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by Ulrich Koester

Introduction

Economic growth in African countries has been unsatisfactory over the last two decades. Instead of closing, the gap between per capita income in African countries and the industrialized world has widened over time. Hence, there is a general agreement that all means for promoting internal growth should be applied. One of these means could be to expand trade. Accepting that „growth has in the past been driven by trade“ (W.A. Lewis, 1981, p. 25), trade could be used as an engine of growth. However, experience has shown that African countries face many constraints in promoting trade. Their trade is often concentrated on few agricultural raw products and directed at industrialized countries. As the import demand of industrialized countries for agricultural raw products increases only slowly – if at all – it seems that trade can no longer serve as an engine of growth. However, there may be an escape. Even if the potential of trade with industrialized countries has been exhausted, it may well be that intra-African trade could be promoted. This strategy could serve two purposes: it could stimulate domestic economic growth and it could contribute to decreasing the dependency of African countries on the industrialized world. For these reasons, it has been suggested since long to foster intra-African trade. However, realities have not met expectations. Trade in agricultural products among neighboring countries is still marginal if at all existent. An obvious explanation seems to be that African countries are too similar and, therefore, there is no potential for division of labor among these countries. It is this hypothesis in particular which will be challenged in this article.

The determinants of a potential for agricultural trade among African countries are discussed and empirically investigated in the first part of the paper. Ideally, a quantification of comparative advantage should be given. However, as this is not possible, only some indicators of comparative advantage will be proposed. In the second part of this paper, I present some hypotheses for the present state of underdeveloped trade among African countries. Some strategies for making better use of the trade potential will be discussed at the end of the article.

1. Determinants of the Potential for Agricultural Trade Among African Countries

1.1 A General discussion of determinants

A necessary condition for welfare-improving trade is given, if internal price ratios in a pre-trade state differ from those given in a trading situation. This is also a sufficient condition, if there are no externalities in production and consumption. Price ratios can only differ because production costs differ, because preferences of consumers differ, or both. Consequently, differences in production costs alone among trading countries are not a necessary condition for welfare-improving trade. Nevertheless, the argument that there is only a small potential for trade in agricultural products among African countries is mainly based on the hypothesis that the production conditions in these countries are very similar and, hence, there is no potential for intra-African trade in agricultural products. However, this hypothesis can be challenged on the following grounds: The costs of producing agricultural products are only partly determined by natural conditions, like climate and soil; of even greater importance could be per capita resource endowments, the level of development, the transport costs, and the size of a country.

Endowment with resources as a determinant of comparative advantage

Most African countries are land-rich. The ratio between population and acreage is generally much lower than in other parts of the world, especially in Asia. This may indicate that all these countries have a comparative advantage in producing land-tied agricultural products. However, there are significant differences among African countries, especially if the potential fertility of land is taken into consideration. Moreover, land and labor are not the only determinants of comparative advantage. Production alternatives in the non-agricultural sector, availability and costs of capital, natural resources, and the size of the country can be more important. As all these determinants differ among African countries, one would expect differences in comparative advantage.

The level of development as a determinant of comparative advantage

The level of development can be expressed by several indicators. Some economic indicators are the level of per capita income and human capital. Per capita income affects opportunity costs for labor, and, thus, determines comparative advantage. A country with high labor costs may lose its comparative advantage in agricultural production. Oil exporting African countries, like Nigeria, may serve as a special case in point. High income growth due to booming revenue from oil exports contributed to a declining exploitation of the land base. This indicates that per capita income of a country is a determinant of a country's production pattern and, thus, of comparative advantage.

Generally, it can be expected that per capita income is strongly correlated with human capital endowment. Those countries with a relative abundance in human capital may

lose their comparative advantage in producing agricultural products which are mainly based on land and unskilled labor. Instead, these countries may gain a comparative advantage in those agricultural and industrial goods which can only be produced using cost-saving technologies if sophisticated know-how is available. Production of seeds and agro-industrial goods may be cases where more developed countries may have a comparative advantage.

The level of development may also affect the dynamics of comparative advantage. Any change in factor prices, factor endowment, or technology leads to changes in comparative advantage over time and creates additional potential for trade flows. As per capita income and income growth differ considerably among African countries, one could expect an increasing potential for intra-African trade in agricultural products.

