REGIONAL TRANSPORT INFRASTRUCTURE DEVELOPMENT IN SOUTHERN AFRICA

Hiroaki Sano*
Kengo Mizuno**

SUMMARY

1. In the short term, the economic relationship among countries in the Southern African region will be further strengthened through a hub-and-spoke relationship between the Republic of South Africa (hereinafter referred to as "South Africa") and the other Southern Africa Development Community (SADC) countries. However, in the medium term, a complementary economic relationship among SADC countries must be built with promoting trade and investment with non-regional countries. Therefore, an intra-regional transport network for more efficient economic relationship among SADC countries is needed, in addition to institutional development.
2. The main transportation in the SADC[1] region is shifting from railways to roads with the expansion of intra-community trade and container trade, but road networks in the northern region still remain underdeveloped. In addition, the hub seaports are limited to two or three in and around South Africa (Durban, Richards Bay and Maputo), thus further development of transport infrastructure connecting the south and the north is required.
3. SADC has been promoting intra-regional transport development, with particular emphasis on the development of so-called "Corridors" or a route connecting landlocked areas with ports. However, in reality, the development plan does not address the real needs of regional development, thus these efforts may merely be limited to the development of transportation networks. Future corridor development plans need development concepts, such as the Spatial Development Initiative (SDI), which a bankable package is developed with consideration to resource development in the surrounding areas and industrial policies. The Maputo Development Corridor was developed based on this concept.
4. It is expected that development of major transportation infrastructure be led by private sector funds as part of the corridor development; however, public funds is still required as "seed money." Therefore, there are high expectations of financial cooperation to projects, which are important from the point of regional development, in order to induce private funds to this region. It is also important to examine assistance in projects which strengthen the linkage between the southern and northern regions, and contribute to regional development.

INTRODUCTION

The term "Corridor" is frequently used for explaining transportation networks in the Southern African region. In this region, a "Corridor" generally means a route connecting land-locked areas to ports. Since there are six land-locked counties in the region, with rich mineral resources, the region needed to develop intra-regional corridors. In particular, it was politically

* Assistant Director, Second North America Division, North American Affairs Bureau, Ministry of Foreign Affairs (at writing: Deputy Director, Development Policy Research Division, Research Institute for Development and Finance)
** Consultant, International Consulting Department, Nomura Research Institute, Ltd. (at writing: an economist, Development Policy Research Division, Research Institute for Development and Finance)

1 Southern Africa Development Community (SADC) is a regional economic organization. Member countries are Angola, Zambia, Tanzania, Zimbabwe, Malawi, Mozambique, Lesotho, Namibia, Swaziland, Botswana, South Africa, Mauritius, Seychelles, and Congo. SADCC was reorganized as SADC in 1992. Refer to footnote 5 on SADCC.

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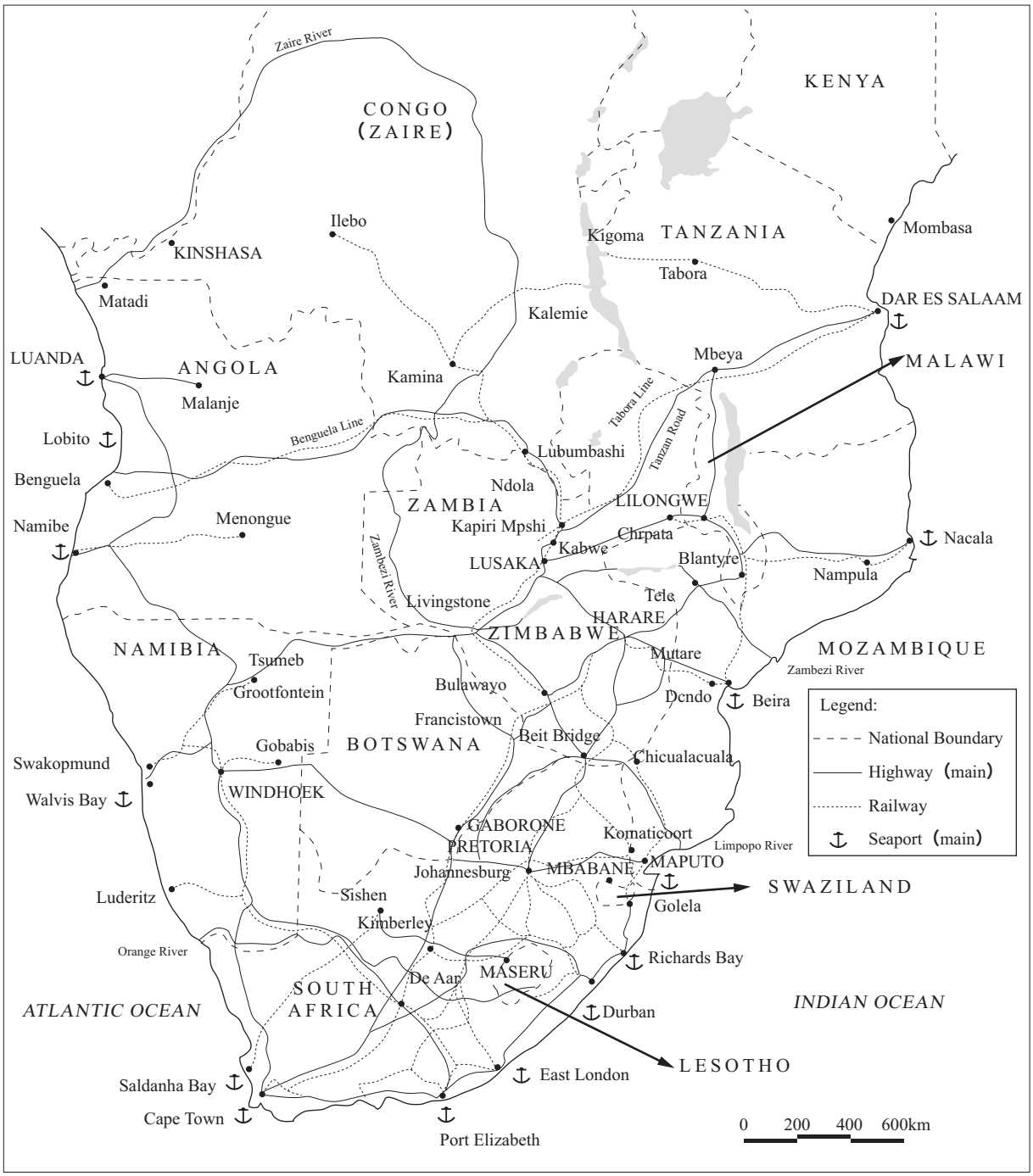
Figure 1 Transport Network in Southern Africa



Source: OECF (1997)

important for the southern African countries, the construction of "Corridors" in countries except South Africa, during the Apartheid period, therefore, development of east-west corridors were promoted. Although the transportation network in the southern African region is more sophisticated than the other regions in Africa, after South Africa, which shared 70% of the total GDP in the region, was democratized in the 1990's, economic relations have been more closely interrelated and the structure of the flow of goods has changed in the region.

