	5.2	2.1	1.5	2.8	2.8

Source: UNIDO database

Table A1.14. Share of manufacturing value added in gross output
at current prices: Zimbabwe 1970-80
per cent

ISIC	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
311	21.8	21.3	21.2	20.0	20.9	20.9	22.4	23.0	23.8	23.8	24.6
313	59.5	60.4	57.8	58.0	58.9	57.3	56.4	56.4	59.5	57.6	56.3
314	58.6	58.8	55.5	51.9	60.5	58.9	50.6	55.8	56.1	59.5	62.5
321	31.8	30.2	31.3	30.6	28.9	29.9	29.4	30.9	31.9	34.4	37.1
322	43.3	44.8	46.2	45.1	45.1	46.1	45.3	46.0	46.1	43.7	44.8
324	47.4	48.8	49.5	46.7	47.6	51.0	53.0	51.7	52.8	53.3	51.0
331	46.7	46.0	43.4	46.8	46.0	47.5	48.7	47.6	47.7	51.4	54.1
332	48.4	47.3	47.7	49.3	48.0	47.7	45.2	44.2	44.4	43.2	44.9
341	44.5	43.9	39.7	41.0	41.1	36.8	36.6	41.1	34.4	35.0	38.3
342	60.3	61.2	61.5	64.2	61.6	61.7	64.4	61.9	60.5	58.3	59.1
352	50.3	45.8	48.1	48.3	45.8	47.3	45.9	46.1	47.8	48.1	49.5
355	47.9	50.2	51.2	52.0	44.4	45.0	44.4	44.0	44.5	44.7	45.3
356	44.6	44.9	46.2	49.2	49.3	48.1	47.8	45.8	47.7	49.2	46.2
371	52.3	55.9	48.0	53.5	54.8	49.4	50.1	42.5	55.5	53.1	48.2
372	30.4	26.6	36.2	27.2	35.2	35.2	35.6	30.2	39.4	37.7	34.2
381	44.5	47.3	46.1	48.4	45.4	47.5	48.1	48.1	48.7	47.4	50.7
382	42.5	46.6	46.8	50.6	49.2	53.0	53.5	53.6	54.3	52.8	56.5
383	39.4	40.7	42.0	41.2	35.9	39.8	43.8	44.2	43.2	40.1	44.3
384	38.8	40.1	40.2	40.2	36.8	37.7	45.7	40.3	42.5	46.6	42.4
300	40.3	40.6	40.2	40.1	39.8	40.1	40.1	38.9	41.0	40.9	-47.7

Source: UNIDO database

Table A1.15. Country matrix of the volume of manufacturing production 1973 and 1980: all commodities

ISIC	UNIT	Angola		Mozambique		Tanzania		Zambia		Zimbabwe		Malawi		Botswana		Lesotho	
		1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
311101	000t	43	50	33	36	105	124	27	27	137	107	9	12	40	29	9	11
311104	000t	3		3		27	25	1		10	5	2	2	4		5	
311107	000t	10		11				7	7	11	9	7	7	1	3	2	
311110	000t	6		15		18	17	7	12	7		6			1	1	
311116	000t	2		2				1									
311119	000t	1															
311122	000t							3	4								
311128	000t	43				1401	1182										
311131	000t			1													
311134	000t	6		5	6	25	26	3	4	21	14	1	2	5	4	1	1
311137	000t					5	6				1	1		1	1		1
311201	000t			7970													
311204	000t									1500							
311207	000t	700		371		2340				3200	2500			540			
311210	000t	1940		525		1000	800			4500	3400			513			
311213	000m3	567						1190									
311301	000t	1000															
311304	000t	6044		1281													
311307	000t			931													
311310	000t	1763		1349													
311322	000t	548															
311401	000t	40751	8800	892	2000		3800	3200									
311404	000t	43	27			3	45										
311407	000t	2222	3100														
3115	000t	96	5														
311501	000t	280	1500	1874				12900									
311504	000t	15	2														
311513	000t							3	14								
311519	000t	4		7													
311525	000t	5		16													
31153	000h1		48														
31153A	000t				19												
311534	000t	40		33	23	2											
311537	000t	5		2													

Table A1.15. Country matrix of the volume of manufacturing production 1973 and 1980: all commodities
(continued)

ISIC	UNIT	Angola		Mozambique		Tanzania		Zambia		Zimbabwe		Malawi		Botswana		Lesotho	
		1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
321128B	Mt			4574				777									
321140	000m2			602	100			300	9400								
321140A	000m							282									
321140B	000t			286				777									
321201	000	902	239														
321201	000			771		5476	1827	1334	1552			863	815				
321304	000prs	1749						174									
321501	000t	1573				25354	29888	36	726								
321501A	000t						109										
322001	000							31									
322007	000							135									
322010	000				12			564									
322013	000		876	904				2183				228	121				
322016	000							18									
322022	000							1388									
322025	000							18									
322028	000		799					39									
322031	000							13									
322034	000			2179				1468				934	834				
322040	000							2365									
323101A	000t			157													
323104B	000m2			150													
324000	000prs	324	739	441		2320	4135										
324007	000prs	324															
324010	000prs			441													
331101	000m3	10		81		1		3		7	24						
331104	000m3					26		4	46	148	15	17					
331107	000m3	228		112	51	74	52	14	38	19	19	18	31				
331110	000m3	3		1													
331113	000m3							4	2								
331116	000m3	27		6		8	4	4		3	12	5	3				
331119	000m3																
331122	000m3					4	4			2	29						

Table A1.15. Country matrix of the volume of manufacturing production 1973 and 1980: all commodities
(continued)

ISIC	UNIT	Angola		Mozambique		Tanzania		Zambia		Zimbabwe		Malawi		Botswana		Lesotho	
		1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
311601	000t	92	51	91	98	51	34	74	81								
311604	000t	74	69	110	49			320	205								
311701	000t	9		5													
311704	000t	88															
311707	000t	3132		3100		823	700										
311801	000t	82	25	299	170	114	122	58	111	225	339	50	147				
311804	000t			9				54	96								
311904	000t	3347		1624													
311913	000t	462															
312104	000hl	10		2													
312201	000t			41				81	123			10					
313101	000hl	75						3									
313104	000hl	39		5													
313301	000t							1									
313304	000hl	1196	714	799	538	693	773	2670		750		242	603	130	112		
313401	000hl	46															
313404	000hl	629	264	319	288	287		594	559								
314001	000t	6															
314007	M	2592	2400	2749	3300	4499	4735	1300	1283	3899	3900	526	630				
314010	Mt	4		1		4											
321101	Mt	351						1760									
321109	Mt	3000		3200													
321113	Mt	3000		3245													
321119	Mt	124															
321122	Mt	3		6320													
321125	Mt	801															
321128	Mm2	27	18	33	9	81	83	14	13								
321128A	Mm	23						12	14								

.../...

Table A1.15. Country matrix of the volume of manufacturing production 1973 and 1980: all commodities
(continued)

ISIC	UNIT	Angola		Mozambique		Tanzania		Zambia		Zimbabwe		Malawi		Botswana		Lesotho	
		1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
341101	000t									12	16						
341104	000t	2															
341110	000t	41															
341116	000t									4	11						
341119	000t	1								12	16						
341122	000t	4															
341125	000t			1													
341131	000t	11		1				2		26	41						
341134	000t						3										
341201	000t	3		5				17									
351101	000t							46	94								5
351102	000t							30		30	29						
351105	000t	263		243				325	300								
351125	000t	101															
351147	000t			41	6			158	278								
3512	000t				11		51										
351201	000t			9	5	2	5	7	9	58	59						
351204	000t			3	1					38	37						
351213B	000t					6											
351216	000t	3498		1511													
351216A	000t						46										
352101A	000t			2374													
352104A	000t	4096	4100	203	1500	2844	1400										
352107A	000t	4353		2394													
352301	000t	19	9	20	18	20		5	4								
352304	000t			2613	200	260		7040	9900								
352904	000t							110	100								
352907	000t							38	13								
3530001	TYM							1100									
353000A	000t							466									

Table A1.15. Country matrix of the volume of manufacturing production 1973 and 1980: all commodities
(continued)

ISIC	UNIT	Angola		Mozambique		Tanzania		Zambia		Zimbabwe		Malawi		Botswana		Lesotho	
		1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
353001A	000t							23									
353004A	000t	71	60	38	17	57	30		40								
353007A	000t	64	60	120	60	115	90	94	180								
353013A	000t	20	21	22	25	39	39	9	30								
353019A	000t	104	210	167	100	178	150	179	350								
353022A	000t	435	550	337	200	361	250	80	180								
353034A	000t	17	10	40	25			3	7								
3530372	000t	8	12	15	7	5	7	4	10								
353037A	000t	8		15		5		4									
354007	000t								50	243	235						
354013A	Mm3									100							
354013B	Mtj									1758							
355101	000	212															
355102	000			532	81												
355107	000	168		219													
355110	000	191	87		116												
355916	000prs	1008		1277													
362010A	M			43													
362010B	000t				24												
362010B	000t						16	1									
369101A	M			24				49		274	139						
369101B	000m3							75									
369104A	M			1													
369201	000t					6		116	182								
369204	000t	768	253	611	236	314	286	415	299	673	469	89	92				
369901A	000t							28	22								
369910A	000t							193									
369910B	000m3			4													
369913A	000t							15									
369916A	000t							16									

Table A1.15. Country matrix of the volume of manufacturing production 1973 and 1980: all commodities
(continued)

ISIC	UNIT	Angola		Mozambique		Tanzania		Zambia		Zimbabwe		Malawi		Botswana		Lesotho	
		1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
371	000t				10												
371004	000t																2
371010	000t									300	600						
371013	000t																220
371019	000t									400	804						
371028	000t			44													
37103	000t	27	4														18
371058	000t					22											17
371070	000t			2													
371085	000t							4	34								
372001	000t							681	610	30	26						
372004	000t							638	607	25	27						
372031	000t					3332	4000										
372037	000t							25	10								
372043	000t							54	33								
372049	000t									1080	950						
3811	000	457	300		218												
381101	M					36											
3819	000						875										
381913	000t	2530		2036													
381916A	000			41													
382218	000	164	1900														
382261A	000	34															
382925A	000	1															
382964	000	1															

Table A1.15. Country matrix of the volume of manufacturing production 1973 and 1980: all commodities
(continued)

ISIC	UNIT	Angola		Mozambique		Tanzania		Zambia		Zimbabwe		Malawi		Botswana		Lesotho	
		1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
383204	000	22		27		113	223	40	75								
383234	000	1															
383240	000	715															
383301	000	1															
383907	000t	166	400	11													
383910	M	4	50		20	45	79										
383913	000	63						61	57								
384116A	000	1															
384210A	000			304													
384307	000	1						4	1								
384312	000							30									
384315	000					1223		790									
384318	000					112											
384319	000					112											
384322	000	373		588		12		430									
384401	000	6		4													
384404	000	37	7	35	5												

General: Undercoverage varies considerably between the countries, and appears particularly extensive in the case of Zimbabwe. Blank spaces indicate either zero production or no available data for the year in question

Sources: UN Statistical Office, ICPDATA database, Commodity Production Statistics, updated and revised from official country publications and supplementary data

Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities

Angola		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	42	43	43	46	48	49	50	48	50	51	2.2
311401	000t	31012	40751						8800	8800	8700	-13.2
311404	000t	49	43						25	27	27	-6.4
311407	000t	2640	2222						3000	3100	3100	1.8
3115	000t	129	96	63	55				13	5		-33.4
311501	000t	300	280	300	400	400			2400	1500	900	13.0
311504	000t	22	15	12	10				2	2		-25.9
31153	000hl						45		41	48	43	-1.1
311601	000t	79	92	84			39		48	51	31	-9.9
311604	000t	68	74				25		61	69	47	-4.0
311801	000t	8A	82	70			38		32	25	20	-14.7
313304	000hl	939	1196	1250			640		776	714	671	-3.7
313404	000hl	542	629				205		234	264	277	-7.2
314007	M	2464	2592	3099	2400	2400	2300	2300	2400	2400	2400	-0.3
321109	Mt	2900	3000	3200	3100							
321113	Mt	2900	3000	3200	3100							
321128	Mm2	26	27				4		12	18	19	-3.4
321201	000	862	902				167		256	239		-14.8
322013	000								810	876	739	
322028	000								776	799	1087	
323201	000										149	
324000	000prs	186	324						998	739	654	15.0
352104A	000t	2949	4096						3900	4100	4500	4.8
352301	000t	20	19				11		8	9	7	-11.0
353004A	000t	74	71	135	80	57	57	62	58	60	62	-2.0
353007A	000t	48	64	79	45	51	62	60	59	60	60	2.5
353013A	000t	19	20	16	10	18	21	21	21	21	21	1.1
353019A	000t	104	104	211	148	190	203	217	207	210	215	8.4
353022A	000t	378	435	601	398	423	539	549	535	550	560	4.5
353034A	000t	27	17	22	20	5	10	8	10	10	10	-10.5
3530372	000t	8	8	14	10	7	9	10	10	12	13	5.5
355110	000	167	191	193			51		109	87	73	-8.8
369204	000t	624	768	850	910	300	300	280	262	253	270	-8.9
37103	000t		27				4		4	4	3	-24.0

.../...

**Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities
(continued)**

(Angola continued)		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
3811	000		457				139		300	300	300	-5.1
382218	000	359	164						3000	1900	1900	20.3
383204	000	19	22	25	25		3					-30.9
383907	000t	146	166						600	400	600	17.0
383910	M		4						52	50	34	30.7
384404	000	29	37						9	7	5	
Mozambique		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	32	33	34	35	35	34	35	35	36	37	1.6
311134	000t	5	5	5	6	6	6	6	6	6	6	2.1
311401	000t	293	892	764					2300	2000	3600	32.1
311534	000t	12	33	29					27	23	23	7.5
31153A	000t								17	19	22	
311601	000t	76	91	82	60	65	85	85	90	98	110	4.2
311604	000t	102	110	101					48	49	31	-12.4
311801	000t	328	299	300	260	220	320	190	212	170	178	-6.6
313304	000h1	621	799	823	691	655	650	665	533	538	511	-2.1
313404	000h1	247	319	302					243	288	226	-1.0
314007	M	2450	2749	2696	2800	3000	3100	3200	3200	3300	3300	3.4
321109	Mt	2700	3200	4200		3400						5.9
321128	Mm2	17	33	25					3	9	15	-1.4
321140	000m2	434	602	1021					160	100	99	-15.1
331107	000m3	112	112	112	112	112	65	55	55	51	47	-9.2
331116	000m3	6	6	6	6	6	2	1	1	1	3	-7.4
351147	000t	43	41	23				9	9	6	4	-23.2
3512	000t									11	11	
351201	000t	2	9	8	3	2	5	6	6	5	7	14.9
351204	000t	1	3	1	1	1	2	1	1	1		0.0
352104A	000t	236	203	73					900	1500	1100	18.7
352301	000t	21	20	18					15	18	26	2.4
352304	000t	2120	2613	2767					700	200	200	-23.1

.../...

**Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities**
(continued)

Mozambique (continued)		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
353004A	000t	32	38	8	7	7	16	16	17	17	15	-8.1
353007A	000t	120	120	71	63	65	73	60	55	60	55	-8.3
353013A	000t	12	22	16	31	25	23	22	23	25	25	8.5
353019A	000t	197	167	127	95	85	120	88	90	100	90	-8.3
353022A	000t	328	337	241	172	173	217	171	180	200	180	-6.5
353034A	000t	37	40	13	17	16	18	18	20	25	20	-6.6
3530372	000t	15	15	9	7	7	7	7	8	7	7	-8.1
355102	000	547	532	151								
355110	000								61	116	167	
362010B	000t								42	24	22	
369204	000t	468	611	465	258	217	323	327	273	236	261	-6.3
371	000t								4	10	13	
3811	000								70	218	535	
383910	M								17	20	16	
384210A	M	215	304	306					180		200	-0.8
384404	000	17	35						22	5	11	-4.7
Botswana		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	32	40	38	40	44	41	41	46	29	47	4.4
311107	000t	1	1	1	1	1	1	3	3	3		14.7
311110	000t						1	1	1	1	1	0.0
311134	000t	4	5	4	5	5	5	4	6	4	6	4.6
311137	000t	1	1	1	1	1	1	1	1	1	1	0.0
313304	000h1	88	130	53	70	81	48	37	98	112		3.1
Lesotho		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	9	9	9	9	9	9	9	10	11	11	2.3
311134	000t	1	1	1	1	1	1	1	1	1	1	0.0
311137	000t				1	1	1	1	1	1	1	0.0

.../...

Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities
 (continued)

Swaziland		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	5	7	4	12	13	13	14	14	14	14	12.1
311107	000t			1	1	1	1	1	1	1	1	0.0
311110	000t			1	1	1	1	1	1	1	1	0.0
311128	000t	355	231	860	332	290	801	671	430			2.8
311134	000t	2	2	1	1	2	1	2	2	2	2	0.0
311801	000t	181	166	194	224	208	224	248	241	310	368	8.2
331104	000m3	72	98	102	93	95	98	102	120	120	105	4.3
341110	000t	125	134	143	143	141	152	155	161	163	159	2.7
Malawi		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	9	9	9	10	10	12	11	11	12	12	3.3
311104	000t	3	2	3	3	3	3	3	2	2	2	-4.4
311107	000t	7	7	7	6	8	8	8	7	7	7	0.0
311134	000t	1	1	1	1	1	1	1	1	2	2	8.0
311137	000t	1	1	1	1	1	1	1				0.0
311801	000t	34	50	47	69	87	95	97	108	147	184	20.6
312201	000t	8	10	7	10	12						10.7
313304	000hl	197	242	345	472	458	479	553	591	603	729	15.7
314007	M	458	526	566	670	541	487	582	663	630	646	3.9
321201	000	551	863	861	755	420	510	573	711	815	769	3.8
322013	000	234	228	253	351	280	280	176	181	121	147	-5.0
322034	000	836	934	683	644	421	583	567	552	834	866	0.4
331104	000m3	15	15	15	18	19	19	19	19	17	17	1.4
331107	000m3	12	18	18	23	15	15	15	15	31	26	9.0
331116	000m3	1	5	4	3	2	2	2	2	3	4	16.7
369204	000t	74	89	82	104	85	94	103	113	92	78	0.6

.../...

**Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities**
(continued)

Tanzania		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	104	105	113	116	121	126	131	131	124	131	2.6
311104	000t	29	27	28	30	19	22	24	25	25	27	-0.8
311110	000t	16	18	19	22	14	14	14	16	17	18	1.3
311128	000t	4878	1401	4740	2193	1650	580	764	685	1182	772	-18.5
311134	000t	21	25	26	25	25	27	27	28	26	27	2.8
311137	000t	5	5	5	5	6	6	6	6	6	6	2.1
311210	000t	1000	1000	1000	1000	500	500	600	700	800	800	-2.5
311401	000t				200	500	1700	2600	2800	3800	3800	63.4
311404	000t	3	3	2	2	8	51	43	30	45	43	34.4
311601	000t	47	51	34	35	73	81	88	86	34	26	-6.4
311707	000t	775	823	795	400	400	600	800	900	700	400	-7.1
311801	000t	88	114	105	112	110	108	136	123	122	122	3.7
313304	000hl	648	693	699	736	799	887	1010	1010	773	799	2.4
313404	000hl	210	287	303	305	353						13.9
314007	M	4400	4499	3651	3511	3625	4064	4064	4328	4735	3865	-1.4
321128	Mm2	74	81	86	87	83	77	83	89	83	85	1.6
321201	000	4972	5476	3864	4309	3676	3514	2706	2549	1827	1760	-10.9
321501	000t	22575	25354	29496	25492	42377	19020	31423	31521	29888	13246	-5.8
321501A	000t				210	248	528	234	532	109	123	-8.5
324000	000prs	2457	2320	2800	2700	3689	6331	6363	4310	4135	2444	-0.1
331101	000m3	1	1	1	1	1						0.0
331104	000m3	50	26	20	14	20						-20.5
331107	000m3	141	74	54	54	46	29	36	48	52	40	-13.1
331116	000m3	7	8	8	3	2	3	4	4	4	4	-6.0
331122	000m3	3	4	4	3	5	4	3	3	4	4	3.3
341134	000t			2	3	4	3	3	3	3	3	6.0
3512	000t				59	42	37	44	47	51	69	2.6
351201	000t	2	2	4	3	3	4	3	6	5	5	10.7
351216A	000t				189	138	128	62	44	46	39	-23.3

.../...

**Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities**
(continued)

Tanzania (continued)		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
352104A	000t	2208	2844	3014	2900	3000	3000	4700	2500	1400	1500	-4.2
353004A	000t	43	57	53	44	44	31	22	31	30	25	-5.9
353007A	000t	127	115	120	106	117	105	93	91	90	85	-4.4
353013A	000t	36	39	32	29	26	55	42	38	39	35	-0.3
353019A	000t	176	178	193	177	193	162	135	135	150	130	-3.3
353022A	000t	384	361	368	307	358	279	238	258	250	230	-5.5
3530372	000t	5	5	6	6	6	6	6	6	7	8	5.4
354007	000t						1					
362010B	000t	5			8	8		12	11	16	16	12.5
362010B	000t						9					
369201	000t					2	2	5	6	6	6	24.6
369204	000t	237	314	296	266	244	247	272	289	286	393	5.8
37103	000t				9	11	12	16	18	18	16	10.1
371058	000t	21	22	26	26	26	28	30	30	17	10	-7.9
372031	000t	2953	3332	3660	3200	3400	4000	4000	4000	4000	4500	4.8
3819	000				2657	2183	2838	2331	2153	875	362	-28.3
383204	000		113	195	200	240	257	235	247	223	155	4.0
38391C	M	36	45	48	50	58	65	71	71	79	78	9.0
384315	000	1215	1223	1465					524			-11.3
Zimbabwe		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	138	137	112	124	116	132	143	124	107	109	-2.6
311104	000t	9	10	2	10	9	9	9	7	5	5	-6.3
311107	000t	10	11	11	12	11	13	12	9	9	9	-1.2
311134	000t	20	21	21	15	17	19	18	17	14	14	-3.9
311137	000t				1	1	1	1	1	1	1	0.0
311204	000t				2000	2000	2000	1100	1800	1500	1400	-5.8
311207	000t	3000	3200	3100	3200	3200	3300	3100	2800	2500	2000	-4.4
311210	000t	4300	4500	4500	4600	4600	4700	4500	4100	3400	3300	-2.9

.../...

**Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities**
(continued)

Zimbabwe (continued)		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311801	000t	200	225	280	293	284	303	310	299	339	391	7.7
312101	000t					40	60	20	20			
313304	000hl	680	750	970	875	900	925	950	950			4.9
314007	M	3800	3899	4000	4200	4000	3900	4000	3600	2900	3800	0.0
331101	000m3	7	7	7	12	14	20	18	20	24	20	12.4
331104	000m3	46	46	46	70	80	128	106	112	148	164	15.2
331107	000m3	19	19	19	19	19	15	22	15	19	16	-1.9
331116	000m3	3	3	3	3	5	15	15	16	12	12	16.7
331122	000m3	2	2	2	2	2	16	14	16	29	17	26.8
341101	000t	11	12	12	12	12	12	14	15	16	18	5.6
341116	000t	4	4	4	4	4	4	7	9	11	8	8.0
341119	000t	12	12	12	12	12	12	13	14	16	18	4.6
341131	000t	25	26	26	26	26	26	37	39	41	44	6.5
351101	000t				2	5	5	5	5	5	5	16.5
351102	000t	30	30	30	30	40	22	24	28	29	25	-2.0
351201	000t	61	58	60	65	65	60	45	50	59	72	1.9
351204	000t	36	38	51	44	45	43	30	33	37	42	1.7
353004A	000t			23	21	22	21	22	22			-0.9
354007	000t	245	245	255	255	227	194	179	201	235	200	-2.2
354013B	Mtj	1758	1758	1758	1934	1925						2.3
369101A	M	264	274	283	225	152	101	90	124	139		-7.7
369204	000t	626	673	754	677	541	486	404	391	469	588	-0.7
371004	000t					2	2	2	2	2	2	0.0
371010	000t	290	300	350	300	310	310	600	600	600	400	3.6
371013	000t					190	200	139	200	220	225	3.4
371019	000t	350	400	500	800	734	734	778	740	804	691	7.9
372001	000t	30	30	30	30	24	28	34	31	26	30	0.0
372004	000t	25	25	24	48	41	35	34	30	27	17	-4.2
372049	000t	936	1080	1041	950	875	880	912	949	950	1000	0.7

.../...

Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities
(continued)

Zambia		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
311101	000t	26	27	26	27	29	28	28	23	27	28	0.8
311107	000t	7	7	8	8	9	10	9	7	7	8	1.5
311110	000t	6	7	9	12	14	12	11	11	12	11	7.0
311122	000t	3	3	3	3	4	4	4	4	4	4	3.7
311134	000t	3	3	3	4	4	4	4	3	4	4	3.3
311501	000t	3500				11300	16200	17500	13700	12900	10900	13.5
311513	000t		3	1	3	4			16	14		24.6
311601	000t	69	74	96	87	88	90	76	74	81	84	2.2
311604	000t	282	320	287		260	299	279	259	205	216	-2.9
311801	000t	51	58	65	69	84	70	59	102	111	102	8.0
311804	000t	47	54	67	73	75	67	64	85	96	96	8.3
312201	000t	62	81			127	123	114	126	123	90	4.2
313304	000h1	2630	2670		2700	2725	2750	2750	2775			0.8
313404	000h1	589	594	637	572	565	515	531	433	559	640	0.9
314007	M	1300	1300	1309	1298	1192	1217	1247	1331	1283	1239	-0.5
321128	Mm2	12	14	13	14	14	14	14	13	13	17	4.0
321128A	Mm2	10	12	11	11	11	12	12	10	14	14	3.8
321140	000m2	400	300	800		700	200	8600	9000	9400	10900	44.4
321201	000	1474	1334	1646	1868	1523	1133	1181	1118	1552	1442	-0.2
321501	000t	50	36	459	484	436	434	425	513	726	656	33.1
331101	000m3	5	3	3	3							
331104	000m3				2	3	4	4	4	4	4	12.3
331107	000m3	26	14	14	41	38	38	38	38	38	38	4.3
331113	000m3	2	4	3		2	3	2	4	2	2	0.0
341131	000t						2	2	2	2	2	0.0
351101	000t	41	46	45	80	91	87	109	74	94	92	9.4
351102	000t	30	30	29	7	9	8	1	1			-38.5
351105	000t	390	325	330	300	300	300	300	300	300	300	-2.9
351147	000t	174	158	255	283	303	275			278	276	5.3
351201	000t	9	7	4	8	6	6	8	10	9	7	-2.8
352301	000t	6	5							4	3	-7.4

.../...

**Table A1.16. Volume and rates of growth of manufacturing production,
by country and commodity 1972-81: selected commodities
(continued)**

Zambia (continued)		1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Growth
352304	000t	8100	7040						12300	9900	5800	-3.6
352904	000t	90	110	110		100	100	100	100	100		1.3
352907	000t	28	38	38	34	25	24	19	21	13	13	-8.2
353004A	000t			34	41	40	38	46	50	40	40	2.4
353007A	000t		94	152	173	180	188	195	200	180	170	7.7
353013A	000t		9	15	20	20	22	26	28	30		18.8
353019A	000t		179	314	338	350	353	372	391	350	350	8.7
353022A	000t		80	213	194	200	186	211	211	180	150	8.2
353034A	000t		3	6	5	5	6	7	8	7	7	11.2
3530372	000t		4	8	8	9	10	10	10	10	10	12.1
354007	000t			30	50	50	84	91	60	50	50	7.6
369201	000t	113	116	135	118	144	250	250	250	182	201	6.6
369204	000t	484	415	444	452	387	328	254	239	299	302	-5.1
369901A	000t	28	28	29	31	25	21	18	18	22	23	-2.2
371013	000t				10	10	10	10				
371085	000t	4	4	5	5		34	35	35	34	29	24.6
372001	000t	698	681	702	640	713	660	656	585	610	560	-2.4
372004	000t	614	638	669	619	695	649	629	564	607	560	-1.2
372037	000t	26	25	25	19	14	13	13	13	10	10	-10.1
372043	000t		54	58	47	37	40	43	38	33	33	-5.7
383204	000		40	38	35	37	28	26	48	75	61	0.0
383913	000		61	65	72	71	66	65	42	57	53	-1.6
384307	000	2	4	5					1	1	1	-7.4
384312	000	20	30						22			1.4

General: Undercoverage varies considerably between the countries, and appears particularly extensive in the case of Zimbabwe. Blank spaces indicate either zero production or no available data for the year in question. Annual rates of growth are between the first and last years recorded. All commodities for which no data are recorded after 1974 have been excluded.

Sources: UN Statistical Office, ICPDATA database, Commodity Production Statistics, updated and revised from official country publications and supplementary country data.

