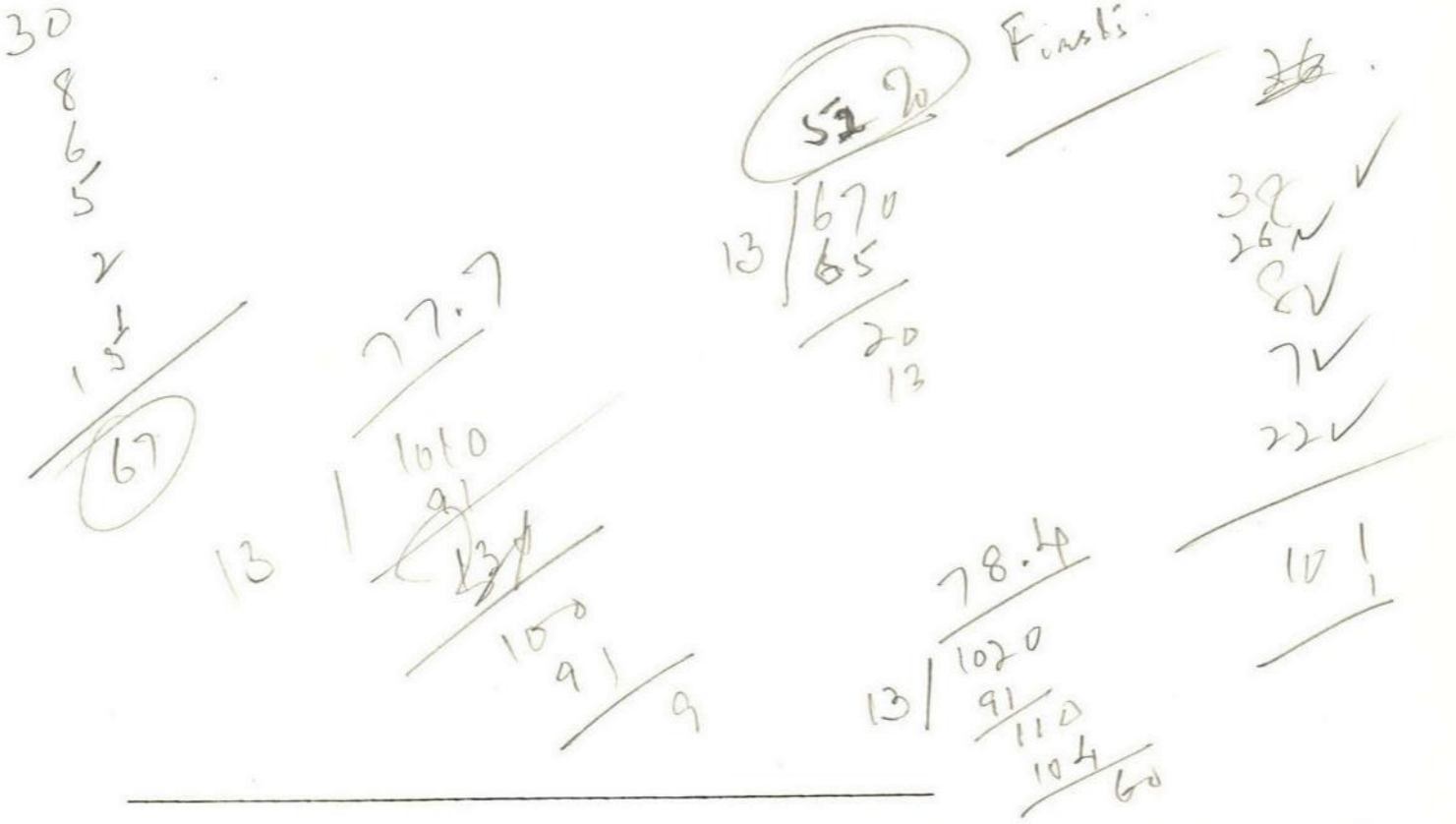
OED Annual Review of Project Performance Audit Results :
Fifth annual Review, 1979 - Part-1

AGRICULTURAL PROJECTS

First of a series in which subsequent operations have since been made	19 a/
First and only	11 b/
Second in a series	12
Second, after a different though related project	7 c/
	49



a/ Includes: (i) Indonesia Seeds, for which a follow-on project is currently under appraisal, and (ii) Tunisia Agricultural Credit, which was the first of its kind, but for which another loan to support a different kind of operation had been previously made to the same borrower and project entity.

b/ Includes all four drought relief projects, the two grain storage ones, the only forestry project and one of the two fisheries projects.

c/ All seven Indian agricultural credit projects, including ARDCI.

PUBLIC UTILITIES

2	projects	- first and only
6	projects	- first of a series in which subsequent loans have since been made
20	projects	- second or subsequent loans to same borrower and project entity
Total 28	projects	

Education

The World Bank

7
4

IIIII 6 projects - first of a series in which subsequent loans have since been made

II 2 projects - second or subsequent loans to same borrower and project entity

II 2 — second ~~or~~ subsequent loans to same borrower, different project entity.

I 1 just ~~Education~~, no subsequent.

II projects.

The World Bank

DFCs – Total 6
Project total 5
one did not have a successor

5 projects - first of a series in which subsequent loans have since been made

2 projects (from above 5) - second or subsequent loans to same borrower and project entity

The World Bank

INDUSTRY-
Total 2

0 projects - first of a series in which subsequent loans have since been made

0 projects - second or subsequent loans to same borrower and project entity

RKm

July 28, 1980

TRANSPORT PROJECTS (PPARs CY 1979)

First of a series in which subsequent operations have since been made	7
First and only	6
Second, or subsequent in a series	15
Second, after a different though related project	0
Total	28

22

TOURISM PROJECTS (PPARs CY 1979)

First of a series in which subsequent operations have since been made	1
First and only	1
Total	2

1

Of the 114 projects making up the 88%:

99 were completed in FY 76-79

OR

107 were completed in FY 76-80

July 69 on = FY70 + after

Table 1

PROJECTS FOR WHICH PROJECT PERFORMANCE AUDIT REPORTS WERE ISSUED

January 1 - December 31, 1979

	Projects by Sector	Amount[a] (US$ mlns)	Date of Board Approval	Date of Loan/Credit Agreement	Date of Final Disbursement	Brief Project Description
AGRICULTURE						
1	Ethiopia Humera Agric. Development Cr. 188	3.1	04/70	ND 05/70	07/75	Raise the production of large commercial farms through road construction, research, extension, a town water supply system and studies for a follow-on project.
2	Ethiopia Wolamo I Agric. Development Cr. 169	3.5	10/69	ND 11/69	12/74	Improve the incomes of 7050 farm families by erosion control, land clearing and planning, road construction, credit, establishment of cooperative coffee processing centers, water supplies and improved livestock herds.
3	Kenya II Smallholder Agric. Credit Cr. 344	6.0	11/72	11/72	06/76	On-lending activities by the Agricultural Finance Corporation (AFC) to 13,552 farmers primarily for small scale dairy enterprises based on grade cattle plus technical assistance to implementing agencies.
4	Lesotho Thabe Bosiu Rural Development Cr. 361	5.6	02/73	ND 03/73	06/79	Provision to about 12,000 peasant farmers of improved seed, fertilizer, cultivation services; credit and technical agricultural guidance.
5	Malawi Karonga Rural Dev. (Phase I) Cr. 282	6.6	01/72	01/72	04/78	Develop a poor rural area through irrigated and rainfed rice schemes, expansion of areas and improved production practices for rainfed crops. Improvement of livestock industry, research, credit, lake transport and health centers.
6	Malawi Shire Valley Agric. Dev. (Phase II) Cr. 363	10.5	03/73	03/73	04/78	Improve crop production on small farms through development of cotton, rice and groundnut cultivation and increase livestock and fisheries production. Special studies and health facilities.
7	Tanzania Flue Cured Tobacco Cr. 217	9.0	10/70	ND 10/70	03/78	Increase flue-cured tobacco production through settlement of about 15,000 farmers; establishment of cooperatives; construction of roads, water supplies and baling centers; extension and research; and studies.
8	Tanzania Smallholder Tea Development Cr. 287	10.8	02/72	03/72	NYFD[b]	Expand smallholder tea production through strengthening of Tea Authority, factory and roads construction, extension and leaf collection services, tea nurseries, and credit for farm inputs.
9	Zambia Commercial Crops Farming Development Ln. 685	5.5	05/70	ND 06/70	12/76	Assist development of commercial farming and further develop tobacco industry by training and settling farmers on commercial sized farms and providing technical and financial assistance, plus expanding facilities of Tobacco Board.
10	Ghana Fisheries Cr. 163	1.3	09/69	09/69	12/78	Building 40 purse-seiners to expand fleet. Preparing feasibility study for a new fishing port.
11	Mali Drought Relief Fund Cr. 443	2.5	11/73	ND 12/73	12/77	Assist people in drought-afflicted areas to re-develop and improve their farms and herds and to set up organization to efficiently use post-drought aid.
12	Niger Drought Relief Fund Cr. 441	2.0	11/73	12/73	04/79	Assist drought-afflicted rural population to restore their productive base. Finance for management and production of gum arabic trees, erosion control, calf feeding lots, roads, warehouses, training and studies.
13	Senegal Drought Relief Fund Cr. 446	3.0	11/73	12/73	12/78	Assist people in drought-afflicted areas to rehabilitate and improve their farms and herds and to set up organization to efficiently use post-drought aid.
14	Senegal River Polders Cr. 350	4.5	12/72	01/73	06/76	Increase rice production through the construction and agricultural development of 3 irrigated subprojects thereby partially reducing 200,000 tons of imports per annum.
15	Senegal Terres Neuves Resettlement Cr. 254	1.35	05/71	06/71	12/77	Encourage resettlement of 6,000 families, over 15 years. First phase organized settlement of 300 families in six villages over six years.
16	Upper Volta Cotton Cr. 225	6.2	12/70	12/70	03/78	Increase by one-third Upper Volta's cotton production through a larger area and 40% higher yields.
17	Upper Volta Drought Relief Fund Cr. 442	2.0	11/73	12/73	03/78	Assist drought-afflicted people to restore their productive base through construction of wells and earth dams, seed storehouses and for spot repairing feeder roads.
18	Upper Volta Rural Development Fund Cr. 317	2.2	06/72	06/72	06/77	Support small subprojects which were not individually suitable for Bank Group financing: irrigation and water development, construction of storehouses, upgrading feeder roads, erosion control, and studies.
19	Indonesia Seeds Cr. 246	7.5	05/71	05/71	10/78	Develop a modern rice seed industry by establishing a mechanized and irrigated seed farm and seed processing plants, and setting up a modern seed control and certification service.
20	Korea Pyongtaek-Kumgang Irrigation Ln. 600	45.0	~~05/69~~	05/69	06/77	Expand arable land base principally for rice cultivation through reclamation of tidal lands and bench terracing of uplands.
21	Philippines III Agric. Credit Ln. 1010	22.0	06/74	06/74	06/77	Diversified on-lending activities by rural banks to farmers, fishermen and rural entrepreneurs.
22	India Agric. Refinance & Dev. Corp. I Credit Cr. 540	75.0	04/75	04/75	09/77	On-lending activities through ARDC for farm development primarily in minor irrigation, with a smaller share to a wide range of diversified activities.
23	India Andhra Pradesh Agric. Credit Cr. 226	24.4	12/70	01/71	08/77	On-lending activities by SLDB and commercial banks for farm development (67% minor irrigation; 25% tractors; 8% others).
24	India Tamil Nadu Agric. Credit Cr. 250	35.0	06/71	06/71	03/78	On-lending activities by SLDB and commercial banks for farm development (70% minor irrigation; 20% tractors; 10% others).
25	India Maharashtra Agric. Credit Cr. 293	30.0	03/72	03/72	09/76	On-lending activities by SLDB and commercial banks for farm development, 90% minor irrigation 10% land development.
26	India Madhya Pradesh Agric. Credit Cr. 391	33.0	05/73	06/73	03/77	Increase agricultural production through farm loans for minor irrigation and land development.
27	India Punjab Agric. Credit Cr. 203	27.5	06/70	06/70	07/77	Increase agricultural production through farm loans for mechanization.
28	India Haryana Agric. Credit Cr. 249	25.0	06/71	06/71	01/77	Increase agricultural production through farm loans for mechanization and minor irrigation.
29	India Tarai Seeds Ln. 614	13.0	~~06/69~~	06/69	02/78	Expand foodgrain seed production by about 46,000 tons through levelling, irrigating and mechanizing seed farms and through processing and marketing of the seed produced.

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	Projects by Sector	Amount[a] (US$ mins)	Date of Board Approval	Date of Loan/Credit Agreement	Date of Final Disbursement	Brief Project Description
30	Sri Lanka Drainage and Land Reclamation Cr. 168	2.5	10/69	11/69	06/78	Increase rice production on 13,200 acres of land in six delta areas.
31	Sri Lanka Lift Irrigation Cr. 121	2.0	06/68	06/68	12/77	Providing irrigation facilities to about 6,500 acres to increase production of onions and chillies and improve the incomes of small farmers.
32	Finland Forest Improvement Ln. 871	20.0	12/72	12/72	06/76	Planting new forests, improving existing stands, draining some wet forest areas and constructing roads.
33	Iraq Grain Storage Ln. 925	40.0	06/73 NO	08/73	12/77	Construction and improvement of grain handling and storage system, adding about 560,000 tons of storage capacity; establisning inventory and communications systems; training for local personnel.
34	Israel II Agric. Credit Ln. 972	35.0	03/74	04/74	09/77	Support flower and fruit production, export handling facilities, water development and livestock development and assist an applied research program.
35	Morocco II Agric. Credit Ln. 861 Cr. 338	24.0 10.0	06/72	10/72	09/76	Finance medium- and long-term investments for grain farm mechanization, citrus, vegetables and dairy and cattle/sheep operations, and establishment/expansion of marketing.
36	Tunisia I Agric. Credit Ln. 779 Cr. 263	5.0 3.2	07/71	07/71	07/78	Finance on-farm investment for mechanization of grain production, dairy development, and better use of water resources for fodder.
37	Turkey Intensive Dairy Production (I Livestock Dev.) Cr. 236	4.5	02/71	02/71	12/78	Finance improved dairy production on commercial farms near main urban consumption centers.
38	Turkey Seyhan Irrigation (Stage II) Ln. 587/Cr. 143	24.0	02/69	06/69	06/77	Increase agricultural production and exploit the full potential of the region through the construction of irrigation and drainage works.
39	Brazil I Livestock Dev. Ln. 516	40.0	09/67	09/67	12/74	Support livestock development through new pasture technology and technical assistance to ranchers.
40	Brazil Interim II Live stock Development Ln. 868	52.0	12/72 NO	12/72	06/76	Support livestock development through new pasture technology and technical assistance to ranchers.
41	Brazil Grain Storage Ln. 857	30.0	09/72 NO	09/72	06/76	Construct, equip and install new grain storage facilities. Improve and expand existing facilities.
42	Chile Agricultural Rehab. Ln. 1119	23.1	05/75	06/75	10/76	On-lending activities to stimulate agricultural production; support Government's policies of completing land reform, liberalizing agricultural prices, and reorganizing public sector agencies.
43	Ecuador III Livestock Dev. Cr. 222	10.0	11/70	12/70	06/78	Provide credit and planning to further develop 350 beef ranches in coastal zone and 225 dairy farms in Sierra Region. Also funds for research and ranch management, training, improved forage seed production and improved management of Banco Nacional de Fomento.
44	Guatemala Livestock Dev. Ln. 722	4.0	01/71	02/71	08/78	Pasture and herd development on 300 beef ranches.
45	Mexico IV Livestock and Agric. Dev. Ln. 910	110.0	06/73	06/73	12/75	On-lending activities through FIRA for farm development and agro-industries; and for collective farms.
46	Mexico Rio Colorado Irrigation Ln. 527	25.0	01/68	01/68	01/77	Rehabilitation, improvement and operation of irrigation and drainage works and related facilities serving a gross area of 250,000 ha in the Rio Colorado Irrigation District.
47	Panama I Fisheries Ln. 784	3.4	07/71	08/71	10/77	Building 40 shrimp trawlers to replace obsolete crafts. Preparing feasibility study for a new fishing port.
48	Trinidad and Tobago Caroni Sugar Ln. 888	12.0	04/73	04/73	12/76	Rehabilitate and revitalize the sugar industry in Trinidad through re-equipping Caroni's factories, supplying transport, harvesting and other field equipment; staff training; research and special management studies.
49	Uruguay IV Livestock Dev. (Second Stage) Ln. 940	13.5	10/73	10/73	12/78	Continuation of efforts begun in 1961 to develop beef cattle, dairy and pig production, focusing on the spread of improved pastures to improve herd nutrition and increase productivity.
	PUBLIC UTILITIES					
	Power					
50	Tanzania Kidatu Hydroelectric (First Stage) Ln. 715 Ln. 715-2	30.0 5.0	12/70 NO 06/74	12/70 06/74	06/76 12/76	Construction of 100 MW hydroelectric project and 220 KV transmission line, and addition of two 7.5 MW diesel units to existing generating station.
51	Taiwan Third Power Ln. 749	55.0	04/71	06/71	01/78	Construction of a 500 MW thermal unit; construction and expansion of substations; provision of system load dispatch equipment; engineering and management consulting.
52	Indonesia First Electricity Distribution Cr. 165	15.0	10/69 NO	10/69	12/75	Rehabilitation and expansion of Jakarta's distribution system. Also carrying out some major institutional, organizational and financial reforms in the power sector with the help of management consultants.
53	Indonesia Second Electricity Distribution Cr. 334	40.0	06/72 NO	09/72	06/78	
54	Malaysia Fifth Power Ln. 700	20.0	07/70	07/70	04/77	Addition of three 120 MW steam generating units, and construction of transmission lines and substations.
55	Papua New Guinea Upper Ramu Hydroelectric Ln. 737	23.2	04/71	05/71	12/75	Construction of the first phase of Upper Ramu No. 1 underground hydroelectric development; installation of transmission lines, including substations, and consulting services.
56	Ireland Second Power Ln. 726	20.0	02/71	03/71	04/76	Installation of a 250 MW oil-fired generating unit.
57	Ireland Third Power Ln. 804	15.0	02/72	03/72	04/77	Installation of a 250 MW oil-fired generating unit and construction of a transmission line, including a substation.

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58	Tunisia First Power Ln. 815	12.0	04/72 NO	04/72	10/77	Installation of gas turbines; construction of two transmission lines, including substations; general distribution expansion; and consulting services for various studies, including rural electrification and tariff study.
59	Bolivia ENDE Third Power Cr. 433	6.0	08/73	10/73	04/78	Installation of a gas turbine and construction/extension of transmission lines.
60	Brazil Estreito Hydroelectric Ln. 403	57.0	02/65	02/65	02/77	Construction of a hydroelectric plant, including associated transmission work, training and consulting services.
61	Brazil Estreito Transmission Ln. 474	39.0	12/66	12/66	02/77	Construction of transmission and distribution lines; construction and expansion of substations.
62	Brazil Porto Colombia Hydroelectric Ln. 565	22.3	10/68	10/68	04/76	Dam and 4 unit power plant plus associated transmission and substations.
63	Brazil Power Distribution and Subtransmission Ln. 887	20.0	04/73	04/73	12/77	Reconstruction and expansion of transmission and distribution systems.
64	Brazil Salto Osorio Hydroelectric Ln. 728	70.0	03/71	04/71	05/78	Construction of a 700 MW hydroelectric project and 230 KV transmission lines.
65	Brazil Marimbondo Power Ln. 677	80.0	05/70	05/70	08/78	Construction of 1400 MW hydroelectric project and 1400 Km of 500 KV transmission lines; addition of two 150 MW units at an existing hydro generating station.
66	Colombia Power Interconnection Ln. 575	18.0	11/68	12/68	12/77	230 Kv interconnection system; total length 541 Km.
67	Colombia Chivor Hydroelectric Ln. 681	52.3	05/70	06/70	NYFD[b]	First phase of a hydroelectric plant on the Bata River, with 500 MW installed capacity.
68	Panama Second Power (Bayano) Ln. 661	42.0	03/70	03/70	05/77	Construction of the Bayano hydroelectric development; installation of steam units; construction of transmission lines; distribution system expansion; and consulting services.
	Telecommunications					
69	Papua New Guinea Second Telecommunications Ln. 852	10.0	04/72	07/72	06/77	Covered the 1973-75 expansion program, principally: installation of 13,000 lines of local automatic exchange equipment; provision of additional microwave and UHF/VHF systems and 650 additional long distance circuits; provision of telex exchange facilities and teleprinters.
70	India Fifth Telecommunications Cr. 403	80.0	06/73	06/73	12/78	The first two years of the Government of India Posts and Telegraphs Department 1975-79 Development Program.
71	Iran Second Telecommunications Ln. 927	82.0	03/73	08/73	03/79	Covered first two years of 1973-78 expansion program, principally: expansion of long distance network, including installation of a 200-line international automatic exchange; installation of about 163,000 lines of exchange equipment; and improvement of engineering, management and training activities through employment of consultants.
72	Iraq First Telecommunications Ln. 788	27.5	09/71	10/71	08/78	Part of Government's 1971-75 telecommunications development program.
73	Colombia Second Telecommunications Ln. 740	15.0	05/71	05/71	07/77	Expansion of local telephone services by 42,000 lines; extension of long distance facilities and the telex network; installation of new trunk switching exchanges and improvement of accounting procedures through the employment of consultants.
74	Costa Rica Third Telecommunications Ln. 801	17.5	02/72	02/72	10/78	Extension of local telephone network facilities by 25,000 lines; provision of 1,000 additional long distance circuits, expansion of telex facilities and provision of about 600 public call offices in small towns and villages.
	Water Supply and Sewerage					
75	Kenya First Nairobi Water Supply Ln. 714	8.3	11/70	12/70	09/76	Construction of a river water intake, a pumping station, treatment plant, transmission and distribution mains and storage reservoir.
76	Jordan Amman Water Supply & Sewerage II Cr. 385	8.7	05/73	05/73	04/78	Expansion of water production facilities; extension and rehabilitation of the water and sewerage network; a leak detection survey and other consulting services; and a regional development study.
77	Colombia Cali Water Supply & Sewerage Ln. 682	18.5	05/70	06/70	07/77	Water treatment plant and water/sewer networks.
	TRANSPORTATION					
	Highways					
78	Rwanda First Highway Crs. 196 & 196-1	9.3 9.5	06/70 12/75	06/70 12/75	04/76 NYFD[b]	Road construction and purchase of maintentance equipment.
79	Rwanda Highway Maintenance Cr. 299	3.0	03/72	04/72	12/78	Reorganization, training, equipment purchase, workshop, maintenance of roads.
80	Rwanda Third Highway Cr. 475	6.3	05/74	06/74	02/78	Engineering and construction of roads, feasibility studies, technical assistance and training.
81	Somalia First Highway Crs. 74 & 123	8.5	12/64 05/68	03/65 06/68	11/70 NYFD[b]	Construct road; consultants' services for construction supervision, detailed engineering, technical assistance for establishment of maintenance/highway organization; procurement of maintenance/workshop equipment and construction of office building.
82	Somalia Second Highway Cr. 295	9.6	01/72 NO	03/72	03/78	Construct road; consultants' services for construction supervision and preinvestment studies.
83	Liberia Second Highway Ln. 907/Cr. 395	5.6	05/73	06/73	09/78	Construct Monrovia Bypass, provide consultants' services for construction supervision, preinvestment studies, study of Liberian contracting industry, technical assistance for reorganization and strengthening of road maintenance operations; construct workshop and procure equipment.
84	Philippines First Highway Ln. 731	8.0	04/71	04/71	04/76	Reconstruction of 160 km of road in southern part of the Philippines; technical assistance to strengthen Department of Public Highways, and for preparation of the next highway project.