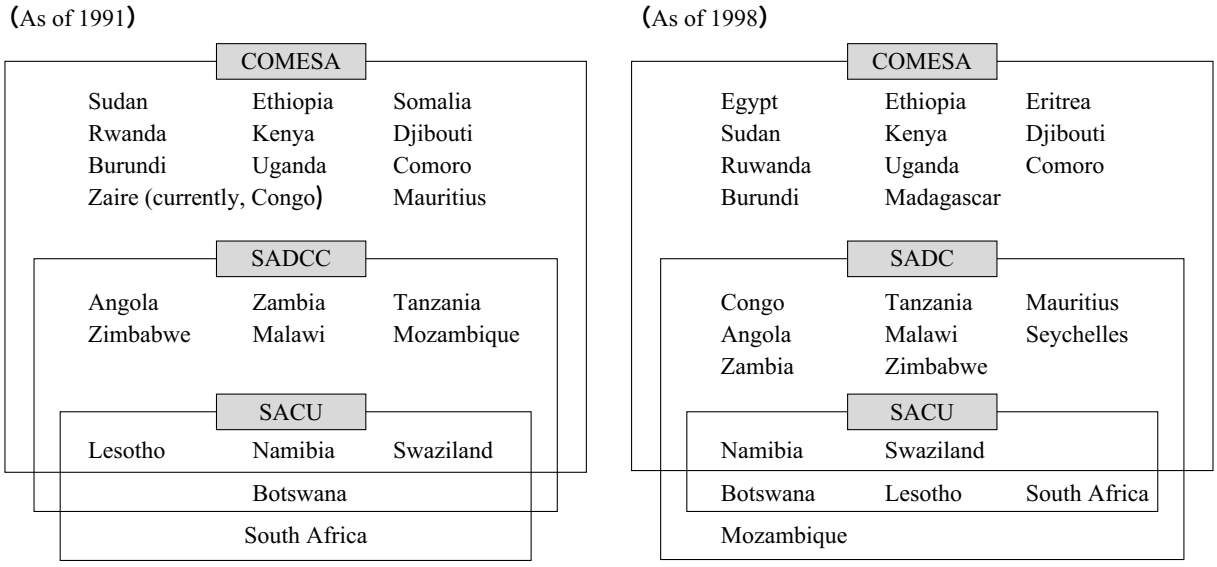
This report examines the economic trend in the Southern African region and addresses issues for constructing an efficient transport infrastructure.

CHAPTER I: ECONOMIC TREND IN THE SOUTH AFRICAN ECONOMIC BLOC

1. INTRA-REGIONAL COOPERATION IN THE SOUTH AFRICAN REGION

The entry of South Africa in the regional economy has promoted the restructuring of regional economic blocs. First, let us observe changes in the regional economic blocs in the Southern African region from the viewpoint of their member countries. Figure 2 shows the member countries of SADC, SACU[2] and COMESA[3] as of 1998, as well as 1991. In 1991, ten countries participated in SADDC[4] (currently SADC),

Figure 2 Economic Organizations in the Southern African Region (changes in member countries)



Source: Compiled by the author

2 Southern Africa Custom Union (SACU): A regional custom union established in 1910. Member countries are South Africa, Botswana, Lesotho, Swaziland, and Namibia (5 countries). Zambia is currently applying for membership.

3 Common Market for Eastern and Southern Africa (COMESA): A regional economic bloc with 21 members in Eastern and Southern Africa. COMESA aims to establish a free trade area, and realize a custom union by 2004. PTA was reorganized to COMESA in 1992. Refer to footnote 6 on PTA.

4 Southern African Development Co-ordination Conference (SADCC): Established in 1980 with frontline nations in Southern Africa as member countries. There are 10 member countries. With an aim to decrease economic dependence on South Africa, which had been maintaining their apartheid policy, SADCC promoted intra-regional relationships with focus on development of transport and communication networks.

and SADDC still remained as a group of countries neighboring South Africa, which aimed to decrease its dependence on South Africa. All SACU member countries, except for South Africa, were SADCC members at the time. This fact that SACU countries, which depended heavily on South Africa, were also members of SADCC implies SADCC was formed from a political background to a certain extent. At that time, PTA[5] (currently COMESA), which was a bloc covering from Ethiopia in the north to Swaziland and Lesotho in the south of Africa, faced to heed structural reform because trade in the region had not been promoted.

By 1998, significant changes had taken place in terms of member countries of each organization. SADC expanded its aggregate GDP by fivefold due to the participation of South Africa in 1994. Subsequently, Mauritius, Seychelles and the Democratic Republic of Congo followed to participate in SADC to strengthen economic relations with South Africa, and as a result SADC grew into an economic bloc with 14 members. On the other hand, although Egypt joined in COMESA in May 1998, COMESA has reduced its influence over the Southern African region, because South Africa and Botswana did not participate in COMESA, and Mozambique and Lesotho withdrew from it.

Secondly, the economy size of each organization in terms of GDP shows that COMESA was larger than SADC in the early 1990s. In addition all the countries in the Southern African region participated in SADC, South Africa also joined SADC, consequently economic size of SADC has far exceeded that of COMESA.

As mentioned above, the characteristics of the three economic blocs in the Southern African region has greatly accelerated their restructuring of the blocs after the democratization of South Africa. Although COMESA clearly aims to establish a common market it seems difficult to achieve the aim under the serious economic condition in the bloc. In addition, the focus of the organization has been shifting from the southern to the northern part of Africa. On the other hand, SACU has been less important because of economic liberalization of South Africa and the market expansion caused by South Africa's participation in SADC.

Thus, it is considered that the role of SADC is much greater in strengthening regional economic relations among countries in the Southern African region. However, although SADC declares its goal as harmonization of sector policies in general, it seems difficult to coordinate policies in a comprehensive manner between sectors under the current structure, and there are concerns to fail the harmony among sectors in SADC members.

2. DEMOCRATIZATION OF SOUTH AFRICA AND THE SOUTHERN AFRICAN ECONOMY

(1) Present Status of the Economy of the Southern African Region

In the Southern African region, South Africa is a regional hegemony influence on the economy of the Southern African region. In terms of population and area, South Africa accounts for only 21% and 13% of the entire SADC, respectively, but its GDP is equivalent to 72% of SADC. South Africa has exceeded its GDP per capita over $3,000, and it is classified as a upper middle income country, according to the World Bank Development Report.[6] South Africa, Namibia, Swaziland, Botswana and Lesotho are major countries in SADC, which are the 5 members of SACU. Among these 5 countries, Botswana, Lesotho, Swaziland and Namibia are most influenced by the economy of South Africa, and the total economic size of these 4 countries only shares about 8% of that of South Africa. However, the income level of these 4 countries is relatively high, and they are ranked as lower middle income countries, except for Lesotho.

Meanwhile, SADC countries which are not

5 Preferential Trade Area (PTA): Established in 1982 with 19 countries in Eastern and Southern Africa for promotion of regional cooperation, as declared in the "Lagos Action Plan," which was adopted at the Organization of African Unity (OAU) summit meeting.

6 Classifications used in the 1997 World Development Report. In this report, GDP per capital in 1995 is used as an indicator to show economic development stages for the following four categories: low income country ($765 or less), lower middle income country ($766 - $3,035), upper middle income country ($3,036 - $9,385), and high income country ($9,386 or more).

Table 1 Industrial Structure of the Southern African Countries (1996)

(Unit: % (ratio to GDP))

	Primary Industry	Manufacturing Industry	Mining Industry	Tertiary Industry
South Africa	5 ↘	24 ↗	15	57
Botswana	4 ↘	5 ↗	41	50
Lesotho	11 ↘	17 ↗	26	47
Swaziland	9	38	6	46
Namibia	14 ↗	12	22	52
Zimbabwe	14	19 ↘	9	59
Mozambique	37	(24)		39
Malawi	40 ↘	17 ↗	4	39
Zambia	18 ↗	29 ↗	12	42
Tanzania	48 ↗	7 ↘	14	31
Congo	64 ↗	5 ↘	8	23
Angola	7	7	62	24
(Reference) Middle income countries	20	15	15	48

Note 1: Arrows show increase and decrease of ratio to GDP compared with that as of 1980.
Note 2: Capital letters show countries whose ratio to GDP exceeds that of middle income countries.
Note 3: The figure of manufacturing industry in Mozambique shows the total number of the secondary industry.
Source: 1998 World Development Indicators However, the data of Swaziland is based on SADC data.

members of SACU (hereinafter referred to as non-SACU countries, 9 countries, including Democratic Republic of Congo and Tanzania) account for about 75% of SADC in terms of population and area. All the non-SACU countries, except for Zambia, have population of over 10 million, thus these are countries with a larger population in Africa. However, their total GDP accounts for only 20% of the whole SADC. Although Zimbabwe has the highest GDP per capita in the region, its amount is only $600 to $700 per capita. The World Bank Development Report classifies all of the countries as low income countries.