Transport costs as a determinant of comparative advantage

Specialization in production can only be welfare-improving, if marginal production costs in the exporting country are lower than marginal production costs in the importing country. However, marginal costs of production are normally dependent on the level of prices. Hence, the exporting country must be able to produce as cheaply at selling prices (export parity prices) as the importing country does at buying prices (import parity prices). Therefore, the differential between import and export parity prices is a main determinant of trade and of comparative advantage at specific locations. It can be hypothesized that transport costs are a main determinant of comparative advantage in agricultural production in the African case. First, transport costs per mile are generally high in Africa, especially if road transport has to be used and rails are not available. This holds true for many land-locked African countries. Second, in general, population density in Africa is low, indicating that large distances may have to be bridged between regionally separated production and consumption centres. As the distances between specific locations of production and consumption differ widely from one production centre to another, selling prices and, thus, opportunity costs must necessarily vary considerably. Hence, there may be a scope for regional division of labor.

The size of a country as a determinant of a trade potential

It is a well known empirical fact that small countries are generally more open than large countries. This is not mainly due to a more liberal policy philosophy on the part of policy makers in small countries, instead it is a reflection of potential benefits. Small economies lose relatively more by closing up their economies than large countries.

Many African countries seem to be relatively open and, hence, potential benefits of additional growth in trade may be marginal. However, an investigation of trade flows reveals that the direction of exports has been very much influenced by former colonial ties and by links to specific industrial countries. Take for an example the case of the Southern African Development Coordination Conference (SADCC) countries (Table 1). It is unlikely that these trading patterns reflect comparative advantage.

Table 1: Direction of SADCC trade, 1980

Country	Export			Imports		
	Total	Major Suppliers	Share of Total	Total	Major Suppliers	Share of Total
	(U.S.\$ million)		(percent)	(U.S.\$ million)		(percent)
Angola	1.766.2	United States United Kingdom Japan	40.1 9.9 5.3	1.359.1	Portugal Brazil United States Germany, Federal Rep. of France	14.3 9.6 9.0 8.3 7.5
Botswana ^a	508.0	Europe Western Hemisphere Southern Africa ^b	63.0 20.0	679.9	Southern Africa ^b Western Hemisphere	87.0 3.0
Malawi	249.9	United Kingdom United States Netherlands Germany, Federal Rep. of	28.1 16.4 8.2 7.4	438.8	Europe South Africa United Kingdom Japan Germany, Federal Rep. of	2.0 37.1 18.1 7.1 5.0
Mozambique	487.6	United States Kenya Singapore Indonesia	21.0 9.4 8.8 6.4	673.7	United States France Japan Germany, Federal Rep. of	11.3 8.3 5.8 5.4
Tanzania	510.8	United Kingdom Germany, Federal Rep. of Netherlands Italy	15.3 14.4 5.4 5.1	1.226.6	United Kingdom Germany, Federal Rep. of Japan Iraq	16.3 9.9 8.8 6.5
Zambia	1.520.4	Japan France United Kingdom	17.9 13.6 13.1	912.7	United Kingdom United States Bahrain	26.5 10.8 7.5
Zimbabwe ^c	1.360.4	South Africa United Kingdom Germany, Federal Rep. of United States	22.7 9.4 8.3 7.9	1.638.0	South Africa United Kingdom United States Germany, Federal Rep. of	25.1 9.8 7.4 6.9

Source: The Economist Intelligence Unit Quarterly Economic Review, various issues.

Note: Data for Lesotho and Swaziland were not available.

a For Botswana, data were only available for trade destination by region.

b Southern Africa includes Lesotho, Swaziland, and the Republic of South Africa

c Data for Zimbabwe were from 1981.

This short discussion of the determinants of agricultural trade potential supports the hypothesis that there may be a potential to expand welfare-generating trade. However, whether and to what extent such a potential really exists is an empirical question and may vary from case to case. Hence, empirical research is needed and must necessarily be selective. In the following, some results for the SADCC countries are presented.