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85	Tunisia First Highway Ln. 746	24.0	05/71	06/71	12/77	Construction and improvement of 275 km of highway; reconstruction of bridges and culverts; resurfacing and rehabilitation of highway sections; strengthening of road maintenance operations; various transport studies.
86	Yemen Arab Republic First Highway Cr. 315	7.7	06/72	06/72	07/78	Road construction, feasibility studies and detailed engineering, equipment for road construction, training and technical assistance.
87	Yemen Arab Republic Second Highway Cr. 558	9.0	06/75	06/75	09/79	Road construction and technical assistance.
88	Yugoslavia Fifth Highway Ln. 751	35.0	06/71	06/71	01/78	Construction of 5 trunk road sections (153 km), consultants' services to road organizations, purchase of road equipment, and overseas training of 60 highway officials.
89	Argentina Second Highway Ln. 619	25.0	06/69	06/69	12/77	Upgrade national highways; provide consultants' services for construction supervision, reconnaissance study, preinvestment studies, improvement of highway planning and administration, advise on transport coordination.
90	Brazil Third Highway Ln. 813	89.0	03/72	04/72	02/78	Construct federal highways; provide consultants' services for construction supervision, preinvestment studies, improvement of federal highway department's supervision capability, training.
91	Brazil Fourth Highway Ln. 854	51.0	08/72	08/72	01/77	Construct federal and state highways; provide consultants' services for construction supervision.
92	Mexico Fourth Road Ln. 695	21.8	06/70	06/70	02/78	Road construction and improvement including US$3.0 million for interest and other charges.
	Urban Transport					
93	Malaysia Kuala Lumpur Urban Transport Ln. 851	16.0	07/72	07/72	01/78	Improvement of a six-mile urban section of Federal Highway 2 (Kuala Lumpur-Petaling-Jaya) and various studies, including the Kuala Lumpur Urban Transport Study.
	Railways					
94	Malaysia First Railway Ln. 799	16.0	11/71	02/72	05/78	Modernize Malaysian Railways and increase capacity by procurement of diesel locomotives and freight wagons, track improvements, and modernization of workshops for maintenance of diesel locomotives.
95	Thailand Fourth Railway Ln. 898	15.0	04/73	06/73	03/78	Increase transport capacity, modernize operation and reduce transport costs through investments in diesel locomotives, rolling stock, track yard and station improvements.
96	Burma Third Railway Cr. 414	16.7	06/73	07/73	05/78	Rehabilitate and modernize Burma Railways by investment in new rolling stock and workshop equipment, and spare parts for existing rolling stock. Consultants' services to study further dieselization of BRC, and the extension of track doubling of the main line near Mandalay.
97	Spain Third Railway Ln. 772	90.0	06/71	06/71	08/76	Modernize the Railway and expand its capacity. Improve the Government's organization for comprehensive planning for the transporation sector.
98	Mexico Second Railway Ln. 825	75.0	05/72	06/72	06/77	Improve operational performance and financial viability of the railway by purchase of freight cars, locomotives and spare parts, passenger cars, and track and workshop machinery; rehabilitation of track bridges and terminals; rehabilitation of telecommunications; technical assistance to improve and strengthen planning.
	Ports					
99	Malaysia First Sabah Ports Ln. 774	16.1	06/71	06/71	05/79	Renew and improve the ports of Kota Kinabalu and Sandakan, thereby providing increased port capacity.
100	Mexico Ports Ln. 820	20.0	05/72	05/72	05/77	Procurement of dredgers, cargo-handling and other port equipment, training, consultants' services, construction of grain and tanker terminals and warehouses.
101	Nicaragua Second Corinto Port Lns. 879 & 879-1	11.0 5.0	01/73 07/75	02/73 08/75	) 05/78	Construction of container quay, buildings and sea defenses, dredging, procurement of equipment and detailed engineering, supervision and training.
	Water Transport					
102	Burma Inland Water Transport Cr. 413	16.3	06/73	07/73	12/78	Maintain and increase transport capacity of the Inland Water Transport Corporation through rehabiliation of the fleet and replacement of lost vessels. Technical assistance in accounting and welding.
	Airports					
103	Niger Niamey International Airport Cr. 473	5.0	05/74	05/74	08/78	Lengthening and strengthening the runway and installation of lighting and navigational equipment, thus accommodating larger and heavier aircraft.
104	Panama Tocumen International Airport Ln. 783	20.0	07/71	08/71	07/77	Construction of air terminal building and runway; consulting services to civil aviation agency for management, accounting, data services, and planning.
105	Venezuela Maiquetia International Airport Ln. 796	17.0	02/72	02/72	01/79	Construction of new runway, taxiway and associated works; improvements to terminal buildings; consultants' services.
	Tourism					
106	Nepal Kathmandu Tourism Cr. 291	4.2	03/72	03/72	12/77	Construction of a first-class hotel, and tourism study.
107	Yugoslavia Bernardin Tourism Ln. 752	10.0	06/71	06/71	06/77	Design, construction and equipping of a hotel complex, including shops, restaurants and recreational facilities, staff training and management assistance, complementary infrastructure, including road improvements, expanded sewerage facilities, and pedestrian access.
EDUCATION						
108	Kenya Second Education Cr. 185	6.1	05/70	05/70	04/78	Expansion and improvement of the agricultural education and training system at professional, subprofessional and skilled workers levels, primary and secondary teacher training technical education and educational planning.
109	Tanzania Third Education Cr. 232	3.3	02/71	02/71	03/78	Construction and extension of four rural agricultural institutes and nine rural training centers together with related technical assistance and fellowships.

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110	Cameroon First Education Cr. 161 161-1	10.5 1.2	09/69 06/75	09/69 07/75	08/79 08/79	Diversification and expansion secondary education; expansion and improvement of secondary technical/vocational schools and secondary teacher training; consolidation and improvement of primary teacher training; strengthening and expansion of higher agricultural education; establishing an agricultural teacher training program.
111	Chad First Education Cr. 126-1 126-2	1.8 0.4	~~08/68~~ 08/73	08/68 08/73	03/76 03/76	Providing for: (i) Teacher Training College, Moundou; (ii) Agricultural Technician Training Center (ATTC), N'Djamena;
112	Chad Second Education Cr. 251-1 251-2	2.2 0.5	04/71 08/73	06/71 08/73	NYFD[b] NYFD[b]	Providing for: (i) Technical secondary school, N'Djamena; (ii) Transfer of ATTC financed under Credit 126-CD to Sarh; (iii) Vocational training center, Sarh.
113	Nigeria First Education Cr. 72	20.0	~~12/64~~	03/65	01/78	Expanding, diversifying and improving secondary and technical education and teacher training in Nigeria, emphasizing development in the Northern region.
114	Taiwan First Education Ln. 691	9.0	06/70	06/70	07/77	(i) Improving existing secondary and post secondary technical and teacher training institutions; and (ii) Strengthening the country's capacity for project implementation, curriculum development and educational planning.
115	Malaysia First Education Ln. 599	16.4	~~05/69~~	05/69	04/78	Improving secondary technical, vocational and agricultural education and primary teacher training in Saban and Vocational training in Sarawak.
116	Singapore First Education Ln. 802	9.5	02/72	02/72	03/78	Constructing, furnishing and equipping facilities for Faculties of Engineering and Architecture and the School of Accountancy and Business Administration, and a computer center with supporting administration buildings and communal and boarding facilities.
117	Jordan First Education Cr. 285	5.4	01/72	02/72	02/79	(i) Introduction of secondary comprehensive schooling and technician training; (ii) Expansion of trade training facilities; and (iii) Improvement of general and agricultural teacher training.
118	Chile Third Education Ln. 668	7.0	03/70	05/70	04/78	Expansion and improvement of primary teacher training colleges and agricultural secondary schools and provision of technical assistance (experts) and fellowships to strengthen educational administration.
	DEVELOPMENT FINANCE COMPANIES					
119	EAC - East African Development Bank Ln. 843	8.0	06/72	06/72	01/77	Assist DFC operations with particular emphasis on regional projects.
120	Indonesia - Bank Pembangunan Indonesia Cr. 310	10.0	05/72	06/72	12/77	Assist DFC operations.
121	Pakistan - Industrial Developopment Bank of Pakistan Cr. 177	20.0	02/70	02/70	02/78	Assist DFC operations.
122	Colombia First Small-Scale Industry Ln. 1071	5.5	01/75	01/75	03/79	Assist DFC operations in small-scale industry sector.
123	Ecuador First Development Finance Companies Ln. 721	8.0	12/70	02/71	06/76	Assist DFC operations - Funds to be on-lent to one public-sector institution (CV-CFN) and one private sector institution (COFIEC).
124	Ecuador Second Development Finance Companies Ln. 930	20.0	06/73	08/73	06/79	
125	Mexico First Industrial Equipment Fund (FONEI) Ln. 824	35.0	05/72	06/72	01/78	Financing of industrial projects producing for export or for efficient import institutions through a two-tier intermediation process, Bank funds being on-lent by FONEI through commercial banks.
126	Mexico Second Industrial (FONEI) Ln. 1205	50.0	02/76	04/76	NYFD[b]	
	INDUSTRY					
127	Yugoslavia FOB Iron Foundry Ln. 966	15.0	11/73	02/74	02/78	Modernization and expansion of a foundry and related pattern shop located at New Belgrade.
128	Brazil USIMINAS Stage II Expansion Ln. 812	63.0	04/72	04/72	10/77	Expansion of integrated steel mill from 1.0 to 2.4 million tons of raw steel equivalent.
	PROGRAM LOAN					
129	Tanzania Program Credit Cr. 688	15.0	03/77	03/77	09/77	Help overcome balance of payments difficulties caused by droughts and rise in oil prices in 1973 and 1974.
	POPULATION					
130	Jamaica First Population Ln. 690	2.0	06/70 NO	06/70	05/77	Expansion of the Victoria Jubilee Hospital in Kingston, construction of 10 rural maternity centers in various parts of the island and technical assistance for Jamaica's National Family Planning Board.

[a] Before cancellations.
[b] Not yet fully disbursed.

July 75 - June 79 = (FY 76-79)

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AGRICULTURE										
1 Echiopia Humera Agric. Development Cr. 188	05/70	10/73	n.a.	n.a.						Civil strife prevented completion of project.
2 Ethiopia Wolamo I Agric. Development Cr. 169	11/69	11/75	06/74	-17	-28	X			X	Project was initiated by strong expatriate manager.
3 Kenya II Smallholder Agric. Credit Cr. 344	11/72	06/76	06/76	0	0					Project completed on schedule.
4 Lesotho Thaba Bosiu Rural Development Cr. 361	03/73	08/79	08/79	0	0					Project completed on schedule.
5 Malawi Karonga Rural Dev. (Phase I) Cr. 282	01/72	03/77	09/76	-6	-10	X	X			Problems developed with irrigation system and lake ferry; if these problems had not developed, time underrun probably would have been greater.
6 Malawi Shire Valley Agric. Dev. (Phase II) (Phase II) Cr. 363	03/73	03/78	03/78	0	0					
7 Tanzania Flue Cured Tobacco Cr. 217	10/70	06/75	06/80	60	107		X		X	Settlement planning inadequate. Project implemented concurrently with fundamental institutional changes.
8 Tanzania Smallholder Tea Development Cr. 287	03/72	03/76	03/80	48	100		X		X	Overambitious target.
9 Zambia Commercial Crops Farming Development Ln. 685	06/70	07/75	n.a.	n.a.	n.a.					
10 Ghana Fisheries Cr. 163	09/69	06/72	07/75	37	112				X	Protracted discussions to agree on final allocation of credit funds not yet committed.
11 Mali Drought Relief Fund Cr. 443	12/73	12/75	09/80	54	225		X	X	X	Technical aspects of subprojects were not adequately analyzed. Coordinating committee never met.
12 Niger Drought Relief Fund Cr. 441	12/73	06/76	06/79	36	120		X		X	Coordinating committee did not function.
13 Senegal Drought Relief Fund Cr. 446	12/73	06/76	12/78	30	98		X	X	X	Subproject design not supported by adequate technical studies.
14 Senegal River Polders Cr. 350	01/73	12/76	06/78	18	38	X	X	X	X	Defective project design and delayed Government financial contribution.
15 Senegal Terres Neuves Resettlement Cr. 254	06/71	06/76	06/76	0	0					Project completed on schedule.
16 Upper Volta Cotton Cr. 225	12/70	12/75	06/77	18	30	X			X	Reappraisal in 1974 extended the project for one year.
17 Upper Volta Drought Relief Fund Cr. 442	12/73	06/76	09/77	15	50		X	X		Design of subprojects were not suggested by adequate technical studies.
18 Upper Volta Rural Development Fund Cr. 317	06/72	12/75	12/76	12	29			X	X	Delays in Project start-up.
19 Indonesia Seeds Cr. 246	05/71	12/77	12/78	12	15	X	X		X	Important management posts were staffed by personnel lacking background and experience in seed production.
20 Korea Pyongtaek-Kumgang Irrigation Ln. 600	05/69	12/74	12/76	24	36					Complexity of project and shortcomings in preparation and design.
21 Philippines III Agric. Credit Ln. 1010	06/74	06/77	03/76	-15	-42	X			X	Inflation resulted in reduced project scope, strong demand for tractors and other such equipment. Strong administration.
22 India Agric. Refinance & Dev. Crop. I Credit Cr. 540	04/75	12/77	06/77	- 6	-19	X			X	Strong administration.
23 India Andhra Pradesh Agric. Credit Cr. 226	01/71	11/73	07/77	44	129	X			X	Disagreement between Bank and Government on tractor procurement. Restricted project area (initially). Cheaper sources of funds available. Strong administration.
24 India Tamil Nadu Agric. Credit Cr. 250	06/71	12/74	12/77	36	86	X			X	Disagreement between Bank and Government on tractor procurement. Restricted project area (initially). Cheaper sources of funds available. Strong administration.
25 India Maharashtra Agric. Credit Cr. 293	03/72	09/75	03/76	6	14	X				Completed virtually on schedule.
26 India Madhya Pradesh Agric. Credit Cr. 391	06/73	12/76	12/76	0	0					Project completed on schedule.
27 India Punjab Agric. Credit Cr. 203	06/70	12/72	12/76	48	160			X		Complex bidding procedures.
28 India Haryana Agric. Agric. Credit Cr. 249	06/71	12/74	07/76	19	45			X		Complex bidding procedures.
29 India Tarai Seeds Ln. 614	06/69	12/74	09/78	45	68		X	X		Idea for new construction was abandoned in favor of expanding existing facilities: absence of suitable contractors for land levelling. Complex bidding and slow delivery.

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30 Sri Lanka Drainage & Land Reclamation Cr. 168	11/69	06/74	12/77	42	76		X	X	X	Changes in Government. Shortage of construction materials.
31 Sri Lanka Lift Irrigation Cr. 121	06/68	06/72	07/76	49	102		X	X	X	Changes in Government. Shortage of construction materials.
32 Finland Forest Improvement Ln. 871	12/72	06/76	06/79	36	86					Reduced farmer interest due to depressed timber prices.
33 Iraq Grain Storage Ln. 925	08/73	12/79	n.a.	n.a.	n.a.					Loan cancelled.
34 Israel II Agric. Credit Ln. 972	04/74	06/78	09/77	-9	-18					Problem-free implementation, generally ahead of schedule.
35 Morocco II Agric. Credit Ln. 861/Cr. 338	10/72	03/76	03/76	0	0					Completed on schedule.
36 Tunisia I Agric. Credit Ln. 779/Cr. 263	07/71	09/75	06/78	33	66					Cheaper funds competing with IBRD/IDA funds.
37 Turkey Intensive Dairy Production (I Livestock Development) Cr. 236	02/71	12/74	12/77	36	78				X	Difficulties in staffing of Project Unit.
38 Turkey Seyhan Irrigation (Stage II) Ln. 587/Cr. 143	06/69	12/74	12/79	60	91	X	X	X	X	Bank supervision could have done more to accelerate completion.
39 Brazil I Livestock Development Ln. 516	09/67	06/73	09/76	15	22					Rancher objection to the interest rate policy; institutional opposition by the Bank of Brazil; disagreement between the Bank and the Government on recruitment of project directors; sharp decline in beef prices.
40 Brazil Interim II Livestock Development Ln. 868	12/72	12/76	n.a.	n.a.	n.a.					Loan cancelled.
41 Brazil Grain Storage Ln. 857	09/72	05/78	n.a.	n.a.	n.a.	X		X		Loan cancelled.
42 Chile Agric. Rehab. Ln. 1119	06/75	09/76	09/76	0	0					Completed on schedule.
43 Ecuador III Livestock Development Cr. 222	12/70	06/76	03/78	18	31					Time delay due to conflict between Bank and borrower and on-lending credit terms.
44 Guatemala Livestock Development Ln. 722	02/71	12/75	12/78	36	62	X			X	Demand for project funds waned shortly after effectiveness. Strong administration.
45 Mexico IV Livestock & Agric. Development Ln. 910	06/73	06/78	10/75	-32	-53					Rapid disbursement of funds.
46 Mexico Rio Colorado Irrigation Ln. 527	01/68	12/74	not yet completed	n.a.	n.a.	X	X	X	X	Some project works will be completed by the Government on its own account.
47 Panama I Fisheries Ln. 784	08/71	02/76	09/76	7	13	X	X	X	X	Procurement problems resulted in a 2 year delay in signing first contract. Time savings occurred later because of reduced quantities. Strong administration.
48 Trinidad and Tobago Caroni Sugar Ln. 888	04/73	04/78	04/79	12	18	X	X	X	X	Rehabilitation design was defective and project management was ineffective and hampered by government policy.
49 Uruguay IV Livestock Dev. (Second Stage) Ln. 940	10/73	12/74	12/76	24	171					Declining beef prices and indexed credits slowed demand for sub-loans.
PUBLIC UTILITIES										
Power										
50 Tanzania Kidatu Hydroelectric First Stage) Ln. 715 Ln. 715-2	12/70) 06/74)	06/75	05/75	-1	-2					
51 Taiwan Third Power Ln. 749	06/71	12/75	08/75	-4	-7					
52 Indonesia First Electricity Distribution Cr. 165	10/69	06/76	12/79	42	72		X	X	X	Delays in procurement, obtaining rights-of-way and in acquisition of land.
53 Indonesia Second Electricity Distribution Cr. 334	09/72									
54 Malaysia Fifth Power Ln. 700	07/70	12/76	03/77	3	5		X	X		One contractor faced with steel import restriction, power shortages and dock strikes in his own country, and port congestion in the borrower's country. Some components seriously delayed.
55 Papua New Guinea Upper Ramu Hydroelectric Ln. 737	05/71	12/75	09/76	9	16			X		Late delivery of equipment, delays in manufacture, late award of contracts.

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56	Ireland Second Power Ln. 726	03/71	05/75	04/76	11	22					Recruitment, work stoppages, weather and operations dispute contributed to the delay.
57	Ireland Third Power Ln. 804	03/72	05/76	04/77	11	22					
58	Tunisia First Power Ln. 815	04/72	12/74	~~08/75~~	6	19					Late delivery of equipment and repairs to damaged equipment.
59	Bolivia ENDE Third Power Cr. 433	10/73	12/75	12/76	12	46	X		X		Modifications made to project components.
60	Brazil Estreito Hydroelectric Ln. 403	02/65-12/66	11/69	12/76[e]	85[e]	243[e]	X				Major increase in scope so that comparison with appraisal estimate not meaningful.
61	Brazil Estreito Transmission Ln. 474										
62	Brazil Porto Colombia Hydroelectric Ln. 565	10/68	03/74	~~12/73~~	-3	-5					
63	Brazil Power Distribution and Subtransmission Ln. 687	04/73	12/74	12/77	36	180	X		X		Difficulties in recruiting skilled labor, problems with acquisition of land and with obtaining rights-of-way.
64	Brazil Salto Osorio Hydroelectric Ln. 728	04/71	03/76	05/76	3	5					The transmission and substation components were modified and implemented some months behind the original schedule.
65	Brazil Mariabondo Power Ln. 677	05/70	01/77	01/77	0	0					
66	Colombia Power Interconnection Ln. 575	12/68	12/71	09/76	57	158	X				There was a major increase in project scope so that comparison with the appraisal estimate is not meaningful. However, the project as formulated at appraisal was completed and commercially operational on schedule (Dec. 71).
67	Colombia Chivor Hydroelectric Ln. 681	06/70	06/76	09/77	15	21		X			Geological problems.
68	Panama Second Power (Bayano) Ln. 661	03/70	06/75	01/77	19	30		X	X	X	Insufficient project preparation, lack of experience of the Borrower in handling large projects, delays in settlement of claims and late delivery of materials.
	Telecommunications										
69	Papua New Guinea Second Telecommunications Ln. 852	07/72	06/75	06/77	24	69	X				Execution of the project deliberately slowed down in face of slow growth in demand for new service. Over the extended period additional long distance facilities were provided with some increase in project scope.
70	India Fifth Telecommunications Cr. 403	06/73	03/76	06/78	27	82	X				Start of project delayed about one year due to delay in completion of preceding project. Major part was completed with a delay of 2 months. Other components added to the project.
71	Iran Second Telecommunications Ln. 927	08/73	03/75	03/77	24	126	X	X	X		The original implementation schedule was probably over-ambitious. Problems preparing specification for switching equipment.
72	Iraq First Telecommunications Ln. 788	10/71	03/76	04/77	13	24	X	X			Given difficult working conditions the delays were not unreasonable.
73	Colombia Second Telecommunications Ln. 740	05/71	06/74	12/76	30	81	X	X	X		Delays mainly related to provision of long distance exchanges where difficulties arose with other administrations concerned with the provision of toll ticketing facilities.
74	Costa Rica Third Telecommunications Ln. 801	02/72	12/76	12/77	12	20	X	X			Delays which in any case were not significant were in the main the result of changes in scope of the project.
	Water Supply and Sewerage										
75	Kenya First Nairobi Water Supply Ln. 714	12/70	07/74	12/77	41	95	X	X	X	X	Cumbersome procedures for procurement and letting contracts. Shortage of staff. The time increase was mainly due to enlarged scope of distribution component. Project started supplying water several weeks ahead of appraisal schedule.
76	Jordan Amman Water Supply and Sewerage II Cr. 385	05/73	06/76	09/77	15	41					Lack of funds and disagreement with the contractor on claims for compensation for increased costs.
77	Colombia Cali Water Supply and Sewerage Ln. 682	06/70	12/73	06/78	54	129		X	X	X	Shortage of funds, institutional problems, technical difficulties, steel and cement shortages.
	TRANSPORTATION										
	Highways										
78	Rwanda First Highway Cr. 196 Cr. 196-1	06/70 12/75	04/73	10/77	54	154	X	X	X		Poor perfomance of design and supervising consulatant.
79	Rwanda Highway Maintenance Cr. 299	04/72	06/76	12/77	18	36			X		Difficulty in preparing specs. Extension of consultants' services.
80	Rwanda Third Highway Cr. 475	06/74	04/76	06/77	14	67		X			Delay in deciding which material to use owing to inadequate engineering and delay in completing design.
81	Somalia First Highway Cr. 74 Cr. 123	03/65 06/68	01/71	03/71	2	7[f]	X		X		Delay in reorganization and delivery of equipment.