The industry structure of the Southern African countries shows the main industry of SACU countries have been shifting to the secondary and the tertiary industries. However, Table 1 shows that the core of the economy of non-SACU countries is still occupied by the primary industry.

Primary industry in SACU generally accounts for a shrinking proportion of the economy, and the shares of secondary and tertiary industries are increasing. However, the only countries in which manufacturing has a high share are South Africa and Swaziland, and only South Africa has achieved a certain level of diversification in the manufacturing industry. Among other SACU countries, the mining industry still accounts for a high proportion, and there have been no changes in industrial structure. The trade structure among SACU countries shows a typical structure of developing countries, which exports primary products and imports processed goods, even in the case of South Africa.

On the other hand, many non-SACU countries have maintained industrial structures based on the primary industry. Zimbabwe and Zambia have a relatively balanced economic structure, but in the region, only Zimbabwe has a competitive edge in the manufacturing industry. Main export goods from non-SACU countries are minerals and their processed goods to Europe and the US, but this accounts for less than 15% of the GDP, except for Angola.

From the above, the characteristics of SACU and non-SACU countries can be summarized as follows. Although South Africa is the biggest economy in SACU, other SACU member countries have also achieved a high level income in general and shifted their industrial structure to the secondary and tertiary industries. On the other hand, most non-SACU countries have a large population with a low-income level, and their economy depends on the primary industry.

(2) Economic Trend from the 1980s

First, let us look at the trends in economic growth rate from the mid 1980s.

The economic growth trend of SACU countries can be characterized by the low economic growth rate of South Africa. International economic sanctions against apartheid in the 1970s and 1980s caused South Africa's economic growth rate to fall since 1988, and posted a negative growth rate in 1990 to 1992. The cost of maintaining the apartheid regime damaged the economy of South Africa, and accelerated the movement toward the abolition of apartheid. Subsequently, South Africa showed signs of economic recovery in 1993, reflecting the suspension of international sanctions. However, the average growth rate has remained around 3% against the background of huge cost needed for ethnic reconciliation. SACU countries, except for South Africa, generally posted high growth rates until the end of the 1980s. This Growth dropped in the early 1990s, but it has been recovering since 1994. These movements were almost identical with the economic trend in South Africa, and so it is possible that countries neighboring South Africa susceptible to the influence of economic trends of South Africa.

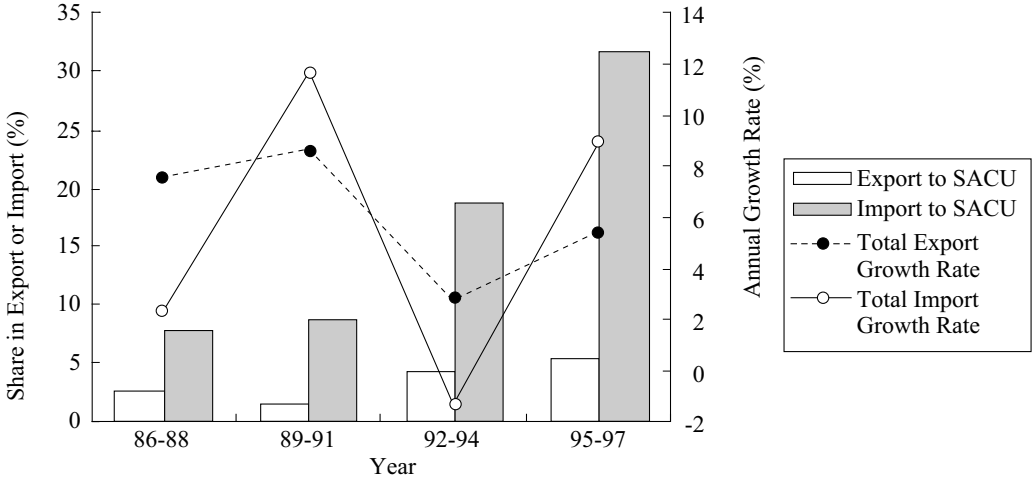
Next, trends of the economic growth rate of non-SACU countries shows a significant difference in growth rate among these countries, but the trend can be characterized by a large drop in 1992, 1994 and 1995. The agricultural sector was seriously damaged by drought in these years, which caused a slump in the agricultural sector and led to the drops in growth rate, since the primary industry is major role in the economy of non-SACU countries. In 1996 and 1997, fine weather brought higher growth rates for these countries. These facts clearly show that the economic structures of non-SACU countries are still dependent on weather.

(3) Trends of Regional Economic Relations

Figure 3 shows trends in trade relations of non-SACU countries to SACU countries. Since trade statistics for each SACU country is not available on a time-series basis, statistics of trade to SACU as a whole is shown. However, since South Africa accounts for the majority of trade in SACU, trends in trade of SACU can also be considered to indicate trade trends to South Africa.

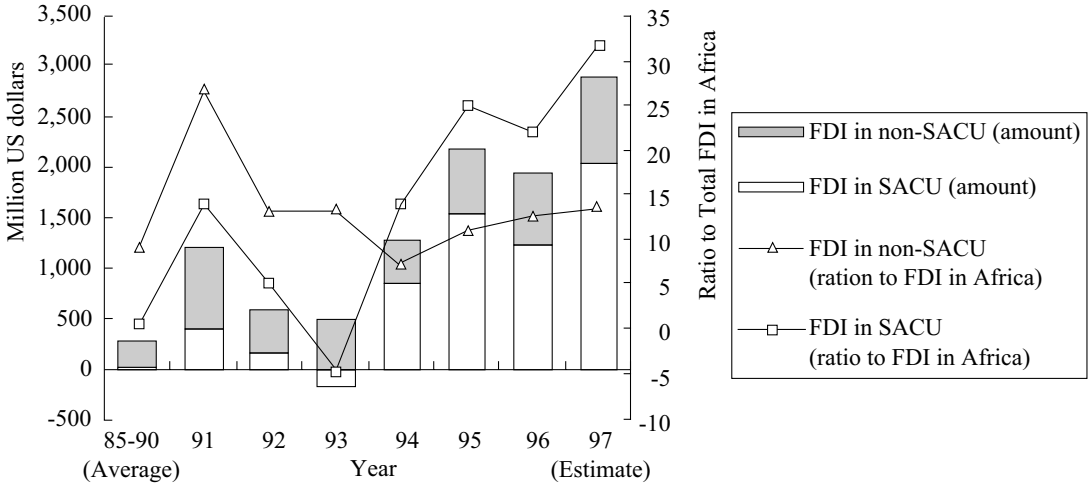
Trade of non-SACU countries to SACU is permanently in a deficit. Imports from SACU in the 1980s stood at less than 10% of total imports. However, import surged in the 1990s and accounted for 18.8% of total imports in 1992 to 1994. In 1995 to 1997, imports from SACU have grown to account for one third of total import by non-SACU countries. On the other hand, exports from non-SACU countries

Figure 3 Trade of Non-SACU Countries to SACU Countries



Note 1: Southern Africa Custom Union (SACU) includes 5 member countries, South Africa, Namibia, Botswana, Swaziland, and Lesotho.
Note 2: Indicated export/import results between Non-SACU and SACU countries.
Source: IMF, Direction of Trade Statistics

Figure 4 Trends of FDI in SADC Countries



Source: World Development Report 97, 98

to SACU countries remained at 1 to 2% of total export in the 1980s, but has shown a slight but steady increase in the 1990s, reaching 4 to 5% of the total export.

