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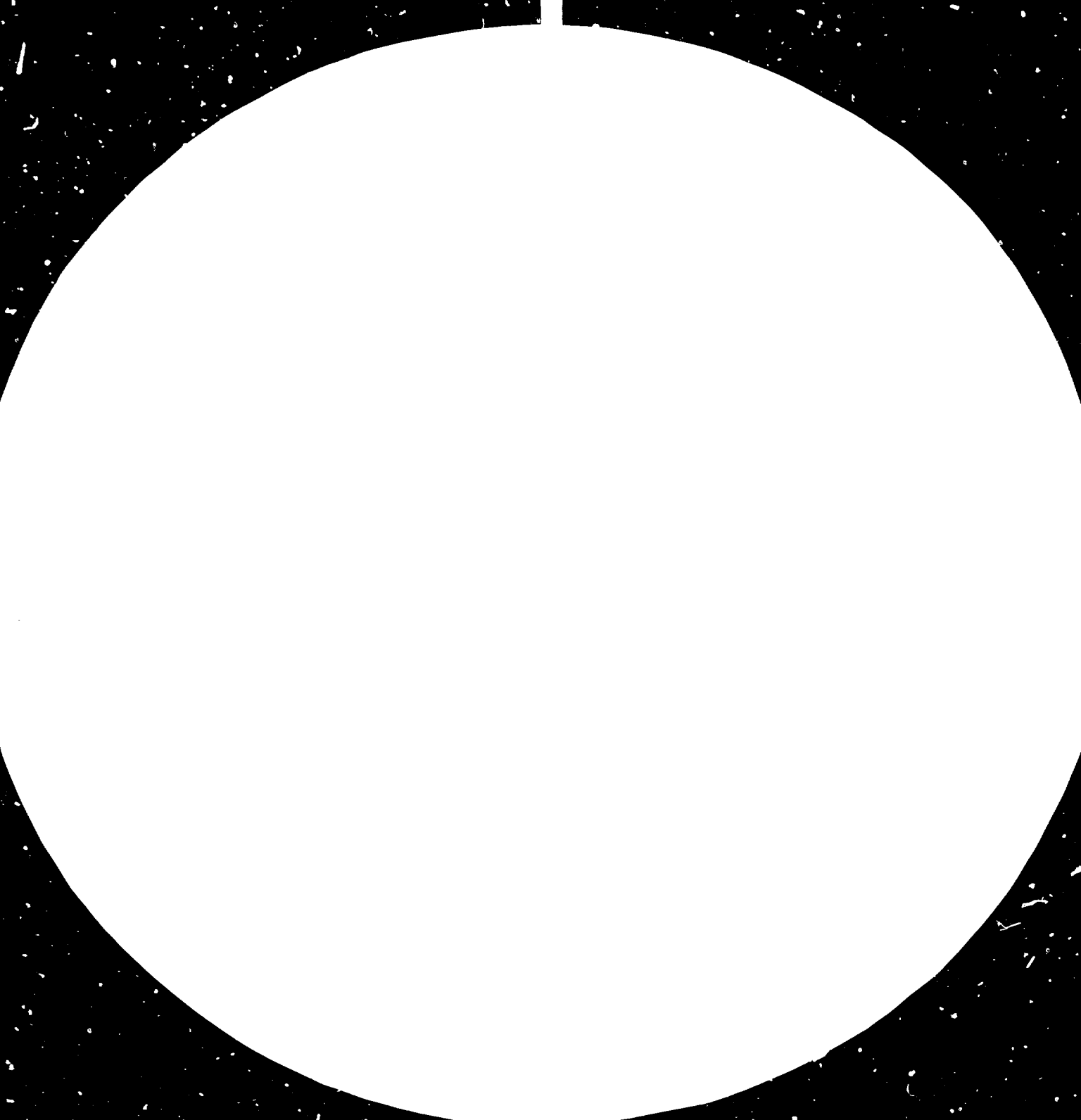

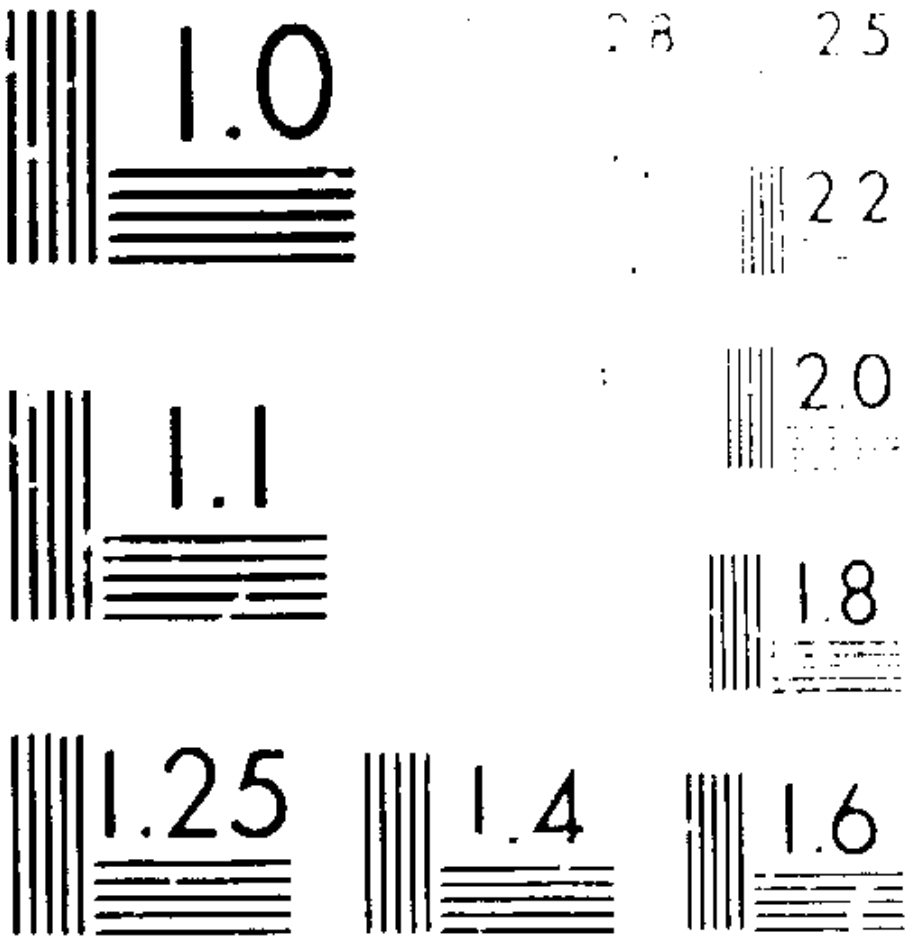
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THE CHANGING ROLE OF MANUFACTURING IN AFRICAN ECONOMIC DEVELOPMENT: TRENDS, PROSPECTS AND ISSUES*