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82	Somalia Second Highway Cr. 295	03/72	12/74	[illegible]	5	16		X			All components delayed but special delay in updating of transport survey consultant proposals for organization and construction.
83	Liberia Second Highway Ln. 907) Cr. 395)	06/73	06/77	10/78	16	33		X	X		Extra time required for Government to review consultants' proposlas.
84	Philippines First Highway Ln. 731	04/71	05/75	06/76	13	27		X			Suspension of work due to civil disturbances and unusual weather conditions. Insufficient communications between parties and problems with administration of Bank-financed contracts.
85	Tunisia First Highway Ln. 746	06/71	12/75	09/77	21	39	X	X			Substantial design modifications necessitated by faster growing traffic than anticipated; difficlties in right-of-way acquisition.
86	Yemen Arab Republic First Highway Cr. 315	06/72	03/75	03/78	36	109		X			Poor bid response for construction leads to decision to undertake work by force account with consequent delays.
87	Yemen Arab Republic Second Highway Cr. 558	06/75	06/76	11/76	5	5		X			Minor delay due to contractor's slow mobilization.
88	Yugoslavia Fifth Highway Ln. 751	06/71	03/76	07/76	3	5	X	X		X	Delay in effectiveness; training componenet added too late for careful preparation resulting in difficulty finding qualified consultants and released workers for training for long periods.
89	Argentina Second Highway Ln. 619	06/69	06/76	06/78	24	29		X		X	Delays because of weather conditions and slow civil works in part due to heavy inflation.
90	Brazil Third Highway Ln. 813	04/72	12/75	06/78	30	68	X	X	X	X	) Caused by weak contractors, inadequacies in detailed engineering and bad weather.
91	Brazil Fourth Highway Ln. 854	08/72	06/76	04/78	22	48	X	X		X	)
92	Mexico Fourth Road Ln. 695	06/70	12/74	09/77	33	61		X	X		One of the ten roads was deleted and another constructed in its place. Not a true change in scope; design changes, problems with contractor. Cost increases led to insufficient financial capacity of contractor and need to rebid; insufficient local funds delayed work.
	Urban Transport										
93	Malaysia Kuala Lumpur Urban Transport Ln. 851	07/72	04/76	08/77	16	36		X		X	Problems with land acquisition; slow starting up by contractor.
	Railways										
94	Malaysia First Railway Ln. 799	02/72	12/74	06/77	30	88		X	X	X	Unfamiliarity with Bank's procurement procedures; late delivery of equipment; and some delays in land acquisition.
95	Thailand Fourth Railway Ln. 898	06/73	06/77[e]	12/77[e]	6	13			X	X	Some procurement delays.
96	Burma Third Railway Cr. 414	07/73	12/76	09/78	21	51		X	X	X	BRC's unfamiliarity with Bank's procurement procadures, and delays in Goverment approval of contracts.
97	Spain Third Railway Ln. 772	06/71	06/74	08/76	26	72	X				Changes in project definition during project period.
98	Mexico Second Railway Ln. 825	06/72	12/76	12/77	12	22			X		Major changes in telecommunications component. Initial procurement difficulties because of first Bank project involving ICB. Also, original implmentation plan was overoptimistic.
	Ports										
99	Malaysia First Sabah Ports Ln. 774	06/71	12/74	08/77	27	63		X	X	X	Incomplete project preparation, start-up problems, materials shortage, and site supervision difficulties.
100	Mexico Ports Ln. 820	05/72	06/75	06/76	12	31	X				Many modifications to project due to change in demand forecasts and to inadequate preparation.
101	Nicaragua Second Corinto Port Lns. 879 & 879-1	02/73) 06/75)	12/75	12/77	24	73	X	X			Designs lost during earthquake.
	Water Transport										
102	Burma Inland Water Transport Cr. 413	07/73	12/76	09/78	21	51		X	X	X	Unfamiliarity on the part of Government and IWTC with Bank procedures; and the Government's elaborate requirements for procurement.
	Airports										
103	Niger Niamey International Airport Cr. 473	05/74	06/76	08/77	14	56	X	X	X		Delay in contract awards, and slow delivery of materials. Actual work performance of contractor was excellent.
104	Panama Tocumen International Airport Ln. 783	08/71	06/75	06/78	36	78	X	X	X	X	Change of engineering consultants; frequent changes of Directors General of Civil Aviation; inadequate equipment, local labor problems and adverse weather conditions contributed to time overrun.
105	Venezuela Maiquetia International Airport Ln. 796	02/72	06/74	06/78	48	171	X				Original project components completed on time. Supplementary works undertaken under expanded program required extension of completion date.
	Tourism										
106	Nepal Kathmandu Tourism Cr. 291	03/72	06/74	10/77	40	170	X	X	X		Original design incomplete. Minor delay due to purchase of cement and steel locally.
107	Yugoslavia Bernardin Tourism Ln. 752	06/71	01/75	05/77	28	63	X	X			Substantial revision of overall design of project components. Equipment delivery delayed because of slow project start-up.

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EDUCATION										
108 Kenya Second Education Cr. 185	05/70	10/74	01/77	26	49	X	X	X	X	Changes in project composition, problems of coordinating equipment procurement, difficulties experienced in liaison between Project Unit and Ministry of Education.
109 Tanzania Third Education Cr. 232	02/71	12/74	03/78	39	85		X	X	X	Unrealistic scheduling, slow establishment of project unit, problems of interministerial coordination and of equipment procurement, severe shortages of construction materials and skills.
110 Cameroon First Education Cr. 161 / Cr. 161-1	09/69) 07/75)	01/74	10/75	21	40		X	X	X	Shortages of shipping space; slowness of customs clearances; redesigning and rebidding for civil works; delays in the technical assistance program.
111 Chad First Education Cr. 126-1 / Cr. 126-2	08/68) 08/73)	03/71	12/75	57	184	X	X		X	Relocation of agricultural training center, redesigning buildings, shortage of local funds.
112 Chad Second Education Cr. 251-1 / Cr. 251-2	06/71) 08/73)	12/75	02/79	38	70	X	X		X	
113 Nigeria First Education Cr. 72	03/65	12/68	07/78	114	250	X	X	X	X	Difficulties due to civil war and administrative fragmentation, lack of project management expertise, weakness of contractors, problems of coordinating equipment procurement.
114 Taiwan First Education Ln. 691	06/70	12/72	06/77	54	180	X	X	X		Retendering for civil works, changes in project content; difficulties in equipment procurement.
115 Malaysia First Education Ln. 599	05/69	06/74	11/77	41	67	X	X	X	X	Change in site of one school; inexperience in project management; problems of equipment procurement.
116 Singapore First Education Ln. 802	02/72	12/75	12/77	24	52	X	X		X	Unrealistic scheduling.
117 Jordan First Education Cr. 285	02/72	02/75	09/76	19	53	X	X	X		Unrealistic scheduling, problems of workmanship and equipment procurement.
118 Chile Third Education Ln. 668	05/70	09/74	12/77	39	75	X	X		X	Delays in establishing project unit, preparing architectural drawings and recruiting technical assistance; shortages of local funds during economic crisis; internal unrest.
INDUSTRY										
119 Yugoslavia FOB Iron Foundry Ln. 966	02/74	12/76	10/77	10	29	X	X	X		Major change in scope of project during implementation.
120 Brazil USIMINAS Stage II Expansion Ln. 812	04/72	07/75	11/76	16	41		X			Time overrun somewhat compensated by faster than expected learning curve.
POPULATION										
121 Jamaica First Population Ln. 690	06/70	03/73	11/79	80	250		X		X	Contractor beset by labor problems and lack of working capital; unable to complete job.

/a Excludes DFC projects (8) and program loan (1).
/b Work associated problems such as performance of Contractor, technical problems, etc.
/c Procurement of materials and equipment including differences in time required for bidding procedures and delivery of equipment.
/d Administration and staff including management and technical competence of beneficiaries' staff.
/e Loans 403-BR and 474-BR were covered by one Loan Agreement, dated December 19, 1966, which succeeded a prior Agreement for Loan 403-BR, dated February 26, 1965. Actual costs, disbursements and completion dates cannot therefore be distinguished for the two projects separately.
/f Calculated on basis of contractual period.
/g Estimated and actual closing dates.

121 of which:
5 (4%) info n.a.
14 (12%) completed before or after FY76-79
(i.e. before July 1975 or after June 79

121
− 5
116 ← 88% OK

Report No. 2637

Fifth Annual Review of Project Performance Audit Results

August 27, 1979

Operations Evaluation Department

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THE WORLD BANK
Washington, D.C. 20433
U.S.A.

Office of Director-General
Operations Evaluation

August 27, 1979

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

Subject: Fifth Annual Review of Project Performance Audit Results

Attached, for information, is a copy of a report entitled "Fifth Annual Review of Project Performance Audit Results", prepared by the Operations Evaluation Department. It represents an overview of a fifth group of 98 projects on which performance audit reports were issued by the department through the end of December 1978.

FIFTH ANNUAL REVIEW OF PROJECT PERFORMANCE AUDIT RESULTS

TABLE OF CONTENTS

HIGHLIGHTS

This review covers 98 operations representing approximately $1.6 billion in Bank loans and credits and some $3.7 billion of total investments.

Many of these projects were changed during implementation and suffered time and cost increases. They were affected by institutional inadequacies, by unforeseen shifts in economic conditions and government policies, and by war and weather. The review underlines the shortcomings, extracts the lessons of experience. Overall, it concludes, this is a record of substantial achievement.

All projects except two have been implemented and are in operation. On the basis of information available at audit, projects representing around 94% of the total investment appear to have achieved their major objectives, or are well on the way to doing so, and remain worthwhile investments. More than half the number of projects for which economic returns were estimated, offer reestimates that are similar to or better than at appraisal. Agricultural projects reached approximately 80% of their intended three million beneficiaries among the rural poor.

Of the two projects not completed (about 3.4% of total investments), a mining project mostly ended in disaster, with the flooding of the main mine, while conclusive information is not available on the completion of an urban transport project due to political changes in the country. Nine projects (2.9% of total investments) yielded results at audit that are either uncertain or unsatisfactory. These nine included one road maintenance project, a port and a development finance company project, and six agricultural projects.

The negative return on the highway maintenance project resulted from lack of recurrent cost financing by government, minimal project output, and deterioration of the road network (para. 3.100). The port project suffered a substantial shortfall in traffic as against appraisal estimates (para. 3.117). The operations of the DFC were slow in the initial phases, and its finances were affected by the revaluation of its foreign currency loans for which proper cover had not been arranged (para. 3.211). The six agricultural projects suffered variously from drought, deficient or overambitious project design, institutional problems, inappropriate product pricing policies and, in one case, a major change in the economic environment in the country (paras. 3.50-3.55 and 3.58). Five of these six projects had zero or negative return re-estimates at audit.

In common with its predecessors, this review includes projects which could have benefitted from better preparation and design, improved forecasting of demand and more effective supervision, training and institution building. It underlines the need for understanding the local socio-economic conditions and for being sensitive to local cultures as they affect organizational and economic behaviors. It notes the responsiveness of the Bank to experience. The variability and complexity of the experience reviewed here also reflects the larger development policy and management issues which the Bank and governments normally endeavor to address when working together on specific projects. This material constitutes evidence of the extent of effectiveness of this set of development assistance relationships.

Within such relationships, the last Review emphasized the importance of appropriate role assignment between the Bank, the borrower, and consultants throughout the project cycle so as to strengthen local capability to prepare and manage projects. The present review focusses on two aspects of the sector environment within which individual projects are designed and implemented, and Bank-borrower interaction takes place. These two aspects are the institutional setting and the sector policies followed by the borrower.

A number of projects in this group failed in key objectives either because their institutional design called for a change in the setting to which the borrower did not feel committed, or because sector policies in support of project objectives had not been agreed in advance and were not forthcoming. Both types of failures, and the actions taken by the Bank to remedy them, have been commented upon in greater detail in Chapter IV of this review.

I. INTRODUCTION

1.01 This report is the ~~fifth~~ sixth of an annual series. It reviews the experience of ~~98~~ 130 projects which were supported by the World Bank[1] and subjected to performance audit in ~~1978~~ 1979. The first of the series dealt with the project performance audit reports (PPARs) completed prior to March 31, 1975; the second, with the reports completed from April 1 to December 31, 1975; the third, with those completed during 1976; ~~and~~ the fourth with the reports completed in 1977. Those Reviews covered 50, 57, 70 ~~and~~ 109 projects respectively, and 98 and the fifth with those completed in 1978.

1.02 PPARs are issued by the Operations Evaluation Department (OED) soon after completion of each project for which Bank finance has been provided. They generally consist of an audit memorandum, prepared by the Operations Evaluation Department, and a project completion report (PCR) prepared by the operating department directly concerned with project implementation. The PCR is the final report in the supervision process; it reviews the implementation experience and the project results in the light of the original expectations as set out at the time of appraisal. OED's audit scrutinizes the PCR for its coverage and objectivity in light of the review of the relevant project documents and interviews with Bank staff and borrowers that might have been undertaken.

1.03 The audit itself varies in its approach and comprehensiveness depending upon the judgment made by OED as to significant lessons of experience that a completed project may hold for the Bank's future operations. Audit memoranda may therefore be based on an abbreviated review of documents, or include a field visit to the country by OED staff and extensive discussions with borrower officials concerned with the project at all levels. The memorandum may take the form of a summary of project experience, enlarging upon or emphasizing certain aspects of particular relevance to current Bank practice. In other cases, especially in software sectors of agriculture, education and urban development, or in the increasingly innovative aspects of Bank operations in these and other sectors, project experience may be considered to have surfaced issues or provided lessons of particular consequence; all such cases are subjected to a country visit and a full review by OED staff. The resulting memorandum may include comment on the technical and institutional design of the project in relation to its objectives, on the Bank's approach to technical, sociological and institutional problems involved, on the issue of equity where this may be relevant, and whether the timing of the project was appropriate and its results have justified Bank support.

1.04 In all cases the Bank's Regional and Central Projects staff and the borrowers have had the opportunity to comment on the PPAR before it has been issued in final form. In ~~57%~~ 56% of cases in this Review (up from 45% in 1977), comments on the draft PPAR were received from the

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[1] Includes IDA (International Development Association)

borrower; in 52% of cases (up from 42%), OED staff visited the country and the project and held extensive discussions with borrower staff. The combined borrower input, through OED country visit or by written comment, totaled 78% of audits completed last year. Borrower views and comments received during OED staff visits are taken into account and reflected in the conclusions of the audits; the written borrower comments on draft PPARs are reproduced in the document in full in addition to being reflected in the formulation of conclusions. It is the aim of each PPAR to record an objective evaluation of the project experience. Differences of fact and judgment sometimes arise between OED and projects staff, and between OED, projects staff and the borrower. Fact are reviewed and differences resolved. As to judgment, OED states its position and notes where this may differ from that of the others.

1.05 This Review aims to summarize the experience with these 98 projects in a way that will indicate the principal characteristics of their performance, note recurring patterns, and point to aspects which merit attention in the design and implementation of future projects. In addition to presenting overall conclusions, the Review examines the experience in each sector separately. Project experience is viewed in two broad contexts: that of the process and its efficiency, in which questions of project design, appraisal and implementation are examined; and project results, where the review might extend from economic, financial and institutional achievements and failures to comment on project beneficiaries and the equity objectives that might have been served.

1.06 The sector emphasis was strengthened in the last Review and an attempt made to provide a self-contained assessment for each sector. Sub-sector and cross-country comparisons were made where warranted and, in its conclusions and findings, the Review looked at the projects in a continuum, from past experience to present Bank practice. However, projects in sectors differ in their complexity, and the Bank's lending has been moving from the more simple to the more complex, from traditional infrastructure projects to integrated approaches whose components seek to attack the sources of low productivity and income in a coordinated and mutually reinforcing fashion. Sociological factors, behavioral patterns of target groups, and institutional design and capability acquire more importance in the new directions of Bank involvement.

1.07 In terms of their explicit objectives, projects in the present group do not yet belong to the new style of Bank lending. A number of them however represent early efforts in the same direction, and advantage has been taken of this Review to underline their special characteristics and the problems that they faced. Since these special features of experience do not apply equally to all sectors of Bank involvement, there is a deliberate imbalance in the treatment of sectors in this Review and, within the sectors, in the issues that have been addressed. The agricultural sector thus receives special attention; the number of projects reviewed (28) is much larger than that reviewed last year (17);

individual subsets within the sector are larger and more amenable to differentiated analysis as well as broader conclusions; and the Bank's involvement in agricultural operations of greater diversity continues to expand rapidly. Among other sectors, there would have been more comment on education too, except that, quite fortuitously, only five completed education projects are available for this year's review, as against eleven last year; and OED has only recently completed a major study of Bank operations in the education sector, covering 55 projects in 17 countries 1/, in which major sector issues have been addressed.

1.08 The results of the present Review have been summarized in Chapter II, presented on a sector-by-sector basis in Chapter III and a couple of broad themes elaborated in Chapter IV. The results are also tabulated in different groupings in the five tables of Annex I and seven tables of Annex II.

The Projects Reviewed

1.09 The ~~98~~ 130 projects are the most recently reviewed of the ~~384~~ 514 whose performance has been audited by OED up to December 31, ~~1978~~ 1979. The loan and credit agreements for ~~93%~~ 88% of them were signed during fiscal years ~~1969~~ 1970 and after, and most of them were completed in the years FY~~75-78~~ 76-79. The period continued to mark the rapid expansion of Bank activities; the proportion of first loans made to different countries in different sectors, especially in agriculture, continues to grow. The Review pays special attention to the experience with these firsts.

1.10 The projects represent a broad range of Bank and IDA activity. Last year's dominance of transportation projects is shared by agriculture in this group, the two together accounting for 57% of the projects reviewed. The representation of education and DFCs, on the other hand, has been practically halved, for a combined total of just over 13%. While there is a decline in the number of projects in public utilities, they still account for 15% of the total. The newest type of projects in urban ~~development~~, tourism and population are ~~yet too recent to be~~ represented in this group; while some urban development projects have been under way for some time, they have not reached completion for purposes of audit. By and large, the sector distribution of the projects reviewed in a particular year is fortuitous; it is affected by the variations in time required for implementation and would be representative of trends in Bank lending only over time. The strong representation of agriculture in this group does however mark the beginning of the shift in Bank lending. The distribution by sector, together with the volume of lending and the costs of projects for which finance was provided, are shown in the table below. The comparative distribution of projects by sector, size and Region for this and the four previous Reviews appears in Annex I, Tables 3-5.

1/ "Review of Bank Operations in the Education Sector", Operations Evaluation Department, December 29, 1978.

Table 1

PROJECTS BY SECTOR

Sector	Number of Projects	Amount of Lending a/ (US$ mlns)	Re-estimated Project Costs b/ (US$ mlns)
(2) Public Utilities			
Power	7 19	148.1 641.8	455.0 2,405.9
Telecommunications	2 6	58.7 232.0	309.6 975.3
Water Supply & Sewerage	6 3	60.9 35.5	178.2 74.9
(3) Transportation			
Highways	18 15	197.3 322.3	371.5 864.7
Railways	3 5	38.7 212.7	91.1 1,009.6
Ports	4 3	42.4 52.1	79.7 129.8
~~Others~~ AIRPORTS	3 3	72.4 42.0	113.3 129.8
OTHERS	2	32.3	73.4 2,348.1
(1) Agriculture	28 49	263.5 916.3	793.7 2,606.9
(5) Education	5 11	25.5 93.3	43.2 176.4
(6) DFCs	8 8	97.5 156.5	508.2 956.1
(7) Industry	4 2	82.5 78.0	303.6 980.0
(8) Program Loans	7 1	480.0 15.0	480.0 15.0
~~Technical Assistance~~	3	10.0	10.0
(9) POPULATION	1	2.0	4.6
~~Total~~	98	1,577.5	3,737.1
(4) TOURISM	2	14.2	46.6
TOTAL	130	2,846.0	~~10,509.8~~ 10,250.2

a/ Before cancellations.

b/ Total cost of project/program to which loan/credit contributed; some figures quite approximate.

1.11 Unlike last year's group, projects in this group are geographically more dispersed. Last year's group was unrepresentative in that half the projects reviewed were located in Africa, with the largest proportion in West Africa. The present group ranges over Latin America and the Caribbean (highest representation), East Asia and Pacific, Europe, Middle East and North Africa, and Western Africa; South Asia and Eastern Africa have the smallest representation.

(NOTE: This year except for LAC (32%) all Regions have between 12% - 16% of projects)

1.12 About ~~41%~~ of the projects reviewed are the first of a series in which subsequent loans have since been made; another ~~45%~~ represent second or subsequent loans to the same borrower and project entity. Both these proportions are somewhat higher than those in the group reviewed last year, pointing to the increasing Bank tendency to pursue its objectives jointly with borrowers in a longer term. This has implications for the respective roles of the Bank and the borrowers in project preparation, design and implementation, and in regard to institutional development; these implications have been borne in mind in making evaluative comment in this Review.

II. SUMMARY OF OVERALL RESULTS

2.01 A brief description of each project reviewed and a summary of performance experience are set out in the tables in Annex II.

Project Scope and Design

2.02 Changes in project content or size were frequently made in the course of implementation. The main causes included technical reasons, faulty or incomplete original design; some change in project objectives such as an increase in planned capacity to meet changed estimates of demand; and financial reasons which forced a reduction in the original plan.

2.03 The broad experience with this group of projects was similar to that reviewed last year, although the proportion of projects changed during execution was higher. This raises certain larger questions which are outlined in the following paragraph. Of ~~77~~ projects in this Review with clearly defined physical content, as many as ~~47~~ have been changed in the course of implementation, ~~almost as many~~ expanded ~~(25)~~, ~~as~~ reduced ~~(25)~~, with ~~three~~ of the projects having some components which were expanded and others that were reduced in scope. Increases in scope in ~~20~~ of the ~~25~~ projects were accompanied by increases in cost and, in several cases, in the time taken for completion.