Table A1.18. Rates of growth in manufacturing production 1972-81: selected commodities by country in rank order

Angola		Mozambique		Malawi		Tanzania		Zambia		Zimbabwe	
3115	-33.39	351147	-23.19	322013	-5.03	3819	-28.27	351102	-38.48	369101A	-7.71
383204	-30.87	352304	-23.07	311104	-4.41	351216A	-23.13	372037	-10.07	311104	-6.32
311504	-25.90	321140	-15.14	311107	0.00	331104	-20.47	352907	-8.17	311204	-5.77
37103	-24.02	355102	-14.40	311137	0.00	311128	-18.52	352301	-7.41	311207	-4.41
384404	-17.74	311604	-12.40	322034	0.39	331107	-13.06	384307	-7.41	372004	-4.19
321201	-14.82	331107	-9.20	369204	0.59	384315	-11.32	372043	-5.71	311134	-3.89
311801	-14.74	353019A	-8.34	331104	1.40	321201	-10.90	369204	-5.11	311210	-2.90
311401	-13.17	353007A	-8.30	311101	3.25	321501A	-8.53	352304	-3.64	311101	-2.59
352301	-11.01	3530372	-8.12	321201	3.77	371058	-7.91	311604	-2.92	354007	-2.23
353034A	-10.45	353004A	-8.07	314007	3.90	311707	-7.09	351105	-2.87	351102	-2.01
311601	-9.87	331116	-7.41	311134	8.01	311601	-6.37	351201	-2.75	331107	-1.89
369204	-8.89	353034A	-6.61	331107	8.97	331116	-6.03	372001	-2.42	311107	-1.16
355110	-8.78	311801	-6.57	312201	10.67	353004A	-5.85	369901A	-2.16	353004A	-0.89
313404	-7.19	353022A	-6.45	313304	15.65	321501	-5.75	383913	-1.55	369204	-0.69
311404	-6.41	369204	-6.28	331116	16.65	353022A	-5.54	372004	-1.02	311137	0.00
3811	-5.13	384404	-4.72	311801	20.64	353007A	-4.36	314007	-0.53	314007	0.00
311604	-4.02	313304	-2.14			352104A	-4.21	321201	-0.24	371004	0.00
313304	-3.67	321128	-1.38			353019A	-3.31	331113	0.00	372001	0.00
321128	-3.43	313404	-0.98			311210	-2.45	341131	0.00	372049	0.74
353004A	-1.95	384210A	-0.80			314007	-1.43	383204	0.00	351204	1.73
31153	-1.13	351204	0.00	Botswana		311104	-0.79	313304	0.77	351201	1.86
314007	-0.29	311101	1.63			353013A	-0.31	311101	0.83	354013B	2.29
353013A	1.12	311134	2.05	311110	0.00	324000	-0.06	313404	0.93	371013	3.44
311407	1.80	352301	2.40	311137	0.00	331101	0.00	352904	1.33	371010	3.64
311101	2.18	314007	3.36	313304	3.06	311110	1.32	384312	1.37	341119	4.61
353007A	2.51	311601	4.19	311101	4.36	321128	1.55	311107	1.49	313304	4.89
353022A	4.46	321109	5.93	311134	4.61	311137	2.05	311601	2.21	341101	5.62
352104A	4.81	311534	7.50	311107	14.72	313304	2.35	353004A	2.35	341131	6.48
3530372	5.54	353013A	8.50			311101	2.60	311134	3.25	311801	7.73
353019A	8.40	351201	14.93			3512	2.64	311122	3.66	371019	7.85
311501	12.98	352104A	18.65			311134	2.83	321128A	3.81	341116	8.01
324000	14.99	311401	32.14			331122	3.25	321128	3.95	331101	12.37
383907	17.00			Lesotho		311801	3.70	312201	4.23	331104	15.17
382218	20.34					383204	4.03	331107	4.31	351101	16.50
383910	30.67			311134	0.00	372031	4.79	351147	5.26	331116	16.65

.. / ...

Table A1.18. Rates of growth in manufacturing production 1972-81: selected commodities by country in rank order
(continued)

Angola	Mozambique	Malawi	Tanzania	Zambia	Zimbabwe				
		311137	0.00	3530372	5.36	369201	6.61	331122	26.84
		311101	2.25	369204	5.78	311110	6.97		
				341134	5.96	354007	7.57		
				383910	8.97	353007A	7.69		
				37103	10.06	311801	8.01		
				351201	10.72	353022A	8.17		
		Swaziland		362010B	12.47	311804	8.26		
				313404	13.86	353019A	8.74		
		311107	0.00	369201	24.57	351101	9.40		
		311110	0.00	311404	34.43	353034A	11.17		
		311134	0.00	311401	63.35	3530372	12.14		
		341110	2.71			331104	12.25		
		311128	2.78			311501	13.45		
		331104	4.28			353013A	18.77		
		311801	8.20			311513	24.62		
		311101	12.12			371085	24.62		
						321501	33.11		
						321140	44.37		

Note: Rates of growth are between the first and last years recorded.
Source: Derived from table A1.16

Table A1.19. Conversion factors

(a) local currency per US\$000

Year	Angola	Botswana	Lesotho	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe
1970	28752	714	714	833	28752	714	7143	714	714
1971	28752	715	715	831	28752	715	7143	714	712
1972	27250	768	768	800	27250	768	7143	714	658
1973	24537	692	692	819	24997	692	7020	649	601
1974	25325	679	679	841	25389	679	7135	643	569
1975	25553	732	732	864	25082	732	7386	643	573
1976	30223	870	870	913	30098	870	8379	713	626
1977	29918	842	870	913	32928	870	8273	789	628
1978	29918	828	870	843	32996	870	7683	813	677
1979	29918	815	842	817	32559	842	8250	792	680
1980	29918	776	778	812	36000	778	8195	789	643
1981	28483	839	870	895	36000	870	8289	872	693

(b) MVA deflator (1975 = 1000)

1970	568	636	536	658	474	659	589	630	734
1971	591	697	570	711	521	690	550	653	760
1972	580	701	789	720	550	746	685	702	793
1973	648	832	836	783	692	781	722	743	842
1974	898	835	952	894	900	866	838	839	915
1975	1000	1000	1000	1000	1000	1000	1000	1000	1000
1976	1150	1050	1070	1087	1150	1164	1120	1140	1101
1977	1300	1160	1190	1174	1330	1334	1230	1400	1209
1978	1430	1260	1300	1218	1540	1478	1370	1590	1316
1979	1600	1480	1580	1425	1720	1595	1560	1800	1562
1980	1750	1580	1670	1682	1930	1831	1960	2050	1788
1981	1900	2110	2230	2015	2190	2042	2630	2230	2143

Source: World Bank, World Tables; IMF, International Financial Statistics

Table A2.1. Direction of regional trade by major origins and destinations: value, 1979 and 1982

US\$m	Botswana		Lesotho		Swaziland		Angola ²		Mozambique		Malawi		Tanzania		Zambia ³		Zimbabwe ⁴		SADCC	per cent																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	1979	1982	1980	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
exports to:																					SADCC members	38	52	0	0	4	8	1	1	7	17	8	23	33	35	28	35	128	156	272	5	South Africa ⁴	30	52	24	(20)	54	113	26	..	13	(10)	11	14	-	-	(5)	(190)	191	353	405	7	other Africa	..	(5)3	(4)	4	5	8	5	9	17	36	25	11	9	..	43	108	2	Asia ⁶	..	(1)5	0	(20)	1	0	96	30	5	6	68	88	157	91	..	46	282	5	Industrial mar-																					ket economies	(360)	(340)	34	(15)	..	(160)	649	1141	176	149	188	158	315	267	1074	651	..	517	3378	57	- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-
SADCC members	38	52	0	0	4	8	1	1	7	17	8	23	33	35	28	35	128	156	272	5	South Africa ⁴	30	52	24	(20)	54	113	26	..	13	(10)	11	14	-	-	(5)	(190)	191	353	405	7	other Africa	..	(5)3	(4)	4	5	8	5	9	17	36	25	11	9	..	43	108	2	Asia ⁶	..	(1)5	0	(20)	1	0	96	30	5	6	68	88	157	91	..	46	282	5	Industrial mar-																					ket economies	(360)	(340)	34	(15)	..	(160)	649	1141	176	149	188	158	315	267	1074	651	..	517	3378	57	- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																					
South Africa ⁴	30	52	24	(20)	54	113	26	..	13	(10)	11	14	-	-	(5)	(190)	191	353	405	7	other Africa	..	(5)3	(4)	4	5	8	5	9	17	36	25	11	9	..	43	108	2	Asia ⁶	..	(1)5	0	(20)	1	0	96	30	5	6	68	88	157	91	..	46	282	5	Industrial mar-																					ket economies	(360)	(340)	34	(15)	..	(160)	649	1141	176	149	188	158	315	267	1074	651	..	517	3378	57	- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																										
other Africa	..	(5)3	(4)	4	5	8	5	9	17	36	25	11	9	..	43	108	2	Asia ⁶	..	(1)5	0	(20)	1	0	96	30	5	6	68	88	157	91	..	46	282	5	Industrial mar-																					ket economies	(360)	(340)	34	(15)	..	(160)	649	1141	176	149	188	158	315	267	1074	651	..	517	3378	57	- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																															
Asia ⁶	..	(1)5	0	(20)	1	0	96	30	5	6	68	88	157	91	..	46	282	5	Industrial mar-																					ket economies	(360)	(340)	34	(15)	..	(160)	649	1141	176	149	188	158	315	267	1074	651	..	517	3378	57	- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																				
Industrial mar-																					ket economies	(360)	(340)	34	(15)	..	(160)	649	1141	176	149	188	158	315	267	1074	651	..	517	3378	57	- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																									
ket economies	(360)	(340)	34	(15)	..	(160)	649	1141	176	149	188	158	315	267	1074	651	..	517	3378	57	- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																														
- EC	2917	2867	7	(5)	..	(100)	130	318	73	60	156	111	252	192	633	376	..	345	1793	31	Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																			
Total ⁸	434	454	58	35	234	304	1111	1731	468	303	232	232	539	480	1374	1059	1274	5508	5878	100	imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																								
imports from:																					SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																													
SADCC members	30	36	(0)	1	3	3	27	7	21	36	15	24	7	17	26	51	28	101	156	272	4	South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																		
South Africa ⁴	456	594	450	..	397	430	121	..	89	..	166	104	-	-	81	..	(350)	358	2110	(32)	other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																								
other Africa	..	(1)5	0	8	6	1	22	1	2	13	89	15	7	..	3	130	2	Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																													
Asia ⁶	..	(3)5	2	9	14	52	74	20	25	179	86	28	..	70	..	(269)	4	Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																		
Industrial mar-																					ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																							
ket economies	(30)	(45)	12	..	(25)	..	604	711	197	328	182	117	740	711	475	434	..	784	(2720)	(46)	- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																												
- EC	177	287	9	..	(7)	..	349	390	113	196	117	82	541	418	314	270	..	471	(1720)	(27)	Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																	
Total ⁸	321	489	464	327	435	319	940	1001	370	792	399	291	1091	1046	752	729	797	1422	5979	2021	100	trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																						
trade balance with:																						SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																												
SADCC members	8	16	(0)	-1	1	5	-26	(-7)	-14	-19	-7	-1	26	-6	3	-13	7	27	South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																		
South Africa	-426	-542	-426	-488	-344	-317	-95	..	-76	..	-155	-90	-	-	-76	(-160)	-147	-1757	(-1820)	-	other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																																							
other Africa	4	(4)	-4	-1	7	-17	8	10	23	-64	-4	2	..	40	-22	-	Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Asia	(-2)	(-2)	3	..	5	5	-8	-14	42	-44	-15	-16	-61	2	129	63	..	26	14	-	Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Industrial mar-																					ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
ket economies	(330)	(295)	22	..	84	45	430	-21	-179	6	41	-425	-444	599	217	..	-267	(177)	-	-	- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
- EC	274	234	-2	..	-219	-72	-40	-135	39	29	29	-239	-226	319	104	..	-124	(-102)	-	-	Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Total	-83	-230	-404	-492	-201	-211	131	730	-102	-489	-164	-59	-541	-549	672	372	255	-146	-471	-1143	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

Notes: 1. Total exports for 1979 were US\$ 45 m and imports were US\$ 361 m.
 2. There is wide disagreement in the sources on the values and direction of Angolan trade. The POIZ series has been used here for comparability with other countries.
 3. Imports are stated for in POIZ. The respective cif totals given in I.Z.S., which are substantially higher, are for Zambia: US\$903m, and for Zimbabwe: US\$ 1420 m.
 4. Includes other members of the Southern African Customs Union.
 5. 1981.
 6. Excluding Japan.
 7. Europe.
 8. All exports and imports, including those to and from destinations omitted from the sub-totals.

Source: IMF, Direction of Trade Statistics Yearbook 1982; International Financial Statistics; country statistical publications.

Table A2.2. Country matrix of intra-regional trade, 1979 and 1982

US\$m	to: Angola		Botswana		Lesotho		Malawi		Mozambique		Swaziland		Tanzania		Zambia		Zimbabwe		SADCC	total ⁴
	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982	1979	1982
from:																				
Angola			..	..	..	..	..	..	0.7	*	..	..	..	..	..	..	..	..	0.7	..
Botswana	22.0	3 ¹			..	..	*	*	1.2	8 ¹	..	..	..	..	0.8	1.7	13.5	39.7	37.5	52.4
Lesotho	..	..	..	..			..	..	..	..	..	..	..	..	..	..	..	..	(0.1)	(0.2)
Malawi	..	..	..	1 ¹	..	..			0.6	0.5	..	..	0.0	0.0	5.9	3.4	1.6	18.0	8.1	22.9
Mozamb.	0.4	0.5	..	..	..	..	2.2	3.1			2.9	1 ¹	1.9	4.0	0.0	..	..	8.2	7.4	16.8
Swaziland	..	..	..	..	(0.0)	0.0	..	..	2.6	- ³			0.1	-	1.6	3.6	*	4.4 ²	4.3	8.0
Tanzania	..	..	..	..	..	..	0.1	0.2	15.7	2.2	..	..			17.5	3.2	..	0.1	33.3	5.7
Zambia	4.5	-	0.2	0.3	..	..	7.0	4.5	0.1	0.0	-	0.1	4.5	2.5			12.8	30.7	29.1	38.1
Zimbabwe	-	3.5	29.9	35.1	..	0.7	5.3	16.4	-	25.0	*	1.8	-	5.7	0.0	39.3			35.2	127.5
SADCC:																				
total ⁴	26.9	7.0	30.1	36.4	(0.0)	0.7	14.6	24.2	20.9	35.7	2.9	2.9	6.5	12.2	25.8	51.2	27.9	101.1	155.7	271.6
Non-Zim-																				
babwe	26.9	3.5	0.2	1.3	..	0.0	9.3	7.8	20.9	10.7	2.9	1.1	6.5	6.5	25.8	11.9	27.9	101.1	120.5	144.1

Notation: - trade reported as nil
 .. no available data, trade probably nil or small
 * no available data, trade flow probable

Notes: 1. 1981 2. Imports cif.
 3. Hanlon's estimate for 1981 is US\$ 5m, which compares with US\$ 0.9 m in DOTS.
 4. Sum of the available components, therefore understating actual trade flows. The difference is likely to be small in most cases.

Sources: IMF, Direction of Trade Yearbook 1983; country statistical publications; J. Hanlon, SADCC: progress, projects and prospects, (EIU, 1984), table 10.1; J. Hanlon, Mozambique: revolution under fire, (London: Zed Press, 1984), Statistical Appendix.

General: Discrepancies between different countries' trade statistics for the same trade flows and between national and DOTS versions are quite common and sometimes substantial. In particular, Tanzanian figures suggest much larger imports in 1982 from Mozambique and Zimbabwe and total imports from SADCC countries of US\$ 35 m.

Table A2.3. Zimbabwe: Direction of Trade by SITC Section, 1982

(a) values

US\$000	food	beverages tobacco	crude materials	fuels	oils fats	chemicals	manu. goods	machin- ery	misc. manu.	total
SITC section	0	1	2	3	4	5	6	7	8,9	
exports to:										
SADCC:										
Angola	3222		66					422		3723
Botswana	14076	13	831	39	356	633	12835	1848	3050	33672
Malawi	489	66	1756	105		2350	8081	1663	1703	16228
Mozambique	14829	792	3380	765		105	1241	897	713	22712
Tanzania	7474		158				66	39	26	7764
Zambia	14089	66	673	5427	765	5612	5968	3142	1003	36762
total	54180	937	6866	6338	1122	8702	28192	8015	6496	120865
other countries:										
South Africa	8055	19147	34465	0	13	3169	37370	6602	73023	181964
industrial	71703	139312	107224			0	190944	264	13337	521861
- EC	26013	123334	72759			0	109205	264	8055	338576
rest	38162	97849	38822	9903	0	4225	47670	1848	1716	241123
total	172061	257233	187378	16242	1188	16110	304243	16770	94547	1065775
imports from:										
SADCC:										
Botswana	39		10537		2059	330	17417	752	13918	45055
Malawi	4767	422	1188		0	858	4225	0	2099	13574
Mozambique	39		158	12016	250	13	13	0	66	12518
Zambia	0		1201	28932		1109	1096	224	343	32906
total	4846	422	13086	40948	2310	2310	22752	977	16400	104055
other countries:										
South Africa	2905	924	9243	46085	1452	61667	83983	90454	19543	316127
industrial	5414	1056	16770	2905	4357	85964	75136	480001	112638	781735
- EC	4225	924	3301	2376	924	50575	45689	267137	97320	471682
rest	792	396	10960	145915	924	15053	25881	9507	14393	226597
total	13997	2773	50046	235841	9111	165062	207714	580887	162949	1428516

Table A2.3. Zimbabwe: Direction of Trade by SITC Section, 1982
(continued)

(b) percentage shares, countries

US\$000	food	beverages tobacco	crude materials	fuels	oils fats	chemicals	manu. goods	machin- ery	misc. manu.	
SITC section	0	1	2	3	4	5	6	7	8,9	total
exports to:										
SADCC:										
Angola	1.9	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.3
Botswana	8.2	0.0	0.4	0.2	30.0	3.9	4.2	11.0	3.2	3.2
Malawi	0.3	0.0	0.9	0.6	0.0	14.6	2.7	9.9	1.8	1.5
Mozambique	8.6	0.3	1.8	4.7	0.0	0.7	0.4	5.3	0.8	2.1
Tanzania	4.3	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.7
Zambia	8.2	0.0	0.4	33.4	64.4	34.8	2.0	18.7	1.1	3.4
total	31.5	0.4	3.7	39.0	94.4	54.0	9.3	47.8	6.9	11.3
other countries:										
South Africa	4.7	7.4	18.4	0.0	1.1	19.7	12.3	39.4	77.2	17.1
industrial	41.7	54.2	57.2	0.0	0.0	0.0	62.8	1.6	14.1	49.0
- EC	15.1	47.9	38.8	0.0	0.0	0.0	35.9	1.6	8.5	31.8
rest	22.2	38.0	20.7	61.0	0.0	26.2	15.7	11.0	1.8	22.6
total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
imports from:										
SADCC:										
Botswana	0.3	0.0	21.1	0.0	22.6	0.2	8.4	0.1	8.5	3.2
Malawi	34.1	15.2	2.4	0.0	0.0	0.5	2.0	0.0	1.3	1.0
Mozambique	0.3	0.0	0.3	5.1	2.7	0.0	0.0	0.0	0.0	0.9
Zambia	0.0	0.0	2.4	12.3	0.0	0.7	0.5	0.0	0.2	2.3
total	34.6	15.2	26.1	17.4	25.4	1.4	11.0	0.2	10.1	7.3
other countries:										
South Africa	20.8	33.3	18.5	19.5	15.9	37.4	40.4	15.6	12.0	22.1
industrial	38.7	38.1	33.5	1.2	47.8	52.1	36.2	82.6	69.1	54.7
- EC	30.2	33.3	6.6	1.0	10.1	30.6	22.0	46.0	59.7	33.0
rest	5.7	14.3	21.9	61.9	10.1	9.1	12.5	1.6	8.8	15.9
total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table A2.3. Zimbabwe: Direction of Trade by SITC Section, 1982
(continued)

(c) percentage shares, SITC section per country

US\$000	food	beverages tobacco	crude materials	fuels	oils fats	chemicals	manu. goods	machin- ery	misc. manu.	
SITC section	0	1	2	3	4	5	6	7	8,9	total
exports to:										
SADCC:										
exports to:										
Angola	86.5	0.0	1.8	0.0	0.0	0.0	0.0	11.3	0.0	100.0
Botswana	41.8	0.0	2.5	0.1	1.1	1.9	38.1	5.5	9.1	100.0
Malawi	3.0	0.4	10.8	0.7	0.0	14.5	49.8	10.3	10.5	100.0
Mozambique	65.3	3.5	14.9	3.4	0.0	0.5	5.5	4.0	3.1	100.0
Tanzania	96.3	0.0	2.0	0.0	0.0	0.0	0.9	0.5	0.3	100.0
Zambia	38.3	0.2	1.8	14.8	2.1	15.3	16.2	8.5	2.7	100.0
SADCC	44.8	0.8	5.7	5.2	0.9	7.2	23.3	6.6	5.4	100.0
other countries:										
South Africa	4.4	10.5	18.9	0.0	0.0	1.7	20.5	3.6	40.1	100.0
industrial	13.7	26.7	20.5	0.0	0.0	0.0	36.6	0.1	2.6	100.0
- EC	7.7	36.4	21.5	0.0	0.0	0.0	32.3	0.1	2.4	100.0
rest	15.8	40.6	16.1	4.1	0.0	1.8	19.8	0.8	0.7	100.0
total	16.1	24.1	17.6	1.5	0.1	1.5	28.5	1.6	8.9	100.0
imports from:										
Botswana	0.1	0.0	23.4	0.0	4.6	0.7	38.7	1.7	30.9	100.0
Malawi	35.1	3.1	8.8	0.0	0.0	6.3	31.1	0.0	15.5	100.0
Mozambique	0.3	0.0	1.3	96.0	2.0	0.1	0.1	0.0	0.5	100.0
Zambia	0.0	0.0	3.7	87.9	0.0	3.4	3.3	0.7	1.0	100.0
SADCC	4.7	0.4	12.6	39.4	2.2	2.2	21.9	0.9	15.8	100.0
other countries:										
South Africa	0.9	0.3	2.9	14.6	0.5	19.5	26.6	28.6	6.2	100.0
industrial	0.7	0.1	2.1	0.4	0.6	11.0	9.6	61.4	14.4	100.0
- EC	0.9	0.2	0.7	0.5	0.2	10.7	9.7	56.6	20.6	100.0
rest	0.3	0.2	4.8	64.4	0.4	6.6	11.4	4.2	6.4	100.0
total	1.0	0.2	3.5	16.5	0.6	11.6	14.5	40.7	11.4	100.0

Source: Zimbabwe, Annual Statement of External Trade 1982

Table A2.4. Matrix of intra-regional trade flows in industrial commodities, 1980-81

ISIC	exports from:	1	2	3	4	5	6	7	8	9
		Angola	Botswana	Lesotho	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe
	exports to:									
31	food, beverages, tobacco									
	3111 meat & by-products		1,5				1,5	1		
	3112 milk					1,7				
	3113 processed fruit & vegetables			1	5,6,8,9					
	3114 processed fish prod.	5,6,8,9				6,8,9				
	3115 palm oil	7,8								
	3115 edible oils		1,7,8				1,7,8	1,8		1,7,8
	3116 groundnuts				2,6				1	
	3116 dried beans & peas	6			1					
	3116 coffee ¹	2,5,6,8						1,2,5,6,8		2,5,6,8
	3118 sugar				1,2,3,7		1,2,3,7	1,2,3	2,3	1,2,3,7
	3121 spices							6		
	3121 tea				1,2,8	1,2,6		1,2,6,8		8
	3121 honey							3		
	313 beverages						1	1		1
	314 tobacco & products	2,5			2,5			1	2,5	2,5
32	textiles, garments, leather									
	321 textiles				1,2,5				1,2,4,5	
	3211 cotton				9					
	3212 blankets							2		
	3215 sisal products	9						9		
	322 garments			1,2,4,5		1,2,4	1,2,4,5	1,2,4,5		1,2,4,5
	3231 hides & skins	3,7,8	2,7,8							3,7,8
	3233 leather goods				1,2			1,2,4		
	324 footwear			1,2,4,7		1,2,4,7				1,2,4,7
33	wood and wood products									
	3319 wood & byproducts					7,8,9		8,9	1,9	
	332 furniture			1,2,5,9		2,8	2			
	332 upholstery			1,2,5,9						
34	pulp and paper									
	3411 wood & pulp ²	8,9					7,8,9			
	3411 paper products				1,2,5,7,8		1,2,4,5,7,8	1,8		

Table A2.4. Matrix of intra-regional trade flows in industrial commodities, 1980-81
(continued)

ISIC	exports from:	1	2	3	4	5	6	7	8	9
		Angola	Botswana	Lesotho	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe
35	chemicals and products									
351	chemicals									6,7
3511	lime								6,9	
3511	soda ash		8,9							
3512	fertilisers						1,7	1		
3512	insecticides							5,9		
3513	PVC	2,3,4,6, 7,8,9								
3521	paint & varnish	2,5,7,9					2,5,7,9			
3522	medicines			1,2,4,6 7,9						
3523	soap & detergents							1,2		
3529	tallow & candles		4,6,8,9	4,6,8,9			9			
3529	explosives						7			
3551	tyres & tubes	6						1		
36	non-metallic mineral products									
361	ceramic ware	6,9		6,9			7,9	6,9		
362	glass products					1,9	1,9	1,9	9	
3692	cement	2,3,6,7,8				6,7,8			2,3,6,7	2,3,6,7,8
37	basic metal industries									
371	steel ingots & bars									1
371	steel tubes & pipes							1,2		
371	reinforcing iron	8								
371	iron sheets					2,9				
372	copper & products, lead, zinc								1,5,7,9	1,7

Table A2.4. Matrix of intra-regional trade flows in industrial commodities, 1980-81
(continued)

ISIC	exports from:	1	2	3	4	5	6	7	8	9
		Angola	Botswana	Lesotho	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe
38	metal products and machinery									
381	fabricated metal items							1,2,9		
3811	agricultural implements							1,4		
3811	aluminium utensils								1,9	
3813	structural fabrication ³				1,2,9					
3813	building materials ³			2,7,9		2,7,9		2,5,9		
3819	GLS lamps					7				
3822	tractors						1			
3822	industrial machinery				6					6
3824	earthmoving equipm.									1,2,4,5,6,7,8
3829	refrigerators					7				
3829	agricultural pumps					1,4,7				
3843	trailers					4,7				
3863	cars & parts									1,2,4,6
39	other									
3909	umbrellas			1,5,6						
3909	school materials							1,4		

General: Numbers in the columns indicate destination countries coded as at the head of the table.
'Industrial commodity' is not defined in the source and several raw or barely processed commodities would appear to have been included.

Notes: 1. May also fall under ISIC 3121
2. Also ISIC 331
3. Materials uncertain, probably also ISIC 369

Source: Derived from SADCC Industrial Cooperation, (Blantyre, 1981), Annex 2.

Botswana

Table A2.5. Supply and disposition of manufactures by industrial
branch, current prices 1980¹
US\$m

Industry branch: ISIC Code Name	Supply		Total	Disposition	
	Domestic Prod. ²	Import ³		Exports ³	Domestic consump. ⁴
311 Food products	88.8	76.7	165.5	69.4 ⁵	96.1
313 Beverages	31.6	7.8	39.4	0.6	38.8
314 Tobacco	-	8.1	8.1	0.1	8.0
321 Textiles	17.2	27.9	45.1	17.6	27.5
322 Clothes	3.2	21.1	24.3	4.0	20.3
323 Leather products	4.8	1.7	6.5	4.5	2.0
324 Footwear	-	8.9	8.9	-	8.9
331 Wood & products	2.2	9.9	12.1	0.3	11.8
332 Furniture	2.6	11.7	14.3	0.1	14.2
341 Paper & products	-	7.2	7.2	-	7.2
342 Printed products	2.8	4.8	7.6	-	7.6
351 Industrial chemicals	-	3.5	3.5	-	3.5
352 Paints, drugs, soaps etc.	3.0	36.0	39.0	2.2	36.8
353 Petroleum products	-	87.1	87.1	0.1	87.0
354 Misc. petr. & coal prod.	-	2.4	2.4	-	2.4
355 Rubber products	-	12.1	12.1	0.1	12.0
356 Plastic products	-	6.9	6.9	-	6.9
361 Pottery and earthenware	0.1	1.7	1.8	-	1.8
362 Glass & products	-	.3	2.3	-	2.3
369 Cement, bricks etc.	10.4	19.8	30.2	-	30.2
371 Basic iron and steel	-	22.4	22.4	-	22.4
372 Basic non-ferrous metals	-	1.2	1.2	-	1.2
381 Fabricated metal products	1.3	52.8	54.1	0.3	53.8
382 Non-electrical machinery	12.1	78.7	90.8	1.9	88.9
383 Electrical machinery	0.6	39.2	39.8	0.4	39.4
384 Transport equipment	-	78.3	78.3	7.8	70.5
385 Professional equipment	-	5.8	5.8	0.5	5.3
390 Other manufactures	-	3.6	3.6	0.5	3.1
Total	180.7	639.6	820.3	110.4	709.9

.../...

Botswana

Table A2.5. Supply and disposition of manufactures by industrial
branch, current prices 1980¹
(continued)

- Notes: 1) Exchange rate used is: 0.776 P per \$, from UNIDO's database.
- 2) Estimates of gross output at market price based on data from National Accounts of Botswana 1973/74 - 79/80 and 1980/81.
- 3) Based on a reclassification from BTN to ISIC of data from the External Trade Statistics 1980. Imports are valued CIF + Duty, and exports FOB. Both include re-exports.
- 4) Residually calculated.
- 5) Includes stock increase of typical export product (deep-freeze beef).

Lesotho

Table A2.6 Supply and disposition of manufactures by industrial branch,
current prices, 1980
US\$m

Industry branch: ISIC Code Name	Supply		Total	Disposition	
	Domestic Prod. ²	Import ³		Exports ³	Domestic consump. ⁴
311 Food products	14.7	66.4	81.1	1.3	79.8
313 Beverages	-	13.8	13.8	-	13.8
314 Tobacco	-	8.2	8.2	-	8.2
321 Textiles	3.4	28.8	32.2	0.7	31.5
322 Clothes	1.4	42.2	43.6	0.8	42.8
323 Leather products	0.7	4.7	5.4	1.1	4.3
324 Footwear	-	16.0	16.0	0.8	15.2
331 Wood & products	-	4.4	4.4	0.5	3.9
332 Furniture	3.2	15.4	18.6	1.5	17.1
341 Paper & products	-	2.0	2.0	-	2.0
342 Printed products	1.6	2.1	3.7	0.3	3.4
351 Industrial chemicals	-	6.1	6.1	-	6.1
352 Paints, drugs, soaps etc.	4.2	23.1	27.3	0.1	27.2
353 Petroleum products	-	38.1	38.1	-	38.1
354 Misc. petr. & coal prod.	-	3.4	3.4	-	3.4
355 Rubber products	-	3.4	3.4	-	3.4
356 Plastic products	-	1.8	1.8	-	1.8
361 Pottery and earthenware	1.2	0.3	1.5	0.2	1.3
362 Glass & products	-	2.4	2.4	-	2.4
369 Cement, bricks etc.	0.1	13.8	13.9	-	13.9
371 Basic iron and steel	-	11.1	11.1	-	11.1
372 Basic non-ferrous metals	-	0.5	0.5	-	0.5
381 Fabricated metal products	0.4	21.3	21.7	-	21.7
382 Non-electrical machinery	-	16.8	16.8	-	16.8
383 Electrical machinery	-	14.4	14.4	-	14.4
384 Transport equipment	-	43.9	43.9	0.7	43.2
385 Professional equipment	-	2.1	2.1	0.1	2.0
390 Other manufactures ⁵	-	7.2	7.2	5.6	1.6
Total	30.9	413.7	444.6	13.7	430.9

.../...