The nine SADCC countries have been chosen for illustration because this is one of the most recent integration efforts in Africa, and because these countries may have a political will strong enough to achieve less dependence from the Republic of South Africa. However, as these countries only serve as an empirical case study and are not considered as representative in all respects for other African countries, it cannot be taken for granted that the results of this study generally prove that there is a high potential for more trade in agricultural products among all African countries. Nevertheless, the result of the empirical investigation for a selected set of countries lends support to the hypothesis that the potential for trade in agricultural products among African countries is most likely not exploited.

1.2 Some quantitative indicators of the potential for expanded agricultural trade among the SADCC countries

Variability in production

Trade can contribute to stabilizing supply when national fluctuations in production are greater than fluctuations for a group of countries. Thus, free intra-regional trade among the SADCC countries could be an efficient substitute for national stockpiling and might be used to even out fluctuations in national production. Calculations for the SADCC countries revealed that cereal production for the region fluctuated by about 9 percent for the period 1960–80, but much more for individual countries (see *Koester*, 1986, p. 45). Similar results have been derived for other groups of countries (see *Koester*, 1984). Hence, there is a scope for trade with neighboring countries.

The food balance sheet as an indicator of trade benefits

We can presume that the potential for inter-regional trade is greater if the region as a whole is self-sufficient in staple foods, but individual countries are not. Market integration would help to substitute intra-regional trade for inter-regional trade, providing higher export prices for exporting countries and/or lower import prices for importing countries.

Table 2 presents the balance sheet for staple foods of the SADCC region. The region would have been almost self-sufficient in grain equivalents in 1980 if production had equalled the 1979–81 average. Of course, this outcome is not just a mirror of the region's production potential and consumer needs. It is certainly also a consequence of the prices and price ratios set by the governments of individual countries. A different set of producer and consumer prices could change the amounts as well as the pattern of production and consumption. However, the figures indicate that the region might

be able to produce enough staple food to feed its population. This is quite important for the trade potential created by integrating the markets of these countries, which would promote trade within the region.

In investigating the potential benefits of market integration, it is reasonable to consider the region as a nearly closed economy. Thus, integration would result mostly in trade creation and less in trade diversion, as *Viner* defines these terms. More trade would be created: a) the more the food supply situation of individual countries is unbalanced, either for total staple foods or for individual staples (see Table 3), b) the more a country's consumption pattern changes due to the creation of intra-regional trade, and c) the more the region's products differ in quality from the interregionally traded goods.

Table 2: Staple Food Production/Consumption Balance for the Aggregated SADCC Countries^{a)}

	Wheat	Rice	Maize	Millet and Sorghum	Cassava	Total
	(1000 metric tons of grain equivalent)					
Apparent Consumption	605.1	302.0	4,471.3	908.6	2,314.0	8,601.0
Consumption Pattern (%)	7.0	3.5	52.0	10.6	26.9	100.0
Production	200.6	269.4	4,845.1	870.3	2,400.8	8,586.2
Balance	404.5	-32.6	373.8	-38.3	86.8	-14.8
Degree of Self-Sufficiency ^{c)}	33.0	89.0	108.0	96.0	104.0	99.8

Note: a) Production average 1979 - 1981, Consumption 1980.

Source: Author's calculations based on data from Southern African Development Coordination Conference: Regional Food Security: Regional Food Reserve, Annex 1 Country Profiles. Prepared by technosynesis, Harare, May 1983.

Table 4 reveals that actually only two of the nine SADCC countries do not produce a surplus of at least one staple food. The imbalance of individual countries for single products would increase, if free trade were allowed among the member countries. This presumption is supported by evidence that people in countries that do not produce specific staples, such as rice and cassava, do not include them in the diet.

The potential for growth in intra-regional trade is higher when countries that produce surpluses of some staples are bordered by countries with deficits in the same staples. Table 4 shows that there were five such countries. Thus there is a potential for trade among the SADCC countries with the present production and consumption patterns. If free trade within the region led to a change in prices and availability of specific products, like cassava, then production and consumption in individual countries would adjust and, thus, increase this potential for intra-regional trade in staple foods.