Prepared by the
Regional and Country Studies Branch
Division for Industrial Studies

for
The Conference of Directors of Social Science Research Institutes and Policy Makers on:
the 3rd UN Development Decade,
The Morovia Stragegy and the Lagos Plan of Action

Addis Ababa, March 1 - 6, 1982

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1. Introduction

"INDUSTRIALIZATION IS THE MAIN HOPE OF MOST POOR COUNTRIES trying to increase their levels of income". [1] This view, expressed over a quarter of a century ago, is still widely accepted among development economists and policy makers in the developing countries. Since then, manufacturing has transformed some developing countries, notably several in East Asia. In most of Africa, [2] however, industrialization remains more a hope than a reality, for even though considerable progress has been made, levels of industrialization are low in comparison with other regions and the contribution of manufacturing to the economies of most African countries is still quite small. Moreover, critical views are increasingly being expressed regarding the structure of industrialization in Africa and the relationship of manufacturing to other economic sectors, especially agriculture.

This questioning of the role of manufacturing is part of a more general economic reappraisal, reflected in the Lagos Plan of Action and elsewhere, for it is perhaps no exaggeration to refer to the beginning of the 3rd UN Development Decade as a time of crisis in Africa. To overcome the crisis strong national and international policy actions, some of them painful, will be required.

This paper is intended as a modest contribution to the analysis of the situation upon which policy actions should be based. In part 2 the

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1/ Opening sentence of H.B. Chenery, "The role of industrialization in development programmes", in American Economic Review, May 1955.

2/ In this paper the term Africa is used for developing Africa, i.e. excluding the Republic of South Africa.

development of the manufacturing sector from 1970 to 1980 is reviewed and certain trends are discussed. In part 3 some key macro-economic problems are identified and related to possible changes in the role of manufacturing which would help improve Africa's economic situation. The paper concludes with some brief general policy recommendations. [1]

1/ The recommendations correspond closely with those recently (1981) put forth in greater detail (although not specifically relating to manufacturing) by the World Bank in Accelerated Development in Sub-Saharan Africa: An Agenda for Action. Also see J. Cody, H. Hughes and D. Wall (eds.), Policies for Industrial Progress in Developing Countries (Oxford University Press, 1980 - sponsored by UNIDO and the World Bank).

2. Development of the manufacturing sector, 1970-1980

The significance of manufacturing varies greatly from country-to-country in Africa. Table 1 shows three key manufacturing indicators-manufacturing value added (MVA) per capita, the share of MVA in GDP and the country share in total African GDP - for all countries in 1970 and 1980. For inter-country comparison MVA per capita has the advantage that it does not reflect variation caused by the development of other sectors. The discovery of oil, for example, will raise a country's GDP and thus lower the MVA/GDP ratio without necessarily affecting the level of MVA or MVA per capita. [1] The MVA/GDP ratio, expressed in current prices, is more useful for showing the relative importance of manufacturing within a country at a given point in time, whereas the country share in regional MVA reflects its population size.

As of 1970, MVA per capita averaged about $8 for the 21 least developed countries, $14 for the 4 OPEC oil exporters, $23 for the 27 other countries and $16 for all developing Africa. Per capita MVA ranged from as little as $1-2 for Guinea-Bissau, Lesotho and Rwanda to $55 for Zimbabwe and Namibia. As of 1980 the variation among countries was even greater. In the oil-exporting countries average MVA per capita almost doubled in real terms (constant 1970 prices) to $26, whereas it declined slightly in the least developed countries and increased by about 20 per cent in other countries. Thus the average change for all developing Africa, about 30 per cent, conceals the great difference in performance of the oil exporters, especially Libya A.J. and Gabon, and the rest of developing

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1/ The discovery may of course cause resources to shift out of manufacturing and into oil production, which would result in a decline in MVA per capita. On the other hand, the additional oil production could be achieved through use of idle or foreign resources, or resources drawn from sectors other than manufacturing.

Table 1. Manufacturing value added (MVA) per capita and share of MVA in GDP, developing Africa by country, and country share in MVA of developing Africa, 1970 and 1980 a