Lesotho

Table A2.6 Supply and disposition of manufactures by industrial branch,
current prices, 1980
(continued)

Notes:

- 1) Exchange rate used is 0.778 M per \$ (UNIDO's database).
- 2) Tentative estimates of Gross Output based on UNIDO: 'The potential for resource based industrial development in the least developed countries, No 8, Lesotho'(draft), UNIDO database, the Annual Statistical Bulletin 1981 and the UN Yearbook of National Accounts 1981. Given the tentative nature of the estimates they may be interpreted as 'equally good' estimates of factor cost and market price.
- 3) Based on a reclassification from SITC to ISIC of data from the Annual Statistical Bulletin 1981. The nature of these data is unknown, but presumably imports are valued CIF + Duty and exports FOB. Both presumably include re-exports.
- 4) Residually calculated.
- 5) ISIC category 390 is treated as a 'residual group' to which unsatisfactorily specified exports and imports are allocated. The relatively large export (40% of the totals) from this group is therefore not 'real'; it merely represent a lumpsum entry for exports which would have been allocated to other ISIC categories if they had been better identified in the statistics.

Malawi

Table A2.7. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
US\$m

Industry branch: ISIC Code Name	Supply			Disposition	
	Domestic Prod. ²	Import ³	Total	Exports ³	Domestic consump. ⁴
311 Food products	223.7	19.4	243.1	57.9	185.2
313 Beverages	24.3	1.2	25.5	0.1	25.4
314 Tobacco	17.6	-	17.6	0.7	16.9
321 Textiles	24.3	20.2	44.5	13.2	31.3
322 Clothes	9.9	3.0	12.9	1.3	11.6
323 Leather products	3.4	-	3.4	1.2	2.2
324 Footwear	3.9	1.4	5.3	-	5.3
331 Wood & products	12.7	3.4	16.1	0.2	15.9
332 Furniture	1.5	-	1.5	-	1.5
341 Paper & products	6.1	15.8	21.9	-	21.9
342 Printed products	7.5	2.3	9.8	0.3	9.5
351 Industrial chemicals	-	37.2	37.2	-	37.2
352 Paints, drugs, soaps etc.	-	19.4	19.4	1.3	18.1
353 Petroleum products	-	64.1	64.1	-	64.1
354 Misc. petr. & coal prod.	-	-	-	-	0.0
355 Rubber products	-	7.8	7.8	-	7.8
356 Plastic products	-	5.6	5.6	-	5.6
361 Pottery and earthenware	9.6	0.8	10.4	-	10.4
362 Glass & products	-	2.9	2.9	-	2.9
369 Cement, bricks etc.	12.8	7.3	20.1	0.2	19.9
371 Basic iron and steel	-	30.3	30.3	0.5	29.8
372 Basic non-ferrous metals	-	1.4	1.4	-	1.4
381 Fabricated metal products	-	19.3	19.3	0.1	19.2
382 Non-electrical machinery	-	40.1	40.1	5.8	34.3
383 Electrical machinery	-	40.3	40.3	-	40.3
384 Transport equipment	-	67.9	67.9	4.4	63.5
385 Professional equipment	-	4.3	4.3	-	4.3
390 Other manufactures ⁵	6.6	2.2	8.8	1.4	7.4
Total	363.9	417.6	781.5	88.6	692.9

.../...

Malawi

Table A2.7. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
(continued)

Notes:

- 1) The exchange rate used is 0.812 K per \$ (UNIDO database).
- 2) Tentative estimates of Gross Output (at factor cost) based on data from UNIDO's database, from the World Bank's World Tables 1981 and i/o-ratios from neighbouring countries. The coverage is assumedly incomplete.
- 3) Based on a reclassification from SITC to ISIC of data from the UN Yearbook of International Trade 1981. Imports are measured CIF and exports FOB. Both assumedly include re-exports.
- 4) Calculated as a residual.
- 5) This ISIC category to a great extent reflects unidentified manufactures.

Swaziland

Table A2.8. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
 US\$m

Industry branch: ISIC Code Name	Supply		Total	Disposition	
	Domestic Prod. ²	Import ³		Exports ⁴	Domestic consump. ⁵
311 Food products	170.7	28.3	199.0	159.3	39.7
313 Beverages	14.8	6.1	20.9	0.3	20.7
314 Tobacco	-	2.0	2.0	-	2.0
321 Textiles	17.6	19.5	37.1	17.8	19.3
322 Clothes	0.5	32.7	33.2	0.1	33.1
323 Leather products	-	2.8	2.8	-	2.8
324 Footwear	-	8.4	8.4	-	8.4
331 Wood & products	18.1	2.1	20.2	4.1	16.1
332 Furniture	1.1	12.6	13.7	-	13.7
341 Paper & products	59.2	12.2	71.4	60.1	11.2
342 Printed products	8.3	4.5	12.8	-	12.8
351 Industrial chemicals	42.7	40.6	83.3	41.5	41.8
352 Paints, drugs, soaps etc.	7.4	20.3	27.7	0.3	27.4
353 Petroleum products	-	86.5	86.5	-	86.5
354 Misc. petr. & coal prod.	-	3.9	3.9	-	3.9
355 Rubber products	2.1	9.1	11.2	-	11.2
356 Plastic products	1.7	4.4	6.1	-	6.1
361 Pottery and earthenware	-	1.3	1.3	-	1.3
362 Glass & products	0.4	2.9	3.3	-	3.3
369 Cement, bricks etc.	4.5	16.6	21.1	0.5	20.7
371 Basic iron and steel	-	18.9	18.9	-	18.9
372 Basic non-ferrous metals	-	0.7	0.7	-	0.7
381 Fabricated metal products	14.8	27.4	42.2	11.9	30.4
382 Non-electrical machinery	2.3	23.5	25.8	0.3	25.5
383 Electrical machinery	13.8	15.1	28.9	12.5	16.4
384 Transport equipment	-	60.8	60.8	-	60.8
385 Professional equipment	-	4.1	4.1	-	4.1
390 Other manufactures ⁶	0.5	10.3	10.8	18.2	-7.4
Total	380.5	477.6	858.1	326.8	531.3

.../...

Swaziland

Table A2.8. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
(continued)

Notes:

- 1) Exchange rate used is 0.778 E per \$ (UNIDO database).
- 2) Estimates of gross output based on a 1980 total at producer's price and a 1981 distribution (by ISIC group). The 1980 total is from the U.N. Yearbook of Industrial Statistics 1981 while the 1981 distribution is based on disaggregation of data from the Census of Industries 1981. It is not clear from information available what prices are used in the latter.
- 3) Based on a reclassification from SITC to ISIC of import data from the Annual Statistical Bulletin 1982. The nature of these data is not fully known, but assumedly they are inclusive of re-exports and valued CIF + Duty.
- 4) Estimates of exports based on a 1980 total and a 1981 distribution (by ISIC group). Both set of estimates are based on data from Annual Statistical Bulletin 1982. The 1981 distribution is based on a reclassification from SITC to ISIC. Data are assumedly valued FOB. The nature of re-exports being totally unknown, these are only roughly estimated and included as a lump-sum entry under ISIC 390.
- 5) Residually calculated.
- 6) Unidentified imports and exports (including all re-exports) are entered under this ISIC category.

Tanzania

Table A2.9. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
 US\$m

Industry branch: ISIC Name Code	Supply		Total	Disposition	
	Domestic Prod. ²	Import ³		Exports ³	Domestic consump. ⁴
311 Food products	294.2	46.1	340.3	25.6	314.7
313 Beverages	37.1	4.8	41.9	-	41.9
314 Tobacco	60.2	-	60.2	2.6	57.6
321 Textiles	209.6	42.4	252.0	30.9	221.1
322 Clothes	16.0	-	16.0	14.1	1.9
323 Leather products	63.2	-	63.2	1.0	62.2
324 Footwear	41.5	-	41.5	-	41.5
331 Wood & products	15.8	0.9	16.7	2.2	14.5
332 Furniture	8.7	-	8.7	-	8.7
341 Paper & products	-	25.3	25.3	-	25.3
342 Printed products	-	7.5	7.5	-	7.5
351 Industrial chemicals	23.5	69.4	92.9	3.0	89.9
352 Paints, drugs, soaps etc.	9.1	64.4	73.5	0.9	72.6
353 Petroleum products	20.7	138.8	159.5	27.3	132.2
354 Misc. petr. & coal prod.	-	-	-	-	0.0
355 Rubber products	-	9.8	9.8	0.5	9.3
356 Plastic products	-	6.5	6.5	-	6.5
361 Pottery and earthenware	-	-	-	-	0.0
362 Glass & products	1.0	3.0	4.0	-	4.0
369 Cement, bricks etc.	25.0	7.7	32.7	1.4	31.3
371 Basic iron and steel	6.4	42.1	48.5	-	48.5
372 Basic non-ferrous metals	10.0	14.8	24.8	-	24.8
381 Fabricated metal products	15.2	40.0	55.2	1.2	54.0
382 Non-electrical machinery	-	212.5	212.5	-	212.5
383 Electrical machinery	17.2	66.1	83.3	2.7	80.6
384 Transport equipment	-	152.2	152.2	0.2	152.0
385 Professional equipment	-	12.0	12.0	-	12.0
390 Other manufactures	-	7.1	7.1	3.0	4.1
Total	874.4	973.4	1847.8	116.6	1731.2

.../...

Tanzania

Table A2.9. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
(continued)

Notes:

- 1) Exchange rate used is 8.195 Sh per \$ (UNIDO database).
- 2) Estimates of gross output at factor cost, based on data from UNIDO's database, from UN Yearbook of National Accounts Statistics 1981 and input ratios from the 1969 input/output table for Tanzania. The coverage is assumedly incomplete .
- 3) Based on a reclassification from SITC to ISIC of data from the UN Yearbook of International Trade 1981. Imports are valued CIF and exports FOB. Both assumedly include re-exports.
- 4) Calculated as a residual.

Zambia

Table A2.10. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
US\$m

Industry branch: ISIC Code Name	Supply		Total	Disposition	
	Domestic Prod. ²	Import ³		Exports ³	Domestic consump. ⁴
311 Food products	256.9	56.2	313.1	1.0	312.0
313 Beverages	235.5	2.4	237.9	-	237.9
314 Tobacco	50.7	-	50.7	3.1	47.6
321 Textiles	86.2	63.9	150.1	0.6	149.5
322 Clothes	111.9	4.6	116.5	-	116.5
323 Leather products	21.2	0.6	21.8	-	21.8
324 Footwear	8.5	5.5	14.0	-	14.0
331 Wood & products	36.8	4.2	41.0	-	41.0
332 Furniture	21.2	-	21.2	-	21.2
341 Paper & products	28.4	24.8	53.2	0.1	53.1
342 Printed products	39.8	3.0	42.8	-	42.8
351 Industrial chemicals	31.6	95.9	127.5	0.9	126.6
352 Paints, drugs, soaps etc.	98.1	59.7	157.8	0.7	157.2
353 Petroleum products ⁵	142.6	29.9	172.5	0.9	171.6
354 Misc. petr. & coal prod.	1.0	-	1.0	-	1.0
355 Rubber products	83.7	15.3	99.0	0.9	98.0
356 Plastic products	9.6	3.3	12.9	-	12.9
361 Pottery and earthenware	4.3	1.2	5.5	-	5.5
362 Glass & products	4.3	6.4	10.7	-	10.7
369 Cement, bricks etc.	54.1	11.3	65.4	4.9	60.5
371 Basic iron and steel	17.5	53.1	70.6	0.1	70.5
372 Basic non-ferrous metals ⁶	1296.2	11.0	1307.2	1262.8	44.4
381 Fabricated metal products	136.8	33.8	170.6	0.3	170.3
382 Non-electrical machinery	44.2	191.2	235.4	2.0	233.4
383 Electrical machinery	54.5	64.2	118.7	0.7	118.0
384 Transport equipment	36.0	131.9	167.9	1.1	166.8
385 Professional equipment	1.9	12.6	14.5	0.5	14.0
390 Other manufactures	3.7	6.5	10.2	0.3	9.9
Total	2917.2	892.2	3809.4	1280.9	2528.5

.../...

Zambia

Table A2.10. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
(continued)

Notes:

- 1) Exchange rate used is 0.789 K per \$ (UNIDO database).
- 2) Estimates of gross output at market prices based on data from the Monthly Digest of Statistics, April/June 1984 as well as on ratios etc. from the Census of Industrial Production 1975 and from the UNIDO database.
- 3) Estimates based on 1980 totals of import and export and 1979-distribution of these (by ISIC group). The 1980 totals are from the Monthly Digest of Statistics, April/June 1984 while the 1979 distributions are based on reclassifications from SITC to ISIC of data from the Annual Statement of External Trade 1979. Both exports and imports are (in principle) valued FOB and include re-exports.
- 4) Residually calculated.
- 5) The production (gross output) estimate of ISIC 353 includes the value of the crude oil inputs. It is doubtful if this is the case in Zambia's official statistics.
- 6) The production estimate of ISIC 372 includes the output of the copper refineries. These are classified as part of mining in Zambia's official statistics.

Zimbabwe

Table A2.11. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
 US\$m

Industry branch: ISIC Name Code	Supply			Disposition	
	Domestic Prod. ²	Import ³	Total	Exports ³	Domestic consump. ⁴
311 Food products	786.0	16.7	802.7	101.2	701.6
313 Beverages	162.7	1.6	164.3	0.7	163.6
314 Tobacco	87.4	-	87.4	3.5	83.9
321 Textiles	395.2	62.3	457.5	89.8	367.7
322 Clothes	156.3	10.8	167.1	10.5	156.6
323 Leather products	5.8	1.1	6.9	4.3	2.6
324 Footwear	66.6	1.8	68.4	5.8	62.7
331 Wood & products	69.7	2.9	72.6	6.8	65.8
332 Furniture	58.2	-	58.2	-	58.2
341 Paper & products	78.4	21.0	99.4	3.0	96.3
342 Printed products	99.5	8.5	108.0	0.6	107.4
351 Industrial chemicals	220.2	124.3	344.5	7.6	336.9
352 Paints, drugs, soaps etc.	160.8	37.4	198.2	11.7	186.5
353 Petroleum products	1.1	180.2	181.3	0.8	180.5
354 Misc. petr. & coal prod.	17.1	2.5	19.6	16.0	3.5
355 Rubber products	67.3	7.1	74.4	2.7	71.7
356 Plastic products	55.2	-	55.2	-	55.2
361 Pottery and earthenware	2.2	0.1	2.3	0.1	2.2
362 Glass & products	6.4	4.8	11.2	0.2	10.9
369 Cement, bricks etc.	87.9	7.3	95.2	4.9	90.4
371 Basic iron and steel	396.0	57.3	453.3	187.6	265.6
372 Basic non-ferrous metals ⁵	163.8	13.9	177.7	115.7	62.0
381 Fabricated metal products	228.6	17.4	246.0	16.9	229.1
382 Non-electrical machinery	98.0	175.2	273.2	14.5	258.7
383 Electrical machinery	99.4	115.2	214.6	7.0	207.6
384 Transport equipment	90.5	222.9	313.4	8.4	305.1
385 Professional equipment	2.8	12.9	15.7	1.1	14.6
390 Other manufactures	38.9	17.5	56.4	4.3	52.1
Total	3702.0	1122.8	4824.7	625.6	4199.2

.../...

Zimbabwe

Table A2.11. Supply and disposition of manufactures by industrial branch,
current prices 1980¹
(continued)

Notes:

- 1) Exchange rate used is 0.643 Z\$ per US\$ (UNIDO database).
- 2) Estimates of gross output at market prices based on data from the Census of Production 1981/82 and ratios from UNIDO database.
- 3) Estimates based on 1980 totals of imports and exports and 1982 distribution of these (by ISIC group). All data are from various tables of the Statement of External Trade 1982. The 1982 distribution is based on reclassifications from SITC to ISIC of detailed import and export data. Both exports and imports are (in principle) valued FOB and inclusive of re-exports.
- 4) Residually calculated.
- 5) The production estimate of ISIC 372 includes the output of the refineries/smelters of non-ferrous metals. These are classified as part of mining in Zimbabwe's official statistics.

Botswana

Table A2.12. Some coefficients describing supply and disposition of manufactures¹

Industry branch: ISIC Name Code	Percentage distribution of:					
	Dom. prod.	Import	Export	Dom. Cons.	Export ratios ²	Import ratios ²
311 Food products	49.14	11.99	62.86	13.54	78.15	79.81
313 Beverages	17.49	1.22	0.54	5.47	1.90	20.10
314 Tobacco	-	1.27	0.09	1.13	-	100.00
321 Textiles	9.52	4.36	15.94	3.87	100.00	100.00
322 Clothes	1.77	3.30	3.62	2.86	100.00	100.00
323 Leather products	2.66	0.27	4.08	0.28	93.75	85.00
324 Footwear	-	1.39	-	1.25	-	100.00
331 Wood & products	1.22	1.55	0.27	1.66	13.64	83.90
332 Furniture	1.44	1.83	0.09	2.00	3.85	82.39
341 Paper & products	-	1.13	-	1.01	-	100.00
342 Printed products	1.55	0.75	-	1.07	-	63.16
351 Industrial chemicals	-	0.55	-	0.49	-	100.00
352 Paints, drugs, soaps etc.	1.66	5.63	1.99	5.18	73.33	97.83
353 Petroleum products	-	13.62	0.09	12.26	-	100.00
354 Misc. petr. & coal prod.	-	0.38	-	0.34	-	100.00
355 Rubber products	-	1.89	0.09	1.69	-	100.00
356 Plastic products	-	1.08	-	0.97	-	100.00
361 Pottery and earthenware	0.06	0.27	-	0.25	-	94.44
362 Glass & products	-	0.36	-	0.32	-	100.00
369 Cement, bricks etc.	5.76	3.10	-	4.25	-	65.56
371 Basic iron and steel	-	3.50	-	3.16	-	100.00
372 Basic non-ferrous metals	-	0.19	-	0.17	-	100.00
381 Fabricated metal products	0.72	8.26	0.27	7.58	23.08	98.14
382 Non-electrical machinery	6.70	12.30	1.72	12.52	15.70	88.53
383 Electrical machinery	0.33	6.13	0.36	5.55	66.67	99.49
384 Transport equipment	-	12.24	7.07	9.93	-	100.00
385 Professional equipment	-	0.91	0.45	0.75	-	100.00
390 Other manufactures	-	0.56	0.45	0.44	-	100.00
Total	100.00	100.00	100.00	100.00	61.10	90.10

.../...

Botswana

Table A2.12. Some coefficients describing supply and disposition of manufactures¹
(continued)

Notes:

- 1) Based on table A2.5
- 2) The export ratios express exports as percentages of domestic production while the import ratios express imports as percentages of domestic consumption. Rough adjustments of exports and imports have been made for some branches: all exports exceeding domestic production have been interpreted as re-exports (or stock increases) and deleted. The adjustments have not been carried through to the totals.

Lesotho

Table A2.13. Some coefficients describing supply and disposition of manufactures¹

Industry branch: ISIC Name Code	Percentage distribution of:					
	Dom. prod.	Import	Export	Dom. Cons.	Export ratios ²	Import ratios ²
311 Food products	47.57	16.05	9.49	18.52	8.84	83.21
313 Beverages	-	3.34	-	3.20	-	100.00
314 Tobacco	-	1.98	-	1.90	-	100.00
321 Textiles	11.00	6.96	5.11	7.31	20.59	91.43
322 Clothes	4.53	10.20	5.84	9.93	57.14	98.60
323 Leather products	2.27	1.14	8.03	1.00	100.00	100.00
324 Footwear	-	3.87	5.84	3.53	-	100.00
331 Wood & products	-	1.06	3.65	0.91	-	100.00
332 Furniture	10.36	3.72	10.95	3.97	46.87	90.06
341 Paper & products	-	0.48	-	0.46	-	100.00
342 Printed products	5.18	0.51	2.19	0.79	18.75	61.76
351 Industrial chemicals	-	1.47	-	1.42	-	100.00
352 Paints, drugs, soaps etc.	13.59	5.58	0.73	6.31	2.38	84.93
353 Petroleum products	-	9.21	-	8.84	-	100.00
354 Misc. petr. & coal prod.	-	0.82	-	0.79	-	100.00
355 Rubber products	-	0.82	-	0.79	-	100.00
356 Plastic products	-	0.44	-	0.42	-	100.00
361 Pottery and earthenware	3.88	0.07	1.46	0.30	16.67	23.08
362 Glass & products	-	0.58	-	0.56	-	100.00
369 Cement, bricks etc.	0.32	3.34	-	9.23	-	99.28
371 Basic iron and steel	-	2.68	-	2.58	-	100.00
372 Basic non-ferrous metals	-	0.12	-	0.12	-	100.00
381 Fabricated metal products	1.29	5.15	-	5.04	-	98.16
382 Non-electrical machinery	-	4.06	-	3.90	-	100.00
383 Electrical machinery	-	3.48	-	3.34	-	100.00
384 Transport equipment	-	10.61	5.11	10.03	-	100.00
385 Professional equipment	-	0.51	0.73	0.46	-	100.00
390 Other manufactures	-	1.74	40.88	0.37	-	100.00
Total	100.00	100.00	100.00	100.00	44.34	96.01

.../...

Lesotho

Table A2.13. Some coefficients describing supply and disposition of manufactures¹
(continued)

Notes:

1) Based on table A2.6

2) The export ratios express exports as percentages of domestic production while the import ratios express imports as percentages of domestic consumption. Rough adjustments of exports and imports have been made for some branches: all exports exceeding domestic production have been interpreted as re-exports (or stock increases) and deleted. The adjustments have not been carried through to the totals.

Malawi

Table A2.14. Some coefficients describing supply and disposition of manufactures¹

Industry branch: ISIC Name Code	Percentage distribution of:					
	Dom. prod.	Import	Export	Dom. Cons.	Export ratios ²	Import ratios ²
311 Food products	61.47	4.65	65.35	26.73	25.88	10.48
313 Beverages	6.68	0.29	0.11	3.67	0.41	4.72
314 Tobacco	4.84	-	0.79	2.44	3.98	0.00
321 Textiles	6.68	4.84	14.90	4.52	54.32	64.54
322 Clothes	2.72	0.72	1.47	1.67	13.13	25.86
323 Leather products	0.93	-	1.35	0.32	35.29	0.00
324 Footwear	1.07	0.34	-	0.76	-	26.42
331 Wood & products	3.49	0.81	0.23	2.29	1.57	21.38
332 Furniture	0.41	-	-	0.22	-	0.00
341 Paper & products	1.68	3.78	-	3.16	-	72.15
342 Printed products	2.06	0.55	0.34	1.37	4.00	24.21
351 Industrial chemicals	-	8.91	-	5.37	-	100.00
352 Paints, drugs, soaps etc.	-	4.65	1.47	2.61	-	100.00
353 Petroleum products	-	15.35	-	9.25	-	100.00
354 Misc. petr. & coal prod.	-	-	-	-	-	0.00
355 Rubber products	-	1.87	-	1.13	-	100.00
356 Plastic products	-	1.34	-	0.81	-	100.00
361 Pottery and earthenware	2.64	0.19	-	1.50	-	7.69
362 Glass & products	-	0.69	-	0.42	-	100.00
369 Cement, bricks etc.	3.52	1.75	0.23	2.87	1.56	36.68
371 Basic iron and steel	-	7.26	0.56	4.30	-	100.00
372 Basic non-ferrous metals	-	0.34	-	0.20	-	100.00
381 Fabricated metal products	-	4.62	0.11	2.77	-	100.00
382 Non-electrical machinery	-	9.60	6.55	4.95	-	100.00
383 Electrical machinery	-	9.65	-	5.82	-	100.00
384 Transport equipment	-	16.26	4.97	9.16	-	100.00
385 Professional equipment	-	1.03	-	0.62	-	100.00
390 Other manufactures	1.81	0.53	1.58	1.07	21.21	29.73
Total	100.00	100.00	100.00	100.00	24.35	60.27

.../...

Malawi

Table A2.14. Some coefficients describing supply and disposition of manufactures¹
(continued)

Notes:

- 1) Based on table A2.7
- 2) The export ratios express exports as percentages of domestic production while the import ratios express imports as percentages of domestic consumption. Rough adjustments of exports and imports have been made for some branches: all exports exceeding domestic production have been interpreted as re-exports (or stock increases) and deleted. The adjustments have not been carried through to the totals.

Swaziland

Table A2.15. Some coefficients describing supply and disposition of manufactures¹

Industry branch: ISIC Name Code	Percentage distribution of:					
	Dom. prod.	Import	Export	Dom. Cons.	Export ratios ²	Import ratios ²
311 Food products	44.86	5.93	48.75	7.47	93.34	71.36
313 Beverages	3.90	1.28	0.09	3.89	1.91	29.53
314 Tobacco	-	0.42	-	0.38	-	100.00
321 Textiles	4.63	4.08	5.45	3.63	100.00	100.00
322 Clothes	0.12	6.85	0.03	6.22	20.33	98.89
323 Leather products	-	0.59	-	0.53	-	100.00
324 Footwear	-	1.76	-	1.58	-	100.00
331 Wood & products	4.75	0.44	1.24	3.04	22.41	13.02
332 Furniture	0.29	2.64	-	2.58	-	91.88
341 Paper & products	15.55	2.55	18.40	2.12	100.00	100.00
342 Printed products	2.17	0.94	-	2.40	-	35.28
351 Industrial chemicals	11.21	8.50	12.69	7.87	97.21	97.15
352 Paints, drugs, soaps etc.	1.95	4.25	0.09	5.16	3.81	73.99
353 Petroleum products	-	18.11	-	16.28	-	100.00
354 Misc. petr. & coal prod.	-	0.82	-	0.73	-	100.00
355 Rubber products	0.56	1.91	-	2.11	-	81.01
356 Plastic products	0.44	0.92	-	1.14	-	72.49
361 Pottery and earthenware	-	0.27	-	0.24	-	100.00
362 Glass & products	0.10	0.61	-	0.62	-	88.66
369 Cement, bricks etc.	1.19	3.48	0.14	3.89	10.37	80.30
371 Basic iron and steel	-	3.96	-	3.56	-	100.00
372 Basic non-ferrous metals	-	0.15	-	0.13	-	100.00
381 Fabricated metal products	3.90	5.74	3.63	5.72	80.03	90.24
382 Non-electrical machinery	0.61	4.92	0.09	4.81	12.20	92.03
383 Electrical machinery	3.63	3.16	3.84	3.08	90.71	92.17
384 Transport equipment	-	12.73	-	11.44	-	100.00
385 Professional equipment	-	0.86	-	0.77	-	100.00
390 Other manufactures	0.12	2.16	5.57	-1.40	100.00	0.00
Total	100.00	100.00	100.00	100.00	85.90	89.90

.. / ...

Swaziland

Table A2.15. Some coefficients describing supply and disposition of manufactures¹
(continued)

Notes:

- 1) Based on table A2.8
- 2) The export ratios express exports as percentages of domestic production while the import ratios express imports as percentages of domestic consumption. Rough adjustments of exports and imports have been made for some branches: all exports exceeding domestic production have been interpreted as re-exports (or stock increases) and deleted. The adjustments have not been carried through to the totals.

Tanzania

Table A2.16. Some coefficients describing supply and disposition of manufactures¹

Industry branch: ISIC Name Code	Percentage distribution of:					
	Dom. prod.	Import	Export	Dom. Cons.	Export ratios ²	Import ratios ²
311 Food products	33.65	4.74	21.96	18.18	8.70	14.65
313 Beverages	4.24	0.49	-	2.42	-	11.46
314 Tobacco	6.88	-	2.23	3.33	4.32	0.00
321 Textiles	23.97	4.36	26.50	12.77	14.74	19.18
322 Clothes	1.83	-	12.09	0.11	88.12	0.00
323 Leather products	7.23	-	0.86	3.59	1.58	0.00
324 Footwear	4.75	-	-	2.40	-	0.00
331 Wood & products	1.81	0.09	1.89	0.84	13.92	6.21
332 Furniture	0.99	-	-	0.50	-	0.00
341 Paper & products	-	2.60	-	1.46	-	100.00
342 Printed products	-	0.77	-	0.43	-	100.00
351 Industrial chemicals	2.69	7.13	2.57	5.19	12.77	77.20
352 Paints, drugs, soaps etc.	1.04	6.62	0.77	4.19	9.89	88.71
353 Petroleum products	2.37	14.26	23.41	7.64	100.00	100.00
354 Misc. petr. & coal prod.	-	-	-	-	-	0.00
355 Rubber products	-	1.01	0.43	0.54	-	100.00
356 Plastic products	-	0.67	-	0.38	-	100.00
361 Pottery and earthenware	-	-	-	-	-	0.00
362 Glass & products	0.11	0.31	-	0.23	-	75.00
369 Cement, bricks etc.	2.86	0.79	1.20	1.81	5.60	24.60
371 Basic iron and steel	0.73	4.33	-	2.80	-	86.80
372 Basic non-ferrous metals	1.14	1.52	-	1.43	-	59.68
381 Fabricated metal products	1.74	4.11	1.03	3.12	7.89	74.07
382 Non-electrical machinery	-	21.83	-	12.27	-	100.00
383 Electrical machinery	1.97	6.79	2.32	4.66	15.70	82.01
384 Transport equipment	-	15.64	0.17	8.78	-	100.00
385 Professional equipment	-	1.23	-	0.69	-	100.00
390 Other manufactures	-	0.73	2.57	0.24	-	100.00
Total	100.00	100.00	100.00	100.00	13.33	56.23

.../...

Tanzania

Table A2.16. Some coefficients describing supply and disposition of manufactures¹
(continued)

Notes:

- 1) Based on table A2.9
- 2) The export ratios express exports as percentages of domestic production while the import ratios express imports as percentages of domestic consumption. Rough adjustments of exports and imports have been made for some branches: all exports exceeding domestic production have been interpreted as re-exports (or stock increases) and deleted. The adjustments have not been carried through to the totals.

Zambia

Table A2.17. Some coefficients describing supply and disposition of manufactures¹

Industry branch: ISIC Name Code	Percentage distribution of:					
	Dom. prod.	Import	Export	Dom. Cons.	Export ratios ²	Import ratios ²
311 Food products	8.81	6.30	0.08	12.34	0.40	18.00
313 Beverages	8.07	0.27	-	9.41	-	1.00
314 Tobacco	1.74	-	0.24	1.88	6.13	0.00
321 Textiles	2.95	7.16	0.04	5.91	0.66	42.73
322 Clothes	3.84	0.52	-	4.61	-	3.94
323 Leather products	0.73	0.07	-	0.86	-	2.72
324 Footwear	0.29	0.61	-	0.55	-	39.22
331 Wood & products	1.26	0.47	-	1.62	-	10.14
332 Furniture	0.73	-	-	0.84	-	0.00
341 Paper & products	0.97	2.77	0.01	2.10	0.33	46.65
342 Printed products	1.36	0.33	-	1.69	-	6.93
351 Industrial chemicals	1.08	10.75	0.07	5.01	2.98	75.78
352 Paints, drugs, soaps etc.	3.36	6.70	0.05	6.22	0.67	38.01
353 Petroleum products	4.89	3.36	0.07	6.79	0.66	17.45
354 Misc. petr. & coal prod.	0.03	-	-	0.04	-	0.00
355 Rubber products	2.87	1.71	0.07	3.88	1.13	15.58
356 Plastic products	0.33	0.37	-	0.51	-	25.36
361 Pottery and earthenware	0.15	0.13	-	0.22	-	21.62
362 Glass & products	0.15	0.71	-	0.42	-	59.71
369 Cement, bricks etc.	1.85	1.26	0.38	2.39	9.06	18.63
371 Basic iron and steel	0.60	5.95	0.01	2.79	0.54	75.30
372 Basic non-ferrous metals	44.43	1.23	98.59	1.75	97.42	24.73
381 Fabricated metal products	4.69	3.79	0.02	6.74	0.21	19.84
382 Non-electrical machinery	1.52	21.43	0.15	9.23	4.48	81.91
383 Electrical machinery	1.87	7.19	0.05	4.67	1.21	54.38
384 Transport equipment	1.23	14.79	0.09	6.60	3.14	79.09
385 Professional equipment	0.07	1.41	0.04	0.55	24.80	89.81
390 Other manufactures	0.13	0.73	0.02	0.39	7.64	65.62
Total	100.00	100.00	100.00	100.00	43.91	35.29

.../...