Table 3: Self-Sufficiency Ratios for Staple Foods and Consumption Patter for SADCC Countries

	<u>Wheat</u>		<u>Rice</u>		<u>Maize</u>		<u>Millet and Sorghum</u>		<u>Cassava</u>		<u>Total</u>	
	1	2	1	2	1	2	1	2	1	2	1	2
	Angola	6.2	11.0	34.9	3.6	66.6	31.5	56.9	5.9	102.7	48.0	75.6	100
Botswana	3.2	13.0	.....	.....	7.6	47.5	56.4	39.5	.....	.....	26.3	100
Lesotho	23.0	34.7	.....	.....	78.3	47.5	116.7	17.8	.....	.....	65.6	100
Malawi	2.4	1.7	128.4	1.9	104.3	90.8	220.0	4.0	518.8	1.6	114.3	100
Mozambique	1.6	6.8	49.8	4.8	50.5	25.9	58.7	13.2	83.1	49.3	64.3	100
Swaziland	180.0	0.8	260.0	1.4	46.1	95.9	107.7	1.9	.....	.....	51.3	100
Tanzania	48.2	4.6	126.1	6.5	156.6	40.1	137.8	8.7	110.2	40.1	129.4	100
Zambia	6.7	11.3	25.0	1.0	84.7	73.3	96.4	8.1	208.3	6.3	84.0	100
Zimbabwe	167.2	5.0	2.5	0.6	132.5	76.0	80.9	18.4	.....	.....	124.0	100

Notes: 1 = $\frac{\text{Average production in grain equivalent from 1979 to 1981}}{\text{Apparent consumption 1980}} \times 100$

2 = Consumption pattern in percentages

Source: Author's calculations based on data from Southern African Development Coordination Conference.

Table 4: Surplus and Deficit in Staple Foods of Neighboring Countries in the SADCC Region, 1980^a

Surplus Producing Countries	Staple Foods in Surplus	Border Countries in Deficit	Staple Foods in Deficit
Angola	Cassava	Zambia	Wheat, Rice, Maize, Millet, Sorghum
Malawi	Rice, Maize, Sorghum, Millet, Cassava	Mozambique	Wheat, Rice, Maize, Millet, Sorghum, Cassava
		Tanzania	Wheat
		Zambia	Wheat, Rice, Maize, Sorghum, Millet
Swaziland	Wheat, Rice, Millet, Sorghum	Mozambique	Wheat, Rice, Maize, Millet, Sorghum, Cassava
Tanzania	Rice, Maize, Millet, Sorghum, Cassava	Malawi	Wheat
		Zambia	Wheat, Rice, Maize, Sorghum, Millet
		Mozambique	Wheat, Rice, Maize, Millet, Sorghum, Cassava
Zambia	Cassava	Angola	Wheat, Rice, Maize, Millet, Sorghum
		Botswana	Wheat, Rice ^{b)} , Maize, Millet, Sorghum, Cassava ^{b)}
		Malawi	Wheat
		Mozambique	Wheat, Rice, Maize, Millet, Sorghum, Cassava
		Tanzania	Wheat
		Zimbabwe	Rice, Millet, Sorghum, Cassava ^{b)}
Zimbabwe	Wheat, Maize	Botswana	Wheat, Rice ^{b)} , Maize, Millet, Sorghum, Cassava ^{b)}
		Mozambique	Wheat, Rice, Maize, Millet, Sorghum, Cassava
		Zambia	Wheat, Rice, Maize, Millet, Sorghum

Notes: a) Production: Average 1979-81. Consumption: 1980.

b) Negligible consumption so far.

Source: See Table 3.

Table 5: Import and Export Parity Prices for Maize, Sorghum, and Wheat for Selected Locations in the SADCC Region (\$/ton)