Country territory	MVA per capita (US $)			Share, MVA in GDP at factor cost (in per cent)			Country share in MVA of developing Africa (in per cent		
	1970	1980 (constant)	1980 (current)	1970	1980 (constant)	1980 (current)	1970	1980 (constant)	1980 current
Main oil-exporters (4)	13.78	25.57	91.71	5.20	6.39	5.01	18.460	28.339	35.089
Algeria	30.29	43.42	134.65	11.16	11.11	8.14	7.478	8.570	9.532
Gabon	23.37	120.58	456.32	4.12	10.16	7.66	0.213	0.715	0.871
Libya A. J.	32.37	144.04	270.54	1.79	5.59	2.10	1.191	4.598	3.037
Nigeria	9.16	17.39	72.05	4.43	5.21	5.01	9.578	14.456	17.469
Least developed (21)	7.79	7.47	25.48	8.69	8.10	7.27	15.155	11.835	13.738
Benin	6.87	6.33	13.73	8.35	6.32	5.21	0.345	0.186	0.166
Botswana	9.52	25.82	67.87	7.84	10.31	6.91	0.105	0.219	0.263
Burundi	4.34	5.53	19.23	6.77	7.81	11.62	0.284	0.256	0.319
Cape Verde	4.91	4.73	17.14	5.23	5.88	5.56	0.024	0.017	0.021
Central African Rep.	13.45	12.59	41.28	13.09	13.95	13.99	0.439	0.303	0.357
Chad	4.49	3.66	19.44	5.49	5.20	9.14	0.303	0.178	0.339
Comoros	6.41	2.42	9.98	6.69	4.70	5.26	0.033	0.015	0.018
Ethiopia	6.82	7.07	13.19	9.55	9.74	10.64	3.107	2.428	1.615
Gambia	6.09	2.93	9.33	5.10	2.64	2.58	0.052	0.019	0.022
Guinea	4.51	4.62	10.27	2.89	3.01	3.10	0.327	0.250	0.299
Guinea-Bissau	1.29	1.25	4.30	1.07	1.12	1.75	0.012	0.008	0.009
Lesotho	1.51	4.56	11.00	2.71	5.02	4.93	0.030	0.066	0.057
Malawi	10.22	15.95	36.22	15.36	16.11	15.96	0.850	1.042	0.829
Mali	5.11	5.22	22.27	10.52	10.83	13.17	0.496	0.373	0.571
Niger	5.73	5.75	21.34	6.04	5.73	5.31	0.426	0.331	0.421
Rwanda	2.00	10.16	28.08	3.47	12.21	12.84	0.131	0.527	0.501
Somalia	5.02	6.92	29.04	6.49	8.25	8.61	0.259	0.259	0.371
Sudan	13.58	10.19	32.33	10.18	7.09	7.01	3.555	2.015	2.594
Tanzania U.R.	8.80	8.23	24.57	10.08	7.75	7.87	2.143	1.591	1.703
Uganda	9.08	4.26	57.28	7.50	4.80	4.76	1.646	0.828	1.027
Upper Volta	5.77	6.97	20.92	10.88	14.57	13.89	0.583	0.513	0.555
Other (27)	23.25	27.76	65.56	12.69	13.70	12.13	66.386	60.422	51.179
Angola	14.28	6.57	11.81	5.18	4.91	2.58	1.473	0.475	0.305
Cameroon	15.26	18.00	68.08	10.02	9.06	9.64	1.904	1.659	1.756
Congo	13.45	12.01	39.68	6.63	5.24	4.62	0.198	0.200	0.187
Djibouti	23.98	19.91	71.71	8.09	8.53	8.80	0.074	0.071	0.091
Egypt	35.54	47.46	67.00	19.60	17.67	14.02	21.902	21.340	16.804
Equatorial Guinea	9.62	2.33	9.20	3.77	4.21	5.22	0.052	0.009	0.013
Ghana	25.30	20.92	105.25	12.15	12.51	9.65	4.675	2.773	5.005
Ivory Coast	23.66	36.08	117.98	11.40	13.48	10.28	2.513	3.126	3.389
Kenya	15.00	22.57	47.68	12.13	16.02	12.49	3.718	3.997	3.018
Liberia	11.33	14.59	34.55	4.00	5.55	4.98	0.281	0.289	0.331
Madagascar	13.33	12.49	41.65	11.51	11.97	11.19	1.666	1.153	1.379
Mauritania	8.15	8.95	27.31	4.93	6.24	6.31	0.174	0.143	0.157
Mauritius	31.66	65.90	154.77	16.01	21.26	17.99	0.486	0.680	0.573
Morocco	35.58	42.49	122.70	15.86	15.51	17.50	9.836	9.178	9.507
Mozambique	12.84	9.57	22.70	5.89	6.12	8.65	1.920	1.051	0.894
Namibia	54.55	57.08	84.84	9.35	8.28	4.85	0.777	0.605	0.313
Reunion	39.15	38.78	152.65	4.94	3.26	3.67	0.323	0.230	0.324
Sao Tome and Principe	8.49	7.50	21.31	4.81	5.43	4.74	0.011	0.007	0.007
Senegal	27.66	26.06	66.74	15.93	18.24	16.89	2.257	1.568	1.459
Seychelles	6.15	20.43	98.29	1.59	4.21	6.20	0.006	0.015	0.027
Sierra Leone	8.90	9.64	26.92	6.45	7.32	7.20	0.453	0.359	0.360
Swaziland	30.33	68.19	177.04	12.35	18.29	23.52	0.236	0.398	0.370
Togo	12.53	7.54	22.61	10.24	6.18	5.70	0.454	0.207	0.213
Tunisia	23.16	48.66	111.06	9.22	11.23	10.03	2.131	3.286	2.690
Z ire	5.12	3.65	8.16	7.55	6.50	8.36	2.053	1.134	0.910
Zambia	23.44	31.07	87.44	6.53	10.00	14.93	1.812	1.957	1.975
Zimbabwe	55.10	55.51	150.46	21.30	23.31	23.80	5.410	4.491	4.367
DEVELOPING AFRICA TOTAL (52)	16.29	21.07	58.75	9.50	9.77	7.63	5,408 b	9,258 b	25,811 b

a/ 1970 data in 1970 prices and 1980 data shown in current and constant 1970 prices.

b/ Value in US$ millions.

Source: Computer printouts supplied by ECA Statistics Division, with calculations by the UNIDO Secretariat.