Thus, trade between the south (South Africa) and the north (non-SACU countries) in SADC expanded after 1992, when democratization significantly promoted in South Africa. In particular, the flow of goods from the south to the north accelerated rapidly. The progress of regional trade relations in SADC had already started before South Africa joined SADC. So, it can be argued that the framework of SADC was forced to follow the real economy.

In the observation of the inflow of foreign direct investment (FDI) to the SADC region, Figure 4 shows the trend of FDI in SADC countries by classifying FDI into investment in SACU countries and non-SACU countries. Investment in SADC apparently started to increase in 1994, and compared with the average annual investment in the amount of $267 million between 1985 and 1990, it increased tenfold to about $2,900 million in 1997 (forecast). The majority of FDI in SADC was made in non-SACU countries until 1993. However, FDI in SACU countries jumped considerably after the democratization of South Africa in 1994 to account for the majority of FDI into SADC countries. Therefore, recent growth of FDI in SADC has been supported by FDI into South Africa, and there is not so much growth in FDI into non-SACU countries.

On the other hand, FDI from South Africa into SADC countries grew gradually in the 1990s. Looking at FDI trends from 1991 to 1994 from South Africa to other African countries, FDI figures has been steadily increasing in the 1990s. In particular, investment amount to SADC was 324 million rand (about $117 million) in 1991, but jumped three fold to 1,043 million rand ($294 million) in 1994. Investment by South Africa in the SADC countries is also expanding, especially to Mozambique, which is the country has been promoting the "Maputo Corridor Development Plan", consequently, the investment amounted for $669 million in 1997.

3. ISSUES OF REGIONAL COOPERATION IN THE SOUTHERN AFRICAN REGION

Previous sections mainly described that economic influence of South Africa has expanded from SACU countries to non-SACU countries after the entry of South Africa in SADC.

Considering the overwhelming economic power of South Africa in the region and the competitive situation among regional economies, the hub-and-spoke economic relations based on South Africa are possible to be strengthened in the short- and medium-terms. However, promotion of trade and investment relations with countries outside the region will be crucial for long-term sustainable growth. Therefore, from the viewpoint of trade and investment

development in the Southern African region, measures for institutional development, laws and regulations are indispensable for establishing a free trade area. However, these measures are likely to expand the economic imbalance between South Africa and neighboring countries, and additional measures are needed for vitalizing regional economic relations through circulation of fund within the region. As economic relations in the region have dramatically changed because of the entry of South Africa, a complementary economic system driven by South Africa must be established, with opening regional markets.

Therefore, promoting institutional development, such as uniformity in the tariff rate, as well as strengthening regional transport network by improving infrastructure damaged by civil wars, should be the foundation for development of intra-regional cooperation. The intra-regional infrastructure network should focus on expansion of flow of goods from the south to the north, as hub-and-spoke economic relations, are to be strengthened centering on South Africa. As for the sub-regional development, total development policies must be adopted, which include the development of a distribution network in line with industrial development in the region.

CHAPTER II: OVERLOOK FOR TRANSPORT INFRASTRUCTURE

1. ROAD INFRASTRUCTURE AND ROAD TRANSPORTATION

(1) Road Infrastructure

The network of roads in SADC totals 930,000 kilometers and the length of paved trunk roads increased by 3% annually since 1980. South Africa has a road network totaling 510,000 kilometers, accounting for over 50% of the road network in the region.

There are differences in conditions of road networks between the south and the north in SADC. SACU countries and Zimbabwe already have road networks, and their issues are widening of main roads and roads in urban areas, its maintenance and repairs. On the other hand, road networks are incomplete and road maintenance and repair are insufficient in other countries, such as countries in the north and Mozambique. Zambezi River is roughly regarded as the boundary between the north and the south, and in fact, there are missing links in roads connecting the south and north over the river. (Figure 5)

(2) Road Transportation

Flows of road transportation are twofold. The first is roads connecting Gauteng[7] in South Africa and countries in the region (intra-regional trade), and the second is roads connecting inland countries and ports (external trade). As described in the following sections, due to the concentration of major ports in South Africa, the transportation volume between the south and north has been growing. Consequently, the share of the total road transportation volume increased to 50% from 30% over the last decade. As railways specialize in transporting mineral resources, trucks are transporting many industrial parts, finished products and foods. However, excluding the metropolitan areas in South Africa, the traffic volume is not large, with mostly less than 2,000 vehicles per day.

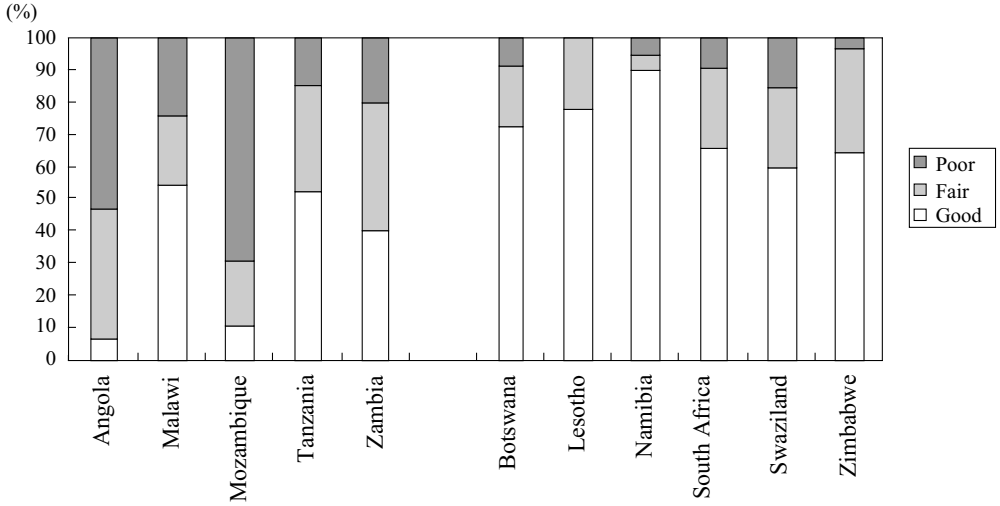
(3) Issues to be Addressed for the Road Sector

SATCC[8] has been tackling institutional reform pertinent to road infrastructure and transportation. Issues relating to them in the Southern African region include insufficient road maintenance, complicated road customs clearance, non-uniform regulations for load limits and lack of operational capacity. Consequently, it is critical that these systems and regulations be reformed. Needless to say, the improvement of physical infrastructure must be ensured together with these

7 Gauteng is the name of the state to which Johannesburg and Pretoria belong, and it is the center of industry in the South African region.

8 South Africa Transport and Communication Unit: SATCC is the transport and communications commission of SADC. Mozambique is responsible for the steering.

Figure 5 Conditions of Main Paved Roads in SADC Countries



Source: SATCC Integration Study

reforms, considering the current issues on increase in transportation volume, large gaps in road development level, and the missing links between the south and north.

2. RAIL INFRASTRUCTURE AND RAILWAY TRANSPORTATION

(1) Rail Infrastructure

Rail track gages in the region, except for some in Mozambique and Tanzania, are narrow-gage (1,067 mm), and through operation is possible. In the region, 30,115 kilometers of the overall 33,815 kilometers network has been mutually linked, and Spoornet of South Africa controls for 65% of this portion.