	Maize		Sorghum		Wheat	
	Import Parity Price	Export Parity Price	Import Parity Price	Export Parity Price	Import Parity Price	Export Parity Price
(1977/78)						
Maun, Botswana	203	6	196	-1	220	23
Maseru, Lesotho	60	49	153	42	177	66
Rumphi, Malawi	222	-12	215	-19	239	4
Lichinga, Mozambique	189	20	182	13	206	37
Manzini, Swaziland	132	77	125	70	149	94
Tabora, Tanzania	153	56	146	49	170	73
Lusaka, Zambia	187	22	180	15	204	39
Ndola, Zambia	198	11	191	4	215	28
Harare, Zimbabwe	147	62	140	55	164	79
Bulawayo, Zimbabwe	159	50	152	43	176	67
(1983/84)						
Maun, Botswana	270	39	255	24	277	46
Maseru, Lesotho	227	82	212	67	234	89
Rumphi, Malawi	289	20	274	5	296	27
Lichinga, Mozambique	256	53	241	38	263	60
Manzini, Swaziland	199	110	184	95	206	117
Tabora, Tanzania	220	89	205	74	227	96
Lusaka, Zambia	254	55	239	40	261	62
Ndola, Zambia	265	44	250	29	272	51
Harare, Zimbabwe	214	95	199	80	221	102
Bulawayo Zimbabwe	226	83	211	68	233	90

Source: Author's calculations based on data for transport costs from Southern African Development Conference Regional Food Security, op. cit.. It has been assumed that shipments will be made by train whenever there is a railway connection.

Transport costs as an indicator of a trade potential

To highlight the significance of transport costs, Table 5 presents import and export parity prices for selected locations in the SADCC region. It was assumed that the countries trade only with overseas markets without having set up a regional integration scheme. The large difference in prices indicates, first, that a policy of autarky in staple foods is likely to be a reasonable policy if no trade with neighboring countries is allowed; second, that price ratios of staples may differ considerably from country to country, and third, that fluctuations in domestic production are more likely to lead to changes in national carryover stocks than to changes in trade flows.

The following calculations give an idea of how large the savings in transport costs could be if SADCC countries traded among themselves rather than with overseas countries.

Assume that Zambia's production in staple foods 1980 was equal to the 1979–81 average. If consumption was normal in 1980, Zambia would have needed to import 96,000 metric tons of maize. Zambia could have imported all this maize and 46,400 metric tons of wheat from Zimbabwe. Assuming that import and export parity prices were the prices in Lusaka and Bulawayo in 1977/78, Zambia would have had to pay US-\$ 187 for maize and US-\$ 204 for wheat imported from overseas or US-\$ 89.56 for maize and US-\$ 95.56 for wheat imported from Zimbabwe. Hence, buying from Zimbabwe instead of buying from overseas markets would have saved US-\$ 108.44 per ton of Zambia's imports. Total savings which could have been divided between Zambia and Zimbabwe would have amounted to US-\$ 14,481,160 (US-\$ 5,031,616 for wheat-trading and US-\$ 9,450,250 for maize trading without taking into account the premium for white maize). Certainly this is not a negligible amount. Zambia's Agricultural Domestic Product in 1965 prices was equal to US-\$ 179.5 million at the 1981 exchange rate. Hence, trading maize and wheat between Zambia and Zimbabwe would have led to savings in transport costs equal to 8.6 percent of Zambia's Agricultural Domestic Product.

Of course, these calculations do not show the potential gain exactly. Some of the gain may have already been captured through trade within the region. Nevertheless, they highlight the comparative advantage that trade within the region has.

Savings in transport costs will not only materialize if one country produces a surplus of a specific commodity and the neighboring country generates a deficit. They will also materialize if production and consumption within individual countries are not in balance and trade is allowed across the border. Thus, it might well be that a country with a deficit in maize in one year nevertheless exports because in parts of the country surpluses of maize are produced that can be exported to parts of a neighboring country with deficits. This indicates that trade flows among the countries taking part in an integration scheme would be different from those without a scheme.

Liberalized intra-regional trade leads to a greater reduction in transport costs in one country, if the covariance between production in neighboring countries is negative. Subregions near the border are normally remote from the central domestic markets. Hence, a fluctuation in production will either lead to significant price fluctuations in these regions or will require additional resources to be allocated to transportation. If, however, these border zones are allowed to trade with zones on the other side of the

border, the transportation costs incurred would be smaller. They will be smaller the more there are negative or zero covariances between the fluctuations in production on both sides of the border. Correlation coefficients were calculated for projected fluctuations of cereal production between 27 neighboring zones separated from each other by national borders. Some of these coefficients were negative, indicating that the covariances were negative. Furthermore, these coefficients were statistically insignificant in all cases but one, indicating that the fluctuations were statistically independent. Hence, free border trade could help compensate for fluctuations in production between these countries.