2.04 Last year's Review commented upon the development project as an agent of change in the local environment. It recognized that the acceptance of change depends upon often hard to anticipate cultural factors, and its pursuit has economic, social and institutional implications. The design and implementation of many projects therefore need to provide for appropriate flexibility in execution. Sometimes, however, changes subsequently introduced mask deficiencies in project preparation and design; to equate all changes with inherently desirable flexibility of operation would be therefore erroneous. The more so since changes in project scope are often accompanied by changes in objectives and accomplishments, as the discussion of projects in the agricultural sector will show. Changes made during implementation also can and do result in

delays which have a cost to the borrower in terms of benefits foregone. Three conclusions would seem to emerge from this. First, project preparation and design must be sufficiently thorough to minimize the need for major changes later. Second, in agreement with the borrower, the project should be assured a policy environment that would contribute to its success. Third, innovative and risk-prone projects should provide for a review during implementation so as to systematically determine any changes that may be necessary, and their implications. And major changes in all projects must be accompanied by a review of their implications for project costs and benefits, and by the establishment of revised project goals in agreement with the borrower. These points are further elaborated in Chapter IV.

Cost Experience

2.05 Cost overruns in this Review are defined as expenditures in excess of those visualized for the project at appraisal. There are many reasons for cost increases (see paragraph below), some of them avoidable, others not. Most of them generate some attempt to reduce project scope, in many cases with reduced achievements; most cost increases that still persist have to be financed by the borrowers: this, in turn, tends to strain the borrower's budgetary resources and causes delays in project implementation. Excess in project expenditures over estimates can have beneficial effects if they buy more productive investments; they will have deleterious effects if they do not, and if they cause other distortions. There is therefore no simple judgment on cost overruns; they need to be seen in terms of their own causes and effects and in relation to the project benefits, including its rate of return.

2.06 The expenditures on about ~~45%~~ of the ~~78~~ projects for which cost estimates have been made 1/ were either less than appraisal estimates, or similar to them, or did not exceed them by more than 10%. About ~~33%~~ showed cost overruns of 25% or more, with ~~18%~~ exceeding estimates by 50% or more. These results show a higher proportion of projects with cost overruns of 25% or more in comparison with the group reviewed last year.

2.07 The major reasons for cost increases included inflation, exchange rate fluctuations, and initial underestimation of costs. Inflation accounted for most of the cost increases in ~~15~~ projects, ~~while underestimation of unit costs at appraisal affected six.~~ Increases in project scope or changes in project design were major sources of cost increases; these changes were often accompanied by delays in project execution, aggravating the cost spiral. In quite a few cases overall

1/ This excludes ~~credit and~~ DFC projects, program loans ~~and technical assistance credits.~~

expenditure increases resulting from higher than expected unit costs have been kept down by reductions in the original project scope. Such projects have financed less investment than originally intended. As in last year's group, highway projects stayed closest to original estimates, two-thirds of them showing deviations within 10%; railway projects however departed from last year's pattern, two out of three showing increases of 25% or more. Experience with agricultural projects also shows a major change from last year's group; ~~while the latter had the largest cost increases~~, in the present group ~~only ten~~ projects exceeded original estimates by over 10%. Details of the cost experience for each project appear in Annex II, Table 2.

Time to Complete Projects

2.08 ~~Almost 60%~~ of the ~~80~~ projects for which physical completion is readily measurable 1/ required over 25% more time than estimated, and, of those, ~~almost 42%~~ required over 50% additional time to complete. The additional time required for ~~seven~~ of the ~~80~~ projects was four years or more. The overall experience of delays was worse than that of last year's group, especially in respect of those requiring 50% or more additional time. ~~Peru San Lorenzo Land Settlement~~ projects ~~was~~ were all delayed ~~eight and a half years or~~ over 200% of the original estimate (~~para. 3.27~~). Other large time overruns occurred on projects ~~in education, highways and ports.~~ None of the education ~~or ports~~ projects was completed on schedule, delays ranging from ~~13%~~ to ~~133%~~ ~~and the time for completion in both sectors averaging around six years.~~ This experience of delay in education projects was similar to that noted in the last Review and was one of the findings of the study mentioned in para. 1.07 above. As a group, the agricultural projects were implemented closest to appraisal time estimates, ~~five~~ of them being completed ahead of time and ~~another five~~ as scheduled.

2.09 Delays were caused by various factors, some within the control of the Bank and borrower, some not. Some delays reflected unrealistic scheduling or resulted from actions taken to preserve or enhance project benefits. Others could be traced to inadequate project preparation and deficient design; a number of technical problems which were encountered in execution might have been foreseen and prevented if project preparation had been more thorough. There were also problems with procurement and contractors, changes in specifications, and organizational problems reflected in weak management and at times resulting from lack of borrower experience with Bank financed projects. Delays were also caused by political factors, changes in the economic situation which could not have been foreseen, and unusual weather conditions. Estimated and actual completion times, together with the main reasons for differences, are shown for each project in Annex III, Table 3.

1/ This excludes ~~credit and~~ DFC projects, program loans ~~and technical assistance credits.~~

Beneficiaries

2.10 In recent years, the Bank has become increasingly concerned with questions of equity and of directing its assistance to the poor and the disadvantaged. While the audit process does not yet cover projects of the most recent time in which these concerns have become dominant, the present group - 67 of these 98 operations were approved in FYs1970-74 - does begin to speak, explicitly or implicitly, to those concerns in terms of project beneficiaries, and of the employment and income effects of some of these projects.

2.11 Evidence of concern with beneficiaries, limited as it is, is not confined to the agricultural sector; there is some of it also in education, public utilities and in the Bank's industrial lending. In agriculture, about three million rural poor were expected to benefit from the projects reviewed in this group; probably 80% of this number was reached. Fifteen of the agricultural projects are also seen to have generated additional employment. Information on income effects is available for seventeen agricultural projects and in all of them incomes of beneficiaries were higher at audit than before the projects were undertaken. For thirteen projects where a comparison was made with appraisal, income expectations were reached or exceeded in nine, while estimated incomes were below appraisal expectations in four. In one case net farmer incomes tripled; they doubled in another project; and were expected to reach three times above the poverty line in a third. In four other projects, farmers' incomes could not be compared with appraisal expectations.

2.12 In terms of equity and access, a broader social and geographic distribution of educational and training opportunities was achieved in four of the five education projects. The access to project schools of rural and poorer segments of the population was noted, and the access of girls to educational opportunities was generally improved. In public utilities, the Honduras power project had an explicit rural electrification component; in Tunisia, the water distribution system was extended more rapidly in low-income areas than originally visualized. The creation of additional employment was a concern of Bank lending to development finance companies. Some 16,000 jobs were estimated to have been directly created by sub-projects financed under this group; in Mauritius, additional jobs helped increase female participation in the work force.

Economic Returns

2.13 In assessing the value of a project, an initial estimate of the expected returns on investment is made wherever feasible, as a summary indicator of its overall merit. An internal rate of return is generally used, the rate being the discount rate which equates the present value of the stream of benefits to that of the stream of costs over the project life. The future is discounted; the early years are the most important.

The estimation of benefits varies with the type of project. It is most straightforward where the project is intended to produce an output which is traded and whose economic value can therefore be observed; commercial agricultural projects are an example. Where the value of the project lies in saving costs or creating opportunities for new economic activity, as in transport, the estimation of benefits is less direct. Where the price of the product is controlled by government and there is no other ready measure of its economic value, as in public utilities projects, the economic worth of the service is difficult to determine and financial revenues are normally used as a minimum measure of benefits. Finally, there is a group of projects for which benefits cannot readily be compared with costs; their merit must therefore be judged on their likely efficiency and effectiveness in carrying out the objectives set for them. Education projects belong to this category.

2.14 After the project has been completed, economic returns are reestimated. The reestimates are based upon actual investment costs and such revisions of the streams of benefits and operating costs as the experience since appraisal may justify. The reestimated return is thus a measure of changed expectations for the project in the light of the implementation experience; it may often also provide retrospective comment on the investment decision.

2.15 Of the ~~52~~ 76 projects in this Review for which economic returns were estimated at appraisal, all but ~~ten~~ 12 offered reestimates of 10% or more; ~~one of these ten was on the margin, and~~ information in respect of ~~another~~ one was not available at audit. The ~~nine~~ 12 projects with reestimates below 10% were two highway projets (Kenya Third Highway and Congo Highway Maintenance), one port project (Madagascar Tamatave), and six agricultural projects (Benin Zou Borgou Cotton, Benin Hinvi Agricultural Credit, Niger Agricultural Credit, Korea First Integrated Dairy Beef Development, Malaysia Jengka Forestry and Iran Ghazvin Development). For the Iran Teheran Urban Transport project some 44% of the Bank loan was canceled, full cost information was not available at audit, and a rate of return reestimate was not made.

2.16 Of the six agricultural projects in the above group, four were clearly disappointing; they suffered from low rainfall, deficient or overambitious project design, institutional problems, and unfavorable pricing policies. The fifth project, Korea Dairy Beef Development, has been successful at subsidized milk prices; it offers a negative rate of return at economic prices, however. Iran Ghazvin Development was unusual in its results; a striking success in some ways and a failure in others (paras. 3.45 and 3.54). More than half of the Bank loan for this project was ultimately canceled.

2.17 All ~~but three~~ of the ~~23~~ 28 transport projects for which rates of return were calculated show reestimates at audit of ~~more than~~ 10% or more. ~~Of these three, Kenya Third Highway — the marginal project — offers a~~

weighted average of 9%, the components included being trunk roads, feeder roads and settlement roads but excluding sugar roads; the rate of return reestimate is therefore based on incomplete data. Reduced economic expectations on the others are owing to either lower achievement of objectives, lower levels of traffic materialization, or high cost overruns, or a combination of these. The Congo Highway Maintenance project is an example of a lower level of achievement. Due to the shortage of local funds, the project output was minimal; the road network deteriorated, resulting in a negative economic return. The Madagascar Port project experienced a substantial shortfall in traffic. Combined with an initial overestimation of additional capacity requirements, it resulted in overinvestment.

2.18 As noticed in the previous Reviews, increased oil prices and traffic levels in excess of those anticipated at appraisal have enhanced the savings to be realized from improved roads. Even when traffic projections have been overoptimistic, project returns have been satisfactory. Hydroelectric plants have also improved their economic prospects with the increased price of fuel.

2.19 For ~~twenty-three~~ projects, returns were not estimated at the time of appraisal; for ~~twelve~~ of them qualitative assessments were made at audit. These ~~twelve~~ included ~~five~~ projects in education and ~~seven~~ in development finance companies; the qualitative assessment of results was considered to be satisfactory in ~~all but one~~. The performance of ~~one DFC~~ project ~~(LBDI - Liberia)~~ was assessed as being ~~uncertain~~. LBDI operations were slow in the initial phase and profits were affected by the revaluation of foreign currency loans, without sufficient coverage being provided. The project was however able to generate additional employment at reasonable cost.

Financial Returns

2.20 Taken as a group the revenue earning enterprises - electric power, water supply, telecommunications, railways, ports and industry - included in this Review showed a mixed financial performance. In about ~~52%~~ of the cases (~~40%~~ in last year's group) earnings met the rate of return targets set at appraisal; in ~~41%~~ of the cases (~~55%~~ last year) the self financing goals were met or exceeded. In line with the group last year, the experience of the telecommunications and ports was the best, while railways showed the weakest performance. Power projects did particularly well in terms of their incremental financial rate of return, only one (~~Cyprus~~) ~~out of seven~~ offering a return of less than 10%; however, only ~~one~~ of the power projects achieved its self-financing goal. Deficiencies in self-financing, while meeting expected financial rates of return, were indicative of increases in investment above the anticipated levels.

2.21 The financial performance of power and water supply utilities was generally affected by inflationary increases in operating costs, not fully covered by tariff increases. Other factors contributing to inadequate financial performance, where this occurred, included shortfalls against projected demand and operating problems which increased enterprise costs and reduced revenues. One telecommunications project offered a lower self financing ratio because of substantial increase in investment while continuing to maintain satisfactory earnings performance. For one water supply and one power project self financing was substantial (32% and 21% respectively) even though lower than the expected levels. The experience of each enterprise in this group is summarized in Annex II, Table 5.

Institutional Improvement

2.22 Institutional improvement has always been an objective of Bank lending. In its immediate concern, the Bank has looked for strong institutional instruments to carry out the projects that it finances and, where such instruments have not been readily available, has helped create new institutions or strengthen existing ones with substantial injections of expatriate assistance. The Bank has also been interested in the larger institutional environment, reaching beyond the immediate economic or financial objectives of its lending. The resulting institutional efforts, both immediate and longer term, can be placed in four broad categories; all four are represented in the group of projects under review, with varying degrees of success.

2.23 The first category includes the establishment of new institutions (Madagascar and Cyprus port authorities, and autonomous project authority in Sierra Leone Agricultural Development project); the second, new project units in existing ministries (almost all education projects; Honduras Livestock and Indonesia First Irrigation); third, the reorganization of existing institutions (Indonesia First Estates; Paraguay Third Livestock; Zaire Highway and Colombia Highway); and fourth, strengthening existing institutions with emphasis on general organization and management, financial management, and training (Singapore Sewerage; Tunisia Water Supply; Colombia Bogota Water Supply; Indonesia Highway; Mali Railway; Malaysia Jengka Triangle; Pakistn Third Agricultural Credit and Afghanistan First Agricultural Credit).

2.24 Annex II, Table 6 identifies 108 projects implemented by borrowers who received some kind of Bank institutional assistance. The most common vehicle for providing this assistance was consultants to carry out studies, participate in training, help supervise project execution and/or assist or assume management functions. In a number of cases, consultants' services were provided through parallel aid programs rather than Bank financing.

2.25 The results in this, as in previous groups reviewed, have been mixed. Some ~~44%~~ of the efforts achieved substantial success in reaching agreed objectives, around ~~33%~~ were partially successful, and in ~~22%~~ of the cases the results were judged to have been negligible. Within the last category were ~~five of the projects with the lowest reestimates of economic return at audit~~. Successes predominated in projects executed by existing agencies.

2.26 The range and nature of the problems encountered were not much different from those noted in previous years. Nor were the ingredients of success. There were unrealistic efforts at reorganizing existing institutions in a time-frame that was too short (Indonesia First Estates; Mauritania Highway Maintenance; Yemen Highways) and where staff implications of institutional reform were not fully considered in advance, nor provided for. Institutional improvements sought systematically and over a longer time horizon had a larger measure of success (Zaire Highway; Singapore Sewerage; Uruguay Power; Afghanistan Agricultural Credit). The Zaire project included technical assistance which lasted for four years. The Mali Highway project is another good example; commercial and ILO consultants were used in combination to ensure continuity, and the public works department was extensively reorganized and strengthened and a comprehensive training program of its staff undertaken. Long range planning backed by technical assistance and training achieved equally gratifying results in Colombia Water Supply project.

2.27 As in the groups previously reviewed, the training and availability of local staff remained the key to lasting institutional improvement. When a clear program of training was not developed and implemented, a situation of dependency upon foreign experts resulted; when such staff departed, the institution concerned faced weakness and possible collapse. Dependency of another kind affected projects for whose execution special units were created. In terms of the efficiency of implementing a particular project, a separate and autonomous unit has clear advantages. It has narrowly defined responsibilities, often specially selected and sometimes better paid staff, and is usually provided with substantial expatriate assistance. However, those are also the ingredients of institutional isolation (Sierra Leone Agricultural Development); such units are seen to be privileged entities, are frequently subject to institutional rivalry and resentment, and seldom survive without continued Bank support. Their creation serves a longer-term purpose only if they are designed as the cutting edge of change, with a well-considered plan for their ultimate absorption into a reformed, larger institutional framework.

2.28 Two inter-related factors were common to a number of projects in this group that ended up with negligible success in achieving their institutional objectives. These factors included lack of commitment and support on the part of the borrowers, and persistent differences between

the Bank, the borrowers, and expatriate consultants on institutional objectives and the means of reaching them. In a few projects borrower support declined due to subsequent political events or because there were changes in key personnel. In such cases the Bank should have reviewed the impact of new circumstances on the objectives of the project; orderly changes in the institutional setup should have been devised, agreed upon and enforced. In other projects - and their number was larger - evidence suggests that borrower commitment to the proposed institutional design was uncertain from the very beginning, and there were reservations about the association and role of expatriate experts. It turned out to be a mistake to have assumed effective borrower cooperation in such cases, and to have pushed ahead on that basis. (See further comments in Chapter IV.)

III. SECTOR REVIEWS AND SUMMARY FINDINGS

3.01 In this chapter the project experience is summarized for each sector. The focus is on what happened and why, and how the results appear at the time of audit. For groups of projects, common experience has been noted and problems frequently met in the design and execution of projects have been pointed out. Subject to limitations of data, an attempt has been made to identify beneficiary groups and to see if projects had equity objectives and whether such objectives have been met. Each sector review concludes with summary findings to highlight matters which merit continuing attention. Follow-on projects in the same series have been touched upon and evidence sought, where possible, of responsiveness to the lessons of previous experience. The comments that follow therefore note the feedback from experience in the process of evaluating the present series of projects.

A. AGRICULTURE

3.02 Agricultural projects constitute by far the dominant group in this year's review; the sector has therefore been given a more exhaustive treatment than in previous Reviews. Twenty-eight audit reports covering twenty-eight agricultural projects are included. Last year's Review covered seventeen projects. The present group represents a wide range of agricultural projects, in countries geographically more diverse than those in last year's group.

3.03 Eight different kinds of projects are included: six tree crop projects (Benin Hinvi Development, Malaysia Jengka, Nigeria Cocoa,

Indonesia First and Second Estates, and Ivory Coast Cocoa) and major tree crop components in three other projects (Jamaica Agricultural Credit, Sierra Leone Agricultural Development and Korea Agricultural Credit), six livestock projects (Korea, Paraguay, Honduras, Dominican Republic, Papua New Guinea and Philippines) and major livestock components in two others (Jamaica Agricultural Credit and Korea Agricultural Credit), four annual crop projects (Niger Agricultural Credit, Benin Zou Borgou Cotton, Afghanistan Agricultural Credit, Pakistan Agricultural Credit), and a major annual crop component in a fifth (Sierra Leone), four irrigation projects (Iran Ghazvin, Senegal Casamance Rice, Cameroon Semry Rice and Indonesia First Irrigation), two settlement projects (Colombia Caqueta and Peru San Lorenzo), one forestry project (Malaysia Jengka), one technical assistance project (Bangladesh Irrigation Engineering), and one flood rehabilitation project (Pakistan). Looked at another way, twelve of the twenty-eight projects can be classified as those for which the direct benefits were expected to accrue predominantly to the rural poverty target group.

3.04 Almost 90% of the present group were approved in the years FY69 and later; twenty-three of the twenty-eight are concentrated in the four years FY69-72. A notable feature is a steady increase in the time taken for project implementation: an average of 4.6 years in the group included in the Third Annual Review; 5.9 years for last year's group, and six years for the present group.

3.05 There was greater geographic diversification in the Bank's support of agricultural development. The projects were located in twenty-two countries. Twenty-one were the first Bank projects in that subsector in the country and in three cases the projects were the very first Bank-assisted operations, representing a completely new relationship between the Bank and the country concerned. This fact has implications for review of project design, institutional development, problems of implementation, and the measure of achievement of project results in this group.

Objectives and Strategy

3.06 Although the group represented dominantly new Bank involvement in the countries' agricultural subsectors, the approach to crop and livestock projects was in most cases traditional. Increased value of production was the main objective. This increase was to be obtained through greater physical output, stated as an explicit objective for twenty-two of twenty-six projects; for the remaining four, the objective was described as development of a modern system of agriculture, support to agricultural settlers or increase in rural living standards. Seven, or one-fourth of the projects, compared with over half of last year's group, were designed to increase the production of a single commodity (timber, milk, beef, rice, cotton and cocoa). Eleven projects aimed at

the increased production of a small group of commodities while the remaining eight were designed to increase production of a number of crops. The agricultural projects audited in recent years therefore appear to have moved from a mainly single-commodity approach toward a more diversified, multiple-commodity design.

3.07 Different means were adopted to achieve increased value of production; the dominant choice in this year's group, as in that of last year, was an expansion of area or the herd. Yield increases were however assigned a slightly larger role in the present group and a higher cropping intensity was the aim in a few.

3.08 In terms of intended beneficiaries, twenty-three of the twenty-eight projects were aimed at reaching individual farmers, with fifteen intended to benefit small farmers. These proportions are much higher than those in last year's group and probably mark the beginnings of a major shift in this respect in the direction of the Bank's lending for agriculture. A total of around 650,000 farm families, or about three million rural poor, were expected to benefit. Medium and larger farmers were to be reached in eight projects, including four of the six livestock projects, two annual crop projects mainly involving tractor subloans (Afghanistan and Pakistan Agricultural Credit), one settlement project (Peru) and one tree crop and livestock project (Jamaica). Improving rural incomes and living standards were the explicit objectives in three projects but were implicit in all twenty-three designed to reach individual farmers.

3.09 Five projects reviewed this year did not attempt to reach individual farmers: Indonesia First and Second Estates aimed at rehabilitating tree crop estates; Malaysia Jengka Forestry, at utilizing timber from land clearing for settlements; Bangladesh Irrigation Engineering, at preparing two irrigation projects; and Pakistan Flood Rehabilitation. Agro-industrial components were included in eleven of the twenty-eight projects, and storage facilities in two. Concern with agro-industries, intended to process project output, indicated a more integrated approach toward maximizing project benefits and marked a strong shift from the group reviewed last year.

3.10 Sixteen of the twenty-eight projects were implemented by an existing agency. Some of these agencies had to be strengthened and one reorganized and built up; about half the agencies were specialized in either the main crop or a relevant activity, the other half being of a more general character. In the remaining twelve cases new organizations were established to carry out the projects; in eight, new project units; in four, new government-owned corporations. Cooperatives were involved in implementing five projects. As in previous groups, expatriate technicians played an important role in implementation; they were employed in twenty-one of the twenty-eight projects and had management responsibilities in twelve.

Preparation and Design

3.11 The Bank, the borrowers, and the Bank/FAO Cooperative Program (CP) shared almost equally in identifying the projects; the borrowers and the CP prepared most of the projects, a few with the help of consultants. Probably because of the large number of first projects, the time taken in project preparation tended to be long; ten projects took anywhere between two and five years to reach from identification to appraisal, and six projects took up to two years. Differences of views between the Bank and borrowers account for some of the time taken between identification and appraisal in thirteen cases, with disagreement over project composition or design occurring in ten. Four projects remained in the pipeline for significant periods (three to five years) because of these differences.

3.12 In final appraisal, project design was changed in fourteen cases. Six of them were reduced in scale; four were increased. The changes involved either expanding or reducing a component, or adding or deleting one. Of the six projects reduced in scale, four were to be further reduced during implementation; those enlarged, however, were not further increased in scope during implementation.