With the exception of railways in South Africa and some in Zimbabwe, most railways are single tracked with maximum speeds of 60 km/h for cargo trains and 80 to 90 km/h for passenger trains. However, due to poor track conditions in recent years, trains are sometimes forced to operate at speeds of 40 km/h, and in worse cases at 20km/h. SATCC estimates that at least $250 million in investment is required for main tracks, excluding those operated by Spoornet in South Africa, to get them running at their maximum allowable speeds and provide attractive services for users. Even with all the rehabilitation works completed, regular maintenance would still require $45 million-per-year.

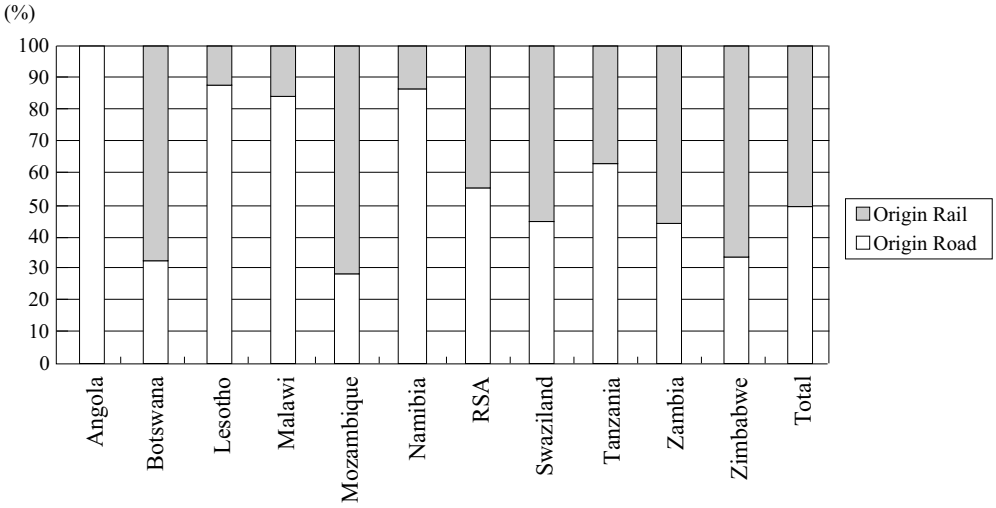
Therefore, the SADC Railways Policy Options Workshop in September 1996 concluded that awards of concessions would enable restructuring of railways in the SADC region and would be the most appropriate measure to enhance the commercial aspect. Concessions have been awarded in Mozambique and Malawi, and South Africa is also considering the introduction of concessions. As Spoornet has a strong influence on the railway projects in the region, the uniformity of specifications and award of concessions will be promoted mainly by Spoornet through SARA.[9]

(2) Rail Transportation

The rail transportation in the SADC is basically specialized in cargo transportation, and traffic volume has hardly changed in the last decade. Major goods transported by rail are wheat, maize, sugar, coal, cork, mineral resources and fuel. In particular, coal transported to Richards Bay and iron ore transported to Saldanha Bay account for almost half of the rail transportation volume in the region, or 60% on a tonne-km basis. Rail transportation concentrates on exporting mineral resources and some agricultural produce to

9 Southern Africa Railways Association: Established by SADC as an association to represent the interests of the railway industry of Southern African countries.

Figure 6 Share of Roads and Rails for International Cargoes (departing from each country)



outside the region[10], except for domestic transportation in South Africa, its demand concentrates on the lines running from the inland countries to sea ports.

Railways play an important role especially in Mozambique and Zimbabwe. In Mozambique, 70% of international trade is carried by rails. And Zimbabwe exports 66% of cargo using rails to countries outside Africa from ports in Mozambique and South Africa and other ports. (Figure 6)

(3) Issues to be Addressed

In fiscal 1995-96, aggregate international cargo reached 157 million tons. As majority of cargo demand increment was absorbed by road transportation, the share of the railway in overland carriage in the Southern African region declined to 50% from 70%.

The fall in the share is partially attributed to liberalization of the road sector; changes in the role and position of rail in the production process; productivity gains in road transportation through changes in vehicle designs and cost reductions. On the other hand, similar productivity gains have not been seen in the rail sector.

The rail sector's failure to take a competitive edge over the road sector is mainly due to operational issues. For example, a trip from Copperbelt to Durban takes eight days by road compared to 12.5 days by rail service, and rails is also less reliable. Significant delays in rail transportation are caused by cargo transfer at country boarders and extended times for return legs. In addition, irregular services are further delayed due to derailments, and breakdowns in signals and communications systems.

3 PORT INFRASTRUCTURE AND MARINE TRANSPORTATION

(1) Port Infrastructure

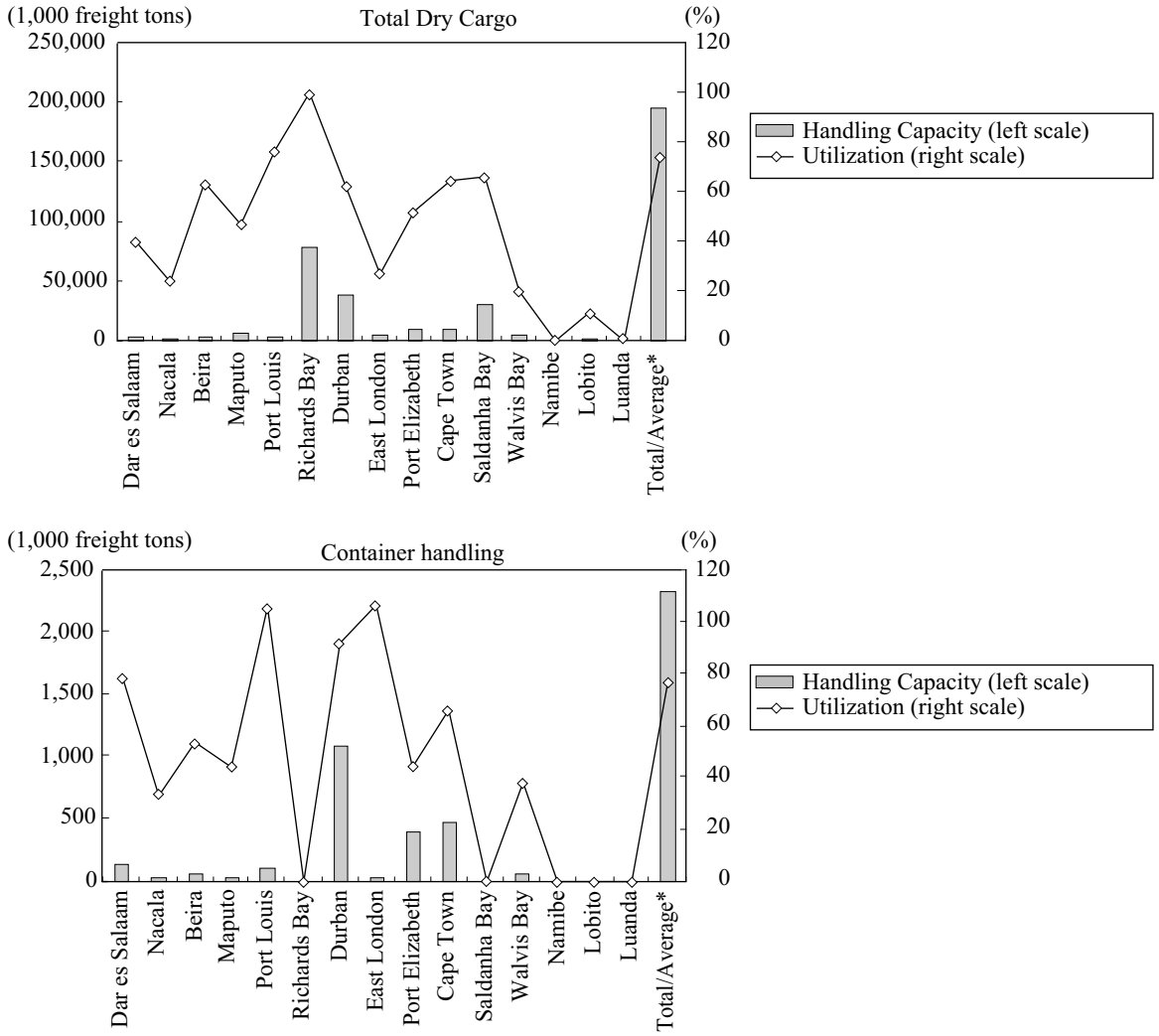
Two major ports in the Southern African region are Richards Bay Port, which handles mainly bulk cargo, and Durban Port, which handles mainly container cargo. In 1996, Richards Bay handled 63.6% of the bulk cargo and Durban Port handled 55.8% of container cargo in the Southern African region.