Zambia

Table A2.17. Some coefficients describing supply and disposition of manufactures¹
(continued)

Notes:

- 1) Based on table A2.10
- 2) The export ratios express exports as percentages of domestic production while the import ratios express imports as percentages of domestic consumption. Rough adjustments of exports and imports have been made for some branches: all exports exceeding domestic production have been interpreted as re-exports (or stock increases) and deleted. The adjustments have not been carried through to the totals.

Zimbabwe

Table A2.18. Some coefficients describing supply and disposition of manufactures¹

Industry branch: ISIC Name Code	Percentage distribution of:					
	Dom. prod.	Import	Export	Dom. Cons.	Export ratios ²	Import ratios ²
311 Food products	21.23	1.49	16.17	16.71	12.87	2.39
313 Beverages	4.39	0.14	0.11	3.90	0.42	0.97
314 Tobacco	2.36	-	0.56	2.00	4.00	0.00
321 Textiles	10.68	5.55	14.35	8.76	22.71	16.93
322 Clothes	4.22	0.96	1.68	3.73	6.72	6.92
323 Leather products	0.16	0.09	0.69	0.06	73.97	41.18
324 Footwear	1.80	0.16	0.92	1.49	8.65	2.95
331 Wood & products	1.88	0.26	1.08	1.57	9.72	4.42
332 Furniture	1.57	-	-	1.39	-	0.00
341 Paper & products	2.12	1.87	0.49	2.29	3.89	21.77
342 Printed products	2.69	0.75	0.09	2.56	0.57	7.87
351 Industrial chemicals	5.95	11.07	1.21	8.02	3.44	36.89
352 Paints, drugs, soaps etc.	4.34	3.33	1.88	4.44	7.30	20.07
353 Petroleum products	0.03	16.05	0.13	4.30	71.85	99.83
354 Misc. petr. & coal prod.	0.46	0.22	2.56	0.08	93.75	69.78
355 Rubber products	1.82	0.64	0.43	1.71	4.03	9.95
356 Plastic products	1.49	-	-	1.31	-	0.00
361 Pottery and earthenware	0.06	0.01	0.02	0.05	5.13	4.05
362 Glass & products	0.17	0.42	0.04	0.26	3.53	43.51
369 Cement, bricks etc.	2.37	0.65	0.78	2.15	5.52	8.09
371 Basic iron and steel	10.70	5.10	29.99	6.33	47.38	21.55
372 Basic non-ferrous metals	4.42	1.24	18.50	1.48	70.65	22.45
381 Fabricated metal products	6.18	1.55	2.71	5.46	7.41	7.61
382 Non-electrical machinery	2.65	15.60	2.31	6.16	14.75	67.71
383 Electrical machinery	2.69	10.26	1.12	4.94	7.04	55.49
384 Transport equipment	2.44	19.86	1.34	7.27	9.23	73.07
385 Professional equipment	0.08	1.15	0.18	0.35	40.32	88.57
390 Other manufactures	1.05	1.56	0.69	1.24	11.03	33.62
Total	100.00	100.00	100.00	100.00	16.90	26.74

.. / ...

Zimbabwe

Table A2.18. Some coefficients describing supply and disposition of manufactures¹
(continued)

Notes

- 1) Based on table A2.11
- 2) The export ratios express exports as percentages of domestic production while the import ratios express imports as percentages of domestic consumption. Rough adjustments of exports and imports have been made for some branches: all exports exceeding domestic production have been interpreted as re-exports (or stock increases) and deleted. The adjustments have not been carried through to the totals.

Table A2.19. Percentage distribution of imports by country

	BOT	LES	MAL	SWA	TAN	ZAM	ZIM
311 Food products	24.76	21.43	6.26	9.13	14.88	18.13	5.40
313 Beverages	20.71	36.65	3.19	16.20	12.75	6.30	4.21
314 Tobacco	44.26	44.81	-	10.93	-	-	0.00
321 Textiles	10.53	10.87	7.62	7.36	16.00	24.11	23.50
322 Clothes	18.44	36.88	2.62	28.58	-	4.02	9.47
323 Leather products	15.67	43.32	-	25.81	-	5.46	9.74
324 Footwear	21.17	38.06	3.33	19.98	-	13.05	4.40
331 Wood & products	35.67	15.85	12.25	7.57	3.24	14.95	10.47
332 Furniture	29.47	38.79	-	31.74	-	-	0.00
341 Paper & products	6.65	1.85	14.60	11.27	23.38	22.87	19.37
342 Printed products	14.71	6.44	7.05	13.80	22.99	9.09	25.92
351 Industrial chemicals	0.93	1.62	9.87	10.77	18.41	25.44	32.97
352 Paints, drugs, soaps etc.	13.83	8.87	7.45	7.80	24.73	22.94	14.38
353 Petroleum products	13.94	6.10	10.26	13.85	22.22	4.79	28.85
354 Misc. petr. & coal prod.	19.73	27.95	-	32.06	-	-	20.27
355 Rubber products	18.73	5.26	12.07	14.09	15.17	23.63	11.04
356 Plastic products	24.24	6.32	19.68	15.46	22.84	11.46	0.00
361 Pottery and earthenware	31.63	5.58	14.89	24.19	-	22.07	1.64
362 Glass & products	9.34	9.74	11.77	11.77	12.18	25.88	19.31
369 Cement, bricks etc.	23.63	16.47	8.71	19.81	9.19	13.45	8.73
371 Basic iron and steel	9.53	4.72	12.89	8.04	17.91	22.57	24.35
372 Basic non-ferrous metals	2.76	1.15	3.22	1.61	34.03	25.22	32.00
381 Fabricated metal products	24.90	10.05	9.10	12.92	18.86	15.94	8.22
382 Non-electrical machinery	10.66	2.28	5.43	3.18	28.79	25.91	23.74
383 Electrical machinery	11.06	4.06	11.37	4.26	18.65	18.11	32.50
384 Transport equipment	10.33	5.79	8.96	8.02	20.08	17.41	29.41
385 Professional equipment	10.77	3.90	7.99	7.61	22.29	23.40	24.05
390 Other manufactures	6.61	13.22	4.04	18.92	13.04	11.98	32.19
Total	12.96	8.38	8.46	9.67	19.72	18.07	22.74

Table A2.20. Percentage distribution of exports by country

	BOT	LES	MAL	SWA	TAN	ZAM	ZIM
311 Food products	16.69	0.31	13.93	38.32	6.16	0.25	24.33
313 Beverages	36.14	-	6.02	17.03	-	-	40.80
314 Tobacco	1.00	-	6.99	-	25.97	31.07	34.96
321 Textiles	10.32	0.41	7.74	10.45	18.12	0.33	52.63
322 Clothes	12.99	2.60	4.22	0.31	45.79	-	34.10
323 Leather products	37.22	9.10	9.93	-	8.27	-	35.48
324 Footwear	-	12.20	-	-	-	-	87.80
331 Wood & products	2.14	3.56	1.43	28.90	15.68	-	48.29
332 Furniture	6.25	93.75	-	-	-	-	0.00
341 Paper & products	-	-	-	95.03	-	0.15	4.82
342 Printed products	-	25.76	25.76	-	-	-	48.48
351 Industrial chemicals	-	-	-	78.28	5.66	1.78	14.28
352 Paints, drugs, soaps etc.	12.80	0.58	7.57	1.65	5.24	3.84	68.33
353 Petroleum products	0.34	-	-	-	93.71	3.23	2.71
354 Misc. petr. & coal prod.	-	-	-	-	-	-	100.00
355 Rubber products	2.35	-	-	-	11.76	22.16	63.73
356 Plastic products	-	-	-	-	-	-	0.00
361 Pottery and earthenware	-	63.92	-	-	-	-	36.08
362 Glass & products	-	-	-	-	-	-	100.00
369 Cement, bricks etc.	-	-	1.69	3.99	11.84	41.44	41.05
371 Basic iron and steel	-	-	0.27	-	-	0.05	99.68
372 Basic non-ferrous metals	-	-	-	-	-	91.61	8.39
381 Fabricated metal products	0.98	-	0.33	38.69	3.91	0.92	55.17
382 Non-electrical machinery	7.78	-	23.76	1.16	-	8.11	59.19
383 Electrical machinery	1.72	-	-	53.81	11.59	2.83	30.05
384 Transport equipment	34.54	3.10	19.48	-	0.89	5.01	36.99
385 Professional equipment	22.73	4.55	-	-	-	21.42	51.31
390 Other manufactures	1.50	16.83	4.21	54.69	9.02	0.85	12.90
Sum	4.31	0.53	3.46	12.75	4.55	49.99	24.41

Table A2.21. Percentage distribution of domestic production by country

	BOT	LES	MAL	SWA	TAN	ZAM	ZIM
311 Food products	4.84	0.80	12.19	9.30	16.03	14.00	42.83
313 Beverages	6.24	-	4.70	2.93	7.33	46.54	32.15
314 Tobacco	-	-	8.15	-	27.88	23.48	40.48
321 Textiles	2.28	0.45	3.22	2.34	27.82	11.44	52.45
322 Clothes	1.07	0.47	3.31	0.16	5.35	37.40	52.25
323 Leather products	4.84	0.71	3.43	-	63.77	21.39	5.85
324 Footwear	-	-	3.24	-	34.44	7.05	55.27
331 Wood & products	1.42	-	8.18	11.65	10.17	23.70	44.88
332 Furniture	2.69	3.32	1.55	1.15	9.01	21.97	60.30
341 Paper & products	-	-	3.54	34.39	-	16.50	45.56
342 Printed products	1.76	1.00	4.70	5.18	-	24.96	62.40
351 Industrial chemicals	-	-	-	13.42	7.39	9.94	69.25
352 Paints, drugs, soaps etc.	1.06	1.49	-	2.63	3.22	34.71	56.90
353 Petroleum products	-	-	-	-	12.59	86.74	0.67
354 Misc. petr. & coal prod.	-	-	-	-	-	5.52	94.48
355 Rubber products	-	-	-	1.39	-	54.66	43.95
356 Plastic products	-	-	-	2.51	-	14.44	83.05
361 Pottery and earthenware	0.57	6.90	55.17	-	-	24.71	12.64
362 Glass & products	-	-	-	3.07	8.28	35.62	53.02
369 Cement, bricks etc.	5.34	0.05	6.57	2.33	12.83	27.77	45.11
371 Basic iron and steel	-	-	-	-	1.52	4.17	94.31
372 Basic non-ferrous metals	-	-	-	-	0.68	88.18	11.14
381 Fabricated metal products	0.33	0.10	-	3.74	3.83	34.45	57.56
382 Non-electrical machinery	7.73	-	-	1.48	-	28.22	62.57
383 Electrical machinery	0.32	-	-	7.45	9.27	29.38	53.58
384 Transport equipment	-	-	-	-	-	28.46	71.54
385 Professional equipment	-	-	-	-	-	40.43	59.57
390 Other manufactures	-	-	13.29	0.93	-	7.45	78.33
Sum	2.14	0.37	4.31	4.50	10.35	34.53	43.81

Table A2.22. Percentage distribution of domestic consumption by country

	BOT	LES	MAL	SWA	TAN	ZAM	ZIM
311 Food products	5.56	4.62	10.71	2.29	18.20	18.05	40.58
313 Beverages	7.16	2.55	4.69	3.81	7.73	43.88	30.18
314 Tobacco	3.57	3.66	7.54	0.89	25.69	21.23	37.42
321 Textiles	3.24	3.71	3.69	2.28	26.07	17.63	43.37
322 Clothes	5.30	11.18	3.03	8.64	0.50	30.43	40.92
323 Leather products	2.04	4.39	2.25	2.86	63.56	22.27	2.62
324 Footwear	5.71	9.75	3.40	5.39	26.61	8.97	40.19
331 Wood & products	6.98	2.31	9.41	9.55	8.58	24.23	38.95
332 Furniture	10.55	12.70	1.11	10.19	6.46	15.75	43.24
341 Paper & products	3.32	0.92	10.09	5.18	11.66	24.45	44.38
342 Printed products	3.98	1.78	4.98	6.68	3.93	22.40	56.25
351 Industrial chemicals	0.55	0.95	5.79	6.51	14.00	19.71	52.48
352 Paints, drugs, soaps etc.	7.00	5.17	3.44	5.22	13.81	29.89	35.47
353 Petroleum products	11.45	5.01	8.43	11.38	17.39	22.58	23.75
354 Misc. petr. & coal prod.	16.86	23.89	-	27.40	-	7.03	24.83
355 Rubber products	5.62	1.59	3.65	5.26	4.36	45.92	33.60
356 Plastic products	7.27	1.90	5.90	6.39	6.85	13.55	58.15
361 Pottery and earthenware	8.01	5.79	46.30	5.79	-	24.42	9.68
362 Glass & products	6.31	6.58	7.95	8.97	10.97	29.26	29.97
369 Cement, bricks etc.	11.32	5.21	7.46	7.75	11.73	22.66	33.87
371 Basic iron and steel	4.80	2.38	6.38	4.05	10.39	15.10	56.90
372 Basic non-ferrous metals	0.89	0.37	1.04	0.52	18.38	32.87	45.94
381 Fabricated metal products	9.30	3.75	3.32	5.25	9.33	29.44	39.60
382 Non-electrical machinery	10.22	1.93	3.94	2.93	24.42	26.83	29.73
383 Electrical machinery	7.63	2.79	7.80	3.17	15.60	22.84	40.18
384 Transport equipment	8.18	5.01	7.37	7.05	17.64	19.35	35.40
385 Professional equipment	9.41	3.55	7.63	7.28	21.30	24.90	25.94
390 Other manufactures	4.38	2.26	10.44	-10.48	5.79	14.03	73.59
Total	6.56	3.98	6.40	4.91	15.99	23.36	38.80

Table 3.1. Metallic mineral resources and capacities in the SADCC region, 1978-79

mineral	country	resources		reserves total		capacity 1978/79		
		unit				mine	smelter/ refinery	unit
antimony	Zimbabwe					t	450	-
bauxite	Malawi	Mt	29				-	-
	Mozambique	Mt	60				-	-
beryllium	Zimbabwe							
	Mozambique	000t	18 ³	5.7	23.5	t	22.5	-
caesium	Zimbabwe	000t	23	23	46		-	-
	Zimbabwe	Bt	9	1	10	000t	29	
chromium	Botswana	000t	4.5	27	31.5	t	270	
cobalt	Zambia	000t	225	360	585	t	2700	
	Zimbabwe							
copper	Botswana							
	Zambia	Mt	64	33	99	000t	700 ¹	700
ferroalloys	Zimbabwe							
	Zimbabwe					000t	310	310
gold	Zimbabwe	t	310	465 ³	775			
iron ore	Angola	Mt		335 ³				
	Mozambique	Mt		360 ³				
	Swaziland							
	Tanzania							
	Zimbabwe					Mt	1.0 ³	
lead	Zambia							
lithium	Zimbabwe	000t	55	110		000t	18	
nickel	Botswana					000t	20	
	Zimbabwe					000t	0.9	
rare earth elements	Malawi	000t	45	14	59	000t		
rubidium	Mozambique		'large'					
	Zimbabwe		'large'					
selenium	Zambia	000t	14	7	21	t	45	
tantalum	Mozambique					t	45	
	Zimbabwe							
tin	Zimbabwe					t	900	
titanium	Mozambique	Mt	13 ²		13 ²			
	Tanzania	Mt	3.5 ²		3.5 ²			
tungsten	Zimbabwe	000t	5	5	10	t	900	1200
	Zambia					000t	90	55

.../...

Table 3.1. Metallic mineral resources and capacities in the SADCC region, 1978-79
(continued)

Notes:

1. Smelter or refinery capacity given where stated in source.
2. Contained titanium Mozambique approx. 85 per cent in ilmelite, 15 per cent in rutile; Tanzania: ilmelite.
3. From post 1980 source.

Source: US Bureau of Mines, Mineral facts and problems, 1980, supplemented by later sources.

Table A3.2. Non-fuel mining operations in the SADCC region, 1982-83: mines ranked by ore production capacity¹

<u>mine</u>	<u>location</u>	<u>country</u>	<u>mining method</u>	<u>ore produced</u>
A. More than 3,000,000 tpy:				
1 Diamang	NE Angola	Angola	p	diamonds
2 Jwaneng	Jwaneng	Botswana	p	diamonds
3 Orapa	Orapa	Botswana	p	diamonds
4 Mwadui	Mwadui	Tanzania	p	diamonds
5 Luanshya	Luanshya	Zambia	u	Cu
6 Mufulira	Mufulira	Zambia	u	Cu
7 Nchanga-Chingola	Chingola	Zambia	u/p	Cu
8 Nkana-Mindola	Kitwe	Zambia	u/p	Cu, Co
B. 1-3,000,000 tpy:				
9 Selebi-Phikwe	Phikwe	Botswana	u/p	Cu, Ni
10 Lethlakane	Orapa	Botswana	p	diamonds
11 Letseng-La-Terai ²	Letseng	Lesotho	p	diamonds
12 Havelock	Havelock	Swaziland	u	asbestos
13 Baluba	Luanshya	Zambia	u	Cu, Co
14 Chambishi	Kalulushi	Zambia	u	Cu, Co
15 Konkola	Chililabombwe	Zambia	u	Cu
16 Miriam	Mangula	Zimbabwe	u	Cu
17 Bimco		Zimbabwe	p	Fe
18 Dorowa	Dorowa	Zimbabwe	p	phosphate
19 Gaths/King	Mashaba	Zimbabwe	u	asbestos
20 Shabanie	Shabanie	Zimbabwe	u	asbestos
C. 500,000-1,000,000 tpy:				
21 Alumasi	Alumasi	Tanzania	p	diamonds
22 Chibuluma	Kalalashi	Zambia	u	Cu, Co
23 Norah	Mangula	Zimbabwe	u	Cu
24 Empress	Gatooma	Zimbabwe	u	Cu, Ni
25 Trojan	Bindura	Zimbabwe	u	Cu, Ni
26 Shangani	Inyati	Zimbabwe	u	Ni
27 Kamativi	Kamativi	Zimbabwe	u/p	Sn
28 Selukwe Peak/Railway	Selukwe	Zimbabwe	u	Cr
29 Ripple Creek	Redcliff (QueQue)	Zimbabwe	p	Fe, Mn

.../...

Table A3.2. Non-fuel mining operations in the SADCC region, 1982-83: mines ranked by ore production capacity¹
(continued)

<u>mine</u>	<u>location</u>	<u>country</u>	<u>mining method</u>	<u>ore produced</u>
D. 3-500,000 tpy:				
30 Kabwe	Kabwe	Zambia	u	Zn, Pb, Ag, pyrites
31 Shackleton	Sinoia	Zimbabwe	u	Cu
32 Epoch	Filabusi	Zimbabwe	u	Ni
33 Madziva	Shamva	Zimbabwe	u	Cu, Ni
E. 150-300,000 tpy:				
34 Mundon Guara	Manica	Mozambique	u	Cu
35 Kansanshi	Kansanshi	Zambia	p	Cu
36 Blanket	Gwanda	Zimbabwe	u	Au
37 Dalny (Falcon)	Chakari	Zimbabwe	u	Au
38 Renco	Ndanga	Zimbabwe	u	Au, Cu
39 Inyati	Headlands	Zimbabwe	u	Cu, Au, Ag

Notes: 1. Excludes oil, coal and alluvial mines. 2. Closed.
u - underground. p - open pit. tpy - tonnes per year.

Sources: Mining Magazine, January 1984, tables A & B; World Mines Register, 1981-2.

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83

(a) base metals

	country	unit	production						exports						imports					
			1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
copper																				
mine	Botswana ¹	000t	14.6	14.6	15.6	17.8	18.4	20.3	-	-	-	-	-	-	-	-	-	-	-	-
	Mozambique	000t	0.3	0.2	(0.2)	(0.2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zambia	000t	654	586	610	587	530	515	-	-	-	-	-	-	-	-	-	-	-	-
	Zimbabwe	000t	33.8	29.7	26.9	24.6	24.7	20.9	-	-	-	-	-	-	-	-	-	-	-	-
	total	000t	703	631	652	629	573	556												
smelter																				
	Botswana	000t							15.6	10.8	20.0	17.3	19.3	20.2						
	Zambia	000t	654	595	601	561	585	576	25.6	20.9	3.2	0.2	-	-	-	-	-	-	-	-
	Zimbabwe	000t	34.2	31.4	26.3	30.1	30.5	31.2												
	total	000t																		
refinery																				
	Zambia	000t	629	558	608	560	585	576	550	626	614	556	603	571	2.3	1.6	2.2	2.2	2.8	2.1
	Zimbabwe ²	000t	11.2	8.4	7.1	16.7	25.7	25.4	35.8	26.6	22.7	17.9	22.7	20.4	5.0	8.4	7.5	6.0	6.0	8.0
	total	000t	640	564	615	577	611	601							7.7	10.0	9.7	8.2	8.8	10.1
lead																				
mine	Zambia	000t	15.8	17.6	14.1	18.0	23.2	14.6	-	-	-	-	-	-	-	-	-	-	-	-
refined	Zambia	000t	12.7	12.8	10.0	9.9	14.7	14.6	6.7	8.5	8.7	8.3	11.2	12.7	1.4	1.6	2.9	2.2	2.9	2.0
zinc																				
mine	Zambia	000t	50.4	46.5	37.1	42.2	51.1	41.6	-	-	-	-	-	-	-	-	-	-	-	-
smelter	Zambia	000t	42.5	38.2	34.0	33.3	39.2	37.8	35.4	42.1	30.8	32.1	39.9	36.9	-	-	-	-	-	-
	Tanzania ³	000t	-	-	-	-	-	-	-	-	-	-	-	-	30.3	6.5	3.2	2.6		
nickel																				
mine	Botswana ⁴	000t	16.1	16.2	15.4	18.3	17.8	18.2	15.6	10.8	20.0	17.3	19.3	20.2	-	-	-	-	-	-
	Zimbabwe	000t	(22.0)	19.0	14.3	15.1	13.4	11.0	-	-	-	-	-	-	-	-	-	-	-	-
	total	000t	38.1	35.2	29.7	33.4	31.2	29.2												
refinery	Zimbabwe	000t	15.7	14.6	15.1	13.0	13.3	9.9	15.7	14.6	15.1	12.4	14.6	13.0	-	-	-	-	-	-
tin																				
mine	Tanzania	t	11	20	24				24	18	14	9								
	Zimbabwe	t	945	967	934	1157	1196	1240	-	-	-	-	-	-	-	-	-	-	-	-
	total	t	966	997	968	1167	1206	1250	24	18	14	9								
smelter	Zimbabwe	t	912	949	918	1139	1197		750	870	890	950	1030							

.../...

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83
(continued)

(a) base metals

	country	unit	production					exports					imports						
			1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
lithium																			
mine	Zimbabwe ⁵	000t	16.7	13.2	21.0	16.4	9.8	16.4	13.4	18.4	16.2	9.7	-	-	-	-	-	-	-
chromium																			
mine	Zimbabwe ⁶	000t	478	542	552	536	432	431	20.0	11.5	14.8	4.3	(-)	-	-	-	-	-	-
	- content ⁷	000t	229	260	266	(257)	(207)	(207)	(9.6)	(5.5)	(7.1)	(2.1)	-	-	-	-	-	-	-
furnace	Zimbabwe ⁸		139	175	195	192	(160)		100	144	231	188	164						
	Zimbabwe ⁸		-	25	25	33			1.4	27.1	26.2	22.1	18.7	1.1	1.2	1.8	2.2		
	total		139	200	220	225			102	171	257	210	183						
bauxite																			
mine	Zimbabwe	000t	4.8	5.1	4.3	8.0	23.1							-	-	-	-	-	-
refined	Tanzania ⁹	000t	-	-	-	-	-		-	-	-	-	-	4.7	2.1	3.0	4.5	-	-
manganese																			
mine	Zimbabwe	000t	-	-	-	-	-	-	-	-	-	-	-	5.9	5.9	5.3	4.1	6.8	-
smelter	Zimbabwe ¹⁰	000t	2.2	2.2	2.2	2.2	(1.0)		-	(1)	0.9	-	-	1.9	3.8	2.5	2.0	2.6	-
iron																			
mine	Swaziland	000t	1266	494	-	-	-	-	1046	957	553	-	-	-	-	-	-	-	-
	- Fe content	000t	798	311															
	Tanzania	000t	-	-	-	-	-	-	-	-	-	-	-	0.8	0.4	1.1	-	-	-
	Zimbabwe	000t	1123	1201	1622	1096	837	924	-	-	-	-	-	-	-	-	-	-	-
	- Fe content	000t	674	721	973	660	502	554											
	total	000t	2389	1695	1622	1096	837	924											
	Fe content	000t	1472	1033	973	660	502	556											
furnace	Zimbabwe ¹¹	000t	16	24	93	45	(40)		-	7.6	36.0	10.2	5.0	-	-	-	-	-	-
	Tanzania ¹²	000t	-	-	-	-	-		-	-	-	-	-	0.9	2.0	1.2	1.3	-	-
crude steel																			
	Zimbabwe	000t	778	740	800	691	528	-	324	238	306	208	253	-	-	-	-	-	-
	Zimbabwe ¹³	000t							15.9	4.7	2.2	2.4	8.3	-	-	-	-	-	-
	total	000t							340	243	308	210	261						

.../...

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83
(continued)

(b) **precious metals and stones, by-product and low-volume metals**

		production					production						
		1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
diamonds (rough)¹⁴													
Angola	000 carats	650	840	1500	(1400)	(1400)							
Botswana	000 carats	2799	4394	5101	4960	7769	10731						
Lesotho	000 carats	67	65	105	56	(54)							
Tanzania	000 carats	295	342	270	237	(220)							
total	000 carats	3811	5641	6976	6653	9443							
gold													
Tanzania	kg	4	10	8	8	(9)							
Zambia ¹⁵	kg	259	249	257	328	418							
Zimbabwe	t	12.4	12.1	11.4	11.7	13.4							
total	t	12.7	12.3	11.7	12.0	13.8							
18 silver													
Zambia ¹⁵	t	33	28	24	22	28	29						
Zimbabwe ¹⁵	t	35	30	28	27	29	29						
total	t	68	58	62	49	57	58						
platinum													
Zimbabwe ¹⁵	kg			93	72	53							
palladium													
Zimbabwe ¹⁵	kg			211	162	86							
selenium													
Zambia ¹⁵	t	28	20	23	22	23							
cobalt													
Botswana ¹⁶	t	261	294	226	254	254							
Zambia ¹⁵	t	2063	3176	3309	2569	2446							
Zimbabwe ¹⁵	t	17	205	115	93	97	73						
total	t	2341	3675	3650	2916	2797							
antimony													
Zimbabwe	t	121	158	150	137	195	143						
beryl													
Mozambique	t		27	20	(18)	(15)							
Zimbabwe	t		35	28	9	42	52						
total	t		62	48	27	57							
tantalum¹⁷													
Mozambique	t	39	(34)										
- exports	t	48	103	44	28	12	40						
- Cb content	t	7	6										
- Ta content	t	18	16										
Zimbabwe	t	31	30	41	45	36							
- Cb content	t	3	3	5	5	4							
- Ta content	t	9	8	11	13	10							
tungsten													
Zimbabwe	t	130	110	90	60	35							
caesium (pollucite)													
Zimbabwe	t	-	-	88	100								

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83
(continued)

(c) non-metals and metallic compounds

country	unit	production						exports					imports					
		1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
clays¹⁸																		
Zambia	000t	66	20	24	106	29												
Zimbabwe	000t	77	68	75	92	100												1.1
total	000t	143	88	99	198	129												
kaolin																		
Mozambique	000t		0.1	(0.1)	(0.1)													
Tanzania	000t	7.3	12.5	7.4	5.4													
Zambia	000t	-	0.1	8.4														
Zimbabwe	000t	1.0	2.7	4.5	4.7	2.4												2.1
total	000t	8.3	15.3	20.3														
bentonite																		
Mozambique	000t	3.0	1.7	(1.5)	(1.5)	(1.5)												
Zimbabwe	t	53	54	69	78													
kyanite																		
Malawi	t	100	-	-	-	-												
Zimbabwe	t	1835	-	716	870	2207												
talc																		
Botswana	t	313	104	78	70													
Zambia	t	(100)	-	258	921													
Zimbabwe	t	758	1170	456	386	270												-
feldspar																		
Mozambique	t	(900)	-	-	-	-												
Zambia	t	789	91	475	452	362												
Zimbabwe	t	72.6	1085	1263	2393	866												0
total	000t	2.4	1.2	1.7	2.8	1.2												
fluorspar																		
Zambia	t	76	-	-	50													
Zimbabwe	t	300	-	-	-													274

.../...

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83
(continued)

(c) non-metals and metallic compounds

country	unit	production						exports					imports						
		1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
graphite																			
Zimbabwe	000t	(5.4)	5.7	7.4	11.2	8.2													
white arsenic																			
Zimbabwe	000t	129	-	79	21	-													
barite																			
Zimbabwe	t	878	469	195	-	800						195							99
mica																			
Mozambique	t	(900)	251	200	200	(200)				127									
Zimbabwe ²¹	t	2764	1275	1022	1406	844	1324	1203	759	758	518								3
Tanzania ²²	t	15	9	3	2	(2)	-	-	-	-	-	16	4	13	3				
magnesite																			
Tanzania	t						-	-	-	-	-	165	330	300	165				
Zimbabwe	000t	66	85	78	60	61	52	57	57	53	55	-	-	-	-	-			
sulphur																			
Tanzania	000t						-	-	-	-	-	11	11	12	0				
Zambia ¹⁹	000t	109	74	92	(90)	(90)	-	-	-	-	-								
Zimbabwe ²⁰	000t	23	28	29	27	24		6	9	6		21	18	16	26	24			
total	000t	132	102	121	117	114						32	29	28	26				
asbestos																			
Mozambique	000t	-	0.8	(0.8)	(0.8)														1.1
Swaziland	000t	37.0	34.3	32.8	35.3	30.1	38.1	37.1	31.4	23.3	26.3								
Zambia	000t	-	-	-	-	-	-	-	-	-	-	2.9							
Zimbabwe	000t	249	260	251	248	198	153	212	285	274	199	169							
total	000t	286	294	284	283	228		250	322	305	222	195							

.../...