Africa, especially the poorest countries. Whereas in 10 of the least developed countries and in 11 of the other countries group MVA per capita at constant prices actually declined, considerable increases occured only in 3 of the least developed countries (Botswana, Malawi and Rwanda - from low 1970 levels) and in 8 other countries (Egypt, Ivory Coast, Kenya, Mauritius, Seychelles, Swaziland, Tunisia and Zambia). In current prices (and exchange rates) the picture as of 1980 was very different from that of 1970. MVA per capita in the later year averaged about $92 for the oil exporters, $25 for the least developed countries, $66 for other countries and $59 for all developing Africa. The range among countries was $4 for Guinea-Bissau to $456 for Gabon; in 24 countries MVA per capita was below $30 and in 11 countries it was above $100.

As of 1970 the share of MVA in GDP averaged 5.2 per cent for the oil exporters, 8.7 per cent for the least developed countries, 12.7 per cent for other developing countries and 9.5 per cent for all developing Africa. Countries with the lowest MVA share (less than 2 per cent) were Guinea-Bissau and the Seychelles (reflecting underdevelopment) and Libya A.J. (reflecting oil wealth), whereas Zimbabwe and Egypt had the highest MVA shares (21.3 and 19.6 per cent). At constant prices the MVA share rose to an average in 1980 of 6.4 per cent in the oil exporting countries, 13.7 per cent in other countries and 9.8 per cent in total developing Africa, but declined to 8.1 per cent in the least developed countries. Particularly large relative increases in the MVA share occured in Libya A.J., Gabon, Botswana, Lesotho, Rwanda, Upper Volta, Kenya, Mauritius, Swaziland and Zambia, but in 17 countries the MVA share was less than in 1970. At current prices the share of MVA in 1980 GDP was below that in 1970 in all the country groupings (down in 22 countries). Zimbabwe and Swaziland had the highest MVA shares in 1980 current prices (23.8 and 23.5 per cent) and Guinea-Bissau had the lowest (1.8 per cent).

As of 1970 the oil exporters accounted for 18.5 per cent of African MVA, the least developed countries accounted for 15.2 per cent and other countries for 66.4 per cent. The largest manufacturing countries were

Egypt (21.9 per cent of the total), Morocco (9.8 per cent), Nigeria (9.6 per cent), Algeria (7.5 per cent) and Zimbabwe (5.4 per cent). Together these 5 countries accounted for about 54 per cent of the total, whereas 31 countries had shares of less than 1 per cent each (as little as 0.006 per cent in the case of the Seychelles). The share of the oil exporters increased in constant prices to 28.3 per cent in 1980, and the shares of the least developed and other countries fell to 11.2 and 60.4 per cent. The share of the 5 main manufacturing countries increased to 58 per cent, with Nigeria's share increasing to 14.5 per cent, and with Zimbabwe now slightly behind Libya A.J. In current prices the share of the oil exporters was even greater, 35.1 per cent, and the share of the least developed countries was 13.7 per cent (largely due to the difference in Uganda's share in constant and current prices, a reflection of high inflation). The current price share of the other countries was only 51.2 per cent (resulting from the difference in Egypt's share in constant and current prices, a reflection of low inflation and currency devaluation). As of 1980 the 5 largest manufacturing countries, in current prices, were Nigeria (21.5 per cent of the total), Egypt (10.8 per cent), Algeria and Morocco (both 9.5 per cent) and Ghana (5.0 per cent). Together they accounted for 56 per cent of the total. The most significant change from 1970 to be noted among the positions of the main producers is the large increase in Nigeria's share and the large decline in Egypt's share. Compared to 1970, the 1980 current price shares of all the oil exporters were higher in only 9 of the least developed countries and in 10 of the other countries.

Table 2 shows that average real growth in MVA during 1970 - 1980 was high in the oil exporting countries (10.4 per cent), with a range of 7.7 per cent (Algeria) to 21.4 per cent (Libya A.J.). In the least developed countries average growth during the period, 2.6 per cent, was only one quarter of the rate in the oil exporters; growth ranged from -4.0 per cent (Uganda) to 37.3 per cent (Rwanda). In the other countries growth averaged 4.6 per cent, with a range from -10.5 per cent (Equatorial Guinea) to 19.5 per cent (Seychelles). In terms of regional "growth poles" it may be seen that the most rapid expansion of MVA tended to

Table 2. Real growth rates in manufacturing value added (MVA) and difference between MVA and GDP growth, averages for 1970-75, 1975-80 and 1970-80, with 1980 price deflator for manufacturing and ratio of manufacturing and GDP price deflators, developing Africa, by country