Both Richards Bay and Durban are outports for Gauteng and are working at near maximum handling capacity. Bulk cargo handling alone already uses 100% of the capacity of Richards Bay, and container cargo handling takes up 92% of the capacity at Durban Port. (Figure 7)

According to SATCC demand forecasts up to 2017, Durban will continue to serve as the largest cargo and container hub port in the Southern African

10 Major cargoes are copper from Zambia handled at Dar es Salaam or Richards Bay, and tobacco from Zimbabwe handled at Beira Port.

Figure 7 Capacity and Utilization of Ports in the Southern African Region



Source: SADC Port Authorities

region. At the same time, it predicts that Durban's container handling will physically reach the maximum capacity by 2007. For this reason, a strategic decision must be made in the early years of the 21st century how to alleviate concentration at Durban to other ports. Considering the services provided by merchant marine companies, the maximum number of hub port which is capable to stop large container ships should be two. Many international commercial shippers and other experts observe that both Durban and Richards Bay would serve as two major hub ports in the Southern African region. Recently rehabilitation of the Maputo Port in Mozambique, which is 80 km nearer to Gauteng than both Durban and Richards Bay, has attracted considerable attention. Although the reliability of ports operations in South Africa and Mozambique had been less reliable due to strikes, operations have been improving throughout commercialization and privatization efforts.

(2) Marine Transportation

As Gauteng is the economic center of South Africa, ports along the east coast handle 80% of shipping cargo in the region. Three ports of Richards Bay, Durban and Saldanha Bay in South Africa handle an overwhelming share in terms of cargo volume.

As for the export-import balance in the Southern African region, export volume of bulk coal and ore far exceeds the import volume, and 53% of the general cargo is in container load.

As much as 95.7% of trade in the region is conducted directly through ports in its own country,

and 92.8% of total marine trade in the region is traded in South Africa through its own ports. Therefore, in terms of transportation volume, South Africa's trade using its own ports is equivalent to 88.9% of the entire trade volume in the Southern African region.

Containerization has been promoted in accordance with the internationalization of marine transportation, thus forming a hub-and-spoke system for container service. Durban is by far the largest hub port in the Southern African region, and the other ports in the region rely on feeder freights from Durban. Therefore, lead-time is required for loading and unloading at the other ports, and this is one of the factors to discourage forwarders from using these ports.

(3) Issues to be Addressed

There are three points for improving the port sector. First point is to eliminate the supply restrictions of Durban Port and to establish a hub and spoke system by nominating a few ports as hub ports in the Southern African region.

Second is to dredge shallow ports and improve them. However, it is necessary to determine adequate capacity for the port in consideration of its role in South Africa. Accordingly, the development level of the port should be fully discussed.

Third point is related to operational efficiency. In order to operate ports which fully meet market needs, SATCC considers that further private sector participation is necessary. SATCCTU is now developing a model legislation in the port sector to promote participation from the private sector.

CHAPTER III: DEVELOPMENT CORRIDORS AND SPATIAL DEVELOPMENT INITIATIVE (SDI)

1. HISTORY

The concept of the development corridor was born in the 1980s when the SADCC[11] constructed corridors (transport routes such as railways, roads, pipelines, etc.) from inland countries to ports other than South Africa, in order to compete with South Africa, which was under the apartheid regime. These corridors originated as politically motivated policies, and there were cases including the Beira Corridor, where multilateral institution such as the World Bank and donors supported its development. However, with the democratization of South Africa, economic development began to override political concerns as the driving force behind the corridor development efforts. In other words, although the initial concept of corridor development was to provide transport infrastructure underlining transportation routes from inland countries, it gradually changed to a concept encompassing the development of surrounding areas along the corridor. Changing the expression from "Transport Corridor" to "Development Corridor" aptly represents this directional change.

2. CONCEPT OF DEVELOPMENT CORRIDORS

(1) Concept of SADC Development Corridors

The SADC Protocol on Transport, Communication and Meteorology (hereinafter referred to as "protocol") placed priority on the construction of "Corridors[12]" and encourages the integration of infrastructure development along the development corridors. At the "Protocol Implementation Workshop" in January 1997, at least seven transport corridors shown in Table 2 and Figure 8 were agreed to conform to the definition of the protocol. The SADC has also indicated in its Transport Corridor Monitoring and Coordination Report so that they are promoting regional integration for each corridor.

(2) Development Corridor and SDI by the South African Government

South Africa has proposed the Spatial Development Initiative (SDI), an initiative similar to the develop-

11 SADCC is the former body of SADC. See Chapter I for details.

12 The protocol defines corridor as follows: "Corridor" means a major regional transportation route along which a significant proportion of Member States' or non-Member States' regional and international imports and exports are carried by various transport modes, the development of which is deemed to be a regional priority.

Table 2 Present Status and Issues of Major Transport and Development Corridors

Major Corridors	Present Status	Issues
(1) Southern Corridor (South Africa - Botswana/ Zimbabwe - Zambia - Congo)	• Cargo transported to the north far exceeds those to the south. There are some exports from South Africa, but mostly imports unloaded at ports in South Africa and transported to landlocked countries. • Export volume from Zambia and Congo is limited (copper, cobalt, etc.)	• Low handling efficiency at Durban port because of insufficient capacity. • Delays of CIQ at Beitbridge (border between South Africa and Zimbabwe). • Problems in service capacity and operation hours/frequency of Kazungula ferry.
(2) Maputo Corridor (South Africa - Mozambique)	• Steady progress in both transport network development and industrial development led by private sector financing.	• Development of a special terminal. • Progress in industrial projects in surrounding areas.
(3) Walvis Bay Corridor (Botswana Kalahari/Caprivi - Walvis Bay)	• Important as an alternative route for Botswana and South Africa. • Very low cargo volume at the present time.	• Walvis Bay in Namibia is too shallow. • The largest potential market, Namibia, has a small population and market size.
(4) Beira Corridor (Zimbabwe - Mozambique)	• Progress in infrastructure rehabilitation was made in the 1980s-90s mainly through assistance from Scandinavian countries, and cargo transportation in increasing annually.	• Zimbabwe has shown interest in the Limpopo Corridor as a result of vitalization of Maputo port. • Higher operational efficiency.
(5) Nacala Corridor (Malawi/ Tanzania - Mozambique)	• Despite progress in railway rehabilitation in the 1990s, cargo transportation volume is not so large.	• Less interest from Southern countries of SADC and Malawi. • Operational capacity of ports and railways (Responsible section by France has not been completed)
(6) Tazara (Dar es Salaam) Corridor (Tanzania - Zambia)	• Developed as a transportation route for copper from Zambia, but cargo transportation volume is gradually decreasing.	• Operational capacity of ports • Operational capacity of railways
(7) Lobito Corridor (Lobito - Congo/Zambia)	• Not functioning due to civil war.	• Railways have been destroyed • Political situation in Angola