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83
(continued)

(c) non-metals and metallic compounds

country	unit	production						exports					imports					
		1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
gypsum																		
Angola	000t	(25)	(25)	(25)	(20)	(18)												
Mozambique ²³	000t																	29.1
Tanzania	000t	23.3	10.0	8.1	11.5	(11.5)												
Zambia	000t	1.7	1.2	-	-	-												
Zimbabwe	000t												2.7	3.4	2.9	4.1	2.3	
limestone																		
Malawi	000t	155	169	123	116													
Tanzania	000t	20	9	11	12													
Zambia	000t	486	580	698	704													
Zimbabwe	000t	1087	1057	1218	1409													21
salt²⁴																		
Angola	000t	(50)																
Mozambique	000t	(28)																
Tanzania	000t	34	34	37	27			8	14	12	19	5						
phosphate rock²⁴																		
Zimbabwe	000t	107	136	130	122	122												
sand																		
Tanzania ²⁵	000t	28	(30)	30	30													
Zambia ²⁶	000t	292	195	197	277													
gravel, crushed stone																		
Botswana	000t	275	458	434														
Swaziland	000t	452	247	74	84													
Zambia	000t	523	252	431	539													

.../...

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83
(continued)

(d) fuel minerals

petroleum (crude)																
	Angola	Mt	7060	7270	7420	6480	6590	(5500)	(5930)	(5860)	(5467)	-	-	-	-	-
natural gas																
	gross	Mm ³	1315	1375	1640	1555										
	recovered	Mm ³	(70)	(70)	(70)	(70)										
	Angola															
coal	Botswana	000t	314	355	371	381	410	-	-	-	-	-	-	-	-	-
	Mozambique	000t	118	320	409	535	201	39	152	99	236	108	137	182	72	-
	Swaziland	000t	166	168	176	158	115	105	165	140	105	77				
	Tanzania	000t	7	5	4	3	(3)	-	-	-	-	-				
	Zambia	000t	615	599	567	527	604	-	-	-	-	-				
	Zimbabwe	000t	3066	3186	3137	2866	2773	217	196	229	116	66	17	23	75	43
	total	000t	4286	4633	4660	4470	4106	361	513	468	457	251				
coke	Zambia	000t	91	60	50	50										
	Zimbabwe ²⁷	000t	179	201	235	211	198	111	132	113	128	0	128	43		

General: Production data for some minerals and trade data for most are far from comprehensive, owing to lack of adequate country statistical sources.

Sources: Mining reference annuals and journals; official country publications; Yearbook of Industrial Statistics 1981; economic journals.

.../...

Table A3.3. Production, exports and imports of minerals in the SADCC region, 1978-83
(continued)

Notes:

- 1 Exports are Cu content of smelted Cu/Ni matte.
- 2 Exports include smelted (blister) Cu. 1983 exports are January - October.
- 3 Including alloys.
- 4 Exports of Cu/Ni matte are assumed to be in the same proportion of copper to nickel content as in mine production, which over 1978-83 was nearly equal.
- 5 Li content of petalite and lepidolite ores.
- 6 Ore + concentrate.
- 7 Cr₂O₃ content, approximate average 48 per cent.
- 8 Electric furnace ferro-alloys, respectively ferro-chrome and ferro-silicon-chrome. Imports are of ferro-silicon.
- 9 Scrap and unwrought.
- 10 Ferro-manganese.
- 11 Pig iron.
- 12 Pig iron and ferro-alloys.
- 13 Iron and steel scrap.
- 14 Approximate proportions of gem diamonds are as follows:

	Angola	Botswana	Lesotho	Tanzania	total
per cent	75	15	20	50	25
1982 (000 carats)	1050	1165	10	110	2235

US Bureau of Mines, Minerals Yearbook 1981.
- 15 Wholly or principally a by-product of base metal refining.
- 16 Contained in Cu/Ni matte.
- 17 Mozambique: columbite-tantalite and microlite respectively, metal content is for both combined. Zimbabwe: columbite-tantalite. The Cb and Ta contents have been calculated according to the estimated grades (14/42, 4/55, and 11/28 per cent).
- 18 Aluminium silicate base, excluding expanded clays.
- 19 Production is of recovered content.
- 20 Production is of pyrites.
- 21 Exports and imports are of ground mica.
- 22 Production is of sheet mica.
- 23 Crude (14,500 t) and calcined (14,600 t).
- 24 Imports excluded.
- 25 Glass sand.
- 26 Construction sand.
- 27 Wankie colliery. ZISCO may make another 250,000t at its Redcliff plant.

Table A3.4. Sources of imports of selected mineral ores and products: Malawi, Tanzania, Zambia

	Importing country	Year	Volume 000t	Imports from:				
				South Africa per cent	Western Europe per cent	Japan per cent	other per cent	SADCC per cent
aluminium:								
unwrought	Tanzania	1980	3.0		51		27:Canada	
semimanufactures	Tanzania	1980	2.4		27		52:Canada	
steel: primary	Tanzania	1980	22.7		14	76		
semimanufactures	Tanzania	1980	92.3		16	21	49:India	
	Malawi	1980	32.6	54	4			15:Zimbabwe
	Zambia	1979	73.9	36	45	8		
zinc	Tanzania	1980	4.4		35		34:Zaire	26:Zambia
asbestos	Zambia	1979	1.3					94:Swaziland 21:Zimbabwe 79:Zambia
cement	Malawi	1980	30.6					16:Mozambique
	Tanzania	1980	83.9		55		11:Bulgaria 96:Iraq	
sulphur	Tanzania	1980	12.1				11:Kenya	
soda ash	Tanzania	1980	18.3		85			
salt	Malawi	1980	13.2	82	9			7:Mozambique
	Tanzania	1980	14.1				47:Israel 39:India	
	Zambia	1979	23.8	71	17			2:Tanzania
fertiliser	Malawi	1980	78.5	17	63			
	Tanzania	1980	64.7		73	21		
	Zambia	1978	40.6		14	14	23:Indonesia	
talc	Tanzania	1980	272 ¹		44		32:India	
	Zambia	1978	47 ¹		100			
coal	Malawi	1980	65.4	46				54:Mozambique
coke	Zambia	1978	99		100			

Note: 1. Tonnes.

Sources: US Bureau of Mines, Minerals Yearbook 1981, vol. 3.

Table A3.5. Base metal smelting and refining capacity, 1981-82

country	location	company	processing capacity			material	refining		
			content of output metal	tpd	000 tpy		output metal	tpd	000 tpy
Botswana									
Selebi-Phikwe	Selebi, Phikwe	BCL Ltd.	Cu	60	(20)	150 tpd Cu/Ni matte	-		
			Ni	50	(16)				
			Co						
			Ag	7.5 kg					
Zambia									
Broken Hill	Kabwe	ZCCM	Pb	90	(30)	bullion	Pb	60	(20)
			Zn	130	(40)	slab zinc	Ag	12 ⁵	(4) ¹
Chingola		ZCCM							
Rokana	Kitwe	ZCCM	Cu	800		anodes	Cu	1190	(400)
			H ₂ SO ₄			acid	Co	5.4	2.6 ²
Chambishi	Kalulushi	ZCCM					Cu	50	30 ³
			H ₂ SO ₄			acid ³			
Luanshya	Luanshya	ZCCM	Cu	250	(80)		-		
Mufulira	Mufulira	ZCCM	Cu	500	193	anodes	Cu	740	250
Ndola	Ndola	ZCCM					Cu	350	135
							Au	1.4 ⁵	450 ⁵
							Ag	125 ⁵	40 ¹
							Se	120 ⁵	40 ¹
Zimbabwe									
Alaska	Sinoia	MTD (Mangula) ⁴	Cu				Cu		20
							Au		(300) ⁵
							Ag		(25) ¹
BSR	Bindura	Bindura Nickel Corp	Cu			Cu/Ni matte	Cu		(2)
Empress	Gatooma	Rio Tinto Mining	Cu			50 tpd Cu/Ni matte	Cu	13	(4.3)
	(Riffel Flats) ⁸		Ni				Ni	16	(5.3)
							Co		
							Pt		
Kamativi	Hwange	Kamativi Tin Mines	Sn				Sn		
Inyati	Headlands		Cu	20			Cu		(3.5)
			Au				Au		
			Ag	(12) ⁵			Ag		(2) ¹

.../...

Table A3.5. Base metal smelting and refining capacity, 1981-82
(continued)

country	location	company	processing capacity			refining output		
			smelting content metal	of output tpd	material 000 tpy	metal	tpd	000 tpy
Que Que	Que Que	Zim. Mining and Smelting	Cr			Cr ⁶		300 ³
Zisco	Que Que (Redcliff)	State				Fe ⁷ Mn ⁶ Cr ⁶		1000 ⁴
Gwelo	Gwelo	Rhodall	Mn Cr					

tpd - tonnes per day. tpy - tonnes per year.

- Notes:
1. Tonnes.
 2. New roast-leach-electrowinning (RLE) plant scheduled for 1982.
 3. Includes additional capacity under construction 1981-82.
 4. Smelter acquired from Lomagundi Smelting and Mining in October 1983.
 5. Kg.
 6. Ferrochrome, ferrosilicon chrome, ferromanganese.
 7. For steel-making.
 8. Refinery closed September 1983.

Sources: World Mines Register 1981-82; US Bureau of Mines, Minerals Yearbook 1981; Mining Annual Review 1984.

Table A3.6. Industrial uses of minerals produced or identified the SADCC region

(a) metallic

<u>Mineral</u>	<u>Country:</u> <u>production</u>	<u>resources</u>	<u>main applications</u>
alumina (bauxite)	9	4,5,9	bauxite:chemicals,cement,oil refining, steel flux alumina:abrasives,refractories,chemicals aluminium:construction,vehicles, containers,electrical consumer durables
antimony	9	9	metal alloy,esp.lead;chemicals,rubber, plastics,ceramics,glass
beryllium	5,9	1,5,9	aerospace,electrical,electronics,nuclear industry,general alloy
bismuth	-	5	pharmaceuticals,catalyst,fusible alloy, vulcanising,optics,electronics
caesium	9	5,9	metallurgy,chemicals,lighting
chromium	9	1,9	stainless steel,alloys,metal plating, pigments,refractories
cobalt	2,8,9	2,8,9	aircraft,permanent magnets,cutting tools,alloys,chemicals,ceramics,glass
colombium	5,9	5,9	steel-making
copper	2,5,8,9	1,2,5,7,8,9	electrical & industrial machinery/equip- ment, pigments, chemicals
gold	1,2,4,5,7,	1,2,4,5,7,8,9	jewellery,electronics,aerospace
iron	9	1,2,5,6,7,8,9	cast iron,ferroalloys, steel
lead	8	8	batteries,petrol additive,bearings, construction,paint,containers,ceramics
lithium	9	5,9	grease,ceramics,glass,aluminium metall- urgy,air conditioning,pharmaceuticals
manganese	8,9	1,2,5,8,9	steel-making, metallurgy
nickel	2,9	1,2,5,7,9	metal alloys in chemicals,oil refining; metal products generally
platinum, palladium	8,9	1,2,8,9	catalysts (chemicals,oil refining,auto- motive),electrical,glass,jewellery
rubidium	-	9	scientific research
selenium	8	8	electronics,chemical pigments & cata- lysts,metallurgy

.../...

Table A3.6. Industrial uses of minerals produced or identified the SADCC region
(a) metallic (continued)

Mineral	Country:		main applications
	production	resources	
silver	8,9	1,2,8,9	photography, sterlingware, electrical
tantalum	5,8,9	5,8,9	electronics (capacitors), machine tools, chemical process equipment, aerospace
tin	7,9	1,4,6,7,9	solder, tinfoil, brass/bronze, electrical, plumbing/heating, chemicals
titanium	-	1,5,7,9	pigments, metallurgy, ceramics
tungsten	9	1,4,9	cutting edges, hard surfaces, electrical, electronics, aerospace, chemicals
uranium	-	1,3,7,8,9	nuclear industry
vanadium	-	7	iron/steel metallurgy, catalyst (sulphuric acid)
zinc	8	8	galvanised steel, brass/bronze, electrical, machinery, construction, chemicals
zirconium	-	5	foundry moulds, refractories, nuclear reactors

(b) non-metallic

ammonia		1,5,7	compounds, fertilizer, resins, fibres, plastics, chemical intermediates etc.
arsenic	9	9	agricultural chemicals, wood preservatives, glass
asbestos	5,6,9	1,2,4,5,6,9	textiles, insulation, fire-proofing, linings etc., asbestos-cement products
barite	9	1,6,9	well-drilling muds, chemical raw material, paints, plastics
clay common	2,8,9	2,4,8,9	construction, structural products, cement, expanded clay, refractories
fuller's earth	9	9	oil/grease absorbent, saltwater drilling muds
bentonite	5,9	5,9	Ca (non-swelling): foundry sand mixes, oil purifying/decolorising; Na (swelling): drilling muds, foundry sands, iron ore pelletising (taconite)
kaolin	5,7,8,9	1,4,5,6,7,8,9	paper, paints, rubber, plastics, ceramics .../...

Table A3.6. Industrial uses of minerals produced or identified the SADCC region
(b) non-metallic (continued)

Mineral	Country:		main applications
	production	resources	
coal	2,5,6,7,8, 9	1,2,4,5,6,7, 8,9	tar,chemicals
corundum	9	1,4,9	abrasives,optical grinding,metal finishing
diamond (industrial)	1,2,3,7	1,2,3,5,6,7	drilling bits,cutting edges,grinding wheels
diatomite	-	1	filtration,filler/extender, petroleum refining catalyst
feldspar	5,8,9	general	glassmaking,ceramic binder, abrasives, scouring soap
fluorspar	8,9	8,9	acid feedstock for alum./fluoro-chemicals,ceramics, metallurgy
galena	-	3	electronics
garnet	-	5	abrasives, filtration
granite (black)	1	1	construction
graphite	9	1,4,5,9	carbon steel, refractories, electric motors,dry lubricant,pencils,batteries. paints,brake linings
gypsum	1,5,7,8	1,2,4,5,7,8	crude: cement retarder, agr.chemical; calcined: building plaster
kyanite ²	9	1,4,5,9	refractories in metallurgy, linings etc.
limestone	2,4,5,7,8,9	general	portland cement; mortar,plaster,flux, refractory,chemical raw mat.,pulp/paper sugar/petroleum refining,tanning,water purification,sewage
magnesite	9	9	compounds:refractories,fluxes,cement, fertilizer,chemicals,paper, etc; metal:aluminium alloys,metallurgy
marble	1	1,4,5	construction
mica ³	5,7,9	1,5,7,9	sheet:insulator,electrical,electronics; ground:plaster,paints,plastics etc.
perlite ⁴		4	abrasives,refractories,insulation,filtration,food processing,chemicals etc.
natural gas	1	1,5,7	chemical feedstock
petroleum	1	1	petrochemicals
potash	-	1,2	fertiliser;chemicals,ceramics,detergents
phosphate rock	1,7,9	1,4,5,7,8,9	phosphoric acid,superphosphate fertilizers,stockfeed,detergent,food additive

.. / ...

**Table A3.6. Industrial uses of minerals produced or identified the SADC region
(b) non-metallic (continued)**

Mineral	Country:		main applications
	production	resources	
quartz	9	1,3,9	cement; crystals; electronics
rare-earth oxides	-	4 ⁵	catalysts, optics, glass, ceramics, electronics
salt	1,5,7	1,5,7,8	caustic soda, chlorine, PVC; human/ animal nutrition, food processing, etc.
soda ash	2	2,7	glass, pulp/paper, detergents, chemicals, food, baking, etc.
sulphur	8,9	1,8,9	mainly sulphuric acid; superphosphates, plastics, paints, copper/uranium leaching, petroleum refining, iron/steelmaking
talc	2,8,9	1,2,8,9	ceramics, paints, plastics, paper, cosmetics, etc.
vermiculite	7	4,7	lightweight aggregates, thermal insula- tion, agr. chemicals, drilling muds

General: The identification of production and resources in any given mineral is preliminary and not comprehensive.

Country Code:

- 1 - Angola
- 2 - Botswana
- 3 - Lesotho
- 4 - Malawi
- 5 - Mozambique
- 6 - Swaziland
- 7 - Tanzania
- 8 - Zambia
- 9 - Zimbabwe

.../...

Table A3.6. Industrial uses of minerals produced or identified the SADCC region
(continued)

Notes:

1. Resources are natural gas feedstock.
2. With the closely related andalusite and sillimanite.
3. Muscovite (potassium mica), phlogopite (magnesium mica) are the most important commercial forms. Also lepidolite (lithium mica).
4. Another volcanic glass identified in Mozambique is obsidian.
5. Contained in monazite.

Source: US Bureau of Mines, Mineral facts and problems, 1980; mineral and mining reference annuals

Table A3.7. Fertiliser consumption in the SADCC region, 1980/81

Fertiliser	consumption (nutrient content):										Imports (gross weight)	
	Ang	Bot	Les	Mal	Moz	Swa	Tan	Zam	Zim	Total		
Nitrogenous												
Ammonium sulphate	2.8	-	-	8.9	5.0	0.1	9.4	-	-		26.2	100.0
Ammonium nitrate	-	-	-	-	-	2.1	-	6.3	-		8.4	0.1
Calcium/Ammonium nitrate	1.0	0.4	-	-	-	-	4.4	-	-		5.8	25.1
Calcium sulphate	-	-	-	3.1	-	-	-	-	-		3.1	-
Urea	-	-	-	3.1	7.4	1.7	1.2	18.0	-		31.4	82.9
Sodium nitrate	-	-	-	0.1	-	-	-	-	-		0.1	3.5
Straight N	-	-	-	-	-	-	-	-	-		77.7	-
Compound N	7.5	0.1	0.6	3.6	4.2	3.2	2.7	10.0	21.7		53.6	25.0
NPK fertilisers												136.6
Phosphatic										45.5	45.5	
Single superphosphate	-	-	-	0.1	1.0	0.2	-	0.1	-		1.4	3.4
Triple superphosphate	5.0	-	-	0.7	1.0	0.2	5.7	0.5	-		13.1	35.8 ²
Compound P ₂ O ₅	5.8	0.1	2.2	6.0	4.9	3.7	2.8	12.0	-		37.5	28.5 ²
Potassic												
Potassium sulphate	-	-	-	-	0.3	0.1	0.9	-	-		1.3	27.0
Potassium chloride	-	-	-	0.5	0.1	0.9	-	-	-		1.5	49.9
Straight K	-	-	-	-	-	-	-	-	4.7		4.7	-
Compound K ₂ O	6.8	0.1	-	3.0	1.6	2.3	2.2	4.0	24.5		44.5	-
Total nitrogenous	11.3	0.5	0.6	18.8	16.6	7.1	17.7	34.3	99.5		206.4	
phosphatic	11.8	0.1	2.2	6.8	6.3	4.1	8.5	12.6	45.5		97.9	
potassic	6.8	0.1	-	3.5	2.0	3.3	3.1	4.0	29.2		52.0	
total³	29.9	0.7	2.8	29.1	26.9	14.5	29.3	50.9	174.2		356.7	517.8
breakdown by nutrient:												per cent
Nitrogen	11.3	0.2	0.6	17.0	16.6	7.5	16.9	34.3	99.0		203.3	60.7
Phosphate	11.8	0.2	2.2	5.0	6.3	4.1	6.5	12.6	45.0		93.7	26.7
Potash	6.8	-	-	3.3	2.0	3.3	1.6	4.0	33.5		54.4	15.5
Total³	29.9	0.4	2.8	25.3	24.9	16.9	25.0	50.9	177.5		351.4	100
per cent	8.5	0.1	0.8	7.2	7.1	4.2	7.1	14.5	50.5		100	

Notes: 1. These include trade between SADCC members and are therefore not the net balance between the region and the rest of the world.

2. Mono- and di-ammonium phosphates.

3. Differences between country totals are in the source.

Source: SADCC, *Industry*, vol. 3: fertilisers, (Maseru, 1984), Appendix 1.

Table A3.8. Land use and land distribution

(a) Land use, 1981

	land area Mha	arable land:		permanent pasture Mha	forests, woodland Mha	other Mha	arable/ total per cent
		total 000 ha	permanent crops per cent				
Angola	125	3,500	16	29	54	39	3
Botswana	59	1,360	-	44	1	12	2
Lesotho	3	298	-	2	-	1	10
Malawi	9	2,320	1	2	4	1	26
Mozambique	78	3,080	7	44	15	16	4
Swaziland	2	189	2	1	0	0	9
Tanzania	88	5,190	20	35	42	6	6
Zambia	74	5,158	0	35	20	14	7
Zimbabwe	39	2,678	3	5	24	7	7
total	477	23,773	5	197	160	96	5
per cent	100	5		41	34	20	

Notes: 'land area' excludes water surfaces.

'arable land' includes land under temporary and permanent crops.

'permanent crops' comprise non-annual species, excluding forestry.

'permanent pasture' comprises land used for five years or more solely for forage crops, whether cultivated or wild.

'forests and woodland' includes natural and planted tree cover.

Source: FAO, Production Yearbook 1982.

Table A3.8. Land use and land distribution
(continued)

(b) Rural population and land distribution, 1981

	population			land distribution per head of rural population				
	total	in agri- culture	per cent	arable land	pasture	forests	other	total
	M	M		ha	ha	ha	ha	ha
Angola	7.26	4.15	57	0.8	7.0	13.0	9.4	30.2
Botswana	0.83	0.66	80	2.1	66.7	1.5	18.5	88.8
Lesotho	1.37	1.14	83	2.6	1.8	-	0.6	5.0
Malawi	6.37	5.29	83	0.4	0.3	0.8	0.2	1.7
Mozambique	10.76	6.82	63	0.5	6.4	2.2	2.3	11.4
Swaziland	0.57	0.41	72	0.5	2.7	0.2	0.8	4.2
Tanzania	18.51	14.89	80	0.3	2.4	2.8	0.4	5.9
Zambia	5.96	3.93	66	1.3	8.9	5.1	3.6	18.9
Zimbabwe	7.66	4.45	58	0.6	1.1	5.3	1.6	8.6
total	59.29	41.74	70	0.6	4.7	3.8	2.3	11.4

Population: 'total' is de facto; 'in agriculture' comprise all those depending on agriculture for a living.

Source: FAO, Production Yearbook 1982.

Table A3.9. Growth in volume of agricultural production

	<u>Average annual growth rate</u>				<u>Average annual growth rate per cap.</u>			
	<u>food</u> 1960-70	<u>1970-82</u>	<u>total</u> 1960-70	<u>1970-80</u>	<u>food</u> 1960-70	<u>1970-82</u>	<u>total</u> 1960-70	<u>1970-80</u>
Angola	2.8	0.4	3.0	-3.0	0.7	2.0	-0.9	-5.4
Botswana	0.9	-2.0	0.9	-2.0	-1.7	-6.0	-1.7	-6.0
Lesotho	0.1	0.2	0.4	-0.2	-1.9	-2.1	-1.6	-2.5
Malawi	4.9	2.9	4.7	3.5	2.0	-0.1	1.8	0.5
Mozambique	2.3	-1.0	2.0	-1.4	0.2	-5.1	-0.1	-5.5
Swaziland	8.8	3.9	8.6	4.5	5.9	0.7	5.7	1.3
Tanzania	5.5	2.1	5.0	1.0	2.7	-1.3	2.2	-2.3
Zambia	3.5	1.8	3.1	1.7	0.9	-1.3	0.5	-1.4
Zimbabwe	1.5	1.6	0.6	2.2	-2.0	-1.6	-2.9	-1.0
Sub-Saharan Africa	2.5	1.7	2.5	1.4	0.2	-0.9	0.2	-1.1

Source: World Bank, Toward sustained development in sub-Saharan Africa, (Washington, 1984), table 21.

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82

(a) grains and pulses

	production				trade				
	volume	volume	country	annual	imports	exports	imports	exports	
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82	
	000t	000t	%	rate			%	%	
				%					
cereals					cereals (000t)				
Angola	547	363	4.77	-6.61	293	0	17.73	0.00	
Botswana	100	42	0.55	-13.46	63	1	3.81	0.41	
Lesotho	180	163	2.14	-1.64	119	0	7.20	0.00	
Malawi	1268	1450	19.06	2.26	66	7	3.99	2.90	
Mozambique	700	492	6.47	-5.71	360	6	21.78	2.49	
Swaziland	110	93	1.22	-2.76	20	0	1.21	0.00	
Tanzania	1443	1416	18.62	-0.31	347	3	20.99	1.24	
Zambia	1532	1032	13.57	-6.37	324	0	19.60	0.00	
Zimbabwe	2337	2555	33.59	1.50	61	224	3.69	92.95	
Total	8217	7606	100.00	-1.28	1653	241	100.00	100.00	
wheat					wheat and flour (000t wheat				
					equivalent)				
Angola	14	10	2.40	-5.45	154	0	23.44	0.00	
Botswana	1	0	0.00	0.00	30	1	4.57	11.11	
Lesotho	82	138	33.17	9.06	64	0	9.74	0.00	
Malawi	1	1	0.24	0.00	21	3	3.20	33.33	
Mozambique	4	3	0.72	-4.68	157	0	23.90	0.00	
Swaziland	1	1	0.24	0.00					
Tanzania	80	71	17.07	-1.97	62	0	9.44	0.00	
Zambia	3	12	2.88	25.99	158	0	24.05	0.00	
Zimbabwe	122	180	43.27	6.70	11	5	1.67	55.56	
Total	308	416	100.00	5.14	657	9	100.00	100.00	

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82

(a) grains and pulses (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
rice					rice (000t)			
Angola	21	20	4.63	-0.81	25	0	12.20	0.00
Botswana					4	1	1.95	12.50
Lesotho					2	0	0.98	0.00
Malawi	235	136	31.48	-8.71	2	6	0.98	75.00
Mozambique	89	64	14.81	-5.35	76	0	37.07	0.00
Swaziland	4	5	1.16	3.79				
Tanzania	152	205	47.45	5.11	88	1	42.93	12.50
Zambia	2	2	0.46	-0.00	4	0	1.95	0.00
Zimbabwe					4	0	1.95	0.00
Total	503	432	100.00	-2.50	205	8	100.00	100.00
barley					malt (t)			
Angola					5200	0	9.40	0.00
Botswana					4000	90	7.23	100.00
Lesotho	0	0	0.00	0.00				
Malawi					1775	0	3.21	0.00
Mozambique					7750	0	14.01	0.00
Tanzania	2	4	14.29	12.25	7050	0	12.74	0.00
Zambia					22313	0	40.32	0.00
Zimbabwe	15	24	85.71	8.15	7249	0	13.10	0.00
Total	17	28	100.00	8.67	55337	90	100.00	100.00

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(a) grains and pulses (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	1980-82	rate			%	%	
		%	%					
maize					maize (000t)			
Angola	433	286	4.97	-6.68	113	0	13.40	0.00
Botswana	42	9	0.16	-22.64	19	0	2.25	0.00
Lesotho	81	98	1.70	3.23	41	0	4.86	0.00
Malawi	1127	1275	22.16	2.08	43	0	5.10	0.00
Mozambique	383	265	4.61	-5.95	127	0	15.07	0.00
Swaziland	103	85	1.48	-3.15				
Tanzania	835	766	13.31	-1.43	195	0	23.13	0.00
Zambia	1424	918	15.96	-7.06	160	0	18.98	0.00
Zimbabwe	1886	2051	35.65	1.41	145	220	17.20	100.00
Total	6314	5753	100.00	-1.54	843	220	100.00	100.00
millet								
Angola	78	16	10.20	-8.43				
Botswana	4	2	0.44	-10.91				
Mozambique	9	5	1.11	-9.33				
Tanzania	129	150	33.26	2.55				
Zambia	65	60	13.30	-1.33				
Zimbabwe	173	188	41.69	1.40				
Total	458	451	100.00	-0.26				

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(a) grains and pulses (continued)

	production				trade			
	volume 1974-76 000t	volume 1980-82 000t	country share 1980-82 %	annual growth rate %	imports 1980-82	exports 1980-82	imports 1980-82 %	exports 1980-82 %
sorghum								
Botswana	54	29	3.96	-9.84				
Lesotho	49	44	6.00	-1.78				
Malawi	102	135	18.42	4.78				
Mozambique	215	155	21.15	-5.31				
Swaziland	3	2	0.27	-6.53				
Tanzania	245	220	30.01	-1.78				
Zambia	39	38	5.18	-0.43				
Zimbabwe	140	110	15.01	-3.94				
Total	847	733	100.00	-2.38				
roots and tubers								
Angola	1907	2120	19.58	1.78				
Botswana	6	7	0.06	2.60				
Lesotho	5	6	0.06	3.09				
Malawi	152	207	1.91	5.28				
Mozambique	2534	2944	27.19	2.53				
Swaziland	14	16	0.15	2.25				
Tanzania	4632	5248	48.47	2.10				
Zambia	187	200	1.85	1.13				
Zimbabwe	73	79	0.73	1.32				
Total	9510	10827	100.00	2.18				

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(a) grains and pulses (continued)

	production				trade			
	volume 1974-76 000t	volume 1980-82 000t	country share 1980-82 %	annual growth rate %	imports 1980-82	exports 1980-82	imports 1980-82 %	exports 1980-82 %
potatoes								
Angola	34	40	0.30	2.75	11666	0	80.57	0.00
Botswana					2033	205	14.04	7.89
Malawi	92	117	0.88	4.09	1	11	0.01	0.42
Mozambique	41	61	0.46	6.85				
Swaziland	6	6	0.05	-0.00				
Tanzania	98	141	1.06	6.25	0	1996	0.00	76.83
Zambia	3	3	0.02	-0.00	676	0	4.67	0.00
Zimbabwe	18728	12947	97.24	-5.97	104	386	0.72	14.86
Total	19002	13315	100.00	-5.76	14480	2598	100.00	100.00
sweet potatoes								
Angola	163	180	30.72	1.67				
Mozambique	38	45	7.68	2.86				
Swaziland	9	10	1.71	1.77				
Tanzania	317	331	56.48	0.72				
Zambia	18	20	3.41	1.77				
Total	545	586	100.00	1.22				
cassava								
Angola	1710	1900	19.34	1.77				
Malawi	50	90	0.92	6.99				
Mozambique	2450	2833	28.84	2.45				
Tanzania	4210	4766	48.52	2.09				
Zambia	166	177	1.80	1.07				
Zimbabwe	49	56	0.57	2.25				
Total	8645	9822	100.00	2.15				