Country/ territory	MVA real growth rate (per cent) a/			MVA real growth rate minus GDP real growth rate (per cent) a/			MVA price deflator, 1980 (1970=100) b/	Deflator corrected for change in US $ value of local currency b/	MVA price deflator 1980 GDP price deflator 1980 (1970 = 100) in per cent b
	1970-75	1975-80	1970-80	1970-75	1975-80	1970-80			
Main oil-exporters (4)	11.60	9.11	10.36	4.14	0.74	2.44	250.20	320.64	70.96
Algeria	7.05	8.28	7.66	-1.48	2.64	0.57	240.10	310.13	73.09
Gabon	28.80	11.57	20.19	9.38	8.93	9.16	284.50	378.44	75.41
Libya A.J.	20.16	22.64	21.40	13.40	13.60	13.50	153.52	187.30	39.31
Nigeria	15.29	7.03	11.16	8.17	- 2.30	2.93	322.69	414.41	96.03
Least developed (21)	3.04	2.07	2.56	0.21	- 1.39	-0.59	348.94	393.51	107.66
Benin	5.77	- 5.74	0.02	2.51	- 6.75	-2.12	211.60	281.47	82.52
Botswana	15.86	14.71	15.28	7.28	1.68	4.48	224.46	269.93	67.18
Burundi	4.43	4.63	4.53	3.26	- 0.24	1.51	358.00	347.98	148.85
Cape Verde	1.65	1.96	1.81	3.50	- 1.12	1.19	481.90	361.63	94.63
Central African Rep.	-0.27	3.94	1.84	-0.68	2.17	0.75	246.60	328.02	100.32
Chad	0.18	- 5.32	0.43	3.40	- 4.15	-0.38	402.40	455.59	175.58
Comoros	3.70	- 5.37	- 1.34	1.46	- 6.88	-2.72	314.55	411.42	112.02
Ethiopia	1.07	5.05	3.06	-1.19	1.76	0.28	154.15	186.53	109.27
Gambia	21.81	-13.49	4.16	16.46	-14.06	1.20	267.21	319.55	97.93
Guinea	2.58	3.23	2.91	-0.32	1.45	0.57	157.70	222.28	102.85
Guinea-Bissau	0.14	2.61	1.37	-2.10	3.36	0.57	403.90	343.28	155.43
Lesotho	45.74	5.98	25.86	38.44	- 2.50	17.97	262.05	241.40	96.16
Malawi	11.20	4.62	7.91	1.81	- 0.51	0.65	220.27	227.14	97.22
Mali	3.06	2.82	2.94	0.28	0.85	0.56	320.00	426.67	121.59
Niger	2.52	4.42	3.47	3.11	- 3.75	-0.32	279.20	371.39	92.73
Rwanda	68.31	6.28	37.30	58.93	1.45	30.19	256.50	276.25	105.15
Somalia	9.66	2.56	6.11	5.17	0.17	2.67	375.44	291.06	104.36
Sudan	3.99	1.87	2.93	1.07	- 2.01	-0.47	455.80	317.42	99.00
Tanzania U.R.	4.81	0.44	2.62	0.31	- 5.38	-2.54	342.89	298.41	101.57
Uganda	-2.69	- 5.37	- 4.03	-2.88	- 5.45	-4.16	1,213.25	1,344.55	99.11
Upper Volta	7.89	1.54	4.71	6.77	0.15	3.45	225.10	300.05	95.20
Other (27)	5.25	3.88	4.57	1.59	0.07	0.83	359.35	351.78	99.87
Angola	-2.07	- 1.57	- 1.82	4.31	0.09	2.20	308.80	179.62	52.46
Cameroon	2.15	6.26	4.21	-2.64	0.73	-0.95	283.70	378.16	106.38
Congo	-0.99	4.98	1.99	-8.24	3.84	-2.20	248.50	330.55	88.19
Djibouti	10.81	0.49	5.65	4.78	2.83	3.80	299.90	360.05	100.81
Egypt	4.66	6.56	5.28	-0.36	- 1.81	-1.10	227.22	141.14	79.35
Equatorial Guinea	-2.29	-18.76	-10.53	6.66	- 4.77	1.04	371.40	392.45	123.07
Ghana	2.60	- 1.52	0.54	1.16	- 0.22	0.47	1,356.26	503.21	77.22
Ivory Coast	6.72	9.20	7.96	0.69	3.04	1.86	247.90	327.00	76.99
Kenya	8.25	7.70	7.98	3.50	2.66	3.08	219.49	211.21	77.95
Liberia	12.18	0.60	6.39	8.80	0.97	3.92	223.04	223.04	89.74
Madagascar	2.34	1.23	1.79	1.26	0.36	0.46	251.30	333.58	95.99
Mauritania	0.41	6.90	3.66	-1.82	6.75	2.47	252.10	305.10	101.05
Mauritius	11.44	7.33	9.38	3.86	2.35	3.10	327.71	234.86	84.61
Morocco	6.55	3.11	4.83	1.33	- 1.81	-0.24	220.70	288.80	112.83
Mozambique	6.22	- 3.37	1.42	7.86	- 3.36	0.60	407.42	237.09	141.30
Namibia	2.58	3.45	3.02	-0.76	- 1.58	-1.16	175.00	148.64	58.54
Reunion	-1.23	6.09	2.43	-8.04	0.14	-3.95	297.30	394.66	112.78
Sao Tome and Principe	0.50	0.39	0.44	5.06	- 2.60	1.22	346.40	284.85	87.54
Senegal	4.37	0.15	2.26	1.88	1.17	1.52	192.50	256.06	92.57
Seychelles	25.93	12.99	19.46	21.75	6.21	13.98	647.06	481.59	147.55
Sierra Leone	7.26	- 0.12	3.57	5.86	- 2.12	1.75	352.35	279.40	98.37
Swaziland	17.07	5.98	11.53	9.96	- 0.73	4.62	305.81	259.74	128.62
Togo	-3.64	- 0.35	- 1.99	-5.70	- 3.64	4.67	225.30	299.69	92.22
Tunisia	13.50	7.60	10.55	3.47	1.32	2.40	175.40	228.23	89.35
Zaire	3.78	- 4.43	- 0.32	-0.14	- 2.75	-1.44	1,175.30	223.59	129.67
Zambia	19.99	- 1.11	9.44	14.84	- 0.15	7.35	310.64	281.44	149.34
Zimbabwe	6.53	1.04	3.78	0.06	1.83	0.94	253.87	271.06	102.09

a/ 1970 US $ basis.

b/ Deflators for the three country groupings calculated on an unweighted arithmetic basis.

Source: Computer printouts supplied by ECA Statistics Division, with calculations by the UNIDO Secretariat.

occur in the far north and, with more exceptions, in the south of the continent, whereas in the rest of Africa high average growth (7 per cent or more) was achieved only by Gabon, Nigeria and Ivory Coast in the west and Rwanda and Kenya in the east. The table also shows that real MVA growth during the second half of the decade was less than in the first half in most countries (negative growth in 13 countries), with an average of 9.1 per cent for the oil exporters, 2.1 per cent for the least developed countries and 3.9 per cent for other countries.

Growth of MVA exceeded that of GDP on average by 2.4 per cent in the oil exporting countries and by 0.8 per cent in other countries during 1970-1980, but the average MVA growth rate in the least developed countries was 0.6 per cent less than that of GDP during the period. Particularly after 1975 MVA growth averaged less than that of GDP for many (26) countries. Thus in much of Africa it seems that manufacturing as the "engine of growth" is faltering. This important phenomenon will be considered more fully in the next section of the paper.