Selective statistical indicators

It could well be that neighboring countries have similar factor endowments and climatic conditions, and therefore, their production patterns are very similar. With only limited complementarity, the potential for intra-African trade could be small.

To test this hypothesis for the SADCC countries, the following indices were calculated (Koester, 1986):

- production similarity index
- comparative production performance coefficient
- export similarity index
- revealed comparative advantage coefficient
- comparative export performance coefficient
- trade overlap indicator
- trade expansion indicator.

In the case of the SADCC countries, these indices all refute the hypothesis that production and trade pattern of African countries are too similar for mutually beneficial trade to occur. It is true that exports in agricultural products are highly specialized, with the major export product accounting for more than 50 percent of total agricultural export earnings in most countries. However, specialization varies from country to country. The same products that some countries export to destinations outside the region are imported by other SADCC countries.

2. Why is Agricultural Trade Among African Countries Sub-optimal?

2.1 Historical reasons

Quite often it is argued that developing countries are victims of former colonial ties which have contributed to a trade bias in the production pattern and have led to trade flows mainly to and from industrialized countries. Moreover, the direction of past trade flows has solidified a network of communication and trade preferences which favor a continuation of past trends.

It cannot be denied that present trade is constrained by past trade flows and that the former colonial ties constrict developing countries (*Havrylyshyn and Wolf, 1981, p. 1*). However, there is ample empirical evidence that some developing countries in Asia and South-America have freed themselves and have developed trade patterns which may be more in line with their comparative advantage. Hence, there must be other reasons why most African countries have not expanded intra-regional trade as much as possible.

2.2 Internal market regulations

Most African countries have set up specific domestic food policies which involve intervention in agricultural markets. Policy makers argue that food security is the most important policy objective and that the achievement of this objective should not depend on arbitrary market forces. Some of these market interventions are extremely harmful for intra-African trade in agricultural products. The most important interventions will be discussed in the following.

Pan-territorial pricing

„A common phenomenon throughout the region is the use of pan-territorial pricing for agricultural outputs, inputs and for consumer prices” (FAO, 1986, p. 6). If prices are the same for all locations within a country there is no incentive to bring the production pattern in line with regional comparative advantage. Moreover, there is no incentive for private traders to trade interregionally, governments have to intervene in internal and external trade as well. Hence, external trade cannot react to market forces.

Uniform seasonal prices

Most African countries try to stabilize prices not only from year to year, but also within a year. Consequently, market prices are not allowed to reflect production and storage costs at different points of time within a year. Hence, there will be less private trade within a country and also less incentives for border trade.

Food subsidies

Many African countries pay food subsidies either to hold specific consumer prices generally down or to avoid price rises during specific periods or to improve consumption standards for specific groups of the society. It is obvious that international trade is not consistent with a general food subsidy system.

Price level policy

Policy makers try to regulate the level of domestic agricultural prices in order to contribute the most to the achievement of food policy objectives. Most African countries have set agricultural prices below import or export parity prices because of food policy objectives. Such a policy can only be efficiently achieved, if external trade is not allowed to respond to market forces.

2.3 Border regulations

Specific border regulations for trade in agricultural products are needed to achieve domestic food policy objectives and to make internal policy measures efficient. The potential for international trade in agricultural products is already limited because of internal policy measures; it is even more constrained due to specific border regulations which include licencing, granting and the granting of monopoly powers to state trading agencies or to parastatals. It is quite obvious that these regulations impede intra-African trade.

It is possibly less obvious that the division of labor among African countries is rather negatively affected by exchange rate policies. Most African countries intervene in the foreign exchange market and distort exchange rates. Given this situation, liberal agricultural trade flows might not necessarily conflict with food policy objectives, but may lead to welfare losses. How such losses may occur is highlighted by the following example.