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(a) grains and pulses (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
pulses								
Angola	71	40	6.76	-9.12	47333	0	82.34	0.00
Botswana	13	18	3.04	5.57	0	753	0.00	1.77
Lesotho	20	12	2.03	-8.16	2633	954	4.58	2.24
Malawi	188	207	34.97	1.62	27	6555	0.05	15.39
Mozambique	73	53	8.95	-5.20	866	733	1.51	1.72
Swaziland	3	3	0.51	-0.00				
Tanzania	190	222	37.50	2.63	4735	31171	8.24	73.17
Zambia	10	12	2.03	3.09	446	0	0.78	0.00
Zimbabwe	28	25	4.22	-1.87	1442	2435	2.51	5.72
Total	596	592	100.00	-0.11	57482	42601	100.00	100.00
beans (dry)								
Angola	71	40	13.94	-9.12				
Lesotho	14	7	2.44	-10.91				
Malawi	57	62	21.60	1.41				
Swaziland	1	1	0.35	0.00				
Tanzania	137	154	53.66	1.97				
Zimbabwe	26	23	8.01	-2.02				
Total	306	287	100.00	-1.06				
peas (dry)								
Lesotho	6	4	33.33	-6.53				
Tanzania	7	8	66.67	2.25				
Total	13	12	100.00	-1.33				
chick-peas								
Malawi	15	18	69.23	3.09				
Tanzania	8	8	30.77	-0.00				
Total	23	26	100.00	2.06				

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82
 (continued)

(b) vegetables and fruit

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	%			%	%	
vegetables (total)								
Angola	203	226	11.26	1.80				
Botswana	14	16	0.80	2.25				
Lesotho	18	22	1.10	3.40				
Malawi	181	204	10.16	2.01				
Mozambique	184	182	9.07	-0.18				
Swaziland	11	12	0.60	1.46				
Tanzania	889	993	49.48	1.86				
Zambia	176	215	10.71	3.39				
Zimbabwe	124	137	6.83	1.68				
Total	1800	2007	100.00	1.83				
tomatoes								
Angola	3	3	3.09	-0.00				
Malawi	25	28	28.87	1.91				
Mozambique	13	12	12.37	-1.33				
Swaziland	4	4	4.12	-0.00				
Tanzania	14	15	15.46	1.16				
Zambia	23	25	25.77	1.40				
Zimbabwe	9	10	10.31	1.77				
Total	91	97	100.00	1.07				
onions								
Botswana	1	1	1.22	0.00				
Malawi	10	13	15.85	4.47				
Mozambique	3	2	2.44	-6.53				
Tanzania	36	42	51.22	2.60				
Zambia	17	21	25.61	3.58				
Zimbabwe	2	3	3.66	6.99				
Total	69	82	100.00	2.92				

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82

(b) vegetables and fruit (continued)

	production				trade			
	volume 1974-76 000t	volume 1980-82 000t	country share 1980-82 %	annual growth rate %	imports 1980-82	exports 1980-82	imports 1980-82 %	exports 1980-82 %
oranges					oranges (t)			
Botswana	0	0	0.00	0.00				
Mozambique	22	20	24.69	-1.58	0	3500	0.00	11.11
Swaziland	50	28	34.57	-9.21	0	21367	0.00	67.85
Zambia	3	3	3.70	-0.00				
Zimbabwe	28	30	37.04	1.16	0	6625	0.00	21.04
Total	103	81	100.00	-3.93	0	31492	100.00	100.00
citrus (other)					citrus (other) (t)			
Angola	80	80	74.77	-0.00	1433	0	46.98	0.00
Botswana					1600	0	52.46	0.00
Lesotho					17	13	0.56	0.08
Malawi	1	1	0.93	0.00	0	2766	0.00	16.11
Mozambique					0	14000	0.00	81.55
Swaziland								
Tanzania	27	26	24.30	-0.63				
Zimbabwe					0	389	0.00	2.27
Total	108	107	100.00	-0.16	3050	17168	100.00	100.00
mangoes								
Malawi	23	27	11.54	2.71				
Mozambique	32	30	12.82	-1.07				
Tanzania	168	177	75.64	0.87				
Total	223	234	100.00	0.81				
plantains								
Malawi	13	16	1.99	3.52				
Tanzania	536	790	98.01	6.68				
Total	549	806	100.00	6.61				

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(b) vegetables and fruit (continued)

	production				trade			
	volume 1974-76 000t	volume 1980-82 000t	country share 1980-82 %	annual growth rate %	imports 1980-82	exports 1980-82	imports 1980-82 %	exports 1980-82 %
bananas								
Angola	290	280	23.24	-0.58				
Malawi	9	12	1.00	4.91				
Mozambique	64	65	5.39	0.26	0	2000	0.00	99.60
Swaziland	1	1	0.08	0.00				
Tanzania	536	790	65.56	6.68				
Zambia	1	1	0.08	0.00	14	8	100.00	0.40
Zimbabwe	44	56	4.65	4.10	14	2008	100.00	100.00
Total	945	1205	100.00	4.13				
pineapples								
Angola	30	35	28.23	2.60				
Mozambique	14	13	10.48	-1.23				
Swaziland	19	28	22.58	6.68				
Tanzania	45	48	38.71	1.08				
Total	108	124	100.00	2.33				
Angola								
Swaziland								
Total								
cashew nuts								
Angola	1	1	0.72	0.00				
Mozambique	174	88	63.77	-10.74				
Tanzania	107	49	35.51	-12.21				
Total	282	138	100.00	-11.23				

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82
 (continued)

(c) cash crops

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
	000t	000t	1980-82	rate			%	%
			%	%				
sugarcane								
Angola	517	380	3.00	-5.00				
Malawi	718	1669	13.16	15.09				
Mozambique	2467	1833	14.46	-4.83				
Swaziland	1858	3110	24.53	8.96				
Tanzania	1292	1455	11.48	2.00				
Zambia	706	990	7.81	5.80				
Zimbabwe	2568	3241	25.56	3.96				
Total	10126	12678	100.00	3.82				
sugar (raw)								
Angola	45	30	2.23	-6.53				
Botswana	0	0	0.00	0.00				
Malawi	68	164	12.19	15.80				
Mozambique	243	159	11.82	-6.83				
Swaziland	206	356	26.47	9.55				
Tanzania	115	130	9.67	2.06				
Zambia	78	110	8.18	5.90				
Zimbabwe	315	396	29.44	3.89				
Total	1070	1345	100.00	3.89				

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82

(c) cash crops (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	%			%	%	
coffee (green)					coffee (green and roast) (t)			
Angola	157	35	35.71	-22.13	0	45800	0.00	43.60
Botswana					426	6	47.39	0.01
Lesotho					286	0	31.81	0.00
Malawi	1	1	1.02	0.00	80	689	8.90	0.66
Mozambique	1	1	1.02	0.00				
Tanzania	50	56	57.14	1.91	0	53252	0.00	50.69
Zambia	0	0	0.00	0.00	104	0	11.57	0.00
Zimbabwe	4	5	5.10	3.79	3	5307	0.33	5.05
Total	213	98	100.00	-12.14	899	105054	100.00	100.00
tea					tea (t)			
Angola					120	0	3.64	0.00
Botswana					1916	11	58.13	0.02
Lesotho					600	0	18.20	0.00
Malawi	26	33	50.00	4.05	2	33333	0.06	47.73
Mozambique	4	7	10.61	9.78	0	15900	0.00	22.77
Tanzania	13	16	24.24	3.52	0	14005	0.00	20.05
Zambia	0	0	0.00	0.00	265	0	8.04	0.00
Zimbabwe	6	10	15.15	8.89	393	6586	11.92	9.43
Total	49	66	100.00	5.09	3296	69835	100.00	100.00

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(c) cash crops (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
tobacco leaves					tobacco (unmanufactured) (000t)			
Angola	6	3	1.72	-10.91	1	2	25.00	1.23
Malawi	33	55	31.61	8.89	1	49	25.00	30.06
Mozambique	3	3	1.72	-0.00	1	0	25.00	0.00
Swaziland	0	0	0.00	0.00	0	8	0.00	4.91
Tanzania	17	15	8.62	-2.06	0	2	0.00	1.23
Zambia	7	3	1.72	-13.17	1	102	25.00	62.58
Zimbabwe	92	95	54.60	0.54	4	163	100.00	100.00
Total	158	174	100.00	1.62				
jute and jute-like fibres					jute and bast fibres (t)			
Angola	1	1	20.00	0.00	1800	0	79.72	0.00
Mozambique	4	4	80.00	-0.00	458	0	20.28	0.00
Tanzania					0	54	0.00	100.00
Zimbabwe					2258	54	100.00	100.00
Total	5	5	100.00	-0.00				
sisal					sisal (t)			
Angola	45	20	17.54	-12.64	0	7500	0.00	11.46
Malawi	0	0	0.00	0.00	0	9666	0.00	14.77
Mozambique	18	12	10.53	-6.53	0	48267	0.00	73.77
Tanzania	130	82	71.93	-7.39	0	65433	100.00	100.00
Total	193	114	100.00	-8.40				

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82

(c) cash crops (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76 000t	1980-82 000t	share 1980-82 %	growth rate %	1980-82	1980-82	1980-82 %	1980-82 %
seed cotton								
Angola	60	33	6.73	-9.48				
Botswana	3	3	0.61	-0.00				
Malawi	22	31	6.33	5.88				
Mozambique	76	53	10.82	-5.83				
Swaziland	19	32	6.53	9.08				
Tanzania	181	146	29.80	-3.52				
Zambia	3	17	3.47	33.52				
Zimbabwe	153	175	35.71	2.26				
Total	517	490	100.00	-0.89				
cotton lint					cotton lint (t)			
Angola	20	11	6.71	-9.48	0	1000	0.00	0.87
Botswana	1	1	0.61	0.00	0	236	0.00	0.21
Malawi	6	8	4.89	4.91	0	2341	0.00	2.04
Mozambique	25	17	10.37	-6.23	0	10533	0.00	9.18
Swaziland	6	11	6.71	10.63	0	4199	0.00	3.66
Tanzania	61	49	29.88	-3.59	22	40258	6.85	35.10
Zambia	1	6	3.66	34.80	299	4593	93.15	4.00
Zimbabwe	52	61	37.20	2.70	0	51522	0.00	44.93
Total	172	164	100.00	-0.79	321	114682	100.00	100.00
fibre crops n.e.s.								
Tanzania	7	8	100.00	2.25				
Total	7	8	100.00	2.25				

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82

(c) cash crops (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
	000t	000t	1980-82	rate			%	%
			%	%				
wool (greasy) (t)								
Lesotho	2465	2887	24.21	2.67	20	2387	100.00	100.00
Tanzania	35	40	0.34	2.25				
Zimbabwe	9000	9000	75.46	-0.00				
Total	11500	11927	100.00	0.61	20	2387	100.00	100.00
wool (greasy) (t)								
Angola	6343	7040	11.03	1.75				
Botswana	4893	4881	7.65	-0.01				
Lesotho	1200	1493	2.34	3.71				
Malawi	1282	1616	2.53	3.93				
Mozambique	5667	6125	9.60	1.30				
Swaziland	1467	1964	3.08	4.98				
Tanzania	24628	27192	42.61	1.66				
Zambia	3386	4174	6.54	3.55				
Zimbabwe	11703	9326	14.62	-3.71				
Total	60559	63811	100.00	0.88				
goatskins (t)								
Angola	683	775	11.25	2.13				
Botswana	487	472	6.85	-0.52				
Lesotho	315	432	6.27	5.40				
Malawi	441	419	6.08	-0.85				
Mozambique	545	340	4.94	-7.56				
Swaziland	267	300	4.35	1.96				
Tanzania	2585	3337	48.44	4.35				
Zambia	182	220	3.19	3.21				
Zimbabwe	1145	594	8.62	-10.36				
Total	6650	6889	100.00	0.59				

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(c) cash crops (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	1980-82	rate			%	%	
		%	%					
sheepskins (t)								
Angola	147	156	3.76	1.00				
Botswana	128	110	2.65	-2.49				
Lesotho	640	740	17.86	2.45				
Malawi	43	40	0.97	-1.20				
Mozambique	188	161	3.89	-2.55				
Swaziland	36	60	1.45	8.89				
Tanzania	2365	2670	64.43	2.04				
Zambia	17	21	0.51	3.58				
Zimbabwe	336	186	4.49	-9.39				
Total	3900	4144	100.00	1.02				

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82
 (continued)

(d) meat

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
beef					meat (fresh, chilled, frozen) (t)			
Angola	45	51	12.81	2.11	15700	0	67.89	0.00
Botswana	40	37	9.30	-1.29	841	27130	3.64	76.87
Lesotho	9	11	2.76	3.40				
Malawi	9	12	3.02	4.91	57	0	0.25	0.00
Mozambique	34	37	9.30	1.42	1216	0	5.26	0.00
Swaziland	13	17	4.27	4.57	2833	1944	12.25	5.51
Tanzania	112	131	32.91	2.65	2	29	0.01	0.08
Zambia	26	31	7.79	2.97	4	5	0.02	0.01
Zimbabwe	96	71	17.84	-4.90	2471	6186	10.69	17.53
Total	384	398	100.00	0.60	23124	35294	100.00	100.00
					meat (canned n.e.s.) (t)			
Angola					7566	0	86.08	0.00
Malawi					74	6	0.84	0.18
Mozambique					720	0	8.19	0.00
Swaziland					0	578	0.00	17.18
Tanzania					88	139	1.00	4.13
Zambia					24	0	0.27	0.00
Zimbabwe					317	2641	3.61	78.51
Total					8789	3364	100.00	100.00
					meat (prepared, preserved) (t)			
Angola					4300	0	81.45	0.00
Malawi					68	6	1.29	0.18
Mozambique					486	0	9.21	0.00
Swaziland					0	578	0.00	17.67
Tanzania					85	121	1.61	3.70
Zambia					24	0	0.45	0.00
Zimbabwe					316	2567	5.99	78.45
Total					5279	3272	100.00	100.00

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82
(continued)**

(d) meat (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76 000t	1980-82 000t	share 1980-82 %	growth rate %	1980-82	1980-82	1980-82	1980-82
						%	%	
mutton								
Angola	0	1	5.56	0.00				
Botswana	1	1	5.56	0.00				
Lesotho	3	4	22.22	4.91				
Malawi	0	0	0.00	0.00				
Mozambique	1	1	5.56	0.00				
Swaziland	0	0	0.00	0.00				
Tanzania	9	10	55.56	1.77				
Zambia	0	0	0.00	0.00				
Zimbabwe	3	1	5.56	-16.73				
Total	17	18	100.00	0.96				
goat meat								
Angola	2	3	8.57	6.99				
Botswana	3	3	8.57	-0.00				
Lesotho	2	2	5.71	-0.00				
Malawi	3	2	5.71	-6.53				
Mozambique	2	1	2.86	-10.91				
Swaziland	2	3	8.57	6.99				
Tanzania	12	16	45.71	4.91				
Zambia	1	1	2.86	0.00				
Zimbabwe	7	4	11.43	-8.91				
Total	34	35	100.00	0.48				

.../...

Table A3.10. Agricultural production and trade by crop and country.
average 1974-76 and 1980-82

(d) meat (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
	000t	000t	%	rate			%	%
				%				
pig meat								
Angola	11	13	25.00	2.82				
Botswana	1	0	0.00	0.00				
Lesotho	2	3	5.77	6.99				
Malawi	7	7	13.46	-0.00				
Mozambique	9	8	15.38	-1.94				
Swaziland	0	1	1.92	0.00				
Tanzania	4	4	7.69	-0.00				
Zambia	5	7	13.46	5.77				
Zimbabwe	11	9	17.31	-3.29				
Total	50	52	100.00	0.66				
poultry meat								
Angola	6	7	9.59	2.60				
Botswana	0	1	1.37	0.00				
Lesotho	1	1	1.37	0.00				
Malawi	7	9	12.33	4.28				
Mozambique	14	16	21.92	2.25				
Swaziland	1	1	1.37	0.00				
Tanzania	12	18	24.66	6.99				
Zambia	11	11	15.07	-0.00				
Zimbabwe	8	9	12.33	1.98				
Total	60	73	100.00	3.32				

.../...

Table A3.10. Agricultural production and trade by crop and country.
average 1974-76 and 1980-82
 (continued)

(e) dairy products

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	%			%	%	
milk	milk (condensed, dry, fresh) (t)							
Angola					14568	0	30.56	0.00
Botswana					5223	21	10.96	2.06
Lesotho					4556	0	9.56	0.00
Malawi					3213	14	6.74	1.38
Mozambique					4753	0	9.97	0.00
Swaziland					1903	0	3.99	0.00
Tanzania					9467	3	19.86	0.29
Zambia					3851	0	8.08	0.00
Zimbabwe					139	979	0.29	96.26
Total					47673	1017	100.00	100.00
milk (cow, fresh whole)	milk (fresh) (t)							
Angola	138	147	14.55	1.06	60	0	0.32	0.00
Botswana	71	92	9.11	4.41	6590	10	35.36	0.98
Lesotho	17	20	1.98	2.75	4100	0	22.00	0.00
Malawi	26	36	3.56	5.57				
Mozambique	58	64	6.34	1.65				
Swaziland	32	37	3.66	2.45	6833	0	36.67	0.00
Tanzania	322	366	36.24	2.16	1039	0	5.58	0.00
Zambia	50	59	5.84	2.80	14	0	0.08	0.00
Zimbabwe	194	189	18.71	-0.43	0	1006	0.00	99.02
Total	908	1010	100.00	1.79	18636	1016	100.00	100.00

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82

(e) dairy products (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
butter (t)					butter (t)			
Angola	700	783	10.17	1.88	1033	0	26.32	0.00
Botswana	924	1260	16.36	5.30	193	0	4.92	0.00
Malawi					95	1	2.42	0.75
Mozambique					693	0	17.66	0.00
Swaziland	141	174	2.26	3.57	63	0	1.61	0.00
Tanzania	2640	3240	42.08	3.47	994	55	25.32	41.35
Zambia	168	199	2.58	2.86	729	0	18.57	0.00
Zimbabwe	2096	2044	26.55	-0.42	125	77	3.18	57.89
Total	6669	7700	100.00	2.42	3925	133	100.00	100.00
cheese (t)					cheese and curd (t)			
Angola	2000	2500	30.06	3.79	333	0	19.96	0.00
Botswana	629	864	10.39	5.43	153	0	9.17	0.00
Lesotho					96	0	5.76	0.00
Malawi					66	0	3.96	0.00
Mozambique					180	0	10.79	0.00
Swaziland					170	0	10.19	0.00
Tanzania	567	833	10.02	6.62	18	0	1.08	0.00
Zambia	599	711	8.55	2.90	651	0	39.03	0.00
Zimbabwe	4494	3408	40.98	-4.51	1	34	0.06	100.00
Total	8289	8316	100.00	0.05	1668	34	100.00	100.00

.../...

**Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82**

(e) dairy products (continued)

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
	000t	000t	1980-82	rate			%	%
			%	%				
goat milk								
Botswana	2	3	4.48	6.99				
Mozambique	9	8	11.94	-1.94				
Tanzania	50	56	83.58	1.91				
Total	61	67	100.00	1.58				
skim milk (t)								
Angola					9133	0	70.21	0.00
Botswana					1106	7	8.50	26.92
Lesotho					500	0	3.84	0.00
Malawi					1287	0	9.89	0.00
Tanzania					775	0	5.96	0.00
Zambia					200	8	1.54	30.77
Zimbabwe	723	704	100.00	-0.44	7	11	0.05	42.31
Total	723	704	100.00	-0.44	13008	26	100.00	100.00
milk (condensed, evaporated) (t)								
milk (cow, dry whole) (t)								
Angola					13333	0	40.45	0.00
Botswana					2666	20	8.09	90.91
Lesotho					2466	0	7.48	0.00
Malawi					1498	0	4.55	0.00
Mozambique					3566	0	10.82	0.00
Tanzania					5988	0	18.17	0.00
Zambia					1646	0	4.99	0.00
Zimbabwe	776	757	100.00	-0.41	1796	2	5.45	9.09
Total	776	757	100.00	-0.41	32959	22	100.00	100.00

.../...

Table A3.10. Agricultural production and trade by crop and country,
average 1974-76 and 1980-82
 (continued)

(f) prepared foods

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
margarine etc (t)								
Angola					5866	0	67.84	0.00
Botswana					1533	80	17.73	29.52
Lesotho					400	0	4.63	0.00
Malawi					162	0	1.87	0.00
Swaziland					600	0	6.94	0.00
Tanzania					50	116	0.58	42.80
Zimbabwe					36	75	0.42	27.68
Total					8647	271	100.00	100.00
beer (t)								
Angola					1233	0	9.26	0.00
Botswana					1546	430	11.61	43.65
Lesotho					8000	0	60.09	0.00
Malawi					16	15	0.12	1.52
Swaziland					2500	500	18.78	50.76
Tanzania					6	0	0.05	0.00
Zambia					2	0	0.02	0.00
Zimbabwe					11	40	0.08	4.06
Total					13314	985	100.00	100.00

General: Not all agricultural products of significance to the region are covered in the source, and details of a number of those included would appear to be incomplete. A significant proportion of the values are recorded as being estimates. Weights are given in thousand tonnes except where indicated in brackets against the product name.

Sources: FAO, Production Yearbook 1982, Trade Yearbook 1982

Table A3.11. Production and trade in animal and vegetable oil and meal,
average 1974-76 and 1980-82

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
soybeans								
Angola								
Malawi								
Swaziland								
Tanzania	1	1	1.01	0.00				
Zambia	1	5	5.05	30.77				
Zimbabwe	19	93	93.94	30.30				
Total	21	99	100.00	29.49				
castor beans								
Angola								
Mozambique	1	1	16.67	0.00				
Tanzania	7	5	83.33	-5.45				
Zimbabwe								
Total	8	6	100.00	-4.68				
groundnuts								
Angola	19	20	4.02	0.86				
Botswana	3	1	0.20	-16.73				
Malawi	165	179	35.94	1.37				
Mozambique	120	83	16.67	-5.96				
Swaziland	2	1	0.20	-10.91				
Tanzania	55	56	11.24	0.30				
Zambia	82	13	2.61	-26.43				
Zimbabwe	195	145	29.12	-4.82				
Total	641	498	100.00	-4.12				
sunflower seed								
Angola	10	10	9.52	-0.00				
Botswana	0	1	0.95	0.00				
Malawi	5	4	3.81	-3.65				
Mozambique	9	20	19.05	14.23				
Tanzania	27	41	39.05	7.21				
Zambia	12	18	17.14	6.99				
Zimbabwe	14	11	10.48	-3.94				
Total	77	105	100.00	5.30				

**Table A3.11. Production and trade in animal and vegetable oil and meal,
average 1974-76 and 1980-82**

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
000t	000t	%	rate			%	%	
sesame seed								
Angola	2	2	9.52	-0.00				
Mozambique	3	3	14.29	-0.00				
Tanzania	9	16	76.19	10.06				
Total	14	21	100.00	6.99				
cottonseed								
Angola	40	22	6.92	-9.48				
Botswana	2	1	0.31	-10.91				
Malawi	14	20	6.29	6.12				
Mozambique	51	35	11.01	-6.08				
Swaziland	12	21	6.60	9.78				
Tanzania	118	95	29.87	-3.55				
Zambia	2	11	3.46	32.86				
Zimbabwe	100	113	35.53	2.06				
Total	339	318	100.00	-1.06				
coconuts								
Malawi								
Mozambique	415	420	56.76	0.20				
Tanzania	290	320	43.24	1.65				
Total	705	740	100.00	0.81				
copra								
Angola	0	0	0.00	0.00				
Malawi								
Mozambique	70	55	64.71	-3.94				
Tanzania	26	30	35.29	2.41				
Zambia								
Zimbabwe								
Total	96	85	100.00	-2.01				

.../...

Table A3.11. Production and trade in animal and vegetable oil and meal,
average 1974-76 and 1980-82

	production				trade			
	volume	volume	country	annual	imports	exports	imports	exports
	1974-76	1980-82	share	growth	1980-82	1980-82	1980-82	1980-82
	000t	000t	%	rate			%	%
palm kernels								
Angola	12	12	54.55	-0.00				
Tanzania	7	10	45.45	6.12				
Zambia								
Zimbabwe								
Total	19	22	100.00	2.47				
palm oil								
Angola	38	40	95.24	0.86				
Mozambique								
Tanzania	2	2	4.76	-0.00				
Zimbabwe								
Total	40	42	100.00	0.82				

.../...

Table A3.11. Production and trade in animal and vegetable oil and meal, average 1974-76 and 1980-82

	trade crop				trade oil				trade cake and meal			
	imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82
			%	%			%	%			%	%
oilseeds												
					0	4766	0.00		5.25			
									0	13966	0.00	15.40
									0	33359	0.00	36.78
									3731	0	69.90	0.00
									1607	36642	30.10	
									5338	90699	100.00	
40.40												
100.00												
soybeans					soybean oil (t)				soybean cake (t)			
Angola					28300	0	72.77	0.00				
Malawi					167	0	0.43	0.00				
Swaziland												
Tanzania					4776	0	12.28	0.00				
Zambia					5646	0	14.52	0.00	456	0	100.00	0.00
Zimbabwe									0	28757	0.00	100.00
Total					38889	0	100.00	100.00	456	28757	100.00	100.00
castor beans (t)												
Angola	0	100	0.00	8.20								
Mozambique	0	50	0.00	4.10								
Tanzania	0	1069	0.00	87.69								
Zimbabwe	43	0	100.00	0.00								
Total	43	1219	100.00	100.00								
groundnuts (shelled) (t)					groundnut oil (t)				groundnut cake (t)			
Angola	6233	0	95.12	0.00					0	1600	0.00	13.42
Botswana	70	145	1.07	0.76	1600	18	92.11	100.00				
Malawi	0	14059	0.00	73.21	5	0	0.29	0.00	0	1893	0.00	15.88
Mozambique	0	1666	0.00	8.68					0	7333	0.00	61.52
Swaziland												
Tanzania	0	280	0.00	1.46	40	0	2.30	0.00				
Zambia	0	405	0.00	2.11	92	0	5.30	0.00	2290	0	79.07	0.00
Zimbabwe	250	2648	3.82	13.79					606	1094	20.93	9.18
Total	6553	19203	100.00	100.00	1737	18	100.00	100.00	2896	11920	100.00	100.00

Table A3.11. Production and trade in animal and vegetable oil and meal, average 1974-76 and 1980-82

	trade crop				trade oil				trade cake and meal			
	imports 1980-82	exports 1980-82	imports 1980-82 %	exports 1980-82 %	imports 1980-82	exports 1980-82	imports 1980-82 %	exports 1980-82 %	imports 1980-82	exports 1980-82	imports 1980-82 %	exports 1980-82 %
sunflower seed (t)												
Angola												
Botswana	60	100	100.00	2.57	2233	38	51.01	100.00				
Malawi	0	2289	0.00	58.86	475	0	10.85	0.00				
Mozambique												
Tanzania	0	1500	0.00	38.57	1452	0	33.17	0.00				
Zambia					218	0	4.98	0.00				
Zimbabwe												
Total	60	3889	100.00	100.00	4378	38	100.00	100.00				
sunflower oil (t)												
sesame seed (t)												
Angola												
Mozambique	0	100	0.00	2.76								
Tanzania	0	3523	0.00	97.24								
Total	0	3623	100.00	100.00								
cottonseed (t)												
Angola												
Botswana												
Malawi	0	2994	0.00	22.60					0	2873	0.00	6.29
Mozambique									0	3000	0.00	6.56
Swaziland	0	5951	0.00	44.93					0	28553	0.00	62.47
Tanzania	0	4300	0.00	32.47					1136	0	44.72	0.00
Zambia									1404	11281	55.28	24.68
Zimbabwe									2540	45707	100.00	100.00
Total	0	13245	100.00	100.00								

.../...

Table A3.11. Production and trade in animal and vegetable oil and meal, average 1974-76 and 1980-82

	trade crop				trade oil				trade cake and meal			
	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports
	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82
			%	%			%	%			%	%
coconuts												
copra (t)				coconut oil (t)				copra cake (t)				
Angola					451	0	18.53	0.00				
Malawi					0	3733	0.00	94.91	0	3633	0.00	49.84
Mozambique	0	11000	0.00	87.77	710	200	29.17	5.09	0	3657	0.00	50.16
Tanzania	966	1533	100.00	12.23	538	0	22.10	0.00				
Zambia					735	0	30.20	0.00				
Zimbabwe					2434	3933	100.00	100.00	0	7290	100.00	100.00
Total	966	12533	100.00	100.00								
palm kernels (t)				palm kernel oil (t)								
Angola												
Tanzania					580	0	76.32	0.00				
Zambia					180	0	23.68	0.00				
Zimbabwe					760	0	100.00	100.00				
Total												
				palm oil (t)								
Angola					3233	0	30.94	0.00				
Mozambique					5133	0	49.12	0.00				
Tanzania					2083	0	19.93	0.00				
Zimbabwe					1	0	0.01	0.00				
Total					10450	0	100.00	100.00				
oilseeds n.e.s.								oilseed cake n.e.s. (t)				
									0	1723	100.00	100.00
grain products n.e.s.								bran and milling products (t)				
					0	4158	0.00	34.44				
									0	1000	0.00	8.28
									0	5915	0.00	
									0	12073	100.00	
48.99												
100.00												

Table A3.11. Production and trade in animal and vegetable oil and meal, average 1974-76 and 1980-82

	trade crop				trade oil				trade cake and meal			
	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports	imports	exports
	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82	1980-82
			%	%			%	%			%	%
meat					animal oil, fat, grease (t)				meat meal (t)			
												0
3800	0.00	99.97			5601	0	16.77	0.00				
					2666	0	7.98	0.00				
					5118	0	15.33	0.00	602	0	24.24	0.00
					1247	0	3.73	0.00	1707	0	68.72	0.00
					16398	1	49.10	0.03	175	0	7.05	
0.00					33396		3801	100.00	100.00	2484	0	100.00
100.00												

General: Not all agricultural products of significance to the region are covered in the source, and details of a number of those included would appear to be incomplete. A significant proportion of the values are recorded as being estimates. Weights are given in thousand tonnes except where indicated in brackets against the product name.