Implementation: Overview

3.13 While project implementation in many cases was not free from difficulties, only two projects (Peru San Lorenzo Settlement and Iran Ghazvin Irrigation) encountered especially serious problems leading to the cancellation of a substantial part of the loan (Peru: 42%; and Iran: 58%) in each case. Inadequate appraisal of some project components and technical, managerial, political and budgetary problems afflicted the Peru project and prevented its successful completion. In Iran, there was lack of compliance with the Bank's procedures for international competitive bidding, and unwillingness to follow agreed land reform policies and to provide budgetary allocations to one of the project agencies. The Ivory Coast Cocoa Project was also not completed and 16% of the loan cancelled; the uncompleted portion was however merged with and financed by a follow-on project.

3.14 Changes in project design and scope continued during implementation in twenty-one cases. Some of the changes resulted from insufficient appraisals; others were caused by technical packages which proved inadequate during implementation; insufficient understanding of local socio-economic conditions; and conflict between the project objectives and the sector policy environment, either because this had not been originally foreseen, or due to lack of firm understanding and agreement between the Bank and the borrower, or because of changes introduced by the borrower. Changes made in project design and composition in response to experience appeared to reflect the kind of flexibility which, up to a point, is desirable in risk-prone agricultural projects.

Implementation: Developments at Farm Level

(i) Technical Package

3.15 The technical package devised at appraisal proved inadequate in three cases (Benin Zou Borgou Cotton, Benin Hinvi Development, and Paraguay Livestock). In Benin Zou Borgou, project farmers produced maize instead of cotton: the Zou area is climatically more suited to maize production; maize gave higher returns on labor input than cotton; there were attractive markets for maize in Benin and Nigeria. In addition to the inadequacy of the technical package, this case also underlines the risks associated with single-crop projets. Benin Hinvi Development offered a rigid, intensive rotation system for annual crops as an alternative to shifting cultivation. The design was unsuited to farmer needs due to excessively small area devoted to food crops, low yields from commercial crops like groundnuts and cotton, and labor constraints, which were later alleviated only when ox cultivation was promoted and a change allowed in the rotation system. The yields of the main food crops were practically doubled as a result of ox cultivation. In Paraguay Livestock, difficulties were encountered in introducing tropical legume pastures because of low profitability as compared to improved grass pastures. Poor drainage of pasture lands, lack of phosphorous and other mineral elements and high cost of improvements through phosphate fertilization caused maintenance problems, and led to legumes being pushed back by competing grasses within a few years after establishment.

(ii) Policy Environment and Price Incentives

3.16 Price incentives were major determinants of farmer participation and project success. Poor economic returns normally accompanied distorted commodity prices at the farmer level and Benin Zou Borgou Cotton, in addition to adverse climatic conditions, suffered from unfavorable pricing policies; cotton producer prices were fixed while maize prices on the free market roughly tripled as a result of growing demand in Benin and neighboring Nigeria. Apparently, the benefits from higher producer prices had not been properly analyzed, although price trends could have been recognized in mid-term during project implementation. Other projects in Africa dealing with annual export crops are also known to have faced increased competition from maize in the mid-1970s. In Niger Agricultural Credit, farmers preferred to sell their products outside the country in response to low domestic prices fixed by the government.

3.17 In Benin Hinvi Development, the official price for palm oil was kept as low as possible because of the government's fear that higher consumer prices would lead to a demand for increased salaries by government employees. Despite a recent increase, this price is still below that of the free market, resulting in fruit theft, in a low and decreasing throughput for the oil mill, and in loan repayment problems for the

cooperatives. In Sierra Leone, control of purchase prices for rice and palm fruit, at 50% and 62% respectively of free local market prices, seriously affected production. Only coffee and cocoa prices have recently been increased to more nearly reflect world market conditions. In Senegal Casamance, the low price fixed by the government was a major constraint to development of rice as a cash crop. Despite good performance in growing rice, little of total paddy production was marketed through official channels. The Bank endorsed a farm gate price that was even below the levels fixed by government so that cooperatives could make higher profits, thereby hoping to strengthen their position.

3.18 The three projects with the highest returns in this group (Korea Agricultural Credit, Pakistan Agricultural Credit and Ivory Coast Cocoa) illustrate similar issues; what distinguishes them from those mentioned above is that they experienced substantial changes from appraisal design in response to the farmers' perception of what would be more advantageous economically. In Korea Agricultural Credit, appraisal models showed apple orchard investment among the least profitable of all subcomponents; it turned out to be highly profitable and increased project funds were reallocated to apple production. At appraisal of Pakistan Agricultural Credit the Bank emphasized the complementarity of water and power on farms; project benefits assumed adequate and timely supply of both. This was however not made a condition of lending. In the event, the demand for tubewell loans was less than expected and that for tractors more, leading to substantial reallocation of funds between the two. In Ivory Coast, farmers used fertilizers meant for young cocoa to treat mature plants because they received more immediate benefits through higher yields from already producing trees. Despite this shift, however, the young cocoa trees planted under the project are expected to achieve their originally projected yield.

(iii) Local Constraints and Social Structures

3.19 Labor availability and requirements were not properly analyzed in four projects and labor constraints not foreseen. The Sierra Leone Agricultural Development appraisal assumed that adequate farm labor would be available, while in fact it was not. The project suffered from labor shortages resulting in delays in planting and cultivation, which, together with low prices, were the main reasons for reducing rice acreage. In Benin Hinvi Development, serious labor constraints faced by food crop rotation were only removed by introducing ox cultivation. For Cameroon Semry Rice, the opportunity cost of family labor was assumed to be zero. The audit found that there was no excess farm labor available for project activities, and labor shortages during transplanting and weeding continued to plague the project despite the provision of mechanical plowing services. In Senegal Casamance Rice, similarly, the audit found that the underutilization of project rice mills was not caused by abundant farm labor for traditional milling but by unattractive government prices for paddy delivered to the mills.

3.20 Lack of knowledge of local conditions also led to the neglect of the role of women in farming, marketing and decision making in the above four projects. Women play a key role in food crop production, in processing cash crops and in determining whether a food crop would be used for subsistence or for sale. High levels of production, processing and marketing could not be achieved without full support from women.

Implementation: Developments Beyond the Farm

(i) Weather and Ecology

3.21 Drought had a negative effect on production in three West African projects (Niger Agricultural Credit, Benin Zou Borgou Cotton, Benin Hinvi Development). Widespread deforestation in the Colombia Caqueta settlement area, and in areas adjacent to it, has caused serious ecological problems, including erosion, increased flooding and siltation of previously navigable rivers. The proposed forest reserve could not be established under the project, thus eliminating a protective element.

(ii) Agro-Industrial Components

3.22 Inadequate preparation and appraisal of agro-industrial components appear to have been the main reason for their weak performance. In Benin Zou Borgou Cotton and Hinvi Development, plant sites were not properly investigated, leading to increased costs of providing sufficient water. No detailed studies were available at the time of appraisal for a plywood factory (Malaysia Jengka Forestry) resulting in a design unsuitable for tropical wood requirements. Inadequate preparation and appraisal resulted in unsatisfactory design and factory capacities in some projects, and in substantial construction delays and cost overruns as in Indonesia Second Estates (oil mill component: 254% cost overrun). None of the three slaughter houses under the Philippines Livestock Project were ever constructed because it was found during implementation that smaller ones would be more economical; in Malaysia Jengka Forestry, a project sawmill was closed down due to financial losses; palm oil mills and rubber processing plants were constructed under Indonesia First and Second Estates only after major changes from project design.

Implementation: Developments at Project Level

(i) Costs

3.23 Sixteen of the twenty-six projects, for which information is available, were completed without cost overruns or with overruns of less than 10%; five were in the range of 10-50%; and five exceeded 50%. Inflation and underestimation of unit costs at appraisal affected most projects with cost overruns. Other reasons included problems and delays in implementation which aggravated the effects of inflation, and changes in project scope.

3.24 Three out of five projects with the largest overruns were in Indonesia. Indonesia First Irrigation (overrun of over 500%) was affected by inadequate appraisal, underestimation of rehabilitation costs, subsequent increase in project size, and rising costs fueled by inflation. Indonesia First and Second Estates (80% and 134% overrun, respectively) also underwent substantial changes during implementation. The rubber component of the first was reduced while the oil palm planting program was greatly expanded. The costs of oil mills in the second were underestimated, and it was decided to provide capacities above the appraisal estimates in the rehabilitated processing facilities. Peru San Lorenzo (about 100% overrun) was afflicted by a host of problems and was delayed eight years beyond the expected completion date. The project scope had to be reduced and adjusted to compensate for unrealistic estimates and inadequate preparation and to keep down costs. Physical achievements were about 30% below appraisal expectations, and 42% of the Bank loan was finally canceled. The original costs of Nigeria Cocoa (54% overrun) were underestimated and the project was also affected by inflation; its scope was however not reduced.

3.25 Projects were reduced in scope in an effort to stay within the original cost estimates, not always with success. A few others were expanded in scope. What seems to have been important therefore is not the cost picture as such but the reasons for changes in costs and whether increased costs were associated with improvements in project design and a larger achievement. Increased and unforeseen expenditures, however, have to be financed by the borrowers themselves and they impose strains on their budgetary resources. In certain cases they also set up vicious cycles of cost overruns leading to budgetary constraints and delayed allocations, causing, in turn, delays in project implementation and further cost increases.

(ii) Timing

3.26 Fifteen of the twenty-six projects for which information is available were delayed during implementation; six were completed on schedule; five were completed ahead of time. Eight projects suffered serious delays of 50% or more against the originally planned schedule. These were Indonesia Second Estates (50%), Indonesia First Irrigation Rehabilitation (52%), Bangladesh Irrigation Engineering (55%), Colombia Caqueta Land Colonization (56%), Jamaica First Agricultural Credit (57%), Pakistan Third Agricultural Credit (60%), Benin Zou Borgou Cotton (72%) and Peru San Lorenzo Irrigation (340%). While the proportion of projects that took longer to complete than expected at appraisal is close to that observed in last year's Review, delays to individual projects in this group are considerably higher.

3.27 Peru San Lorenzo was affected by a series of major problems, a number of them arising from deficient project appraisal and design. The

loan became effective in 1965 but had to be renegotiated in 1968 because of technical and budgetary problems not foreseen at appraisal. There was serious overestimation of water availability and inadequate review of soil characteristics at appraisal. Drainage works were designed without the benefits of a major study; they were ill defined and implemented without having been adequately reviewed by the Bank . Similar overoptimism characterized the assumptions concerning institutional and socio-political determinants in Peru. There were problems with water allocation between San Lorenzo and Lower Piura, with project management, and with the procurement of machinery and equipment. Serious delays took place in effecting technical assistance and major studies, apparently because project management and the government had been unprepared for these components. Finally, the greatly extended time schedule meant that basic technical and socio-political assumptions had changed during project implementation; this called for a reevaluation of the project which was not undertaken, and supervision was unable to cope with the basic errors of appraisal or fundamental changes occurring during implementation.

3.28 In Benin Zou Borgou, changes in government and difficult institutional issues had caused delay in project identification and preparation; these issues, together with institutional changes made during appraisal, resulted in protracted negotiations and delay in the credit becoming effective. Institutional problems however persisted and were compounded by the conflict between project objectives and sector policies mentioned earlier (para. 3.16). Problems with the procurement and distribution of farm inputs contributed to project failure and poor management led to delays in disbursements.

3.29 The Pakistan Third Agricultural Credit was closed nearly four years after the originally visualized date. Major causes of delay were exogenous - two foreign exchange adjustments, the Indo-Pakistan war, tractor suppliers' delivery problems - while some were internal. The project was hurriedly put together without sufficient attention to the many policies and institutional issues that had already emerged in implementing the first and second projects. In response to the higher demand for tractors, funds were shifted to lending for tractors and, in the absence of renewed analysis of the farmers' behavior, this meant abandoning the appraisal design in the interests of accelerated disbursements. The complementarity of water and power use needed to be much better understood and promoted; although this point was noted at appraisal, it was not followed up during implementation. The project entered the Bank's problem projects list in 1971 and remained there until the credit was closed, longer than any other project.

3.30 The Jamaica First Agricultural Credit project started slowly due to the unfamiliarity of the program in the farming community. Initial measures taken by the government to provide investment incentives

had little effect because no regulations were established for their implementation; it was only after tax exemptions and other measures were introduced and some controlled product prices adjusted to a more realistic level that loan applications picked up. There was a shift in demand from that originally visualized, requiring repeated reallocation of funds and consequent delays.

3.31 In Colombia Caqueta Land Colonization, the Bank underestimated the technical and managerial difficulties of implementing such a project in a remote area. Halfway through the investment period planned for the project, only 20% of the expected number of subloans had been made and only 16% of the roads and 13% of the number of schools were completed. Factors influencing the timing of project implementation included deficiencies in appraisal, unexpected administrative and environmental difficulties, and unexpected cost increases in project investments. Difficulties were also caused by the high rainfall, unstable soils and shortages of construction materials, technical and managerial inadequacies of contractors and their field supervisors, and by procurement deficiencies.

3.32 The genesis of delays in the Bangladesh Irrigation Engineering project probably lay once again in the preparation and design of the project. There was a reluctance on the part of the government to the inclusion of certain project components, changes were made by the Bank in its approach to irrigation operations in Bangladesh, and the consultants expressed some unwillingness to agree to these changes. In addition, government officials were at the time preoccupied with internal reorganization and the establishment of new institutions, and there was some lack of initiative and administrative efficiency at various levels in the Bangladesh Water Development Board which was responsible for the project.

3.33 Major problems were encountered in the first three years of implementing the Indonesia First Irrigation project. These problems included lack of familiarity on the part of the executing agency (PROSIDA) and the consultants with Bank procurement and contract procedures, delays in clearance of imported goods through customs, the rapid expansion of PROSIDA's program, fully extending its staff resources, and late releases of government funds aggravated by increases in cost. Indonesia First and Second Estates projects both had a slow start due to slow progress in appointing management and recruiting expatriate staff. Implementation was further delayed upon unanticipated financial distress of two rubber groups, resulting in the deferment of the plantation program, a cutback from the planned fertilization levels of immature stands, and recourse to forced tapping. Technical failures in both rubber and oil palm development in 1970-71, the deterioration of the financial position of one of the estates, and poor management resulted in both projects being rated by the Bank as problem projects for some years.

3.34 Six projects were completed by the expected date and five in less time (an average 20% less) than estimated. Ten of these eleven projects were however reduced in scope during implementation. First projects in various sub-sectors performed better than average. Rural development projects as a group performed well in respect of their completion time; two-thirds of them were completed at or within the original time schedule as against two-fifths for the entire group.

3.35 As with the group of projects reviewed last year, no clear statistical association is evident between delays in project implementation and the rates of return.

Implementation: Supervision

3.36 The supervision experience with these projects has been mixed. Audit reports note the useful advisory function performed by Bank missions in some cases and highlight the technical assistance provided in the course of supervision. On the other hand, deficiencies in supervision noted in earlier Reviews appear to have persisted; there was lack of staff continuity and balance in the expertise represented on supervision missions, the timing of the missions has not been optimal in relation to the emergence of problems, the focus of the mission's concern in some cases appears to have been misplaced, and there has been insufficient follow up on certain project components.

3.37 It would be unrealistic to expect supervision to correct major deficiencies of project preparation and design. Some cases of failure to achieve major project objectives in the present group could not have been rescued by improved supervision; there are however other projects where problems could have been mitigated and project results improved by a strong supervision effort.

3.38 Time spent in the field supervising projects ranged from around four manweeks in the case of Bangladesh Irrigation Engineering and Pakistan Flood Rehabilitation - both of them projects with special characteristics - to fifty-three manweeks for Peru San Lorenzo Settlement. The average time devoted to field supervision was about twenty-seven manweeks and an average project remained under supervision for just over five years. The review tends to show a connection between the quality of supervision, as distinct from sheer manpower input, and project performance. Projects from the two ends of the spectrum - those that were successful and those that failed - would help illustrate this point.

3.39 In twelve of the twenty-eight projects, supervision was good on balance, although certain aspects of supervision in five of these could have been better. In the Dominican Republic Livestock Project (audit estimated ROR: 13%) supervision was regular and its frequency adequate.

An excellent working relationship developed between Bank supervision staff and be implementing agency; according to the latter, without the Bank's efficient assistance and competent advice, the technology transfer realized under the project would not have been possible.

3.40 Colombia Caqueta Land Colonization was one of the Bank's first efforts in integrated rural development; while the project as completed is substantially smaller than originally planned, the revised goals were met under especially trying circumstances. Regular and good quality supervision played an important role in ensuring this successful outcome. In Malaysia Jengka Settlement, the Bank was dealing with a strong implementing agency and the supervision design responded to this fact: for most of the life of the project supervision missions were widely spaced and criticism was focused on only a few issues.

3.41 The Indonesia First Irrigation Rehabilitation project (audit estimated ROR: 30%) was appraised without the benefit of the usual preparatory engineering or feasibility studies. It therefore called for special care and close and efficient supervision during implementation. The project served as a laboratory for adapting engineering design to local conditions, for the training of design, construction supervision, and operational maintenance staffs, and for institutional development. The project was highly successful in achieving its objectives. The Resident Mission staff played an important role in supervision and appropriate attention was given to the provision of agricultural support services and inputs for efficient paddy production. The special advantages of supervision by Resident Mission Bank staff were also apparent in the Indonesia First and Second Estates projects (audit estimated ROR: 17-53%). Conditions for project implementation were difficult from the beginning. Yet, Bank supervision was instrumental in persuading local officials of the need for improving technical standards and for streamlining management. The Resident Mission served as a bridge for contacts among government agencies and was responsible for expediting measures conducive to reaching project objectives.

3.42 Niger Agricultural Credit, on the other hand, suffered from a lack of support from all parties involved. The Bank was ambivalent about supporting the project from the very beginning, and was instrumental in having its scope reduced at appraisal. Project implementation ran up against low product prices fixed by the government and the latter's failure to give the project adequate institutional support. Bank supervision missions were irregular and of insufficient frequency; the Bank's original concern for the role of farmer groups seems to have received little attention and supervision reports make hardly any reference to the success or failure of the cooperatives. Poor climatic conditions contributed to these factors and the project offered a negative rate of return at audit.

3.43 Benin Zou Borgou Cotton project also had a negative rate of return and failed to reach its main objective of increasing seed cotton production. Broader factors, over which the Bank had little control, contributed to this failure. Since organizational problems had already surfaced at the project's beginning, Bank supervision during implementation concentrated on institutional isues to the relative neglect of agricultural problems. Also, while a regular schedule of supervision was maintained, there was a lack of continuity of personnel.

3.44 Korea Dairy Beef Development and Iran Ghazvin Development (negative and zero rate of return, respectively) illustrate another aspect of the problem. Both were complex projects, and Iran Ghazvin was particularly risk-prone and innovative. The Korea project had many aspects which called for attention before and during project implementation and it became difficult for the Bank to attend sufficiently to all of them. Supervision called particularly for staff continuity at transition points in the project cycle, the use of various specialists, and the intensive review of one or more important project aspects by specific supervision missions. The project had farm and processing components; while changes were made in the latter during implementation the Bank was not adequately equipped to advise and its first agricultural processing specialist was not appointed until 1972. The project continued to be supervised by livestock specialists.

3.45 The Iran Ghazvin project underscores the consequences of attempting to introduce sophisticated farm technology to rural populations not yet ready to accept such innovations. The introduction of high-level technology created severe farmer dependency on project agencies. The Bank was not sufficiently thorough in its analysis of the reasons for the shortfall in water supply, and its supervision reporting on the performance of innovative project components including training, extension and monitoring and evaluation was limited. Two supervision missions complained about the lack of farmer participation in running project affairs but no corrective measures were recommended. The implementing agency's efforts to improve farmer participation apparently received only limited Bank guidance. While the impact on farm incomes in the project seemed satisfactory at audit, insufficient technical assistance limited the project accomplishments, and there has been progressive disengagement of the project agencies from their original role of training and assisting farmers.

3.46 Finally, Peru San Lorenzo Settlement project illustrates yet another kind of supervision experience. The Bank recognized fairly early the special problems of this project. As a result, the loan was renegotiated, but not supported by a full reappraisal to ensure that the revised technical, social and economic feasibility was acceptable. The revised project scope introduced changes which were never evaluated to

reestablish their relationship with project objectives. The project is estimated to have consumed 250 manweeks of supervision time. Yet, the problems faced by the project lay more at the sector or national level; normal supervision procedures, further hampered by lack of staff continuity, were unable to cope with these problems.

Project Results: Overview

3.47 Project results are summarized in the table below. The projects are listed in an ascending order of the reestimated economic rate of return at audit. A brief discussion of project results in terms of production, economic returns, beneficiaries reached, employment and income effects, and institutional developments follows the table.

Table 2

Production, Price Effects on ERR and Farmers Reached

Project Name	ERR Audit	Production 1/					Price 2/ Effect on ERR	Number of Farm Families Reached	
		Larger Area	More Intensive Cropping	Higher Yield	Shift to Higher Value Crops	Higher Production		As Targeted at Appraisal	Actual
Niger Agricultural Credit	<0			T na		T Rb Ro	na	100,000	0 5/
Benin Zou Borgou Cotton	<0	T Rb		T Rb		T Rb Ro	na	41,000	26,000 5/
Malaysia Jengka Forestry	<0					T Rb	- 3/	dna -	forestry
Korea Dairy Beef	<0	T Rb		T Ra		T Rb	na	700	582
Iran Ghazvin Irrigation	0	T Rb	T Rt	Rt		T Rb	+	11,600	10,120
Benin Hinvi Development	5	T Rb		Rb		T Rb	- 3/	4,000	3,000
Jamaica Agricultural Credit	10	T Rb		Rb		T Rb	na	140	113
Paraguay Livestock	11			T Rb		T Rb	- 3/	450	630
Colombia Caqueta Settlement	13	T Rb		Rb		T Rb	0	4,500	1,700
Honduras Livestock	13	T Ra		T Rb		T Rb	0 3/	135	78
Dominican Republic Livestock	13			T Rb Rt		T Rb Rt	- 3/	260	153
Malaysia Jengka Settlement	16	T Ra		Rb Rt		T Rt	+	2,770	5,000
Peru San Lorenzo Settlement	18	T Rb	Rb	Rb	Ra	T Rb	+ 3/	950	3,180
Sierra Leone Agricultural Dev.	20	T Ra		Rb Rt		T Rb Rt	+	2,500 6/	1,000
Papua New Guinea Livestock	21	T Rb				T Rb	na	7/	7/
Cameroon Semry Rice	23	T Ra	T Ra	T Ra		T Ra	+	2,800	4,300
Senegal Casamance Rice	23	T Rb		T Ra		T Rb	na	5,000	4,000
Philippines Livestock	24					T Rb Rt	na	1,475	2,700
Afghanistan Agric. Credit	25	T Rb	T Rb	T Rb		T Rb	+	7,180 8/	1,251 8/
Nigeria Cocoa	26	T Rt		T Rt		T Rt	+	8,000	18,250
Indonesia First Irrigation	30	T Ra	Ra	T Ra	Ra	T Ra	na	400,000	400,000
Indonesia Second Estates	31	T Rt Ra		T Rb		T Rb Rt	+	dna -	estates
Indonesia First Estates	33	T Rt Ra		T Rb		T Rb Rt	+	dna -	estates
Korea Agricultural Credit	38				T 4/	T 4/	na	12,000	6,000
Pakistan Agricultural Credit	40	T Ra	T Rb	T Rb	Ra	T Ra	na	13,000 8/	12,600 8/
Ivory Coast Cocoa	47	T Rb		T Rt		T Rb	+	24,600	11,700

na: not available
dna: does not apply

1/ T: Target R: Result
Rb: Result substantially below target
Rt: Result at target
Ra: Result substantially above target
Rb Rt: Slightly below target
Rt Ra: Slightly above target
Rb Ro: No production increase

2/ +: positive
0: neutral
-: negative

3/ Not explicitly stated in PPAR but derived from available information.