Assuming that in 1970 the exchange market was in equilibrium for all SADCC countries, and that the overvaluation of purchasing power for the average 1978/80 period was 42 percent for Tanzania, 24 percent for Zambia, 15 percent for Malawi, and 11 percent for Zimbabwe. If these countries were to liberalize trade and to accept the currencies of other SADCC countries in exchange, significant amounts of real income would be transferred. For example, Tanzania would have paid 23.5 percent less for its imports from neighboring Malawi over the period 1978/80, as compared to 1970, but would have received 23.5 percent more for its exports to Malawi because of the overvaluation. Clearly, if each country accepted the other's currency in exchange for products, Malawi would lose and Tanzania would benefit. Thus, transfer effects are generated, even if trade in national currencies is balanced. In general, countries with stronger currencies are penalized to the benefit of countries with weak currencies. Hence, given the present situation of strong governmental interference in the foreign exchange market it may not be wise to liberalize trade in agricultural products. There is no guarantee that additional trade flows would be beneficial for all trading partners. Consequently, countries may be well advised to restrict trade among each other.

3. How to Expand Trade in Agricultural Products Among African Countries

Internal adjustment

Adjustments in internal and external agricultural trade regimes and in exchange rate policies are necessary if all the potential benefits of intra-African trade should be captured. As a mere removal of trade barriers may not be welfare-generating, given the present exchange rate policies, second best policies are needed. Some African governments believe that strengthening of bilateral trade arrangements and countertrade in the form of counterpurchase might be a step in the right direction. Such policies have been recently announced by the SADC countries and also by the Preferential Trade Area for Eastern and Southern African States (PTA). SADC favors agreements where the value of exports equals the value of imports on a bilateral basis, that is counterpurchase. The PTA has also set up rules whereby imports can be paid for in national currencies, but a clearing house will ask trading countries to balance their overall deficit with partner countries in hard currencies.

Both strategies look quite attractive. It seems that the main obstacle for expanding the imports of most African countries (namely shortage in foreign exchange), might be overcome in this way. However, it is unlikely that such agreements will actually be successful. Given distorted exchange rates, trade among African countries will lead to transfer effects among trading countries in favor of those countries whose currency is the most overvalued. This will even occur if trade in national currencies in balance either bilaterally as per the SADC approach or multilaterally as per the PTA approach.

Regardless, given the present situation of governmental interference, liberalization of private border trade can hardly be expected and is even not advisable. Instead, it is recommended that trade linkages among African countries be strengthened through the present state trading companies and parastatals. However, exchange of products should be valued at international prices. This will not directly help to mitigate the chronic balance of payments problem, but it would do so indirectly. Exports of all countries could be increased and, thus, the potential to import enlarged. Moreover, trading at international prices would guarantee that additional flows would be welfare-increasing for all trading partners.

External assistance

1. Reorientation in food aid policy: Industrialized countries could provide additional incentives for an expansion of intra-African trade. One instrument is food aid. However, food aid currently provides disincentives rather than incentives for intra-African trade. If one country is in urgent need for food it may ask the industrialized countries for food aid, even if neighboring countries have a food surplus in the same year. Industrialized countries often find the disposal of their food surpluses via food aid in cases of temporary starvation to be politically convenient. Given the present state of food aid policy, some African countries might be ill-advised to integrate their markets, because the consequence could well be that the total inflow of food aid would be less.

Hence, a reorientation of food aid policies could help to abolish implied obstacles for integrating markets and could, moreover, provide incentives for intraregional trade. First, African countries must be assured that their inflow of total food aid will not be adversely affected. This could easily be done if industrialized countries were to announce objective criteria for giving food aid. Second, food aid could be used to exert incentives for intra-African trade. This could be achieved if food aid would be given less as delivery in kind, as has been the rule up to now, but instead as payments in cash in those cases where it is known that some other African countries have an exportable surplus.

2. Increasing security for temporarily exporting countries: It is well known that fluctuations in food production are quite high in African countries. Even countries which can hardly feed themselves in normal years may have surpluses in exceptional years. These countries may store the surpluses or may export them. Exports to neighboring countries are often considered inferior because of weak currencies which exporters receive in exchange and/or because exporters are afraid that they will not be able to import needed quantities of food in coming years of production shortfalls. Hence, stocking up the temporary food surplus is seen as the most reasonable alternative. Industrialized countries could provide incentives which favor trade. This could be done by giving security to exporting countries. They could, for example, be assured that they will have access to imports of food in coming years, up to the quantity that they have exported, and at no more than 15 percent of the export price they can receive for their temporary export. Such a guaranty would certainly make domestic food stocking less attractive. Hence, Africa as a whole could save storage costs.