Table 2 also shows the difference in 1970 and 1980 prices. The 1980 price deflator for manufactures (local currency, 1970=100) varied from less than 200 (Libya A.J., Ethiopia, Guinea, Namibia, Senegal and Tunisia) to over 1000 per cent (Uganda, Ghana and Zaire). In most cases these wide differences in inflation were at least partly offset by foreign exchange rate alterations. Very high inflation in Zaire, for example, was offset by drastic currency devaluation. However, in Uganda the equally high inflation was exacerbated by a slight upward revaluation against the US dollar, and devaluation in Egypt and Namibia, both with relatively low inflation rates, resulted in these countries having the lowest 1980 MVA deflators, corrected for exchange rate changes, in Africa. Calculated on the basis of equal weights for each country, average inflation in manufacturing expressed in US dollars was lowest in the oil exporters and highest in the least developed countries. Reflecting the large increases in oil prices, 1980 MVA price deflators were below those for GDP in all 4 oil exporting countries. The 1980 MVA deflator exceeded the GDP deflator by more than 10 per cent in 5 least developed countries and 8 other countries, whereas it was more than 10 per cent

below in 2 least developed countries and 11 other countries.

Space does not permit a detailed examination of inter-country or inter-temporal differences in distribution of manufacturing, but the average structure of manufacturing in developing Africa as of 1975 is shown in Table 3, and for comparison, distribution by sub-sector for Zimbabwe, one of the most industrially advanced African countries, and Sudan, one of the least developed countries (and having a more diversified structure of manufacturing than many other least developed countries). Typically, food, beverages and tobacco (31 per cent share) and textiles and clothing (21 per cent) are still the largest components of manufacturing in Africa, although the share of these products is falling. In Sudan the shares of these sectors were 44 and 37 per cent, but in Zimbabwe their shares were only 18 and 17 per cent. In that country the shares of fabricated metal products and machinery (20 per cent), basic metals (15 per cent) and chemicals, etc. (14 per cent) were much higher than in Sudan, where basic metal production was almost non-existent, the share of fabricated metal products (based on metal imports) was only 4 per cent, and the share of chemicals and related products (mostly petroleum refining) was 9 per cent.

To summarize the main points of this part of the paper:

- the great diversity in level of industrialization among African countries existing at the start of the 1970s increased during the decade, with (especially) the oil exporters, the semi-industrialized countries of North Africa and a few other countries - mainly in Southern Africa - doing well, while in the poorest and least developed countries growth of manufacturing was generally much lower, with average 1980 MVA per capita below that of 1970 in real terms in the least developed countries;

- in most countries growth of MVA during the second half of the decade was well below that in the first half;

- particularly in the poorest countries, but also to a large extent in other countries, manufacturing as the "engine of growth" faltered (especially in the second half of the decade), with MVA growth often below GDP growth;

Table 3. Distribution of manufacturing value added by sub-sector, developing Africa, Zimbabwe and Sudan, 1975

ISIC code (with branch description)	Developing Africa a/	Zimbabwe	Sudan
	(percentage) b/		
31 (food, beverages and tobacco products)	31.3	18.2	43.5
32 (textiles, wearing apparel and leather products)	20.6	16.9	36.6
33 (wood products, including furniture)	4.2	3.3	0.1
34 (paper and products, printing and publishing)	4.9	6.7	2.0
35 (chemicals and petroleum, coal, rubber and plastic products)	15.9	14.1	8.9
36 (non-metallic mineral products, except petroleum and coal products)	4.9	4.6	4.4
37 (basic metal industries)	4.2	14.9	0.4
38 (fabricated metal products, machinery and equipment)	12.6	19.9	4.1
39 (other manufactures)	1.3	1.2	0.1

a/ 45 countries.

b/ Sum of branch shares may not add up to 100.0 because of rounding.

Source: UNIDO data base. Information supplied by the United Nations Statistical Office, estimates by the UNIDO Secretariat.

- price and exchange rate changes, as well as differences in real growth, greatly affected the shares of many countries in total African MVA, in particular with Nigeria's share increasing from 9.6 to 21.5 per cent and Egypt's decreasing from 21.9 to 10.8 per cent;

- the share of processed agricultural products, textiles and clothing, though accounting for about half of total MVA in developing Africa as of 1975 (more in poorer, less in richer countries), is declining, with the shares of metals and metals based products and chemicals increasing.

3. Unbalanced growth: linkages and non-linkages between manufacturing and general economic development

National accounts data for 1970-1980 reveal significant changes with regard to agricultural output, trade and public expenditure which interact with the development of manufacturing. [1] These changes are shown below, and in light of these and other factors the changing role of manufacturing is discussed.

In almost all African countries the rate of growth of agriculture slowed down in the 1970s to the extent that output per capita was falling and self-sufficiency was declining. The average real rate of growth (1970 prices) from 1970 to 1980 was 1.6 per cent in the 4 oil exporting countries (1980 population: 99 millions), 1.8 per cent in the least developed countries (1980 population: 139 millions) and 0.9 per cent in other countries (1980 population: 202 millions), whereas average GDP growth (at factor cost) in the three groups was 7.9, 3.2 and 3.7 per cent. Thus the share of agriculture in GDP at constant prices dropped from 30.2 per cent (1970) to 16.3 per cent (1980) in the oil exporting countries, from 50.6 per cent to 44.2 per cent in the least developed countries and from 29.9 per cent to 22.6 per cent in other countries. Within the agricultural sector the drop in per capita production of food supplies, especially grains, was even greater that the decline for the sector as a whole (FAO data), so that combined with increasing per capita food consumption resulting from higher incomes per capita, the difference between local demand for and supply of food widened greatly. Thus agricultural exports declined and imports rose, negatively affecting foreign exchange availability (see below). By 1980 the situation was therefore at or near that of crisis, with few prospects for improvement.