4/ The actual shift was different from appraisal expectations and not physically comparable. Whether higher production target was met could not be determined exactly.

5/ Assumption; no reliable data available for good estimate.

6/ Families were not properly defined.

7/ Only few ranchers, including Government ranchers were involved.

8/ Number of loans made.

Project Results: Production

3.48 On the basis of available information, ten projects came close to or surpassed their production targets; in fifteen projects production increases at audit were substantially below targets; in two of them (Niger Agricultural Credit and Benin Zou Borgou Cotton) production did not increase at all. In respect of the remaining project (Korea Agricultural Credit) information on production is not available, while Bangladesh Irrigation Engineering and Pakistan Flood Rehabilitation had no direct production objectives. Increased production came mainly from expansion of areas or herds in twenty of the twenty-five projects, from higher yields in twenty-one, and from more intensive cropping patterns in six. A shift to higher value crops was a target in Korea Agricultural Credit, and it was broadly met; there was also a spontaneous shift to higher value crops in three other projects.

3.49 In Cameroon Semry Rice, paddy production substantially exceeded appraisal estimates and production at full development is now expected to reach twice the amount originally estimated. Reasons include a much larger area available for cultivation, extension of on-farm works to the entire project area, higher yields made possible by the general acceptance of transplanting instead of broadcasting, and the larger area now expected to be double cropped. A noteworthy feature was the approach of Semry management in successfully persuading the farmers to adopt new planting techniques. In Nigeria Cocoa project, similarly, the planting program was carried out to high technical standards and appraisal targets for production were readily achieved. The project combines expansion of area and higher yields. The environment of success included full support of government, an enterprising farmer population, well-qualified and enthusiastic project staff, and a dependable institutional infrastructure. Production increases in Indonesia First Irrigation Project also came from a combination of expansion of area, higher yields and more intensive cropping. Yield increases significantly greater than those estimated at appraisal and a boom in world market rice prices more than offset cost overruns in the project, giving a highly satisfactory economic rate of return. Sierra Leone Agricultural Development also combined area and yield increases. Swamp rice planting targets have been exceeded and rice yields were in line with appraisal estimates; cocoa and oil palm plantings exceeded appraisal targets. The project could serve as a model on how to achieve quick and highly satisfactory results in the rural sector.

3.50 Of the fifteen projects in which production increases were either substantially below appraisal targets or did not take place at all, eleven offered yields below appraisal estimates, eleven had smaller area increases than anticipated, and three had lower cropping intensity. Of the projects which fell short of production objectives, Niger Agricultural Credit is one of the major disappointments. The project

failed because appraisal objectives were too optimistic, government pricing policies were inappropriate, institutions involved did not perform as expected, and drought affected production in three out of the seven project years (para. 3.42). Among other projects which failed to achieve their production targets and offered poor reestimates of return at audit were Benin Zou Borgou Cotton, Malaysia Jengka Forestry, Korea Dairy Beef, Iran Ghazvin Irrigation and Benin Hinvi Development.

3.51 Benin Zou Borgou failed in reaching its production objectives mainly due to changes in government, frequent policy revisions, and organizational disruptions (para. 3.43). There were also however other factors that should have received more attention during project preparation and appraisal, but did not. Organizational problems were already evident at the project's inception and continued to affect its implementation. There was a failure to evaluate more closely the competitive position of maize as against cotton, and the project illustrates the inappropriateness of promoting a single annual cash crop for export or for domestic markets in Africa without considering adequately the flexibility allowed to the farmers by annual crops; project design would have gained if it had made provision for such flexibility. As it was, the design made no allowances for farmers to follow market trends and adjust their cropping patterns to demands.

3.52 In Malaysia Jengka Forestry, logging yields and plywood conversion rates emerged in line with appraisal expectations. Production, however, fell short because log extraction rate was only 78% and the capacity of plywood production only 75% of appraisal targets. Other causes contributing to project failure included inadequate cooperation between state and federal authorities, an attempt to encompass too many objectives simultaneously, poor management and technical assistance, poor marketing arrangements, and deficiencies in the original design of the factory. The situation started badly and got worse, underlining the limits to effective intervention by supervision in a situation of stress.

3.53 Korea Dairy Beef Development project (para. 3.44) was another example of an overambitious project design not properly integrated into its contextual situation and with a number of components that failed to move along in a coordinated fashion. The pasture establishment program got ahead of heifer distribution at first, but the pastures degenerated and most project farmers still stall feed. Herd growth and milk production moved ahead of plant construction. Original plans for plant location and product line were upset by unexpected policy shifts. Technical assistance provided to project farmers was good but not always timely, and the training received by technicians and farmers varied considerably. While administered prices have ensured good financial returns for farmers, 95% of whom were relatively small farmers, the

project offered a negative rate of return estimate at audit, although this could improve in the future.

3.54 The results of the Iran Ghazvin Development project are in many ways paradoxical. It has been a striking success in some ways and a failure in others (para. 3.45). There has been large scale modernization of the rural water supply system, cultivation standards in project fields at audit were very good, the area cultivated and the cropping intensity were relatively satisfactory, field crop programs, poultry production and sheep breeding are doing well, and net income from agriculture rose significantly for a large number of land reform beneficiaries. On the other hand, the project suffered from inadequate water supplies that were overestimated at appraisal, and from the borrower's inadequate financial support of the project agencies. The value of incremental production was expected at audit to reach only about 25% of the appraisal target and the rate of return was reestimated at somewhere around zero percent because of the considerable costs involved in achieving the results and heavy delays in project implementation.

3.55 The Benin Hinvi Agricultural project was undertaken in awareness of the risks involved and because it was considered that better investment opportunities in the agriculture sector of the country were not then available. In the event, excellent performance in planting and satisfactory levels of maintenance were achieved in both oil palm and maize and the functioning of the oil mill was satisfactory. Overall production has been however very much below estimates as a result mainly of low rainfall.

Project Results: Economic Returns and Price Effects

3.56 As noted in last year's review, the economic return on any proposed project is derived from estimates of future costs and benefits. The recalculation at audit is also an estimate, although the basis for calculation takes account of more recent data and of the project experience. Prices frequently play an important part in fluctuating estimates, and the actual economic return cannot be calculated until after a project has completed its life.

3.57 As a group, these projects come out better in their economic expectations than the group reviewed last year and much better than that reviewed two years ago. The economic rate of return estimates at audit average 18% compared to 14% and 13% for projects reviewed the last two years. The larger projects, in terms of investment expenditures, yielded higher return estimates than the smaller ones; the weighted average of the audit estimates is thus 23% as against 15% in the Third and Fourth Reviews. The audit reestimates were at or above the original estimates for half the number of projects, and below for the other half; they are significantly above 10% (up to 47%) for twenty of the twenty-six

projects for which reestimates were made, accounting for 82% of the loans and credits and 85% of the total project expenditures. Twelve projects were expected at audit to achieve high rates of return of 20% and above; this is an unusually high proportion for this level of return and twice as high as that of last year.

3.58 Six projects were estimated to yield rates of return below 10% (Niger Agricultural Credit, Benin Zou Borgou Cotton, Malaysia Jengka Forestry, Korea Dairy Beef Development, Iran Ghazvin Irrigation and Benin Hinvi Development); one of these registered 5%, one showed a zero rate of return, and four were negative. This is the first time since the Bank evaluation system was initiated that negative reestimates of rates of return have shown up for agricultural projects. The Korea project was not clearly unsatisfactory; project activities were properly carried out and proved profitable for participating farmers; this was however obtained at subsidized prices and the economic rate of return at completion at international prices was negative.

3.59 It is noteworthy that the audit rate of return estimates exhibit an unusually wide spread. The twenty-six projects are distributed evenly over a wide range, with seven of this year's group returning medium-range estimates between 10-20%.

3.60 In terms of types, tree crop projects and projects with tree crop components in other projects appear to have been the most successful. They show an average audit rate of return of 26% and include three of the six most successful projects in the entire group. The four irrigation projects performed well (average audit ERR of 19%), as did the eight livestock projects and two settlement projects (average ERR reestimates of 15% and 16%, respectively). Two of the negative rates of return occur in annual cropping projects (Benin Zou Borgou and Niger Agricultural Credit), one in forestry (Malaysia Jengka), and one in dairy beef development (Korea).

3.61 For projects with an audit reestimate of rate of return of 13% and below, production was substantially below appraisal targets; no corelation was however noticed between returns above 13% and the achievement of physical production targets.

3.62 Price increases - costs and benefits - had favorable effects on the audit rate of return in ten of the sixteen projects for which information was available. The shortfall in physical production in seven of these ten was more than compensated by price increases in six; these six projects are now estimated to achieve economic rates of return higher than anticipated at appraisal. For two projects the price effect on returns appears to have been neutral, and for the remaining four price effects are likely to be negative (see Table 2).

Project Results: Beneficiaries, Employment and Income

3.63 A total of about 650,000 farm families, or about three million rural poor, were expected to benefit from the projects (para. 3.08). On the basis of information available, it is estimated that 80% of this number was probably reached. These data are not unassailable and make two major assumptions: first, that the highly successful Indonesia First Irrigation project did reach the targeted 400,000 farm families and, second, that the Niger Agricultural project, which has been adjudged a failure, did not benefit the full 100,000 intended farm families.

3.64 Excluding the above two projects, beneficiaries reached, as percentage of the target number, are much the same for the entire group of twenty-three projects aimed at reaching individual farmers. The number of farm families reached by the twenty-one projects were estimated at audit at 115,000, or about 77% of the targeted 150,000. In six of the projects the target number of farm families was exceeded. The average number of farm families reached per project was about 22,000 for all twenty-three projects and 5,500 for the twenty-one projects, excluding the two large ones, as compared to 28,300 and 7,150 projected at appraisal. Inflation appeared to be the main reason for the shortfall, compelling projects to reduce activities and hence reach fewer farm families.

3.65 Information on employment effects is available for fifteen projects; good information on four projects, and less good on eleven. Quantitative data on the four projects show 1,000 jobs created in Malaysia Jengka Forestry, another 1,000 in Jamaica Agricultural Credit, 100 in Dominican Republic Livestock and 6,500 in Peru San Lorenzo Settlement. For the last three projects mentioned the jobs were for others than direct project beneficiaries. Of the eleven projects with less good information, nine are believed to have increased farm employment opportunities: significantly in Indonesia First Irrigation; somewhat in Malaysia Jengka Settlement and in the Afghanistan and Pakistan agricultural credits. Lending for tractors in the Pakistan project led to displacement of tenants, but also created new employment; including the employment generated by tubewell investments, the project is believed to have, on balance, created additional employment. In five projects, employment creation contributed to labor shortages (Iran Ghazvin, Benin Hinvi, Sierra Leone Agricultural Development, Cameroon Semry Rice and Senegal Casamance Rice). Two projects (Indonesia First and Second Estates) were confronted with oversized labor forces and reduced employment opportunities, although, in view of the rural unemployment, hand weeding was used instead of chemical weeding. Thirteen projects for which no information on employment effects was available at audit included five livestock projects, two tree crop projects, two credit

projects, one annual crop and one settlement project, and the two non-production projects.

3.66 Field information on income is available for seventeen projects, and in all of them post-project incomes at audit were estimated to be larger than pre-project ones. For thirteen projects where a comparison was made with appraisal, expectations were exceeded in four (Sierra Leone Agricultural Development where a smallholder's net income from rice at full development was estimated at US$375 in constant 1977 dollars; Cameroon Semry Rice which was expected to have tripled net farmer incomes; Nigeria Cocoa and Pakistan Agricultural Credit). Appraisal expectations were, on balance, achieved in five projects: net incomes of sub-borrowers increased little in Colombia Caqueta Settlement and Dominican Republic Livestock; they were expected to reach three times above the poverty line in Malaysia Jengka Settlement; and to reach projected levels in Senegal Casamance Rice and Afghanistan Agricultural Credit. On the other hand, estimated incomes were expected to be below appraisal expectations in Korea Dairy Beef Development - although above expectations for larger farmers; in Iran Ghazvin Irrigation where farmers' net incomes were expected to double even though staying below target expectations; in Jamaica Agricultural Credit; and in Paraguay Livestock.

3.67 In four projects, farmers' incomes were not compared with appraisal expectations but were estimated as highly satisfactory. These projects included Peru San Lorenzo Settlement where the farmers' average gross income of US$2,500 equivalent at audit is high by rural Peruvian standards; Philippines Livestock in which estimated profits on pig and poultry investments, accounting for 94% of loan funds, appeared highly satisfactory; Korea Agricultural Credit; and Benin Hinvi Development.

3.68 Of the eleven projects for which no information on income effects was available to audit, there was secondary evidence of expected income increases having taken place in three projects: Indonesia First Irrigation project which showed substantial production increases by smallholders; Ivory Coast Cocoa in which the prospects for meeting appraisal targets appeared very favorable; and Papua New Guinea Livestock. Farm income probably did not increase as expected in Niger Agricultural Credit, Benin Zou Borgou Cotton and Honduras Livestock, while no family farms were involved in the remaining five.

Project Results: Institutional

3.69 Institutional arrangements for project implementation worked satisfactorily in most cases and, as in the groups reviewed in the last two years, most so in projects carried out by experienced institutions. Existing government organizations implemented four of the six projects which showed the highest estimated rates of return at audit, and four of the seven in which the returns were expected to be satisfactory.

3.70 Outstanding institutional performance was observed in six projects, and institutional improvements included in the projects were properly carried out in most cases. Moderate to severe institutional problems were noted in ten projects. Financial problems were by far the most pervasive, affecting Benin Zou Borgou Cotton (weak financial management); Malaysia Jengka Forestry and Korea Dairy Beef (project agencies' financial situation deteriorated during implementation); Iran Ghazvin Irrigation (insufficient budgetary allocations to one of the two project agencies); and Paraguay Livestock (executing agency not given financial responsibility for the project). Inadequate commitment by either the government or a major sponsoring agency hampered the implementation of Niger Agricultural Credit, Iran Ghazvin Irrigation and Dominican Republic Livestock. Benin Zou Borgou and Malaysia Forestry were poorly managed during most of the implementation period; poor original design and institutional rivalry affected the success of Paraguay Livestock and Sierra Leone Agricultural Development. Problems with managing consultants or expatriates were encountered in three projects; staffing problems affected two; and the quality of extension staff, one. Unimpressive performance of the technical unit under Pakistan Agricultural Credit resulted in the agreed system for subloan appraisal being abandoned.

3.71 Institutional problems were clearly associated with poor project performance, further highlighting the importance of institutional arrangements. Each of the five projects with a zero or negative rate of return suffered from institutional deficiencies. On the other hand, of twenty projects with rates of return above 10%, only five experienced any major institutional problem and in only two cases did those problems have a significant impact during implementation.

3.72 The projects reviewed this year provide some insight on the strengths and weaknesses of new project units as compared with established ones. In several cases (Peru San Lorenzo, Sierra Leone Agricultural Development and Nigeria Cocoa) an autonomous project unit was probably the best arrangement to successfully carry out the physical development of the project, ensuring, in turn, a satisfactory rate of return. In Sierra Leone, the project unit also succeeded in protecting project autonomy and in safeguarding appraisal objectives during a period when the government's development emphasis shifted to other regions. Nigeria Cocoa project was successfully managed by a project unit with a core of highly qualified staff and strong institutional and government support. The agency created to implement Indonesia First Irrigation is reputedly among the most effective that the Bank has dealt with in that field; Korea Dairy Beef was successfully implemented by the agency in charge; and the executing agency for Senegal Casamance Rice performed remarkably well.

3.73 Overall, however, projects implemented by new organizations, whether new agencies or project units, showed less good results than

those involving experienced agencies. They also accounted for most of the institutional problems that occurred; of ten projects with problems eight were wholly or in most part implemented by new agencies. Problems that are peculiar to new units include institutional isolation which leads to precarious existence and reduced effectiveness, a theme also touched upon in last year's Review. Peru San Lorenzo Settlement project, for instance, was implemented by an independent unit under the direct control of the Office of the President, with operational autonomy and funds. The arrangement resulted in fast implementation and good impact, particularly in the two years before the Bank loan was made, but made the project vulnerable to personalities as well as to patronage, both of them transient factors. Project management encountered political hostility and lack of continuity in key staff positions; eventually, project implementation had to be transferred to the Ministry of Agriculture. A similar problem was encountered in Sierra Leone Agricultural Development, aggravated in this case by dependency on expatriate staff; when such staff departed, the weakness of the project authority became apparent and the efficiency of the organization declined. The technical advisory unit for Pakistan Agricultural Credit suffered from isolation; and the project unit in Paraguay Livestock was caught in the rivalry between the two main project-sponsoring agencies. In eight projects coordinating committees were established; in seven of the eight, these committees proved worthless in practice and had little impact on project implementation.

3.74 Sixteen projects explicitly or implicitly provided for training. In contrast with the findings of the Fourth Annual Review but in line with those of the Third, most training components were successfully implemented. Minor problems occurred in two projects: in Korea Dairy Beef, the lack of systematic approach resulted in substantial variations in the amount and quality of training imparted; in Ivory Coast Cocoa, a rigorous training program gave extension workers a sound requisite knowledge but did not provide for training of credit officers, accountants, and middle level management personnel for which a crucial need existed. In two cases (Jamaica Agricultural Credit and Afghanistan Agricultural Credit), expatriate consultants were not able to provide on-the-job training because most of their time was taken up in operational tasks. Four projects provided for overseas training: this was properly built in and put into use in two (Papua New Guinea Livestock and Korea Agricultural Credit), and not utilized in two projects (Paraguay Livestock and Afghanistan Agricultural Credit).

Summary Findings

(i) Delays in Project Implementation

3.75 As mentioned in para. 3.04, there has been a steady increase in the time taken for project implementation over the groups reviewed in

the last three years. It may be useful to review the age profiles of more recent projects to see if this trend has since been arrested, and whether certain subsets are more prone to delay than others. Country implementation reviews, recently introduced by the Bank, will no doubt help in identifying any patterns of delay, and in reducing their incidence.

(ii) Project Design and Price Effects

3.76 The percentage of projects designed to increase production of more than one commodity has gone up in this Review as against that of last year. There were also more projects with processing components. These factors appear to indicate a trend towards both integration and diversification of project activities with two possible effects: (i) greater opportunity to spread risks against adverse conditions and lower chances of failure, and (ii) increased institutional complexity and the requirement for broader expertise both in the country and in the Bank's appraisal and supervision process. Sufficient information is not available to permit a straightforward conclusion on whether the new design trend resulted in better and more profitable projects. This year's batch on average does show better economic returns than last year's and the four worst projects were mostly single commodity ones. There are however other factors which affected this year's overall performance. Price increases led to increased unit costs and the reduction in physical size for a large number of projects; this, in turn, caused nonachievement of production targets and 60% of the projects fell short of appraisal projections. On the other hand, product price increases also enhanced the value of project output. Project farmers were thus further motivated to expand their activities, and potential beneficiaries to join the projects. The projects under review were exposed to high commodity prices for the mid-1970s for almost one additional year as compared to last year's group; since this additional year is close to the starting point, high product prices acquired a more than proportionate weight in reestimated rates of return. As between reduction in project size and increase in the value of output, the overall effect was positive; of every seven projects that fell short of the production target, six still achieved higher economic returns than estimated at appraisal. If the appraisal price projections had held, twenty-one of the twenty-six projects for which economic rate of return estimates are available would have offered returns at audit below those originally anticipated. Shortcomings in project design, commented upon earlier, and farmer participation problems would also have surfaced in a more acute form.

(iii) Policy Environment and Farmer Participation

3.77 Actual farmer participation was about 80% of that expected at appraisal. One general reason for the shortfall was inflation which restricted project activities; the other was the policy environment and

producer price policies established by borrowers which ran counter to project objectives (paras. 3.16-3.19). Pricing policies are the responsibility of the borrower. It is clearly necessary for the Bank to reach prior understanding with the borrower on sector policies, including pricing, where such policies are critical for the project. Additionally, an understanding of the markets on the part of the Bank and the borrower, and greater flexibility to react promptly to changing markets and prices, would have avoided some of the failures encountered in this group. As it was, the Bank in one of these cases recommended lower farm gate prices, thereby discouraging farmer participation. The Bank is increasingly seeking prior understanding with the borrower on sector policies, and agreement has been reached with a number of borrowers on pricing studies for subsequent discussion with the Bank.

(iv) Institutional Choice and Development

3.78 Experience with this group of projects suggests that new agencies, particularly new project units, offer some advantages over existing agencies in the short run but at the cost of serious disadvantages in the long term. A new project unit may expedite implementation and help obtain a high rate of return; to the extent however that project success does not involve the participation or improvement of existing institutions, these results may not last. Thus, continuation of project activities after the investment period was jeopardized or affected when the project unit was dismantled (Peru) or broke up (Nigeria) or when the expatriates leading and manning the project unit departed without proper replacement (Sierra Leone). A new unit or agency may be an effective device to implement a project if it is given sufficient autonomy in project matters, it has the clear commitment and support of the government and sponsoring agencies, it is designed to ultimately fit into the regular institutional setup, and phase-out arrangements are built in from the very beginning, in order to effect a smooth transfer of project activities to regular government institutions.

3.79 Existing government institutions do not offer the perfect alternative. In this group they had to be reorganized and built up with varying degrees of success; sometimes new departments had to be established within existing agencies. They had difficulties in finding and retaining suitable staff, in securing counterpart financing or budgetary allocations, and in internal and external coordination with other government agencies. With all that, projects managed by nationals in this group tend to show a better performance (average rate of return at audit: 20%) than those managed by expatriates (15%).

3.80 In various groups of projects reviewed so far, institutional improvement has proved to be a slow, long-term process. In the present group, strengthening agricultural lending capabilities in the Papua New Guinea Development Bank, building a financially viable forestry agency in

Malaysia Jengka project, and establishing field control in Benin Zou Borgou Cotton took much longer than had been anticipated at appraisal. Two cases underline the lack of planning in the longer term horizon needed for institutional development. Paraguay Livestock in the present group is third in line of similar projects. The two previous projects had failed to lay a proper institutional basis, and the appraisal mission for the third devised a new institutional solution, which also failed. The Sierra Leone Agricultural Development project unit could not be built to a self-sustaining level within the implementation period and its efficiency declined after project completion.