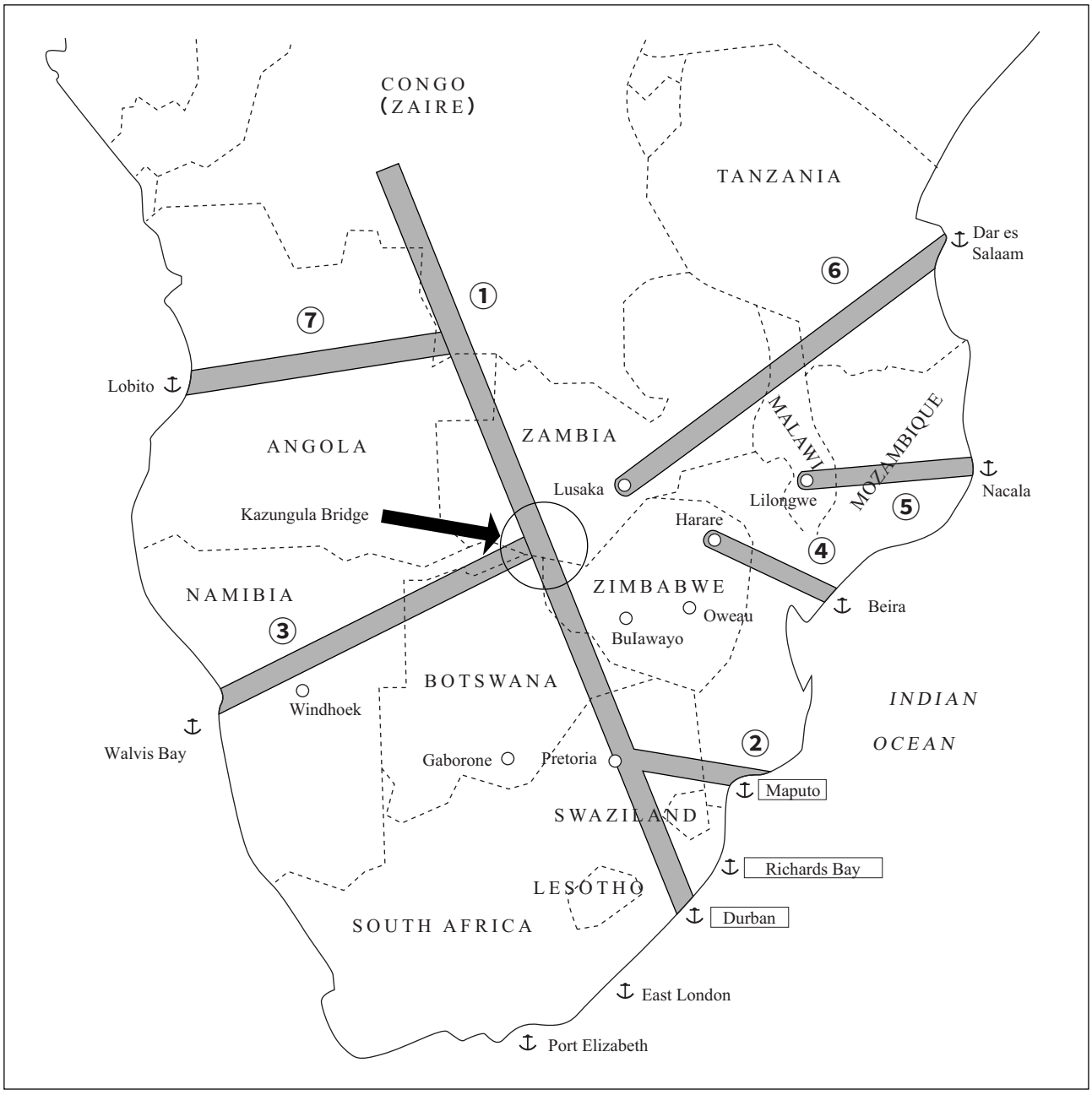
ment corridor in conceptual terms. South Africa's Department of Trade and Industry (DTI) has taken the initiative to promote SDI, and not only South Africa but also other countries have proposed their own SDIs in recent years. Although SDIs proposed by these neighboring countries are overlaped with the development corridor concepts, there are some concepts that encompass a wider scope. And because previous development corridors are included in many of these SDI concepts, even the SATCC refers to South Africa's SDI and development corridors under the same concept and does not distinguish them. Meanwhile, South Africa has been deliberating the application of SDI to the entire Southern African region. However, since SADC countries are still recognized the strong political and economic power of South Africa in this region, their policy is to promote the concept with the consensus of the SADC and not under South Africa's initiative.

The DTI has distinguished the local (national) SDI programs from the regional (SADC) SDI program and assigned responsible staff for each program. The regional SDI program covers all the existing SADC development corridors except for the Southern corridor in South Africa, and new SDIs such as the Okavango-Upper Zambezi SDI have also been added.

(3) Present Status

Individual SDIs are at various stages of development, ranging from the Lobito Development Corridor in Angola, which is still at the stage of concept making, to the Maputo Development Corridor, which is already

Figure 8 Progress in Infrastructure Development of SADC Countries



at the implementation phase.

It should be noted that earlier concepts of development corridors and SDIs were first considered in 1995 and many only in 1998. The South African government does not regard the development of simple transport infrastructure as development corridors. Thus, in spite of the substantial development of transport infrastructure in Tazara (Dar es Salaam), Nacala, Beira and Walvis Bay, they still see many issues in improving them as development corridors.

3. ISSUES TO BE ADDRESSED

(1) From "Transport Corridor" to "Development Corridor"

In the 1980s, the development of the Beira Corridor linking Zimbabwe and Mozambique advanced with assistance from aid agencies such as the World Bank. An Implementation Completion Report published in February 1997 was entitled the "Beira Transport Corridor Project," and there was no defined concept

of development corridor at that time.

The World Bank acknowledged that although the development of Beira Corridor has reached a satisfactory level, the projected traffic volume has not been secured due to various reasons. In addition, other agencies that provided assistance such as Swedish International Development Agency (SIDA) commented that results have not been satisfactory. A major objective of the Beira Corridor has been to provide means against the instability in South Africa, but this objective is superseded now that South Africa is democratized. On the other hand, DBSA[13] in South Africa has acknowledged that significant improvements were made, as cargo volume handled by Beira Prot has increased sharply. Future issues concerning Beira Corridor include developing traffic networks that will contribute to regional development.

In 1993, the World Bank decided to finance the Maputo Corridor between Gauteng in South Africa and Maputo in Mozambique (Maputo Corridor Revitalization Project). However, the concept referred to as the Maputo Corridor that has drawn recent attention originally emerged as an initiative jointly proposed by the Mozambican and South African governments in 1995. Thus, only the Maputo Corridor can be eligible for transformation into a development corridor, and Maputo will serve as the model for future development corridors, such as Beira (officially started in 1996) and others.

(2) From Sectoral Program to Multisectoral Program

The success of the Maputo Corridor project can be attributed to the South African government's positive stance in sharing the initial infrastructure investment, and its preparation of a bankable package[14] to provide information to investors inside and outside the country to elucidate the development process. Similar bankable packages were not prepared for other corridor projects, which made it difficult to share with investors a clear vision of how the transport infrastructure was leveraged to promote economic and social development.

On the other hand, the SDI program in South Africa is not a fixed policy and is completed with the formation of a bankable package and the investors' conference. Accordingly, there is not clear endorsement for investment.

In this respect, the Maputo Corridor should be viewed as a successful model for other projects to emulate, with the use of both public and private funds based on bankable packages.

Department of Transportation (DOT) of South Africa believes that the once development corridors are formed, they will enable natural potential to surface in specific regions. In other words, the transport infrastructure is one of the supporting factors of the development corridors, and the government plays a major role in providing this infrastructure. The actual provision process may take the form of BOT that includes awarding concessions. It should also be noted that from the initial stage, the Maputo Corridor has been treated as a complex of hundreds of projects covering both transport and communications infrastructures and private projects.