In the oil importing countries, poor agricultural performance combined with the higher real cost of oil imports and a worsening balance of trade

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1/ Data from computer printouts supplied by ECA Statistics Division unless otherwise noted.

in manufactures led to a second crisis in the balance of payments. Net exports as a percentage of GDP (current market prices) is shown below for the oil exporters, least developing countries and other countries from 1970 to 1980.

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Main oil exporters	4.69	5.87	5.18	5.05	16.16	0.35	2.10	2.63	-3.41	6.83	14.82
Least developed	-4.17	-5.29	-3.67	-4.47	-9.59	-10.44	-7.03	-7.28	-9.95	-9.29	-10.42
Other	-0.79	-3.72	-1.95	-0.80	-2.32	-8.23	-7.00	-6.70	-8.20	-8.92	-8.03

The table shows that in the least developed countries, and to a lesser extent in other oil importing countries, a substantial and rising proportion of GDP was needed to offset the trade deficit, whereas, except in 1978, the oil exporters had a large trade surplus relative to GDP. This difference was largely the result of changing terms of trade: average rates of growth in exports and imports from 1970 to 1980 at 1970 prices were -1.4 and 10.9 per cent for the oil exporters, 0.8 and 3.2 per cent for the least developed countries and 4.4 per cent for other countries. The share of exports in GDP at 1970 prices dropped from 24.5 per cent (1970) to 9.4 per cent (1980) in the oil exporting countries and from 16.8 to 13.1 per cent in the least developed countries, but increased slightly from 26.5 per cent to 27.4 per cent in other countries. The corresponding share of imports rose from 19.8 to 23.3 per cent in the oil exporting countries, declined from 21.0 to 20.7 per cent in the least developed countries and rose from 27.3 to 28.4 per cent in other countries (all in 1970 prices).

A third area of concern, in that it may not reflect best use of resources (see below), is the rapid growth of public expenditure. In the oil exporting countries government consumption expenditure increased in 1970 prices from 1970 to 1980 at an average rate of 16.0 per cent, compared to 6.9 per cent for private consumption expenditure, and the share in GDP of government consumption rose from 10.6 to 20.3 per cent, while the share of private consumption dropped from 66.1 to 59.2 per cent. Public administration and defense spending increased at an average rate of 17.8

per cent (1970 prices), and its share in GDP increased from 8.3 to 19.5 per cent. In the least developed countries, growth rates for government and private consumption were lower, 4.7 and 3.1 per cent, and the share in GDP of government consumption rose from 14.1 to 16.3 per cent. However, the rate of growth in public administration and defense, 6.9 per cent, was considerably higher than in other activities (except mining) and its share in GDP rose from 7.6 to 10.1 per cent. In other countries growth of government consumption averaged 5.0 per cent, compared to 3.2 per cent for private consumption, and the share of government consumption rose from 17.4 to 19.4 per cent. Public administration and defense grew at an average rate of 6.8 per cent, well above growth in other activities, and its share in GDP rose from 10.2 to 13.6 per cent.

This rapid increase in public spending may have several undesired effects. First, it reduces capital resources available for activities greatly in need of additional investment, such as small scale farming. Second, it reduces availability of skilled manpower in sectors such as manufacturing where such resources are in short supply. Third, it generally adds to price inflation. These negative effects might be outweighed by the contribution of such expenditure to overall economic development, but accumulating evidence suggest that in many countries this has not always been the case. 1/ Public spending and administration capacity has been used, for example, to manage complex schemes of trade and price control and public enterprises which have tended to keep prices received by farmers below world prices, thus reducing output, and to distort the pattern of profitability within the manufacturing sector so as to reduce efficiency and increase the economic cost of import substitution and exports. Although the extent of these and related effects is still controversial, and great variation clearly exists among countries, the generally disappointing economic performance in the 1970s suggests a need for reassessment of the extent and structure of public expenditure.

1/ For a detailed discussion see World Bank, op. cit, Chapter 4, and T. Killick, "The role of the public sector in the industrialisation of African developing countries", UNIDO/ID/WG.343/7 (10 September 1981).

Bearing in mind these three macroeconomic problems, and the changes in the manufacturing sector in the 1970s shown previously, we now turn to an examination of how the contribution of manufacturing to economic development might be improved in the 1980s. Three major areas of weakness may first be identified:

1) Investment in manufacturing has been over-emphasized relative to that in agriculture, especially small scale farming, which, given higher priority, could help increase rural employment, improve the trade balance, reduce migration to urban areas and increase effective demand for basic consumer manufactures and farm inputs (machinery, chemicals); 1/

2) Instead of being based on domestic resource endowments and linkages with the whole economy, so that a strong industrial structure could gradually be built, manufacturing has tended to be based, in an attempted great leap forward, on the transfer of often inappropriate ideas, values and technologies from the developed countries;

3) Within the manufacturing sector too much emphasis has been placed on import substitution industries (frequently inefficient and badly managed, with little incentive to improve, and limited to small local markets), luxury consumer goods, heavy industry (now tending towards world-wide decline) and capital intensive techniques.

A more appropriate manufacturing structure could generally be based on the following "model". On the demand side (products), manufacturing would consist of:

a) basic consumer goods for domestic use;
b) export goods (to pay for imported products of types (a) and (c));
c) intermediate and capital goods used to produce (a) and (b) and for use in other sectors, especially agriculture.

1/ The discovery of oil may also lead to neglect of agriculture. For example, in Nigeria, formally a food exporter, food imports in 1980 amounted to US$2,800 million. In a number of West African countries just starting to produce oil, agriculture is likely to be adversely affected unless appropriate policy measures are adopted. See The Economist, "Boom in oil, bust on the farm", (5 December 1981).