3.81 The success stories illustrate the same point. Afghanistan Agricultural Credit was conceived on the basis of a concomitant UNDP project, with the Bank as executing agency, to build up AgBank step by step. The process is now running through the third IDA project and the fourth phase of the UNDP project, with a new operation of each kind in the pipeline. In Senegal Casamance Rice and Cameroon Semry Rice second-phase projects were required to fully develop the project units, this requirement for extended support having been anticipated from the very beginning and systematically put into effect.

3.82 In-service training, which was planned in six projects, is a related issue. Such training was successfully accomplished in three cases, but not in the other three. In Cameroon Semry Rice and Afghanistan Agricultural Credit a separate training officer had to be employed to resolve the problem. In Jamaica, the planned training was not achieved and specific provision had to be made in the following project.

3.83 The lessons of institutional approach and development in this group are not novel and are known to the Bank. It would however bear reiteration to say that the institutional design for any project or group of projects must fit into the larger institutional framework of the sector or subsector, that the instrument selected or devised for project implementation must have full government support and provide for its longer term absorption into the surrounding institutional framework, and that a program of systematic training of local staff should be an essential ingredient of any effort at institutional improvement.

(v) Supervision

3.84 The experience with supervision reviewed in paras. 3.36-3.46 once again emphasizes its role in successful project implementation. What is noteworthy in this group is not the frequency of supervision or the manpower input as much as its quality. This quality hinges upon the optimal timing for supervision missions, continuity of staff, and representation of expertise on supervision missions that responds to the nature of emerging problems from time to time. Given the fact that the vast majority of projects underwent changes in scope and design during

implementation, the role of knowledgeable, timely and decisive supervision acquires special importance. The Bank has taken steps to strengthen supervision by providing additional manpower and by diversifying the available expertise. A revised Operational Manual Statement (OMS 3.50) was issued in February, 1979. It contains a new section on supervision planning to make the process more cost effective, and to relate it more closely to problems of implementation. In complex and innovative projects, the Bank's resident mission staff have an advantage in providing close and continuous supervision that is being exploited in balance with supervision from headquarters.

(vi) Follow-on Projects

3.85 Twenty-one of the twenty-eight projects in this group were followed by other Bank operations. In seven cases, the follow-on project was a replication of the one preceding (Korea Dairy Beef, Malaysia Jengka Settlement, Sierra Leone Agricultural Development, Cameroon Semry Rice, Indonesia First Irrigation and Indonesia First and Second Estates); what followed in seven other cases was the continuation of the reviewed project (Jamaica Agricultural Credit, Colombia Caqueta Settlement, Honduras Livestock, Senegal Casamance Rice, Philippines Livestock, Nigeria Cocoa and Korea Agricultural Credit). In yet another group of seven, different though related projects were undertaken: Benin Zou Borgou Cotton was followed by a technical assistance project of interim nature; the follow-on to Paraguay Livestock reflects the change in Bank policy and provides more lending for smaller producers, as does Papua New Guinea Livestock; Afghanistan Agricultural Credit has been followed by a project with wider social objectives; the follow-on to Ivory Coast Cocoa sought to group individual plantings into large blocks and to strengthen management while providing for evaluation of the first project; Bangladesh Irrigation Engineering has been followed by two projects and Pakistan Flood Rehabilitation by another rehabilitation project with greater emphasis on the restoration of civil works. The remaining seven projects were not followed by other Bank operations of similar or related nature.

3.86 By and large, the follow-on projects built upon the lessons learned from those preceding. The fourteen repeater projects - replications plus continuations - came after those that were successful: in twelve of these several improvements were incorporated resulting from the lessons learned; in two (Honduras Livestock and Indonesia First and Second Estates), the repeater project followed too closely upon the heels of the earlier one and the lessons of the projects reviewed were applied only to the project that followed the repeater project. The seven projects which were followed by a different type also yielded lessons which were applied to the successor projects.

3.87 The seven projects which had no follow-on were either: failures (Niger Agricultural Credit and Malaysia Jengka Forestry); followed by a project not assisted by the Bank (Iran Ghazvin); not continued because

of marginal conditions for the project enterprise - oil palm - (Benin Hinvi Development); not continued because the borrower was not prepared to borrow under Bank instead of IDA terms (Dominican Republic Livestock); the last stage in an irrigation program (Peru San Lorenzo); or not continued pending the preparation of a suitable project (Pakistan Agricultural Credit).

B. TRANSPORT

3.88 The present Review covers 28 projects in transport, 18 of them in highways. Special projects include urban transport, the first urban development project which the Bank financed and the first one to be audited; a sea defense project; and a multimode project for rehabilitation of a war-damaged transport system. All of the loans and credits for transport were made in fiscal year 1969 and later years and, with one exception, the projects they financed were completed in FY75-78 as against FY73-77 for last year's group. The projects reviewed this year reflect considerably more recent experience of project implementation than those covered by earlier reviews.

HIGHWAYS

3.89 Loans and credits for highway projects were made to sixteen countries. For the first time in these annual reviews, a majority of the highway projects represent repeater operations in a series: four were second Bank-supported highway projects in the respective countries, four of them were third projects and one was the fifth. Of the eighteen highway projects, six were located in the Latin America and the Caribbean Region; five in West Africa; three in East Africa; two in Europe, Middle East and North Africa; and one each in the East Asia and Pacific and South Asia Regions.

3.90 The group reviewed last year included four projects intended solely for highway maintenance; the proportion in the present group is larger, seven of the eighteen being road maintenance projects and four others including important maintenance elements. One project was for feeder road construction while two others included feeder road components related to agricultural development.

Implementation: Time

3.91 Most highway projects in this group experienced exceptionally long delays in implementation. This is noteworthy in view of the fact that nine out of eighteen were repeater operations connoting an existing

Bank-Borrower relationship and the expectation of easier project implementation. Thirteen projects were completed more than one year after the scheduled dates, of which nine suffered delays ranging between 24 months and 58 months. Only two maintenance projects were completed on time; their scope of work was however reduced due to late delivery of equipment (Chad Highway Maintenance) and the shortage of local funds (Congo Highway Maintenance). The main reasons for delays were generally similar to those mentioned in earlier reviews. Many of them appear to have been related one way or another to inadequate project preparation before loans or credits were made; some of the problems resulting in delays could have been foreseen, others not.

3.92 The Chile Second Highway Maintenance Project was implemented over eight years instead of the originally planned three and a half. It was beset with political problems, budgetary constraints, problems with international bidding procedures related to equipment procurement, temporary suspension of purchases when a bilateral source of equipment supply became available, and delay in hiring consultants to assist in project studies and implementation. The Venezuela Third Highway Project experienced a delay of 48 months due to numerous design changes resulting from inadequate preparatory engineering, including soil investigation, and right-of-way problems for the expressway. Despite its cautious preparation, in conditions of emergency, the Zaire First Highway Project ran into serious delays; it had a time overrun in implementation of 150% (37 months) caused by delayed procurement of maintenance equipment and slow road rehabilitation. Inadequate engineering preparation and difficult terrain combined to cause a delay of 39 months in implementing the Colombia Fifth Highway Project.

3.93 Inadequate supervision was a contributory factor to the two-year delay in the Indonesia First Highway Project, and diversion of funds and equipment to other than road maintenance purposes affected the Paraguay Second Road Maintenance Project.

Implementation: Costs

3.94 With only two exceptions, the loans and credits for the present group of projects were made in fiscal year 1973 or earlier years. Project execution straddled the period of high inflation following the oil crisis; cost estimates for this group, as for the one reviewed last year, were therefore affected by circumstances that could not have been foreseen. Despite this, the overall cost experience was not unsatisfactory. Eight of the eighteen projects were completed with expenditures within 10% of appraisal cost estimates; four had cost underruns ranging between 2-16%. Expenditures on six projects exceeded original estimates by over 10%, of which four had overruns of 35-58%.

3.95 The projects with the highest cost overruns were: Madagascar Third Highway Project (58%), Kenya Third Highway Project (50%), Venezuela

Third Highway Project (47%), and Nepal First Highway Project (35%). The cost increase for the Madagascar project was mainly due to price increases and exchange rate changes; some 11% of the rise was due to quantity increases. The cost increase on the Kenya project resulted mainly from the need to raise the design standards during execution and the prolonged implementation period. One of the trunk roads included in this project experienced a 740% cost increase because its length was extended and design standards raised during implementation. The large increase in the cost of the Venezuelan project was also due to original underdesign which had to be subsequently rectified. The Nepal project was adversely affected by inflation, compounded by the remoteness of the country and the long delay in implementation. Two of the four projects with the highest cost increase thus suffered from inadequate design at appraisal.

3.96 Three of the four projects with cost underruns related to highway maintenance; the fourth (Yemen) provided for highway engineering. One of them (Yemen Highway; underrun 5%) was a case of overestimate of the costs for some project components; in the other two maintenance projects (Chile; 16% and Congo; 2%) the costs actually increased and the underrun resulted from a reduction in project size, made necessary by the borrowers' inability to provide sufficient local funds.

3.97 As in groups previously reviewed, cost deviations from appraisal estimates can generally be related to inadequate project preparation and slow implementation. Well-prepared projects had satisfactory cost experiences. An example is the Paraguay Second Road Maintenance Project which had only 2% cost overrun. The project was prepared carefully, in close collaboration between the Bank and the Government; implementation difficulties were anticipated and appropriate measures determined at the preappraisal stage, with the project reduced to a realistic size during appraisal. The approach to the Zaire First Highway Project (2% cost overrun) was marked by similar care. The credit was made in 1969 when road rehabilitation was an urgent need; to offset any deficiencies caused by rapid project preparation, a modest approach to project formulation was adopted. A relatively small project ($9.7 million) was prepared, with a heavy emphasis on technical assistance which comprised 40% of the project cost and was intended to pave the way for subsequent larger projects in 1972 and 1975.

Project Results: Economic Returns

3.98 Of fourteen projects for which rate of return calculations were made at appraisal, seven offered reestimated returns at audit higher than those at appraisal, three had similar returns, while reestimated returns for four were lower than those at appraisal. As with last year's group, this predominantly favorable result is partly due to the sharp rise in motor fuel costs leading, in turn, to increased unit savings in vehicle

operating costs which more than offset increases in project costs. In other cases, the returns improved due to higher traffic volumes than originally anticipated. Despite a cost increase of almost 50% and somewhat lower traffic volumes, the estimated economic return on the Venezuela Third Highway Project nearly doubled from 13% at appraisal to 25% at audit. The project financed sections of an urban expressway in Caracas which led to reduced congestion in the city; the audit reestimate took into account the resulting benefits of reduced congestion in addition to vehicle operating cost savings on the roads financed.

3.99 The Indonesia First Highway Project gained from actual traffic materialization much higher than the appraisal projection (12% as against 6% per annum growth). The reestimated return for the Paraguay Second Road Maintenance Project is around 72% compared to the appraisal estimate of 51%, due mainly to actual traffic levels much higher than those visualized at appraisal. The Chad highway maintenance project gained from a higher rate of price escalation in user cost savings than in construction, nearly doubling the reestimated return to 21% from 11% at appraisal.

3.100 Reduced economic expectations are owing to either lower achievement of objectives, lower levels of traffic materialization, or high cost overruns, or a combination of these factors. The Congo Highway Maintenance Project is an example of a lower level of achievement. Due to the shortage of local funds, the project output was minimal; the road network deteriorated despite the project expenditures, resulting in a negative economic return rather than the 20% estimated at appraisal. The feeder roads under the Mali First Highway Project experienced a threefold cost increase, with reestimated return on that part of the project declining from 15% to 3% although the reestimated return on the project as a whole still came out satisfactory at 12%. Similarly, of the fourteen feeder roads in the Kenya Third Highway Project, nine offered reestimated returns in the range of 3-7% because of cost increases over appraisal expectations.

Project Results: Institutional

3.101 The present group provides evidence of an even stronger thrust toward institutional improvement than the group reviewed last year. While sixteen of the twenty-five highway projects in last year's Review provided for institutional development, the latter objective was included in all but two projects in the present group.

3.102 The Madagascar Third Highway Project did not include any institutional components because, at the time of appraisal in 1971, the agencies concerned with highway development were adequately staffed by expatriate personnel. In retrospect, the omission was a mistake. With the election of a new government in the following year, there was a

change in government policy and a rapid nationalization of public administration was implemented. In the process, the highway agencies lost most of their expatriate experts without, in many cases, suitable replacement by nationals. Even if one could argue that the change in government policy in the short term could not have been foreseen, the natural course of developments should have pointed to the need to reduce heavy dependence on expatriates and a program of training of nationals to increase their participation in public administration. The Costa Rica Second Highway Project also did not include any efforts at institutional improvement. Some training on the job resulted from construction supervision by the borrower; there is however no evidence that this was systematically planned and carried out.

3.103 A good training program successfully implemented was, on the other hand, an essential constituent of the institutional effort in a number of other projects. The other essential ingredients were the time frame in which institutional change was sought, the quality and strength of the agreement between the Bank and the borrower on the objectives and instrumentation of such a program, and, perhaps as evidence of that understanding, the strength of the borrower's commitment to making the necessary institutional changes.

3.104 The Mali First Highway Project and the Indonesia First Highway Project are good cases in point. Of its three objectives - institutional development, construction of feeder roads, and highway maintenance - institution building was given prime importance in the Mali project. In the event, this was also the component which succeeded best. The Public Works Department was extensively reorganized and strengthened and a comprehensive training program of its staff undertaken. An interesting feature was the combined use of commercial and ILO consultants. ILO was already assisting road maintenance in Mali, the Government preferred continuity in this assistance, and the Bank wisely made a departure from its normal practice and agreed to finance the staff of another UN specialized agency from an IDA credit. A much strengthened Public Works Department has been responsible for two follow-on highway projects.

3.105 The Indonesia First Highway Project included a strong technical assistance component, including training activities. The latter however was not properly planned and it was soon realized that the terms of reference given to the consultants were not specifically oriented towards training. The Bank and the Government agreed that a new approach was needed and decided to phase out the training responsibilities of the original consultants; a new firm was subsequently retained to concentrate on training only, financed mainly by the Third Highway Project. The First Highway Project thus contributed to the improvement of planning and administration of highways in Indonesia, especially at the provincial level, and provided an important experience on which to base longer term training efforts.

3.106 The Zaire First Highway Project included technical assistance which lasted for four years. The technical assistance helped establish an autonomous agency for the administration, maintenance and construction of roads, and the preparation of a substantial on-the-job training program. In Chad, the existing road fund was augmented to create a self-sustaining source of funds for adequate highway maintenance and the framework for a comprehensive training program was prepared for execution under a subsequent project. In Paraguay Second Roads Peroject, the Highway Directorate was successfully reorganized and strengthened; among the factors motivating the borrower were the lessons of experience gained from the earlier Bank-financed project.

3.107 Failures in institutional development resulted from unrealistic expectations, lack of borrower commitment for various reasons, and the Bank's own comparative neglect of institutional problems in the face of difficulties in civil works execution. Under the Nepal First Highway Project, the Government was unwilling to accept consultants' recommendations for improving the maintenance organization; combined with the road agency's own lack of leadership, this resulted in insignificant achievement in institution building. Under the Chile Second Highway Maintenance and Colombia Fifth Highway Projects, institutional objectives were relegated to lower priorities following changes in government. In Colombia Fifth Highway Project, the Bank's own enthusiasm for institutional efforts also subsided as difficulties with civil works mounted.

RAILWAYS

3.108 Three railway projects are included in this Review; one each in East Asia and Pacific; Europe, Middle East and North Africa; and West Africa Regions. The loan for one project was made in 1969 and the other two in fiscal years 1971 and 1973; all three projects were however completed in 1976-77.

Implementation: Time and Cost

3.109 After some start-up difficulties, the Mali Second Railway Project was completed on schedule. However the project experienced a 71% cost overrun, necessitating the reduction of project scope to about 75% of that originally formulated. Worldwide inflation and unreliable estimates at appraisal combined to cause cost increases. The completion of the China Fourth Railway Project was delayed by 14 months due to the Government's administrative procedures but the project as originally envisaged was fully implemented and showed a small underrun of about 4% in foreign exchange costs; some overrun in track material costs was more than offset by lower expenditures on rolling stock, workshop equipment and technical assistance. The Tunisia Railway Project was delayed 42 months due mainly to the serious floods of 1969 which caused substantial damage to the railway system. The project experienced a 52% cost overrun

due partly to the delay in implementation and partly to initial underestimation of costs, especially those for rolling stock.

Project Results: Traffic and Operational Efficiency

3.110 In two of three railway projects reviewed here, traffic developments were below expectation and the anticipated improvements in operational efficiency did not materialize. The exception was the China Railway Project which showed good results in both traffic and operational development. While freight traffic was slightly lower than projected, passenger traffic exceeded expectations. The railway's operational efficiency, which was already good at the start of the project, showed steady gains during the project period. In the Tunisia Railway Project, on the other hand, both freight and passenger traffic stagnated despite a 9% average growth in the economy, suggesting that much of the increased traffic moved by road. Operational performance shows actual decline in certain respects and the lack of significant improvement in others. On the Mali railways, although passenger traffic grew slightly faster than forecast, freight traffic stagnated and in 1976 the total ton-km was 32% below appraisal estimates. The reasons included the 1973-74 drought and insufficient cooperation between Mali and Senegal railways, a point also noted in the last annual review. Many of the operating targets set at appraisal of the Mali Railway Project were not met, and of particular concern was the deteriorating locomotive availability which declined from 73% in 1975 to 52% in 1977 due to breakdowns. Available evidence points to locomotive design not being adapted to local conditions and insufficient preventive maintenance. Audits have noted a similar problem of locomotive design occurring in some other countries, suggesting the need for a closer look at design specifications when tendering for bids and for better technical evaluation before procurement takes place.

Project Results: Economic Returns, Financial Performance, Tariffs

3.111 Traffic and operational performance bear directly on economic results of the projects. Thus, it is only in the China Railway Project that the reestimated return of 14-90% showed a substantial improvement over the appraisal projections of 12-25%. For both the Mali and Tunisia projects, the reestimated economic rates of return at project completion deteriorated over appraisal estimates; the former from 18% to 15% and the latter from 12-25% to 10%.

3.112 The financial performance of the China Railway was consistently good; the return on net fixed assets exceeded 7% a year since 1972. Despite the disappointing freight traffic and inability to achieve operating targets, the Mali railway's finances improved, resulting from substantial increases in rates and fares as well as efforts to limit costs. With no parallel road to offer competition, the traffic carried by this railway was less sensitive to rate increases than on railways

facing competition from road transport. At the time of project completion, the Tunisia railway showed a negative financial return of 6% instead of the 7% positive return required by the Loan Agreement. In addition to the disappointing traffic, the government resisted tariff increases, citing the declining international prices for phosphate, the railway's main freight traffic. As a consequence, and to the extent that the absence of tariff increases helped phosphate production and exports, the railway rather than the government subsidized the phosphate industry.

Project Results: Institutional

3.113 Management tasks for railways have additional dimensions over those for other modes of transport. The responsibilities of highway departments are generally limited to building and maintaining roads; railways operate transportation business in addition to taking care of the infrastructure, calling for a greater emphasis on institutional and managerial capability. Even the ports normally provide the facilities and wait for traffic to visit; in order to stay in business, railways must additionally perform a marketing function to seek out and promote railway traffic in a competitive situation.

3.114 All three railway projects had institutional objectives. For the China railway, institutional and managerial problems of the railway itself were minimal; attention was therefore directed to the government's capability for transport planning and coordination. The project included technical assistance for this purpose but the results were somewhat mixed because of what appears to have been insufficient communication between the government and the consultants. The management of the Mali railways, on the other hand, was completely reorganized under the project following the recommendations of consultants. This reform was probably an important factor in bringing about some improvements in the railway's managerial, operating and financial performance. In Tunisia railways, the major institutional objectives related to improving the financial position and investment planning of the system. Four teams of consultants were retained and their services were on the whole completed satisfactorily. In view of the importance of road-rail coordination, the efforts at improving investment planning should however have covered both road and rail transport rather than be limited to the railway, as was the case.

PORTS

Implementation: Time and Costs

3.115 The implementation experience of the four port projects under review (Madagascar Tamatave, FY70; Thailand Third Bangkok Port, FY71; Cyprus Port of Limassol, FY69; and Iceland Fishing Ports Rehabilitation, FY74) was somewhat mixed. With the exception of the Iceland Fishing Harbors, the projects experienced long delays of between two and four

years in execution; as a group, however, the projects fared better than the group reviewed last year, and some of the delays were located in subsidiary project items. The Thailand Third Bangkok Port Project experienced a delay of two and a half years resulting from unforeseen technical problems and changes in project scope; it had a cost overrun of 26%, mostly in local currency expenditures due to inflation and currency realignment. The Madagascar project was delayed 54 months by late delivery of equipment and showed a cost overrun of 15% in US dollars but only 3% in terms of the Malagasy franc, the value of which appreciated over the US dollar. The Cyprus project had problems with the design and construction of buildings and a cost overrun of 13%, of which 5% was owing to exchange rate fluctuations. In the event, the delays in the Cyprus project turned out to have been fortunate because the requirements for buildings changed drastically as a result of the international events affecting Cyprus in 1974. The Iceland project was reduced in scope to contain costs; with that it had a cost overrun of 21% in terms of US dollars and of about 100% in local currency, most of it due to inflation. In contrast to last year's group, the cost experience of the four projects under review may be considered as good, indicating no major errors in engineering estimates.

Project Results: Economic Returns

3.116 The reestimated rate of return for the Cyprus project was substantially higher than the appraisal estimate while that of each of the other three ports was lower. The actual traffic that used the Cyprus port of Limassol in 1976 was over 200% higher than forecast. This was largely due to the closure of the port of Famagusta in the northern part of the island after 1974, and it also reflects an underestimation of the traffic potential at the time of appraisal. The possibility of increasing port productivity by means other than physical capacity expansion also does not appear to have received due consideration. As a result of the larger volume of traffic, the project's estimated economic rate of return went up from the appraisal estimate of 15% to 40% on completion.

3.117 The Madagascar port on the other hand experienced a substantial shortfall in traffic; the 1976 total dry cargo traffic was about 75% and export cargo less than 70% of the appraisal projection. Consequently, the first-year return - no economic rate of return was calculated - declined from 18% and 10% estimated at appraisal for the first and second berths built, respectively, to 5% and 2% at completion. Underestimation of the existing port capacity or, alternatively, overestimation of additional capacity needs thus occurred, resulting in overinvestment. The Thailand Bangkok Port Project showed a decline in the rate of return from 20% at appraisal to a range of 10-15% when completed; underestimation of the potential capacity of the existing port and lower traffic growth again combined to cause the decline. The capacity increased

because of palletization and the use of side port vessels for both loading and unloading. The appraisal miscalculated in assuming no increase in throughput per berth from operational improvements which actually occurred; this raises some questions about the justification for building all four berths under the project. The economic evaluation also did not take into account the economic cost of increased urban congestion resulting from the expansion of the port located in the center of Bangkok City.