Sources: FAO, Production Yearbook 1982, Trade Yearbook 1982

**Table A3.12. Summary of regional agricultural production, trade and growth rates,
average 1974-76 and 1980-82**

(a) crops and commodities

	production		annual growth rate %	trade		
	volume	volume		imports	exports	
	1974-76 000t	1980-82 000t		1980-82	1980-82	
(a) grains and pulses						
cereals	8217	7606	-1.28	cereals (000t)	1653	241
wheat	308	416	5.14	wheat and flour (000t wheat equivalent)	657	9
rice	503	432	-2.50	rice (000t)	205	8
barley	17	28	8.67	malt (t)	55337	90
maize	6314	5753	-1.54	maize (000t)	843	220
millet	458	451	-0.26			
sorghum	847	733	-2.38			
roots and tubers	9510	10827	2.18			
potatoes	19002	13315	-5.76	potatoes (t)	14480	2598
sweet potatoes	545	586	1.22			
cassava	8645	9822	2.15			
pulses	596	592	-0.11	pulses (t)	57482	42601
beans (dry)	306	287	-1.06			
peas (dry)	13	12	-1.33			
chick-peas	23	26	2.06			
(b) vegetables and fruit						
vegetables(total)	1800	2007	1.83			
tomatoes	91	97	1.07			
onions	69	82	2.92			
oranges	103	81	-3.93	oranges (t)	0	31492
citrus (other)	108	107	-0.16	citrus (other) (t)	3050	17168
mangoes	223	234	0.81			
plantains	549	806	6.61			
bananas	945	1205	4.13	bananas (t)	14	2008
pineapples	108	124	2.33	pineapples (fresh) (t)	0	1500
				pineapples (canned) (t)	0	13533
cashew nuts	282	138	-11.23			

.../...

**Table A3.12. Summary of regional agricultural production, trade and growth rates,
average 1974-76 and 1980-82
(continued)**

	production			annual growth rate %	trade	
	volume	volume			imports	exports
	1974-76 000t	1980-82 000t			1980-82	1980-82
(c) cash crops						
sugarcane	10126	12678	3.82			
sugar (raw)	1070	1345	3.89			
coffee (green)	213	98	-12.14	coffee (green, roast) (t)	899 105054	
tea	49	66	5.09	tea (t)	3296 69835	
tobacco leaves	158	174	1.62	tobacco (unmanufactured) (000t)	4 163	
jute and jute- like fibres	5	5	-0.00	jute and bast fibres (t)	2258 54	
sisal	193	114	-8.40	sisal (t)	0 65433	
seed cotton	517	490	-0.89			
cotton lint	172	164	-0.79	cotton lint (t)	321 114682	
fibre crops n.e.s	7	8	2.25			
wool (greasy) (t)	11500	11927	0.61	wool (greasy) (t)	20 2387	
hides (t)	60559	63811	0.88			
goatskins (t)	6650	6889	0.59			
sheepskins (t)	3900	4144	1.02			
(d) meat						
beef	384	398	0.60	meat (fresh, chilled, frozen) (t)	23124 35294	
				meat (canned n.e.s.) (t)	8789 3364	
				meat (prepared, pre- served) (t)	5279 3272	
mutton	17	18	0.96			
goat meat	34	35	0.48			
pig meat	50	52	0.66			
poultry meat	60	73	3.32			
(e) dairy products						
milk				milk (condensed, dry, fresh) (t)	47673 1017	
milk (cow, fresh whole)	908	1010	1.79	milk (fresh) (t)	18636 1016	
					.../...	

Table A3.12. Summary of regional agricultural production, trade and growth rates.
average 1974-76 and 1980-82
 (continued)

	production				trade	
	volume 1974-76 000t	volume 1980-82 000t	annual growth rate %		imports 1980-82	exports 1980-82
butter (t)	6669	7700	2.42	butter (t)	3925	133
cheese (t)	8289	8316	0.05	cheese and curd (t)	1668	34
goat milk	61	67	1.58			
skim milk (t)	723	704	-0.44	milk (condensed, evaporated) (t)	13308	26
milk (cow, dry whole) (t)	776	757	-0.41	milk (dry) (t)	32959	22
(f) prepared foods						
margarine etc (t)					8647	271
beer (t)					13314	985

.../...

Table A3.12. Summary of regional agricultural production, trade and growth rates.
average 1974-76 and 1980-82
 (continued)

(b) animal and vegetable oil and meal

production		annual growth rate %	trade crop		trade oil		trade cake and meal	
volume 1974-76 000t	volume 1980-82 000t		imports 1980-82	exports 1930-82	imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82
oilseeds							oilseed cake meal (t)	
soybeans			soybeans		soybean oil (t)		5338 90699	
21	99	29.49			38889	0	soybean cake (t)	
castor beans			castor beans (t)				456 28757	
8	6	-4.68	43	1219				
groundnuts			groundnuts (shelled) (t)		groundnut oil (t)		groundnut cake (t)	
641	498	-4.12	6553	19203	1737	18	2896 11920	
sunflower seed			cottonseed (t)				cottonseed cake (t)	
77	105	5.30	0	13245			2540 45707	
sesame seed			sunflower seed (t)		sunflower oil (t)			
14	21	6.99	60	3889	4378	38		
cottonseed			sesame seed (t)					
339	318	-1.06	0	3623				
coconuts			coconuts					
705	740	0.81						
copra			copra (t)		coconut oil (t)		copra cake (t)	
96	85	-2.01	966	12533	2434	3933	0 7290	
palm kernels			palm kernels (t)		palm kernel oil (t)			
19	22	2.47			760	0		
palm oil					palm oil (t)			
40	42	0.82			10450	0		
oilseeds n.e.s.							oilcake n.e.s. (t)	
							0 1723	

.../...

Table A3.12. Summary of regional agricultural production, trade and growth rates,
average 1974-76 and 1980-82

(b) animal and vegetable oil and meal (continued)

production		annual growth rate %	trade crop		trade oil		trade cake and meal	
volume 1974-76 000t	volume 1980-82 000t		imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82	imports 1980-82	exports 1980-82
grain products n.e.s.							mill products (t)	
							0	12073
meat						animal oil, fat (t)		meat meal (t)
						33396	3801	2484
								0

General: Not all agricultural products of significance to the region are covered in the source, and details of a number of those included would appear to be incomplete. A significant proportion of the values are recorded as being estimates. Weights are given in thousand tonnes except where indicated in brackets against the product name.

Sources: FAO, Production Yearbook 1982, Trade Yearbook 1982

Table A3.13. Livestock numbers, by species and country, 1980-82 and average 1974-76

Unit: 000 head

	cattle				pigs				sheep			
	1974-6	1980	1981	1982	1974-6	1980	1981	1982	1974-6	1980	1981	1982
Angola	2850	3150	3200	3250	355	400	420	440	200	225	230	235
Botswana	2578	2911	2950	3000	16	6	6	7	290	149	180	200
Lesotho	500	590	570	562	78	82	75	62	1411	1168	1250	1337
Malawi	658	823	850	880	173	180	182	186	82	75	78	78
Mozambique	1384	1400	1420	1430	143	120	125	130	114	106	108	110
Swaziland	621	658	670	675	18	15	18	22	33	32	36	40
Tanzania	11335	12578	12701	13150	137	160	165	170	3428	3775	3856	3937
Zambia	1791	2150	2225	2250	164	224	235	240	28	35	35	38
Zimbabwe	6060	5279	5400	5600	201	132	150	170	731	387	370	360
Total	27777	29539	29986	30797	1285	1319	1376	1427	6317	5952	6143	6335

	goats				chickens			
	1974-6	1980	1981	1982	1974-6	1980	1981	1982
Angola	900	935	940	945	4900	5400	5500	5600
Botswana	627	637	680	700	590	833	870	900
Lesotho	779	767	820	930	833	730	780	815
Malawi	703	630	650	656	7667	8050	8100	8448
Mozambique	437	335	340	345	13925	17000	17500	18000
Swaziland	249	303	320	330	502	567	580	620
Tanzania	4495	5662	5784	5906	15542	22317	24000	25000
Zambia	276	324	335	343	12658	12500	12500	13000
Zimbabwe	1909	982	990	1000	8300	8800	8900	9000
Total	10375	10575	10859	11155	64917	76197	78730	81383

Source: FAO, Production Yearbook 1982

Table A3.14. Manmade forest reserves, 1981-82

<u>country</u>	<u>000 ha</u>	<u>main species</u>
Angola	50	eucalyptus
Mozambique	20	
Swaziland	100	pine, wattle
Tanzania	150	pine, eucalyptus, wattle
Zambia	6	

Source: SADCC, Industry, Vol.3: pulp and paper, (Maseru, 1983), p.104-5

Table A3.15. FAO estimates of production and trade in industrial
wood products, 1982

000m ³ Total	Angola ¹	Botswana	Lesotho ²	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe	
Industrial roundwood:										
production	1323	57		371	826	1663	1286	488	1439	7453
imports	-	-		-	-	41	-	1	3	45
exports	126	-		5	5	266	-	-	28	430
Sawnwood and sleepers:										
production	160	-	-	43	42	136	55	42	198	676
imports	-	6		-	-	5	-	15	9	35
exports	37	-	-	-	7	89	2	-	21	76
Wood pulp:										
production	35	-	-	-	-	157	-	-	25	217
imports	-	-		-	-	-	-	-	19	19
exports	33	-	-	-	-	157	-	-	-	190
Paper and paperboard:										
production	14	-	-	-	2	-	-	-	65	81
imports	16	1		12	17	-	14	17	20	107
exports	2	-	-	-	-	-	-	-	2	4

Notes: 1. All figures are highly approximate.
2. Included under South Africa in the source.

General: The data are mostly estimates and are far from complete.

Source: FAO, Yearbook of Forest Products 1980; Africa South of the Sahara 1983-4, p. 819.

Table A3.16. Nominal marine catch of SADCC countries by species group, 1982

	unit	Angola 1982	Mozambique 1980	Tanzania 1981	Total
31 flounder, sole	000t	0.1		0	
32 cod, hake, halibut	000t	-		-	
33 redfish, bass, conger	000t	7.0		8.7	
34 jacks, mullet, saury	000t	52.3		1.9	
- horse mackerel	000t	50.5		-	
35 herring, sardine, anchovy	000t	29.0		5.0	
- sardinella	000t	27.7		4.2	
36 tuna, bonito, billfish	000t	6.8		3.1	
37 mackerel, snoek, cutlassfish	000t	5.9		1.1	
38 sharks, rays, chimaeras	000t	0.2		4.5	
39 misc. marine fish	000t	4.0		10.8	
3 marine fish	000t	104.3	23.4	35.1	162.8
45 shrimps, prawns	t	58	7900	300	8258
47 misc. marine crustaceans	t	-	240	-	240
57 squid, cuttlefish, octopus	t	87	-	270	357
58 misc. marine molluscs	t	-	50	-	50
75 sea cucumbers	t	-	60	26	86
81 marine shells	t	-	-	224	224
total	000t	104.4	31.7	36.0	172.1

Source: FAO, Yearbook of Fishery Statistics 1982, vol. 54: catches and landings.

Table A3.17. Nominal marine catch in Angolan waters, 1982

	total nominal catch				Angola	other	
	ICSEAF division				total	species	nations
	1.1	1.2	1.3	total	share	per cent	000t
	000t	000t	000t	000t	000t		
sole, flatfish	1.3	0	0	1.3	0.1	6	1.2
Benguela hake	0.8	1.3	17.8	19.9	-	0	19.9
dentex	5.8	2.3	5.0	13.1	0.3	2	12.8
other redfish	11.1	13.6	15.0	39.7	6.7	17	33.0
Cape horse mackerel	0	-	51.0	51.1	0.1	0	51.0
Cunene horse mackerel	19.5	38.1	47.4	105.0	49.2	47	55.8
jacks and horse mackerel	-	-	3.0	3.0	-	0	3.0
sardinella	70.3	89.5	21.5	181.3	27.6	15	153.7
other	12.0	15.4	19.0	46.4	20.0	43	26.4
total 1982	121	160	180	461	104	23	357
1981	101	139	160	400	123	31	277
1980	112	135	148	395	77	19	318

Note: 1. ICSEAF division 1.3 is divided between Angolan and Namibian waters. The figures given here represent a rough estimate of the catch in the Angolan sector.

Source: International Commission for the Southeast Atlantic Fisheries, Statistical Bulletin 1982, tables 1 and 2.

Table A3.18. Production and trade in processed fish products 1979-82

000 tonnes	production				exports				imports			
	1979	1980	1981	1982	1979	1980	1981	1982	1979	1980	1981	1982
marine fish, frozen, n.e.i.												
Angola	(8.0)	8.8	8.7	8.2	0	0.1			0	0		
Malawi					18.2	15.7	9.6	7.7	20.4			
Mozambique										0.3		
Tanzania	2.8	3.8	(3.8)	(4.0)	0	0			0	0.1	0	
Zambia							0					
Zimbabwe									1.1	(1.7)	1.3	(1.0)
total												
freshwater fish, dried, salted, n.												
Tanzania	30.2	44.6	(43)	(40)								
fresh, dried, salted ; smoked fish n.e.i.												
Angola	(25)	27.4	27.4	27.8								
fish, dried, salted, smoked												
Malawi					1.0	2.4	1.5	2.3	0	0	(0.1)	(0.1)
Tanzania					0.1	0.1	(0.1)	(0.1)	0.2	0.2	(0.1)	(0.1)
Zimbabwe					0	0	0		0.3	(1.6)	1.0	(0.4)
shrimps and prawns, frozen n.e.i.												
Mozambique	1.5	1.4	2.7	1.8	(2.6)	(1.9)	(3.5)	(2.6)	-	-	-	-
lobster, frozen n.e.i. (tonnes)												
Mozambique	80	59	85	41								
fish, canned n.e.i.												
Angola	(3.0)	3.1	3.1	3.4								
fish meal n.e.i.												
Angola	(13)	5.3	5.2	5.2								
fish body oil												
Angola	(1.8)	(1.9)	(1.8)	(1.8)								

Source: FAO, Yearbook of Fishery Statistics 1982: vol. 55, fishery commodities.

Table A3.19. Petroleum supply and consumption in the SADCC region, 1981

	supply		consumption				trade balance			
	crude produc- tion 000t	imports 000t	refined produc- tion 000t	imports 000t	domestic ¹ per cent	exports crude 000t	re- fined 000t	crude 000t	refined 000t	
Angola	6480	-	1013	62	584	18	(5467)	491	(5467)	429
Botswana	-	-	-	(125) ²	125	4	-	-	-	(-125)
Lesotho	-	-	-	(40)	40	1	-	-	-	(-40)
Malawi	-	-	-	(121)	121	4	-	-	-	(-121)
Mozambique	-	(447)	447	121	453	14	-	115	(-447)	(-6)
Swaziland	-	-	-	(110)	110	3	-	-	-	(-110)
Tanzania	-	(379)	379 ²	207	586	18	-	-	(-379)	(-207)
Zambia	-	(700)	700	(-)	682	21	-	(18)	(-700)	(18)
Zimbabwe	-	-	-	(546)	546	17	-	-	-	(-546)
Total	6480	(1526)	2539	(1332)	3247	100	(5467)	(624)	3941	(-709)

Notes:

1. Apparent domestic consumption, including stock changes.
2. 1980.

Sources: SADCC, Energy, (Lusaka, 1984), tables 7 and 8; Yearbook of Industrial Statistics, 1981.

Table A3.20: Resource, supply and consumption of coal in the SADCC region, 1981-83

	potential reserves 1982-83			supply and consumption, 1981					
	reserves		total	production	imports	from	exports	to	consumption
	proven	inferred							
	Mt	Mt	Bt						
Angola		500 ¹	0.5	-			-		-
Botswana	3500	17,000	20.5	381	22	SA	-		403
Lesotho			-		72	SA	-		72
Malawi	15	800	0.8		47 ²	SA, Moz.	-		47 ²
Mozambique	1000	5,000	6.0	534 ³	(182) ⁴	SA	236	Malawi ⁷	123 ³
Swaziland	1000	1,000	2.0	183 ^{2,3}	86 ²	SA	101 ²	Moz., Kenya	36 ^{2,3}
Tanzania	360	1,550	1.9	-	-	-	-		4
Zambia	112	n.a.	0.1	600 ⁵	(50)	SA	-		650 ⁵
Zimbabwe	2200	30,000	32.2	2361	(81) ⁶	SA	158	SA, Zaire	2284
Total	8200	56,000	64	4059	(540)		495		3659

General: Because the resource data are from from complete and do not always correlate, the sums of rows and columns are rough approximation only. Resource data are based on the SADCC energy study, supplemented from mining reference sources. In a few cases they differ significantly from recent estimates presented by Hanlon; in the case of Swaziland, for instance, 'probable additional exploitable reserves' are put at 50 billion tonnes.

Notes:

1. Lignite. 2. 1980.
3. Differences between supply and demand are attributed in the source to 'feedstock'.
4. 1979.
5. Difference attributed in the source to imports from South Africa, although no imports are stated as such.
6. 1982 imports: coal - 38,000t, coke - 43,000t; exports: coal - 66,000t, coke - 128,000t.
7. Overseas.

Sources: SADCC, Energy, (Lusaka, 1984), tables 24 and 25; additional data from B. Balkay, Mining and mineral resource-based industries in the SADCC group of countries, draft study, (UNIDO, Regional and Country Studies Branch, 1984); Africa South of the Sahara 1983-84; Zimbabwe, Statement of external trade, 1982; J. Hanlon, SADCC: problems, projects, prospects, (EIU, 1984), table 7.4; J.E.Torp, SADCC industrial cooperation within manufactures: country case study of Mozambique, (Copenhagen: Centre for Development Research, 1983. CDR Project Paper D.83.4); J.E.Torp, SADCC industrial cooperation within manufactures: country case-study on Angola, (Copenhagen: Centre for Development Research, 1983. CDR Project Paper D.83.5)

-Table A5.1. SADCC proposed complementary framework for development of basic needs industries

Priority project/Industries area	Country of location									Planning subsectors	
	Angola	Botswana	Lesotho	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe		
	<hr/>										
A. Food:											
1a Edible oils	X							X			
b - secondary med./small	X	X	X	X	X	X		X	X	X	
2 Processed veg. & fruits	X		X	X					X		
3 Fertilizer mixing	X				X			X			1.6
4 Agricultural implements	X					X		X		X	1.5
5 Agricultural pumps					X						2.2
6 Pesticide formulation (medium/small)	X	X	X	X	X	X		X	X	X	
7 Sugar		X		X		X		X	X	X	
8a Salt								X		X	1.1
b - small		X	X								1.1
9 Meat/meat products		X			X	X		X			
<hr/>											
B. Clothing:											
10 Yarn	X			X	X			X	X	X	1.2
11 Fabrics ^{1/}	X	X	X	X	X	X		X	X	X	1.2, 1.3
12 Garments	X	X	X	X	X	X		X	X	X	

.../...

Table A5.1. SADCC proposed complementary framework for development of basic needs industries
(continued)

Priority project/Industries area	Country of location									Planning subsectors
	Angola	Botswana	Lesotho	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe	
C. Housing:										
13 Cement	X				X		X	X	X	1.8
14 Cement blocks, pipes, screens, mosaic tiles ^{2/}	X	X	X	X	X	X	X	X	X	
15 Bricks	X	X	X	X	X	X	X	X	X	
16 Tiles	X		X			X	X			
17 Ceramic ware	X		X			X	X			
18 Wood doors/furniture	X				X		X	X		
19 Glass products						X	X	X		
20 Builders' hardware	X	X	X	X	X	X	X	X	X	
21 Plastic products ^{3/}	X	X	X	X	X	X	X	X	X	
22 Paints/varnishes	X				X	X			X	
D. Health:										
23 Medicines (formulation)			X				X		X	2.4
24 Veterinary medicines		X								2.4
25 Surgical cotton/bandages	X	X	X	X	X	X	X	X	X	
26 Soaps/detergents	X	X	X		X		X	X	X	
E. Water/power:										
27 Pipes								X	X	X
28 Motors, transformers	X				X	X	X		X	1.9
29 Wire/cables/meters	X			X	X	X	X	X	X	1.9

.../...

Table A5.1. SADCC proposed complementary framework for development of basic needs industries
(continued)

Priority project/Industries area	Country of location									Planning subsectors	
	Angola	Botswana	Lesotho	Malawi	Mozambique	Swaziland	Tanzania	Zambia	Zimbabwe		
F. Transport:											
30 Commercial vehicle assembly		X						X	X	X	X
31 Railway equipment				X	X			X	X	X	2.3
G. Education:											
32 Paper	X			X		X		X			1.7
33 Exercise books	X	X	X	X	X	X		X	X	X	
34 Stationery (office and school)	X	X	X	X	X	X		X	X	X	
35 Equipment and aids		X						X	X	X	

Note: 1/ Weaving units linked to yarn supplies.
2/ Linked to cement supplies.
3/ Linked to supplies of plastic resins.
4/ Linked to paper supplies

Source: SADCC, Industrial Co-operation, (Blantyre, 1981), p.8-9.

Table A5.2. SADCC industrial projects: summary description

Sub-sector	Project description	Project for:		Location		Promoter	Project type	Annual capacity (actual)			Planning status	Size of total cost ¹
		Implemen- tation	Study	Place	Country			Units	Present	Planned		
1.1	Salt works	1		Nacala	Mozambique	P	U	000t	18	45	A	2
	Salt works	2		Naputo	Mozambique	S	U	000t	27	95	A	2
	Salt works	3		Sadani	Tanzania	S	N	000t	-	40	B	2
	Salt works	4		Kitame	Tanzania	S	N	000t	-	25	A	1
	Salt works	5		Changwele	Tanzania	S	U	000t	0.5	5	A	1
	Salt works	6		Uvinza	Tanzania	S	U	000t	30	70	B	2
	Salt works		1	All	Angola		R	000t	22	125	C	
	Salt works		2	Lindi/Mtwara	Tanzania		N	000t	-	30	C	
	Salt works		3	Manbone	Mozambique		U	000t	10	40	C	
	Salt works		4	Kazungula	Zambia		N	000t	-	-	C	
	Refinery (small)	7			Botswana	?	N	000t	-	0.3 ²	C	1
Refinery (small)	8			Lesotho	S	N	000t	-	0.3 ³	C	1	
1.2.1	Knitting	9		Francistown	Botswana	S	U	M.m ²	-	1	C	1
	Knitting	10		Various	Lesotho	S	N	M.m ²	-	2	C	1
	Knitting	11		Blantyre	Malawi	?	U	M.m ²	-	4	C	1
	Knitting	12		Zambezia	Mozambique	S	U	M.m ²	-	6	A	2
	Knitting	13			Zambia	S	N	M.m ²	-	5	C	2
1.2.2	Powerlooms (1x30)	14		Gaborone	Botswana	P	N	000m ²	-	548	C	1
	Powerlooms (1x30)	15		Maseru	Lesotho	P	N	000 blankets	-	100	C	1
	Powerlooms (1x30)	16		Lilongwe	Malawi	?	N	000m ²	-	432	C	1
	Powerlooms (1x100)	17		Nhlangano	Swaziland	S	N	000m ²	-	2,160	C	1
	Powerlooms (1x20)	18			Tanzania	S	N	000m ²	-	3,900	C	1
	Powerlooms (1x20)	19		Various	Zambia	S	N	000m ²	-	3,900	C	1
1.2.3	Polyester yarn	20		Zambezia	Mozambique	S	N	t	-	2,500	C	3
	Polyester yarn	21			Tanzania	S	N	t	-	2,500	C	3
	Polyester fabric	22		Morogoro	Tanzania	S	U	t	100	650	A	3
								M.m ²	-	21		
	Polyester fabric	23		Kitwe	Zambia	S	U	M.m ²	26	31	C	3
	Polyester yarn	24		Harare	Zimbabwe	P	N	t	-	6,000	C	3
								t fibre	-	5,000		
Polyester staple		5		Zambia		N	t yarn	-	5,000	C		
Petrochemicals		6		Angola		N				C		

.../...

Table A5.2. (continued)

Sub-sector	Project description	Project for:		Location		Promoter	Project type	Annual capacity (actual)			Planning status	Size of total cost ¹
		Implemen- tation	Study	Place	Country			Units	Present	Planned		
1.3	Wool scouring	25			Lesotho	S	N	t	-	2,000	C	1
	Wool spinning	26			Botswana	S	U	t	-	650	C	1
	Blankets	27			Zimbabwe	P	N	m	-	5.7	A	2
	Kornduttons		7		Botswana							
1.4.1	Textile chemicals (5)	28			Tanzania	S	N	t	-	1,250	C	1
	Textile chemicals (1)	29			Botswana	S	N	t	-	7,500	C	1
	Textile chemicals		8		Angola		N	t	-	1,000	C	
	Textile chemicals		9		Mozambique		N	t	-	14,000	C	
	Textile chemicals		10		Zambia		N	t	-	3,500	C	
	Textile chemicals		11		Zambia		N	t	-	2,000	C	
	Textile chemicals		12		Zimbabwe		N	t	-	1,000	C	
1.4.2	Pest/insecticides (4)	13			Angola		R/U	000t	6		C	
	Pest/insecticides (3)	14			Mozambique		R/U	000t	8		C	
	Pest/insecticides (3)	15			Tanzania		R/U	000t	20		C	
	Pest/insecticides (2)	16			Zimbabwe		R/U	000t	12		C	
	Pest/insecticides (3)	17			Zambia		R/U	000t	6		C	
	Pest/insecticides	18			Malawi		N	000t	-	5	C	
	Pest/insecticides	19			Swaziland		N	000t	-	5	C	
	Pest/insecticides	20			Zimbabwe		N	000t	-	5	C	
	Pest/insecticides	21			Tanzania		N	000t	-	3	C	
	Pest/insecticides	22			Zambia		N	000t	-	1.5	C	
1.5.1	Tractor assembly	30		Dar-es-Salaam	Tanzania	S	U	Units	-	1,500	A	1
	Tractor assembly	31		Matsapa	Swaziland	S	U	Units	-	1,000	A	1
	Tractor assembly	32			Zambia	S	N	Units	-	2,500	A	2
	Tractor assembly		23		General							
	Tractor components		24		General							
	Farm implements	33		Ndola	Zambia	P	U				A	1
	Special steels ¹	34			Zimbabwe	P	U				C	3

Table A5.2. (continued)

Sub-sector	Project description	Project for:		Location		Promoter	Project type	Annual capacity (actual)			Planning status	Size of total cost ¹
		Implemen- tation	Study	Place	Country			Units	Present	Planned		
1.5.2	Farm implements(1)	35			Botswana	S	N	t	-	700	C	1
	Farm implements(1)	36			Angola	S	N	t	-	3,000	C	1
	Farm implements(1)	37			Lesotho	S	N	t	-	700	A	1
	Farm implements(7)	38			Malawi	S	N	t	-	2,000	C	1
	Farm implements(10)	39			Tanzania	S	N	t	-	2,600	C	1
	Farm implements(8)	40			Zambia	S	N	t	-	1,750	C	1
	Farm implements(5)	41			Swaziland	S	N	t	-	1,250	C	1
	Blacksmiths	42			Botswana	S	N	t	-	-	C	1
	Blacksmiths	43			Lesotho	S	N	t	-	-	C	1
	Blacksmiths	44			Tanzania	S	N	t	-	-	C	1
	Equipment/testing facilities		25		General							
1.6	Fertilizers	45			Malawi	P	N	000t	-	87	A	4
	Fertilizers	46		Matola	Mozambique	S	R				A	3
	Fertilizers	47		Pande	Mozambique	S	N	000t	-	350	A	4
	Sulphuric acid	48			Zimbabwe	P	U	000t		180	A	3
	Fertilizers		26									
1.7	Pulp/paper mill ³	49		Mufindi	Tanzania	S	N	000t	-	60	B	4
	Paper mill	50			Zambia	S	N	000t	-	40	A	4
	Pulp/paper mill	51		Manica	Mozambique	S	N	000t	-	35	A	4
	Paper mills		27		Swaziland		N	000t	-	6.8	A	
			27		Angola		U	000t	-	-	A	
	Pulp/paper mill		28	Sofala	Mozambique		U	000t	-	60	A	
	Paper mill ³		29	Hunyani	Zimbabwe		U	000t	-	+11	A	
	Pulp/paper ³	32		Nutare	Zimbabwe	P	U	000t	10	+2	A	
	Pulp/paper chemicals		30		General							
	Pulp/paper		31		General							

Table A5.3. SADCC industrial projects for implementation: status and funding, October 1984

Subsector Ref.	No.	Investment cost		In pre- paration	Funding:				Size
		Total	Foreign		Sought	Under negotiation	Offered/ disbursed	Committed/ secured		Total
1.1	1	6.00	4.62			4.62			2
	2	7.40	2.66			2.66			2
	3	5.50	5.00			5.00			2
	4	2.00	1.00	1.00					1
	5	1.70	0.40			0.40			1
	6	8.80	5.50					5.50	2
	7	0.05	0.05			0.05			1
	8	0.05	0.05				0.05		1
	Salt	31.5	19.3	1.00	-	12.7	0.05	5.50	18.3
1.2.1	9	1.55	0.75					0.75	1
	10	3.10	2.50			2.50			1
	11	3.10	2.50			2.50			1
	12	5.60	3.60			3.60			2
	13	8.50	7.00				7.00		2
	Knitting	21.9	16.4	-	-	8.60	7.00	0.75	16.4
1.2.2	14	2.90	1.21			1.21			1
	15	3.29	1.41				1.41		1
	16	1.70	0.90				0.90		1
	17	1.14	0.60				0.60		1
	18	4.18	2.20				2.20		1
	19	3.50	2.00				2.00		1
	Powerloom	16.7	8.32	-	-	1.21	7.11	-	8.32

.../...

Table A5.3. SADCC industrial projects for implementation: status and funding, October 1984
(continued)

Subsector Ref.	No.	Investment cost		In pre- paration	Funding:				Size
		Total	Foreign		Sought	Under negotiation	Offered/ disbursed	Committed/ secured		Total
1.2.3	20	12.0	9.00	9.00					3
	21	24.5	19.0		19.0 ¹				3
	22	39.1	30.1		30.1 ¹				3
	23	14.0	10.0		10.0 ¹				3
	24	12.0	9.00			9.00			3
Polyester		101.6	77.1	9.00	59.1	9.00	-	-	68.1
sub-total		140.2	101.8	9.00	59.1	18.8	14.1	0.75	92.8
1.3	25	2.90	0.75	0.75 ²					1
	26	0.90	0.75		0.65	0.10			1
	27	7.04	6.01			6.01			2
Wool/mohair		10.8	7.51	0.75	0.65	6.11	-	-	6.76
1.4	28	4.00	2.00		2.00				1
	29	3.00	1.50		1.50 ³				1
	Textile chemicals	7.00	3.50	-	3.50	-	-	-	3.50
1.5.1	30	2.60	1.60		1.60				1
	31	0.31	0.30	0.30					1
	32	8.70	8.70			8.70			2
	Tractor assembly	11.6	10.6	0.30	1.60	8.70	-	-	10.3

.../...