DTI of South Africa, on the other hand, has stressed the importance of generating mutual profits through the synthetic effect between transport infrastructure projects and other development projects, and the affect public investment has on leveraging private investment. Some consultants have posed questions on the long-term profitability of the toll road between Witbank and Maputo, a fundamental portion of the Maputo Corridor. However, as there

13 Development Bank of Southern Africa (DBSA): Established in 1983 as South Africa's official financial institution with the objective of promoting regional development in South Africa. With the democratization of the country, the Bank was reorganized in 1996 into a financial institution with the aim to rectify social and economic disparity and improve living standards not only in South Africa but also across the Southern African region.

14 Bankable package is an information package, which integrates project information for economically useful transport infrastructure and industrial park development, and information for potential regional resources and geographic characteristics. In case an individual project cannot generate sufficient profit, profit can be generated because of trickle down effect when multiple projects are implemented. For example, when profit cannot be generated only by improved road condition, further toll revenue can be expected by increase in traffic by industries that are developed along the roads. On the contrary, it is natural that industries cannot be developed unless roads are provided. Bankable Package implies a meaning for generating sufficient profit owing to trickle-down effect.

were development projects along the corridor that could certainly be expected, such as the Mozal Aluminum Refinery Plan, a joint venture between a South African corporation and Mitsubishi Corporation of Japan, the road construction was made possible under the BOT basis.

Agencies in South Africa fear that the structure of the SADC can be a big bottleneck in promoting corridor development. While development corridors and SDI are multisectoral investment programs, the SADC has allocated responsible sectors to member states, thus making it impossible to pursue regional developments encompassing several sectors.

CHAPTER IV: JAPAN'S ROLE IN THE DEVELOPMENT OF THE TRANSPORT INFRASTRUCTURE

1. TRENDS OF ASSISTANCE BY MAJOR DONORS

Among major donors to South Africa, Kreditanstalt fur Wiederaufbau (KfW) has provided relatively active assistance in infrastructure projects for constructing trunk roads, while other donors tend to focus on assistance of "soft aspects" such as transport protocol drafting. SADC has also concentrated on assistance of "soft aspects" and has not necessarily functioned as a coordinator for infrastructure programs.

Major donors such as the World Bank, Canadian International Development Agency (CIDA), and SIDA have concentrated their assistance on the provision of transport infrastructure, such as Beira Corridor projects. In recent years, however, they have placed a new emphasis on capacity building and rural road network improvement. EU and United States Agency for International Development (USAID) have tended to concentrate in the assistance of "soft aspects" such as transport protocol drafting and have been gradually withdrawing from physical infrastructure projects. The Danish International Development Agency (DANIDA) carried out co-financing with the World Bank and assisted the Beira Corridor projects, but they do not plan to extend loans or grants to the transport sector in the near term, recognizing that the transport infrastructure development in the region has almost been completed. KfW is relatively active in assisting physical infrastructure development, and they plan to extend a loan to Namibia for the Trans-Caprivi Highway, and a grant loan to Zambia for the Katima Mulilo Bridge across Zambezi River.

2. JAPAN'S ROLE

(1) The Role of Public Funds

Since South Africa, whose private sector has developed, entered the market of the Southern African region, it is likely that the private sector involvement in the development of trunk road networks is growing stronger. In particular, the private sector is expected to take initiative in trunk road development projects such as those for "development corridors" integrating regional development. However, it is expected that public funds will need to be provided as "seed money" to attract private sector funds at the initial stage of the development corridor projects, considering the low level of traffic volume in main routes in most of the region except for South Africa and its surrounding areas.

(2) Infrastructure Development and Knowledge Transfer

We should consider the following points when we examine Japan's role for transport infrastructure development. Firstly, major donors have shifted their assistance to "soft aspects" such as institutional and regulatory issues. Secondly, seed money for the transportation projects are still required at the initial stage to strengthen intra-regional network. Thirdly, there are great imbalances between the southern part and northern part of the region in terms of economic and transport infrastructure. Therefore, Japan can play a substantial role in connecting the missing link between the north and south. Moreover, from the viewpoints of assistance in the development corridors, it is necessary to assist not only physical infrastructure development projects, but also assist in establishing a comprehensive regional development concept including industrial and human resources development. In this regard, Japan is also expected to assist in aspects of knowledge transfer.

(3) Future Direction of Assistance Using Public Funds for Transport Infrastructure Projects

For the near future, assistance to transport infrastructure projects using public funds needs to place priority on projects where trickle-down effects can be expected, such as those with an intra-regional impact. For the time being, it will be required to study projects that strengthen the linkage between the north and the south in the course of regional development. However, out of the public funds assistance, those projects eligible for Japanese ODA loans are limited as there are some countries with accumulated debt problems in the Southern African region.

Among the requested projects related to the provision of transport infrastructure in Southern Africa, and considering the above factors and countries eligible for receiving Japanese ODA loans, the three projects shown in Table 3 would have priorities as future Japanese ODA loans projects. In particular, the Kazungula Bridge Construction Project at the border between Botswana and Zambia has top priority since it would respond to the urgent issue of strengthening the linkage between the north and south. Needless to say, these projects have been selected based on the direction of the transport infrastructure required for vitalizing regional economies and exchange with non-regional countries, and detailed surveys for individual projects need to be implemented.

Table 3 Priority Projects for Japanese ODA Loans

	Outline	Related projects necessary for regional development	Regional resources
Kazungula Bridge	• Project Site: Kazungula (between Botswana and Zambia) • This is one of routes connected between the south and north, which runs from Gauteng in South Africa to the north of Zambia. However, since there is no bridge crossing Zambezi River in Kazungula (currently operated by ferry), this is regarded as a bottle neck for the transportation logistics. • There are very famous natural resources nearby such as Victoria fall. Moreover, there are four country borders of Botswana, Zambia, Zimbabwe and Namibia in Kazungula. • South Africa has shown its interests in investment. The regional development plan including infrastructure development must be established focusing on tourism resources.	<Public sector projects> • Kazungula Bridge (Botswana and Zambia) • Expansion of Victoria Airport (Zimbabwe) • Repair of Livingston Airport (Zambia) • One stop-border (each country) <Private sector projects> • Hotel construction at Victoria Falls on the side of Zambia • Hotel construction around Kazungula Bridge	Mainly tourism resources • Victoria Falls • Zambezi National Park • Rwanda National Park • Matesi Safari Resave • Chobe National Park • Okabango Marsh • Zambezi River
Maputo/ Limpopo	• Project Site: Between Chiredzi (Zimbabwe) and Maputo (Mozambique) • Development of standard of paved road in order to export from Maputo port, which is nearer Durban, of sugar canes, citrus, coffee, tea, livestock, and woods produced in the south-east of Zimbabwe. • The government of Zimbabwe has promoted the development of Beira Corridor. The use of Maputo Port, which has greatly been improved thanks to South Africa, becomes alternative	<Public sector projects> • Maputo / Limpopo road (assumed 10 billion yen) <Private sector projects> • Maputo Port • Development of agriculture in the east-south area of Zimbabwe and along the Limpopo river	Mainly agricultural resources • Sugar cane • Fruits including citrus • Coffee and tea • Livestock • Wood
Route C28	• Project Site: Between Windhoek and Walvis Bay (Namibia) • Construction of shortcut route of the above section (current national road B2 detours the north of the section.) • There are many ups and downs for requested roads as they run on desert.	<Public sector projects> • National road C28 • Development of infrastructure around EPZ <Private sector projects> • EPZ of Walvis Bay • Tourism development around Walvis Bay	• Walvis Bay • Tourism resources at Walvis Bay • Namibu Desert National Park • Swacopmunto

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