On the supply side (activities), manufacturing would consist, within the constraints set by demand, of:

a) labour intensive-and capital, import, energy and management saving-techniques;

b) small scale and rural location (where feasible);

c) linkages with (use of inputs from) domestic primary sectors, especially agriculture.

A manufacturing structure based on this model could provide a more sustainable and more equitable pattern of economic growth. The manufacturing sector would both directly benefit from and contribute to the balanced growth of the rest of the economy. A more detailed specification of the model would vary from country-to-country, depending upon differences in goals, resources and constraints. 1/

1/ The definition of a "basic" consumer good, for example, will partly depend on a country's level and distribution of income. The role of foreign investment also will differ among countries, depending on factors such as the degree of emphasis on self-sufficiency.

4. Policy reform

Several important conclusions regarding policy reform can be drawn from the preceding analysis. Essentially what is needed are greater incentives (and fewer disincentives) for productive activities, replacement of quantitative controls by a system of ad valorem taxes and subsidies (requiring less administrative capacity) and a reduction in the range of effective protection [1] among activities (thus creating a price structure which more closely reflects producer costs and consumer values).

In many African countries prices paid to farmers are set by government authorities well below world prices in order to gain public revenue and keep living costs for urban dwellers low. As we have seen, the result has been a failure of local production to keep up with rising population. High priority needs to be given to increasing farm revenue. This could be done if increases in government spending were reduced (see below), and part of the income gained by farmers would go back to the urban sector through increased purchases of industrial goods by farmers. Farmers' incomes would also be positively affected by changes in trade policy outlined below.

Highly overvalued local currencies make imports seem cheap to domestic consumer and exports seem unprofitable to domestic producers, and thus tend to create a trade deficit. To offset this deficit, as well as to provide public revenue and protection for domestic producers competing with imports, taxes on imports are imposed. In many African countries, various administratively complex quota schemes are used instead of taxes (tariffs), and these vary widely from products to products, often without apparent reason (except that some producers of import substitutes are more successful in lobbying than others). The

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1/ Effective protection reflects not only taxes and subsidies on output, but also those on inputs.

economic costs of such a trade regime have been frequently demonstrated. 1/ In many African countries these costs include reduced market opportunities for farmers (exports being mainly agricultural products) and an inefficient protected manufacturing sector able to sell only within a small domestic market. What is needed is a realistically valued local currency combined with, in place of quantitative controls, a structure of ad valorem tariffs (and export taxes and subsidies) designed to provide modest and fairly uniform effective protection. 2/ Vested interest may make such a change politically difficult, but it should be noted that the balance of payments and domestic price effects of currency devaluation and a general reduction in the level of import protection will tend to cancel under many circumstances. 3/

To sucessfully implement the policy changes discussed above certain changes in the role of the public sector may be required. Ways and means of reducing the growth of public spending need to be considered. A shift away from quantitative controls would allow a reduction in administrative costs. A reduction in the proliferation of public enterprises, many of which require substantial government subsidies, would also reduce public expenditure, and relaxation of central government intervention in the operational management of public enterprises would reduce administrative costs (andperhaps improve management performance). 4/ Better ways of using scarce administrative capacity need to be investigated.

1/ See, for example, W.M. Corden, "Trade policies", in Cody, Hughes and Wall, op. cit.

2/ The concept of and justification for uniform effective protection is discussed in Corden, ibid.

3/ For a detailed analysis of the recent attempts (some unsuccessful) of several countries to implement such changes in trade policy see A.O. Krueger, Foreign trade regimes and economic development: liberalization attempts and consequences (New York, National Bureau of Economic Research, 1975).

4/ See the "Report" of the Expert Group Meeting on the Changing Role and Function of the Public Industrial Sector in Development (UNIDO, ID/WG.343/18, 11 December 1981), which considers these questions in detail.

Clearly these changes can not be made overnight, but a gradualist approach to policy reform may prove to be feasible in many countries.

Finally, it may be worth repeating some basic principles of policy design. 1/

1. Policies should be as clear and direct as possible, yet flexible. By flexibility is meant that policies respond to changing circumstances, that they are dynamic and that they do not create vested interest groups. They should be clear and simple so that the cost of implementing them will be minimal, that time will not be lost in lobbying, tax manipulation and petitioning for licenses, and that the possibility of corruption will be reduced. The most direct policy intervention should be to achieve a particular goal.

2. Good, but not necessarily perfect, information is needed. When the costs of gathering information seem too high relative to the benefits, adjustments should be made. Among these, sensitivity analysis and the "range" method of progressively reducing the uncertainty of important variables seem particularly useful.

3. Objectives and their conflicts and complementarities need to be clearly perceived and accounted for through policy trade-offs. For example, a conflict arising between present and future consumption levels would require a decision (trade-off) on their relative values. This may be reflected in the rate of interest on saving; the higher the rate the greater the relative weight placed on future consumption.

4. Constraints on policy changes should be identified so that practical policy alternatives can be assessed. Among the hierarchy of feasible policy instruments, those that come closest to the best should be selected. Unwanted side effects should be minimized (as they would by choosing the best possible policy solution). The over-use of policies which have a cumulative impact that is greater than

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1/ From World Industry since 1960: Progress and Prospects, P. 140, (UNIDO, United Nations publication, Sales No. E.79.II.B.3).

desired should also be avoided. It should be recognized that constraints on policy change may apply for only a limited period. Efforts to relax constraints should be made when it appears that the benefits of eliminating them exceed the costs.

5. Policy design, national planning and project evaluation should be linked as much as possible. In concept, this link is provided by social cost-benefit analysis and shadow pricing based on welfare economics. In practice close co-operation between institutions engaged in these activities is required.

6. Good policies require more than just a sound conceptual basis. Well-developed public institutions and administrative skills are extremely important.

7. In designing policy the development of entrepreneurship and skills should not be neglected. Too much emphasis is often placed on short term physical output and economic growth rates.