Table A5.3. SADCC industrial projects for implementation: status and funding, October 1984
(continued)

Sector	No.	Investment cost		In pre- paration	Funding:					Size	
		Total	Foreign		Sought	Under negotiation	Offered/ disbursed	Committed/ secured	Total		
1.5.2	33	4.00	2.00			2.00				1	
	34	12.4	5.10			5.10				3	
	35	3.00	1.41		1.41					1	
	36	3.65	1.21			1.21				1	
	37	3.00	1.41		1.41					1	
	38	3.00	1.41		1.41					1	
	39	1.00	0.45			0.45				1	
	40	1.00	0.45			0.45				1	
	41	1.00	0.45			0.45				1	
	42	0.02	0.01					0.01		1	
	43	0.02	0.01					0.01		1	
	44	0.02	0.01					0.01		1	
	Farm imple- ments		32.1	13.9	-	4.23	9.66	-	0.02	13.9	
	Sub-total		43.7	24.5	0.30	5.83	18.4	-	0.02	24.2	
1.6	45	132	109	109						4	
	46	12.0	10.5			10.5				3	
	47	198	176			176				4	
	48	25.1	11.2			11.2					
	Fertilizers		367.1	306.7	109.0	-	197.2	-	-	197.2	
1.7	49	187						187		4	
	50	180	70							4	
	51	156	126			126				4	
	52	5.3	3.5			3.5				2	
	Pulp/paper/ board		529.3	386.5	70.0	-	129.5	-	187.0	316.5	

.../...

Table A5.3. SADCC industrial projects for implementation: status and funding, October 1984
(continued)

Subsector Ref.	No.	Investment cost		In pre- paration	Funding:					Size
		Total	Foreign		Sought	Under negotiation	Offered/ disbursed	Committed/ secured	Total	
1 8	53	25.0	21.2			21.2				3
	54	16.0	12.0		12.0					3
Cement		41.0	33.2	-	12.0	21.2	-	-	33.2	
TOTAL		1,170.0	882.9	190.1	80.4	404.0	14.2	193.3	691.8	
%		100	75							
			100	21.5	91.1	45.8	1.6	21.9	78.4	
Summary										
1.1	Salt	31.5	19.3	1.00	-	12.7	0.05	5.50	18.0	
1.2.1	Knitting	21.9	16.4	-	-	8.60	7.00	0.75	16.4	
1.2.2	Powerloom	16.7	8.32	-	-	1.21	7.11	-	8.32	
1.2.3	Polyester	101.6	77.1	9.00	59.1	9.00	-	-	68.1	
1.2.4	Wool/mohair	10.8	7.51	0.75	0.65	6.11	-	-	6.76	
1.4	Textile chemicals	7.00	3.50	-	3.50	-	-	-	3.50	
1.5.1	Tractor assembly	11.6	10.6	0.30	1.60	8.70	-	-	10.3	
1.5.2	Farm implements	32.1	13.9	-	4.23	9.66	-	0.02	13.9	
1.6	Fertilizers	367.1	306.7	109.0	-	197.2	-	-	197.2	
1.7	Pulp/paper	529.3	386.5	70.0	-	129.5	-	187.0	316.5	
1.8	Cement	41.0	33.2	-	12.0	21.2	-	-	33.2	

- Notes: 1. Not indicated whether negotiations in progress
2. Awaiting the results of trials
3. 'Offer received' according to ICD (July 1984)

Size of investment cost (total):

- 1 - \$0 to 4.9m
2 - \$5 to 9.9m
3 - \$10 to 49.9m
4 - \$50m and above

Table A5.4. Classification of SADCC industry planning categories by ISIC code

ISIC no.	ISIC category	Basic needs industry ^{1/}	Priority project area ^{1/}	Planning sub-sector ^{1/}
31	Food, beverages, tobacco			
3111	Meat products	Food	9	-
3112	Dairy products	Food	-	2.5
3113	Fruit and vegetable processing	Food	2	-
3115	Oils and fats	Food	1	-
3116	Grain mill products	Food	-	2.5
3118	Sugar	Food	7	-
3121	Food n.e.c.	Food	8	1.1
32	Textiles and leather			
3211	Spinning, weaving and finishing	Clothing, Health	10, 11, 25	1.2, 1.3
3219	Textiles n.e.c.	Health	12	-
3220	Garments	Clothing	12	-
33	Wood and wood products			
3311	Sawmills	Housing	18	-
3320	Furniture and fixtures	Housing	18	-
34	Paper, printing and publishing			
3411	Pulp and paper	Education	32	1.7
3420	Printing and publishing	Education	33, 34	-
35	Chemicals			
3511	Basic chemicals	Basic industry	8, -	1.1, 2.7
3512	Fertilizers and pesticides	Food	3, 6	1.4, 1.6
3513	Synthetic resins, plastics, fibres	Housing	21	-
3521	Paints and varnishes	Housing	22	-
3522	Medicines	Health	23, 24	2.4
3523	Soap and cleaning preparations	Health	26	-
3560	Plastic products n.e.c.	Housing	21	-

.../...

Table A5.4. Classification of SADCC industry planning categories by ISIC code
(continued)

ISIC no.	ISIC category	Basic needs industry ^{1/}	Priority project area ^{1/}	Planning sub-sector ^{1/}
36	Non-metallic products			
3610	Pottery, china, earthenware	Housing	17	-
3620	Glass and glass products	Housing	19	-
3691	Structural clay products	Housing	15, 16	-
3692	Cement	Housing	13	1.8
3699	Products n.e.c.	Housing, water/power	14, 27	-
37	Basic metal industries			
3710	Iron and steel	Water/power	27	-
38	Metal products, machinery, equipment			
3811	Cutlery, handtools, general hardware	Food, housing	4, 20	1.5, -
3822	Agricultural machinery equipment	Food	5	2.2
3823	Metal and wood-working machinery	Basic industry	5	2.2
3824	Special industrial machinery	Basic industry		2.1
3831	Electrical industrial machinery	Water/power	28	1.9
3839	Electrical apparatus n.e.c.	Water/power	29	1.9
3842	Railway equipment	Transport	31	2.3
3843	Motor vehicles	Transport	30	-
3851	Professional & scientific equipment n.e.c.	Education	35	-, 2.6
39	Other manufacturing industries			
3909	Manufacturing n.e.c.	Education	35	-

Notes: ^{1/} See tables A5.1, A5.2

Table A5.5. SADC industrial projects for implementation prospective
donor countries

	Sub-sectors ^{1/}	Project No.	Foreign exchange cost (US\$m)	Total (US\$m)
Australia	1.1	1-6	19.2	19.2
India	1.1	7-8	0.1	
	1.2.1	9-13	16.4	
	1.2.2	14-19	8.3	
	1.2.3	20, 23	19.0	
	1.3	26	0.8	
	1.4	29	1.5	
	1.5.1	31	0.3	
	1.5.2	33, 35, 44	9.0	
	1.6	45	109.0	
	1.8	53-4	33.2	197.6
Brazil	1.8	54	12.0	12.0
Kenya	1.2.1	10	2.5	2.5
Japan	1.2.2	14-19	8.3	
	1.3	26	0.8	9.1
Portugal	1.1	1-2	7.3	
	1.5.2	33	2.0	
	1.6	46-7	186.5	195.8
Italy	1.1	6	5.5	
	1.4	28	2.0	
	1.8	53-4	33.2	40.7
France	1.2.3	24	9.0	
	1.6	45	109.0	118.0
Belgium	1.2.3	21.2	49.1	
	1.3	25	0.8	49.8
FRG	1.2.3	22	30.1	30.1

../...

**Table A5.5. SADC industrial projects for implementation prospective
donor countries (continued)**

	Sub-sectors ^{1/}	Project No.	Foreign exchange cost (US\$m)	Total (US\$m)
Austria	1.5.1	30	1.6	
	1.5.2	35-41	6.8	
	1.8	53-4	33.2	41.6
UK	1.6	46.7	186.5	186.5
Finland	1.5.1	30	1.6	
	1.7	50	70.0	71.6
Sweden	1.7	49	187.0	187.0
Yugoslavia	1.3	26-7	6.8	6.8
Eurobank	1.5.1	31	0.3	0.3
EEC	1.7	49	187.0	187.0

^{1/} See table A5.1 for definitions.

Note: The costs of projects in which more than one country is interested have been entered for each instance.

ANNEX B

Sub-regional Co-operation among developing countries - a comparison

Regional co-operation in Africa

The East African Economic Community (EAC)

International economic co-operation among African countries now and in future will always be influenced by the history of the EAC. Consisting of Kenya, Tanzania and Uganda the EAC was established in 1967 by the Treaty for East African Co-operation and lasted to mid-1977 when the partner states failed to approve the next year's community budget.

The principal objective of the 1967 treaty was to preserve the common market and the general services which had been established during colonial times, while attempting to achieve a more equitable distribution of benefits. This was done in three main ways:

- by relocating the headquarters of the common services (harbours, railways, customs administration etc.) and decentralising their operations away from Kenya;
- by introducing the so called "transfer tax" which amounted to an intra-EAC customs duty system whereby Ugandan and Tanzanian production was given some protection within an overall CET - to a certain extent similar to the preferences under the Andean Pact's product reservation scheme;
- by establishing the East African Development Bank (EADB) with a prescribed geographical investment pattern mostly benefitting Tanzania and Uganda.

The organizational structure of EAC was quite heavily institutionalised, consisting of the following tiers:

- the common services organizations in the various sectors, created in the colonial period;

- the secretariat and a number of councils where discussion took place between representatives of the partner states, overseeing the common services organizations and servicing the decision-making structures above;
- one East African minister and one assistant minister appointed from each of the member states;
- the East African Authority composed of the three heads of state. Particularly in the early period, decision-making and agreement of fairly detailed matters took place in the Authority.

The EAC's approach to industrial development and co-operation was traditional in that it was supposed to work through the mechanism of trade. Under the chapter in the treaty dealing with "Measures to Promote Balanced Industrial Development" two main instruments were introduced, the transfer tax and the EADB. The so called "Kampala Agreement", strictly outside the scope of the Treaty, contained provisions for planned industrial location, but was never implemented. Other discussions on planning activities took place and reports were produced under an East African Committee of Planners provided for by the Treaty. Plans did however not develop into the stage of implementation.

There is as yet no clear consensus on the generally applicable lessons of the failure of the EAC. That failure has induced a certain pessimism over the prospects for regional co-operation in sub-Saharan Africa, since the geographic, resource, and historical potential for co-operation was more advanced than in most other possible instances. It is possible, however, to see the EAC as an example of the regional disintegration of the colonial framework in East Africa with its common market, common currency and many common institutions. An important reason for the setting up of a new treaty between the newly independent states had been the feeling in Uganda and Tanzania that the gains had hitherto mostly accrued to Kenya. Despite the considerable attention given to the distribution of benefits, there is agreement that this issue was a leading factor in the break-up. It is also clear that differences between the member states in political matters and development strategy played a divisive role. All three factors are potentially of central importance in relations between the SADCC countries and the experience of the EAC will need to be taken carefully into account in SADCC's medium-term planning.

The West African Economic Community (CEAO)

Following several earlier attempts, the Treaty of Abidjan of 1973, which is the basic document of CEAO, provided for various forms of co-operation between the francophone West African countries of the Ivory Coast, Senegal, Mali, Mauritania, Niger and Upper Volta. The Community aims at creating a unified regional market for products of local origin. Three main instruments are:

- the establishment of a common external tariff;
- free trade in unprocessed products of local origin;
- a preferential import duty scheme centered on a so-called Regional Co-operation Tax (TCR).

The Treaty also provides for common Community policies in other fields such as industrial programming, a joint approach to multinational corporations, harmonisation of fiscal conditions for investment, technological research, energy, tourism, transport and communication. Except for Mali and Mauritania all members belonging to the CFA franc currency area.

The Community is administered through offices established for each of the main areas of co-operation and a Community Development Fund (FCD) which receives contributions from the member states and effects the payments of fiscal compensation connected to the operation of the TCR. The main political bodies are the Conference of Heads of State and the Council of Ministers served by a Secretariat.

The provisions of the Treaty are far-reaching, and compared to the level of integration envisaged by it, the actual achievements so far may be characterised as modest. The common external tariff is far from being realised, although some agreement has been reached on a unified customs nomenclature and a harmonised structure for both duties and other indirect taxes. Preferential treatment for local unprocessed goods has largely been implemented, facilitating the local sourcing of industrial inputs.

The TCR system is perhaps the most notable feature of CEAO. Rates of duties are established by country enterprise and product and provide for great flexibility. The system is biased towards the needs of the less developed producers in the region. The mechanism for fiscal compensation when a product is given TCR treatment involves a payment to the importing nation of two-thirds of the difference between the duties which would be imposed on a product imported from a third country and the duties imposed under TCR. Another one-third of the difference is distributed by the FCD in such a way that it favours the least industrialised members (Niger, Upper Volta, Mauritania and Mali). These countries may then be compensated for more than 100% of the estimated fiscal loss. The relative contributions to the FCD are based on each country's relative share of their intra-CEAO exports of manufactures. The arrangement has probably contributed substantially to the expansion of intra-CEAO trade in manufactures. Because of its flexibility, its adaptation to low levels of industrialisation and intra-regional trade, and its redistributive effects, it may be of some interest as a mechanism in the SADCC industrial context.

However, the parts of the CEAO trade regime implemented so far have no built-in mechanism for avoiding duplication of production. The tendency may therefore be to replicate industrial plants that seem to do well in one country in other countries. With so many factors potentially able to disrupt trade such a strategy at the national level is certainly understandable, but for long-term industrial expansion such tendencies do not augur well. A common industrial policy or industrial programming initiatives seem so far hardly to have emerged even at the level of preliminary studies. In this respect SADCC is rather better prepared, its sub-sectoral surveys providing at least an indicative basis for estimating required capacity on a regional basis.

The Economic Community of West African States (ECOWAS)

In addition to the CEAO countries which are all members of ECOWAS, the organization consists of the following countries: Benin, Cape Verde, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria (the economic giant of ECOWAS with about 70% of total GNP), Sierra Leone and Togo. ECOWAS was established in 1975 and its Treaty aims at the establishment of a Common Market. The Treaty also provides for co-operation in other areas (agriculture, industry, transport and communications, energy, money and finance and social and cultural matters)

mostly by co-ordination and harmonisation of policies. The programme for achievement of ECOWAS goals establishes action programmes for major areas and envisages stages of progress for each area.

Technical committees are to be established for trade, customs and payments, industry, agriculture and natural resources, transport, telecommunications and energy, and social and cultural affairs. The executive secretariat has substantive as well as servicing functions. The two political bodies, the Authority of Heads of State and Government and the Council of Ministers take their decisions by consensus.

The common market was to be established before 1990 starting with standstill on intra-trade barriers and successive reductions from 1981 onwards and the immediate elimination of all barriers to intra-trade in unprocessed products and handicrafts. However, very little progress has been made since then.

In the field of industrial co-operation the prescribed areas of action consist of the harmonisation of policies and the exchange of information about industrial projects, technical partners and foreign groups. Joint industrial studies and projects and research into transfer of technology and development of new products based on raw materials from the region are also included. The ECOWAS Fund for Cooperation, Compensation and Development is designed to promote industrial development projects in the less developed member states. The treaty envisages community enterprises and the formulation of an industrial development strategy, but as noted, agreement on specific provisions has not been reached.

The overlap between ECOWAS and CEAO raises questions as to the contrasting achievements of the two groupings. ECOWAS is a regional co-operation organization along fairly traditional trade-oriented lines which have been copied from similar organizations. CEAO is a much smaller organization with some novel features of co-operation. Its members share a number of common characteristics including language and currency. The fact that CEAO's institutions were all functioning only a few years after its establishment bears witness to the advantages of a relatively small and homogeneous grouping. Trade liberalisation has also progressed much faster in CEAO. The external context adds extra force, the CEAO countries being concerned to

preserve their francophone identity and to counterbalance Nigeria's economic and political weight. The fact that conflicts with ECOWAS have already arisen and that these have strengthened the cohesion of the former at the expense of the latter point up the potential problems of overlap between smaller and larger regional associations.

The Lagos Plan of Action (LPA)

Concern over the developments taking place in the economies of Africa during the 1970s led to the adoption of the LPA by an OAU extraordinary summit session in Lagos April 1980. The plan rested on the overall analysis that outward looking policies had failed because of the downturn in the world economy and the lack of progress in the North South negotiations. The solution was seen in a strengthening of African economic unity.

The plan has broad economic, social and cultural objectives. The centerpiece of the plan is however the creation of an African Economic Community by the year 2000, and clearly bears the imprint of Pan-Africanism. The main features of the common market are: free trade and free movement of African labour and capital; a common external commercial policy; harmonisation of financial and monetary policies; creation of an African payments union; and co-ordination and harmonisation of development plans to promote sectoral integration throughout the continent in such sectors as food and agriculture, transport and communication, industry and energy.

A fundamental principle of the plan is that of self-reliance on national sub-regional and regional levels. The economic community is envisaged as the end-result of a process where co-operation is built up of the sub-regional level and the sub-regions finally merge. The LPA places a fairly strong emphasis on planning, reflecting the belief that many of its objectives cannot be realised by reliance on market forces.

When the LPA was adopted, ECOWAS was long established, plans for SADCC were being developed and negotiations on the PTA were well under way. Smaller groupings like CEAO and bilateral agreements were operating relatively well. An important question which arises is whether such groupings, only partly (like PTA) have been under the influence of the Lagos plan philosophy, will be able

to agree as to the speed and direction of future co-operative development. The co-ordination difficulties between CEAO and ECOWAS may be taken as an indication of the types of problems which will have to be solved.

The Industrial Development Decade for Africa (IDDA) and LPA

The LPA and IDDA as adopted by UNIDO III early 1980 are mutually supportive. "A Programme for the Industrial Development Decade for Africa" was prepared jointly by ECA, OAU and UNIDO and published in 1982. It spells out in more detail the strategy of the LPA in the industrial sector. The type of industrialisation envisaged should contribute to the satisfaction of the basic needs of the population, the exploitation of natural resources, the creation of jobs, the establishment of a base for developing other economic sectors, the assimilation and promotion of technical progress and modernisation of society.

Regional co-operation in South East Asia and Latin America

Two of the most concerted initiatives towards regional co-operation are the Andean Pact and the Association of Southeast Asian Nations (ASEAN). It is important at the outset to bear in mind the salient economic differences between these groupings and SADCC. Their combined GNPs are 6-8 times higher than that of SADCC and their potential regional markets for manufactured goods are far larger. This is a function of both higher populations and per capita GNPs being nearly double that of SADCC. The population of the Andean Pact is closer to SADCC's, but per capita GNP is again much higher, enhancing the intensity and diversity of demand for manufactured products. On the other hand, the largest economy in SADCC is less dominant in the regional grouping than in either of the others.

The Andean Pact

The Andean Pact was formed in 1969 with the signing of the Cartagena Agreement by Bolivia, Colombia, Ecuador, Peru, Venezuela and Chile, much of the impetus arising from dissatisfaction with the Latin American Free Trade Association (LAFTA), of which all were members. The aims of the Andean Pact are to pursue the industrial development of the region in order to achieve in particular the following objectives:

- greater expansion, specialisation and diversification of industrial production;
- maximum utilization of resources available to the region;
- stimulation of greater productivity and more efficient use of factors of production;
- advantageous exploitation of economies of scale; and
- equitable distribution of the benefits derived from economic integration.

Some of these objectives are explicitly shared by SADCC.

The Cartagena Agreement is an ambitious undertaking in sub-regional economic integration, employing joint industrial programming as a principal method. It has developed specific methods and mechanisms for achieving the basic objectives of the members in a number of areas, such as:

- Trade liberalization programme;
- Common external tariff;
- Harmonization and co-ordination of development plans;
- Industrial programming;
- Technology policy;
- Financial co-operation;
- External relations policies;
- Special programme for the less developed member countries (Bolivia and Ecuador).

The trade liberalization programme was spelled out with the objective of not just reducing existing tariff and non-tariff barriers among the member countries but also of eventually setting up a Common External Tariff. The regional industrial programmes, in particular the so-called Sectoral Programmes for Industrial Development (SPID), have been aimed at ensuring industrial complementarity and avoiding wasteful duplication. The Andean Development Corporation (CAF) is charged with the responsibility of studying and identifying new integration projects in the region as well as channelling financial resources to these projects. There are also other mechanisms for promoting integration, such as the harmonisation of economic and social policies in the Andean Pact sub-region.

All these integration instruments are supposed to operate concomitantly. The objective is to promote regional integration in such a way that it enhances harmonious and balanced development for all the member countries. The Andean Pact's approach to regional integration has been unique amongst developing country groupings in launching a frontal assault on the structures of underdevelopment through an ambitious, centralised drive for sub-regional integration. Having set out its integration targets, an elaborate executive machinery based in Lima has been built up. Thus the Cartagena Agreement is backed up by strong institutional and technical organs, complete with technical and administrative staff, for the implementation of the integration agreements. The Andean Pact's approach thus stands in radical contrast to SADCC's low-key, decentralised initiative. It does, however, share an important strategic concern: high priority to building complementary production structures.

The Andean Pact countries between them appear to have several favourable pre-conditions for developing real regional integration, which may not be present in the case of other regional groupings. To begin with, there is a traditionally strong drive for integration in Latin America. Socially and culturally, the Andean Pact countries are quite homogeneous, making it easier for individual governments to commit themselves to support such a high-profiled integration scheme. Geographically, the Andean Pact countries form a compact group, which also facilitates physical integration, although in practice the direct physical transport and trading links are relatively undeveloped and often much weaker than shipping links with overseas countries.

Despite the favourable environment, the Andean Pact programme, such as the Sectoral Programmes for Industrial Development (see below) have run into numerous difficulties and obstacles in implementation, resulting in non-compliance and other breakdowns. Above all, the elaborate agreed programmes have turned out to be difficult to implement in times of rapid changes. The experience to date suggests that the centralised, comprehensive approach of the Andean Pact, problematic in its own terrain, would prove unworkable in the SADCC context. Particular aspects of the various programmes may nevertheless offer insights and methods for the implementation of SADCC's own programmes.

According to the Cartagena Agreement, the Joint Industrial Programme (JIP) is to be the main instrument for achieving a harmonious and balanced development of the sub-region. To fulfil its objectives, the JIP is to operate through the major mechanisms¹ of the Sectoral Programme for Industrial Development (SPID); the Industrial Rationalization Programmes (IRP); and the product reservations for Bolivia and Ecuador.

The Sectoral Programmes for Industrial Development (SPID) are the major apparatus within the framework of the Cartagena Agreement for regional industrial planning and for the equitable distribution of the benefits of the integration process. The SPID mechanisms was designed to correct the potential imbalances that some less developed member countries had feared would appear when they were grouped together with the more developed member countries in a single market, an issue which is likely to prove a long-term structural feature of industrial co-operation amongst SADCC countries. It was also envisaged that industrial programming under the SPID would not be restricted to just geographical allocation of sectors or activities. To achieve efficient growth for some manufacturing industries, other decisions were also centralized, for example marketing and technological development, within "multinational Andean corporations".

1. More fully treated on pp. 81-95, Regional Industrial Co-operation: Experiences and Perspectives of the ASEAN and Andean Pact, UNIDO/IS.401, 1983.

Under the SPID, a protected regional market of sufficient size is designed to overcome the limitations and inefficiency of import substitution within national boundaries. The SPID is designed to cater for a regional market several times bigger than any individual national market. More significantly, the SPID is supposed to allow only plants with adequate potential markets and economies of scale. Thus, the SPID has had to take into consideration the conflicting demands of national and regional interests from the start.

Whereas the SPID is largely geared towards the development of large capital-intensive industries, the Industrial Rationalization Programme (IRP)¹ is concerned with the restructuring and streamlining of the existing industries in the sub-region, activities that are excluded from the trade liberalization scheme. From the standpoint of regional integration, the SPID constitutes the core of the JIP. But the IRP is no less important, especially viewed from the less developed members, whose traditional industries are not sufficiently efficient to withstand competition in a regional market. The rationalization process would first upgrade them and then remove them out from the "exception list", thereby expanding the scope of regional industrial integration. The less developed members receive favourable treatment under the programme.

At the outset, small- and medium-scale industry in the sub-region was supposed to be the main target for industrial rationalization. Some Andean Pact countries have special organizations to promote small and medium industries because of their importance in employment creation. The IRP was later adjusted so that industries should meet the test of efficiency rather than be subsidised for social goals. This has brought to the fore the conflict between broad support for small and medium industries on the one hand, and the primary requirement of rationalization for achieving efficiency and growth on the other. Such a conflict of interest between countries would inevitably arise within SADECC given the unequal distribution of industrial strength, but less so over small-scale rural industry than over factory-scale production.

In addition to preferential treatment for the less developed members (Bolivia and Ecuador), product reservation in terms of an agreed list has been used to expand their industrial base. To start the reservation process, Colombia, Peru and Venezuela immediately opened up their markets completely for exports from Bolivia and Ecuador for a specific period, which in some cases extended up to 10 years. In return, Bolivia and Ecuador were to permit entry to the products on the reserved list from Colombia, Peru and Venezuela, but could apply the external tariff to them.

To facilitate the development of SPID in these two countries, certain products not produced so far were also reserved for them, other member countries undertaking not to adopt measures to encourage similar industries in their own territories. Once production of the reserved products had started, other member countries would protect their markets from external imports by bringing them within the CET. As part of the deal, Bolivia and Ecuador were obliged to start producing the reserved products within given periods, failing which the market reservation process would lapse. The mechanism of product reservation seems to have provided the less developed members, Bolivia and Ecuador, ample opportunity to initiate new industries or to upgrade the existing facilities. However, not all opportunities have been fully utilized by Bolivia and Ecuador on account of institutional constraints or domestic economic problems. The severe economic constraints and the generally weak institutional structures in SADCC countries suggest that this approach would be more successful in specific, limited agreements than as a general, trade-related programme.

The Association of Southeast Asian Nations (ASEAN)

The Bangkok Declaration of 1967 laid the foundation for this co-operation effort between Indonesia, Malaysia, Philippines, Singapore, Thailand and (from 1984) Brunei, but it was rather inactive until 1976. The Treaty of Amity and Co-operation in South East Asia which was signed in Bali that year provided for a secretariat in Jakarta and contained a "Declaration of ASEAN Concord". According to the concord, the main aims of ASEAN in the economic field are:

- Co-operation in basic commodities, particularly food and energy;
- Industrial co-operation, specifically to establish large-scale ASEAN plants. Priority would be given to projects which utilize the available materials in the member states, contribute to the increase of food production, save foreign exchange and create employment;
- Co-operation in trade particularly by way of preferential trading arrangements, subject to the unanimous agreement of member states;

- Joint efforts to improve access to markets outside ASEAN and a joint approach to international commodity problems and other world economic problems.

The main co-operative tools for achieving the objectives are

a) Negotiations for preferential treatment of intra-ASEAN products, mainly in the area of tariffs;

b) Large industrial projects aiming at covering the entire regional market. Projects are jointly owned with the host country taking 60 per cent of the equity;

c) Industrial complementarity whereby the production of components for a final product is distributed between the member states;

d) Related co-operative institutions, which include an ASEAN Bankers' Council which in 1978 was responsible for setting up an ASEAN Finance Corporation. An ASEAN Clearing Union Development Bank and an Export Credit Insurance scheme have also been under discussion.

The organizational structure includes the top level Heads of Government meetings and ministerial level meetings serviced by the central Secretariat which has a purely co-ordinating role. Sectoral responsibilities are left to committees, each of them hosted by one of the member countries. Committees are serviced by expert groups, sub-committees, working groups or the like.

The countries comprising ASEAN have established a rather loose co-operative framework to serve the objectives of regional "economic co-operation". Compared to the 'integration' objectives of the Andean Pact, ASEAN co-operation programmes to build up a sizeable regional component in the overall ASEAN have been limited in depth and comprehensiveness. Nor is there any sophisticated structure in the Secretariat of ASEAN comparable to that in the Andean Pact. The implementational machinery of ASEAN is largely composed of a host of ad hoc committees or working groups, with the final decision-making vested in the ministerial meetings held at frequent intervals. In

contrast to the "big push" method adopted by the Andean Pact, ASEAN's approach is clearly piecemeal and gradual. Much energy in ASEAN co-operation has been absorbed in building up a consensus, and most co-operation programmes have to go through the long and tortuous course of negotiation.

The pattern of ASEAN economic co-operation leaves member governments a great deal of leeway in adjusting national exigencies to the regional context. The lack of any mechanism for asserting regional over national interests where there is a clear collective advantage within agreed programmes reduces the attraction of investment geared to the regional market. But although less ambitious than the Andean Pact's integrated strategy, ASEAN's approach contains flexibility and sensitivity to dynamic changes which can help avoid overstretching the integration process, accommodate vital national interests and avoid destructive conflict, and take account of fluctuations in national economies highly vulnerable to commodity price changes. Top priority has gone to building consensus, an approach which, although gradualist and long-term, may stand a better chance of achieving lasting results in a country grouping of considerable diversity and unfavourable preconditions for regional economic co-operation.

Neither the Andean Pact nor ASEAN have progressed as far in industrial co-operation as their procedures would seem to provide for and their programmes to imply. Of the two, ASEAN is clearly much closer in conception and organization to SADCC. It takes account of two key features of the SADCC context: the formidable structural obstacles to industrial development and co-operative effort, and the differing strengths of the national economies which comprise the region. It also allows for differences between members over development goals and strategies. The integrative approach of the Andean Pact would appear to be quite unrealistic in the SADCC context and would risk damaging the building of consensus which is important in the early stages of industrial co-operation in a difficult environment. On the other hand, the Pact's active, comprehensive programmes are highly relevant to the later stages of regional effort and in the short run provide a broad range of instances, practical experience and technical devices in the actual implementation of programmes of regional industrial co-operation on which SADCC can draw.

SADCC's main characteristics in comparison

While SADCC has drawn on regional co-operation experience made elsewhere, it differs from other schemes in several important respects:

- SADCC is not built on a treaty but on a consensus protocol. Flexibility of decision-making is achieved at the possible expense of precision in co-operation arrangements and in procedures for sharing costs and benefits and resolving conflicts.
- The style of decision-making proceeds in a stepwise, pragmatic manner. At the administrative level, the central structures have been kept very small and the means of implementation located within the national administrations of member states or in autonomous commissions decentralised to the state bearing sectoral responsibility.
- SADCC's line on co-operation in the industrial field is an ad hoc project-oriented one, not necessarily implying large projects to cover the demand of the whole region. SADCC projects may be undertakings where pairs of member states co-operate. Industries which produce for the local market may also be defined as sub-regional projects as long as they are connected via the input side to other SADCC projects.
- SADCC distinguishes itself by its close co-operation with donors, inviting them to main conferences and informing them about progress and problems. A principal impetus behind its formation was and remains to co-ordinate relations with donors and to mobilise and co-ordinate the implementation of development assistance.