3. Re-focusing foreign aid: Foreign aid could be more used to facilitate intra-African trade than has been the case in the past. First, if temporary trade flows are supposed to compensate for fluctuations in production, traders need information about supply prospects before harvesting time. Hence, the establishment of early-warning systems to provide regular information about prospective production would contribute to facilitating trade. Moreover, investment in communication networks, infrastructure, and transportation systems could help to spur trade. Capital aid to set up a regional food reserve system could directly contribute to stimulating trade flows among African countries.

Trade facilitating investments generally have external effects across national borders. The benefits of these investments are higher from an African point of view than from an individual country's point of view. Hence, it may be understandable that while some trade facilitating investments are sub-optimal from an individual country's point of view, they are optimal from the African point of view. Foreign aid policy could help to reduce this divergence.

Summary

Trade in agricultural products among African countries is fairly small. An obvious explanation seems to be that structures of neighboring countries are too similar and,

therefore, there is no potential for division of labor among these countries. It is this hypothesis in particular which has been challenged in this article.

This discussion of determinants of the potential for agricultural trade among African countries revealed that differences in comparative advantage could be expected, but that it is an empirical question how significant the potential for trade actually is. The empirical investigation has been focused on the Southern African Development Coordination Conference (SADCC) countries. It is found that a high potential for trade expansion really exists. Explanations are given why the potential has not been exploited so far. Finally, strategies are discussed how countries could expand trade.

Zusammenfassung

Der Agrarhandel innerhalb der Länder Afrikas ist ziemlich unbedeutend. Eine einsichtige Erklärung hierfür könnte die Tatsache sein, daß sich die jeweiligen Nachbarstaaten von ihrer Struktur her zu ähnlich sind und daß daher kein Potential zur Arbeitsteilung vorhanden ist. Diese Hypothese wird im vorliegenden Aufsatz in Frage gestellt.

Eine Untersuchung der Bestimmungsgründe des Potentials für einen Agrarhandel zwischen afrikanischen Ländern zeigt, daß Unterschiede in der relativen Eignung angenommen werden können, daß es aber eine empirische Frage ist, wie bedeutsam das Handelspotential tatsächlich ist. Die empirischen Untersuchungen konzentrieren sich auf die SADCC-Länder (Southern African Development Coordination Conference), wobei sich herausstellte, daß in der Tat ein großes Potential zur Handelsausweitung vorhanden ist. Der Aufsatz zeigt auf, warum dieses Potential bisher nicht voll ausgeschöpft wurde und welche Strategien man für die Ausweitung des Handels einsetzen könnte.

Note

- 1 This article is widely based on research done at the International Food Policy Research Institute, Washington, D.C.

References

FAO: Price Policy in Africa. Proceedings of the Thirteenth FAO Regional Conference for Africa, Harare, Zimbabwe, July 16 – 25, 1984 (mimeo), Rome, 1986.

Havrylyshyn, O. and M. Wolf: Trade among Developing Countries: Theory, Policy Issues, and Principle Trends. World Bank Staff Working Paper Nr. 479. Washington, D.C., 1981.

Koester, U.: Regional Cooperation among Developing Countries to Improve Food Security. Quarterly J. of International Agriculture, Vol. 23 (1984), No. 2, pp. 99 – 115. Reprint International Food Policy Research Institute. Washington, D.C.

Koester, U.: Regional Cooperation to Improve Food Security in the Southern and Eastern African Countries. Research Report 53. International Food Policy Research Institute. Washington, D.C., 1986.

Lewis, W.A.: Elmhirst Memorial Lecture: Development Strategy in a Limping World Economy. In: Johnson, G. and Maurder, A. (eds.), Rural Change. The Challenge for Agricultural Economists. Westmed, Farnborough, 1981, pp. 12 – 26.

Southern Development Coordination Conference. Regional Food Security. Regional Food Reserve. Annex 1 Country Profiles. Prepared by technosynthesis. Harare, May 1983.

The Economist Intelligence Unit Quarterly Economic Review, various issues.