3.118 The reestimated return for the Iceland fishing harbors project at 20% remains highly satisfactory although below the appraisal projection of 28%. The sharply increased prices of fish contributed to the satisfactory outcome. However, the reestimate does not take into account the project's effects on cargo handling efficiency, commercial development, etc.; if these are considered, the actual long-term return is likely to be higher than the audit estimate.

Project Results: Financial Performance and Tariffs

3.119 Due to its emergency nature, the appraisal of the Iceland Harbors Project did not include financial review nor were any financial covenants agreed during negotiations. The port of Bangkok is financially very strong; the Cyprus port is in adequate financial condition; and the Madagascar port's financial position is weak but improving. Tariffs in these three ports have been increased in steps, although the relationship between tariffs and cost is not known in the case of Cyprus. For the Madagascar port, while traffic, and therefore revenue, did not grow as projected, administrative expenses increased three and a half times over the forecast level.

3.120 It would appear that in the face of rapidly increasing costs of operation, tariff increases alone cannot bring about a sound financial position of the port. Yet, there is evidence, in the Madagascar case, as in many other cases involving revenue earning entities, that more attention is paid by the Bank to tariffs than to measures to contain costs. More attention is indicated to long-term efforts to reduce costs and increase operational efficiency in addition to necessary tariff increases. The Thailand Bangkok Port Project illustrates another aspect of the same problem. The port exceeded the target rate of return of 8% on net fixed assets in most years since the beginning of the project and, during the past few years, the rate increased to the range of 15-22%. This raises the question of the use of accumulated financial surpluses by an autonomous public agency and the larger issue of efficiency in the use of resources. In this case the audit considered that the substantial financial surplus may have resulted in encouraging the premature construction of two more berths in Bangkok port, in addition to the four which were built under the project.

Project Results: Institutional

3.121 The Bank's institutional concern was again strong in this group of projects. Three of the four port projects included specific components for institutional improvement; the Iceland project was excluded by its nature and also because a strong port organization already existed.

3.122 In both the Cyprus and Madagascar projects the need for institutional consolidation was identified within the widely diffused responsibility for port administration in the government structure. In both cases, however, the Bank misjudged the time required to achieve institutional objectives. The establishment of an autonomous port authority in Cyprus is still not complete. In Madagascar, not only was the time frame too short for implementing the recommendations of consultants but the recommendations themselves appear to have been flawed; existing customs and the legal framework in Madagascar were not adequately taken into consideration in designing a port authority with features from both the British and French port systems. This has resulted in a conflict of the port authority's powers and responsibilities, as defined in the enabling legislation, with general Malagasy laws.

3.123 The port authority of Thailand was established in 1954 under the Bank's first port project and is currently functioning efficiently. As part of the second project under review, the port authority has maintained tight control on hiring and succeeded in reducing somewhat the number of port employees.

OTHER PROJECTS

3.124 The Nigeria Transport Rehabilitation Project illustrates the problems of institutional response which the Bank faces in emergencies. Because of the need to provide funds quickly, the Bank made an exception to its normal project processing procedures and treated this loan as a line of credit, with the appraisal mission identifying only the broad categories of expenditures to be made. Analyses of managerial, operational, financial and economic aspects were excluded; economic review of individual items to be selected after appraisal was however required. With all that, the project took four and a half years to completion, rendering the emergency basis of operation all but ineffective. The project did however contribute to the development of the domestic contracting industry.

3.125 The Guyana Second Sea Defense Project was completed with a three-year delay and 62% cost overrun on the appraisal estimate. The delay in implementation resulted from difficulties in contract award, serious sea erosion due to long neglect of the problem before the project, and inadequate supply of material. The reestimated economic rate

of return however remains highly satisfactory in the range of 26-34% compared with the appraisal estimate of 31%.

3.126 The main purpose of the Iran Teheran Urban Transport Project was to improve transport conditions in the city of Teheran by improving mass transport services, traffic engineering and urban planning. The borrower however does not appear to have shared the Bank's sense of urgency with which the project was to be implemented; the outstanding balance of $18 million of the original loan amount of $42 million was cancelled on the original closing date. The project was not completed and no information is available on the government's own expenditures in local currency. The results of the first urban development project to be audited are therefore inconclusive or, at best, indicate very limited achievement.

TRANSPORT SECTOR: SUMMARY FINDINGS

(i) Sector Policy

3.127 Unlike the group reviewed last year, the preparation of virtually all the projects in this year's group seems to have taken place within their sector context. Efforts to align the project and its sector policy frame by including elements to modify and improve the latter, however, seem to have had very mixed results.

3.128 Under the Costa Rica Highway Project, efforts were made to create a transport sector planning office but the agency did not become fully operational by the time of project completion. In Tunisia, the railway project was based on a multimode transport survey; this effort to relate railway investment to overall transport development needs did not outlive even project appraisal. In Colombia, a transport investment survey, partially financed under a previous highway project, was probably oversophisticated and was not followed up by the government as being impracticable. There are examples in this group - the closure of a railway line in Sierra Leone in connection with a highway project and the urban congestion resulting from the Bangkok port project - which are now recognized by the Bank as failures of "physical" coordination. The formulation of transport projects continues to need more specific and energetic attention to intermodal questions; perhaps equally important is the balance of investment between primary, secondary and tertiary roads, and the need to take cross-sectoral considerations into account, e.g., extension of road systems in step with transport requirements arising from agricultural development.

(ii) Project Preparation

3.129 Inadequate project preparation continued to be a source of problems in project implementation. Unlike the group reviewed last year,

few of the projects reviewed here were first projects and there would appear to have been less justification for deficiencies in project preparation and design. The overall cost experience was relatively good, but time overruns were substantial, and some of the projects in the highways subsector at least were rescued from poor rates of return by the oil price increases and the consequently higher vehicle operating cost savings. Notwithstanding that project preparation included detailed engineering, as in the projects in Kenya and Venezuela, the wrong initial choice of design standards required their upgrading during project implementation, resulting in both large cost increases and long delays.

(iii) Traffic Forecasting

3.130 Traffic potential was more often than not underestimated for highways and overestimated for railways and ports, representing a continuation of the pattern observed in the group of transport projects reviewed last year. The development of railway freight traffic was particularly unimpressive, and three out of the four port projects resulted in traffic levels 25-30% below appraisal projections.

3.131 In the light of wide variations between forecast and actual traffic, last year's review pointed to the need for margins of uncertainty being clearly recognized in highway design and for improving forecasting techniques. The main reason for inaccurate projections would appear to be the undue reliance placed on extrapolation of existing traffic; such extrapolation tends to ignore the wider development that might take place after project investments. Last year's suggestion remains valid that projections of future traffic growth are probably best attempted in the context of broader economic analyses which would provide the basic elements needed for determining the appropriate size and timing of major investments in transport and in other sectors. This is increasingly being done in current project preparation for highways and especially feeder roads. For railways a closer study of major traffic categories, particularly intermodally competitive traffics, is indicated.

(iv) Estimates of Project Benefits

3.132 This group shows the limitations of present methodology in estimating project benefits. Benefits from highway projects are normally derived from vehicle operating cost savings; other factors like reduction of traffic congestion are not taken into account. On the basis of transport projects reviewed here and in previous years there would appear to be a need for improved methodologies for estimating highway project benefits. Such methodologies are now being generally adopted by the Bank for rural and feeder road projects.

(v) Institutional Improvement

3.133 The last annual review concluded that efforts at institutional improvement would have a more lasting effect if they are designed for accomplishment over a longer time horizon, if preference is given to the strengthening of existing institutions over the creation of new, project-specific ones, and if such efforts are supplemented by a program of training to improve overall efficiency. The experience with the present group of projects reinforces those conclusions.

3.134 Systematic efforts at institutional improvement assume the development of an institutional profile and a time-phased program of action for effecting improvements. The absence of an analytical profile and of a proper program of action were closely responsible, for instance, for deficient achievement in the Cyprus and Madagascar Port Projects. Similar conclusions emerged from the more positive experience of the Mali and Indonesia Highway Projects. Indonesia and Chad are also good examples of flexibility in project implementation and of recognizing and remedying deficiencies as they emerge; such responsiveness to an evolving situation is nevertheless not a satisfactory substitute for a well-considered and systematic plan of action in the first instance.

3.135 Systematic planning has another, very important aspect which relates to training. In the Madagascar Port Project the short-term availability of expatriate experts obscured the long-term need for the training of national staff, with untoward consequences. Until stronger institutions are brought into being in borrowing countries, it is normally necessary to supplement the domestically available manpower with outside consultants. And even after institutional capabilities are sufficiently developed, consultants may be needed for specific technical tasks. Not infrequently, however, there is local resistance against using expatriate consultants (Colombia and Nepal Highways; Tunisia Railway). Much of the borrowers' resistance comes from the fact that they remain unpersuaded of the need for expatriate assistance. An institutional profile, prepared before the Bank embarks on a series of projects in a particular sector in a country, would review the technical manpower availability within the country in cooperation with the host government. This might be expected to result in the identification and employment of domestically available technical manpower, the development of a training program, and the identification of the residual areas which call for the deployment of expatriate consultants. Such an exercise would thus serve many purposes: it would result in more effective training, might help overcome political resistance to expatriate experts, and should enlist the borrower's commitment which is central to any successful effort at institutional change and improvement.

(vi) Loan and Credit Covenants

3.136 Review of experience in these projects indicates that some covenants are by their nature difficult to monitor, and that the borrowers could not meet certain obligations not because they lacked the will but the ability to do so. The Nepal and Chad Highway Projects are good examples of overly broad and optimistic covenants. In Mali, the First Highway Project required the government to increase its road maintenance expenditure by 60% in one year: an unrealistic expectation in Mali's circumstances. In the Zaire and Paraguay Road Projects, lack of funds and trained personnel made it practically impossible for the borrower to comply with certain requirements under the Loan and Credit Agreements. The Bank is now actively reviewing its position on loan and credit covenants and ways in which their compliance can be more readily assured so as to meet project objectives.

(vii) Operational Efficiency

3.137 It has been emphasized in previous reviews that in designing railway and port projects operational efficiency and the potential for its improvement should receive careful consideration. Operational efficiency indicators are already in use in railway projects but are only beginning to be applied in port projects. In the present group, insufficient consideration of productivity improvements contributed to overestimation at appraisal of port capacity needs in Thailand, Madagascar and Cyprus, and subsequent productivity increases in the Thailand and Cyprus ports cast some doubt on the priority and timing of some investments under these projects. The Bank accepts that the possibilities of performance/efficiency improvements warrant closer attention in port projects. Such an effort could be greatly helped by a careful review of the factors that have been most important in improving productivity in some developing country ports. In planning future projects, consideration is being given to risk analysis that would take account of the probabilities of traffic reaching different levels and of efficiency improvements proceeding at different paces. One might also expect to see "efficiency" consultants more often employed under Bank-financed port projects.

(viii) Road Maintenance

3.138 Serious shortage of local funds was a major cause for the low achievement of objectives under most road maintenance projects. Other factors noted last year have also persisted. In the meantime, the Bank has undertaken a major review of the highway maintenance problems. The report 1/ concludes that economic returns from maintenance of

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1/ SecM79-283 of April 26, 1979.

existing highways are extremely high, and yet establishing adequate maintenance even for main roads has proved to be the most difficult area in Bank-supported highway development. The report identifies the major causes of poor maintenance performance and makes recommendations for its improvement. The guiding principle of Bank efforts is recognized to be the development of local capacity for planning and executing comprehensive, well-balanced programs.

C. PUBLIC UTILITIES

3.139 The Review covers fifteen public utilities projects: seven power, six water supply and sewerage and two telecommunications projects. The majority of the projects (seven) were in the Latin America and the Caribbean Region, four in the Europe, Middle East and North Africa Region, three in East Asia and one in East Africa. This is a younger group than that reviewed last year, six of the loans and credits having been made in FY72-74; seven in FY69-71; and two in earlier years. Three utilities received Bank loans for the first time; of these, two have since received a subsequent loan or credit. Of the nine others, five were well-established Bank borrowers, having received three or more loans or credits each previously. Public utilities often share common institutional and financial problems and Bank lending to them frequently has broadly similar objectives; all loans to the utilities are therefore treated together in this section although subgroups and individual projects are separately identified wherever necessary.

Objectives: Economic and Institutional

3.140 The main objectives for the projects were to provide new capacity to meet the estimated growth in demand for services and to improve existing facilities. Most projects were parts of the long-term development programs of the utilities concerned; in the case of Tunisia the two projects together represented the national water supply program for 1968-73. Other objectives included: improving power system reliability and reducing transmission and distribution losses (Malawi, Honduras and Uruguay); reducing system costs for power generation (Uruguay and Honduras); a reduction of system losses in water supply (Colombia and Tunisia); repair and rehabilitation of damaged water installations caused by an earthquake (Nicaragua); preparation for future water supply or power projects (Tunisia, Colombia, Uruguay and Honduras); and improving the regional balance of telecommunications services (Malaysia).

3.141 Power projects were mainly concerned with increasing generating capacity and the provision of associated transmission lines. In three

cases, the projects also provided for improving and extending distribution lines; the project in Honduras had an explicit rural electrification component. In terms of institutional development, most power projects represent the continuation of efforts under previous loans to relatively strong borrowers. A notable exception was Uruguay, where the institutional objectives were probably as important for Bank involvement as the financial support. An interesting feature of the Malawi project was the initiation of a study to improve the structure of power tariffs based on marginal cost. Modest attempts to improve tariff structures also took place in Uruguay and Honduras.

3.142 The water supply and sewerage projects in Tunisia, Colombia and Nicaragua and the telecommunications projects in Yugoslavia and Malaysia all had institution-building objectives. They sought improvements in accounting practices and procedures, in financial management systems, management and training of staff, and in the organization of the entity concerned. In Tunisia, the Bank played an important role in helping the government to establish the water authority and its evolution as a well-managed and efficient organization.

Implementation: Overview

3.143 The projects were, by and large, successfully implemented although, in the course of execution, most were changed in scope or content. The two telecommunications projects (Yugoslavia and Malaysia) and the sewerage project (Singapore) were significantly enlarged and redesigned during implementation to respond to changing economic conditions and to provide for more advanced technology. Substantial modifications became necessary in the Honduras Power Project, resulting from a revision of the long-term sector program. In Brazil, certain transmission components were transferred from one project to the other, and in Cyprus some distribution work suspended in the north due to political developments was offset by additional work in the south. The generation component of the Uruguay Power Project was increased in scope and the distribution component reduced; the production capacity of a water treatment plant in Colombia was increased.

Implementation: Time and Costs

3.144 Several projects took longer to complete than expected; nine projects, including five water supply projects, were delayed by more than twenty months each: four of these experienced delays of the order of two to three years and three (Yugoslavia Telecommunications and the two Tunisia Water Supply Projects) were delayed in excess of three years, the longest delay of 46 months occurring in the two Tunisia projects. In a few cases a significant part of the planned facilities however became available within about six months of the estimated time and were yielding benefits even though the overall project took much longer to complete.

3.145 The long delay in the Tunisia Water Supply Projects was caused by initial startup problems and problems with the performance of local contractors. It is also clear that the original schedule of construction for some of the project components was unrealistic. In Yugoslavia, the increased project scope and the introduction of a new switching technology contributed to the delay in project implementation; the introduction of the new technology however represented an improvement in the project. In Colombia, the delays resulted partly from the increase in the capacity of the water treatment plant and partly from the withdrawal of two of the contractors responsible for some of the complementary works. The hydroelectric projects in Brazil were affected by serious problems encountered with the dam and power station foundations and delays in the shipment of equipment by suppliers.

3.146 As a whole, the time overrun experience represented in this group of projects was somewhat better than that of the group reviewed last year although the generalized causes of delay remain similar. The latter include changes in project scope, late delivery of equipment, problems with contractors and labor, unforeseen construction problems arising out of geological conditions which turned out to be more difficult than originally anticipated, and land acquisition problems.

3.147 Contrary to the experience of delays, the cost overrun picture is worse than that of the group reviewed last year. Ten of the fifteen projects in the present group were completed with cost overruns of 28% or more, and in four of these ten expenditures exceeded estimates by over 70%. The Brazil Volta Grande Hydroelectric Project had the highest cost overrun (130%) followed by Malaysia Telecommunications (81%). The expenditures on the Thailand Power project were as estimated and the Cyprus Power Project had a modest overrun of 4%. The two projects in Nicaragua were reduced in scope resulting in reduced expenditures.

3.148 Costs were affected by worldwide inflation following the 1973 oil crisis and by the realignment of currencies; delays in project completion compounded the effects of inflation. Other reasons included unexpectedly difficult geological conditions, significant enlargement of project scope and other modifications of project content and, in one case, the shift to more advanced technology.

Project Results: Operations and Output

3.149 All project facilities have been operating satisfactorily since completion. Power system reliability has been increased in Malawi, Uruguay and Honduras, and the projects have replaced relatively high-cost thermal generation through the provision of new hydroelectric or relatively low-cost thermal generating capacity or by extending the interconnected system to areas previously served by isolated thermal units. Despite the delay and reduction in scope of the distribution component of

the Uruguay Power Project, the evidence suggests that transmission and distribution losses were reduced as anticipated. Of the water supply projects, the success of the loss-reduction program in Colombia has exceeded expectations but the results in Tunisia have been disappointing, the proportion of unaccounted-for water increasing instead of decreasing. The latter result is however not conclusive insofar as the statistics at the time of appraisal are believed to have underestimated real water losses. The Nicaragua Earthquake Reconstruction Project has been highly successful in repairing and rehabilitating the water supply system in Managua.

3.150 Demand forecasting remained a problem. The downturn in the countries' economies following the 1973 oil crisis further affected the actual growth in demand for power. The energy sales of all electric power utilities, with the exception of Malawi, were lower than those projected at appraisal, although in the case of Brazil the projection itself was revised downwards at appraisal of the second project (Volta Grande) and actual sales were close to the revised forecast by the time the generating plant was fully commissioned. In Honduras, Uruguay and Thailand actual sales fell short of appraisal projections by 18%, 9% and 6% respectively. Specific factors contributing to short materialization of demand included difficulties in reaching agreement on a major supply contract to fruit companies,and a hurricane in Honduras, and a large tariff increase in Thailand. The full extent of shortfall in demand is more difficult to establish in Uruguay where some supplies were probably restricted to save oil in the face of adverse hydrological conditions affecting hydroelectric plants and the country's overall balance of payments problems. In the special circumstances of Cyprus, demand dropped in 1974 and did not regain the 1973 level until 1976; overall energy sales were some 9% below appraisal estimates.

3.151 Overestimation of demand is also apparent in water supply projects. In Colombia, the volume of water sold was about 75% of the appraisal forecast. In Tunisia, although the number of connections exceeded appraisal estimates the consumption per connection dropped; water consumption appears to have been influenced by tariff increases and by the fact that the distribution system was extended more rapidly in low-income areas.

3.152 Overestimation of demand in power and water supply has probably meant that a few projects were premature, despite delays in implementation. Production facilities may have been about two years early in Colombia, rather less in Thailand and a little more in Cyprus. The delay in Uruguay, on the other hand, combined with a period of adverse hydrological conditions and efforts to reduce oil imports, led to some load shedding and suppressed demand. The effects on industrial production were probably not large but delay in commissioning the generating unit financed under the project required greater use of less efficient thermal plant.

3.153 In contrast to the other two subsectors, the demand for telecommunications services exceeded appraisal projections in Malaysia and Yugoslavia. In both cases, the investment programs were significantly enlarged during the project implementation period but the number of new telephone connections fell slightly short of the original project objective in Malaysia and 25% short in Yugoslavia; the waiting lists for telephones at the end of the projects were greater than at the time of appraisal. The provision of international facilities was however very satisfactory in Yugoslavia and the increase in telex connections greatly exceeded the original projections in Malaysia. Overall, the imbalance between demand and supply for telecommunications services caused some congestion and the quality of service suffered as a result.

Project Results: Financial

3.154 The financial performance of the telecommunications entities in Yugoslavia and Malaysia was satisfactory and in some respects better than projected, both in terms of rate of return on assets and of internal contribution towards capital expenditures. The results in Malaysia were especially good. The rate of return on assets significantly exceeded the appraisal forecast and the level required in the loan covenants, and the percentage of self-financing of investment by the entity was generally better than expected at appraisal despite a greatly expanded investment program. In Yugoslavia, internal cash generation was slightly higher than the appraisal projection in absolute terms but lower as a percentage of construction requirements because of the increased program. Net income from telecommunications was high enough to provide subsidies to the postal operations and accounts receivable were at a low level.

3.155 In the power and water supply and sewerage subsectors the financial performance was uneven; overall, however, it showed a distinct improvement over the group reviewed last year. In four out of five countries (Tunisia, Singapore, Malawi, Thailand and Brazil), the rate of return on assets was generally better than or close to appraisal projections; in the fifth (Thailand), the rate of return was lower than projected but the internal contribution to capital expenditures compared well with estimates. The financial performance of the utilities in Honduras (power) and Colombia (water supply) was not fully satisfactory in relation to the rate of return on assets stipulated in the loan covenants, mainly because tariff increases failed to keep pace with rapidly escalating operating costs and actual sales were lower than projected. The financial results were most disappointing in Uruguay (power). It is difficult to quantify properly the actual results for the project period, due to problems experienced in reorganizing the accounting system of the entity. The financial statements were not suitable for audit, but the rate of return targets were clearly not achieved and the net operating income was almost certainly negative in the last year of the project period. Tariffs were not raised in line with increased

operating costs. Financial performance of the power company in Cyprus was understandably affected adversely by political circumstances, and in Nicaragua by the earthquake, but the latter is improving and at the time of audit was actually better than forecast during the preparation of the Earthquake Reconstruction Project.

3.156 With the exception of Thailand and Tunisia, the percentatge of capital expenditure requirements generated by the power and water supply and sewerage utilities from internal resources was lower than anticipated at appraisal. In most cases, however, the utilities still managed to contribute more than 20% towards their capital expenditures; for the Brazilian power sector as a whole, about 56% of total capital requirements were generated from internal resources. Investment programs have not been affected as a result, except in Colombia and Uruguay where low internal cash generation contributed to reductions in the investment programs.

3.157 A matter of recurring concern in these Reviews has been the level of accounts receivable. In this group again, the level of accounts receivable in the water supply utilities, in most of the power utilities and in the Malaysia telecommunications entity was undesirably high and higher than projected. Public sector bodies continued to be the major defaulters. Particularly successful efforts to keep accounts receivable at a reasonably low level were however made in Yugoslavia, Malawi and Brazil.

Project Results: Economic

3.158 As discussed in the last Annual Review, attempts to calculate economic rates of return in public utilities projects are constrained by difficulties in quantifying benefits. An incremental financial rate of return is therefore normally calculated, using the increased revenues accruing from the project as minimum measure of a project's benefits; in actual fact, consumers may value the service by more than they have to pay for it, particularly since most utility prices are controlled by public authorities. In addition, there may be external benefits which cannot be quantified. This type of calculation therefore provides more information about the adequacy of prices and the economics of satisfying future demand than about the economic value of the investment.

3.159 Incremental financial rates of return were calculated at audit for fourteen of the fifteen projects in this group, using actual costs incurred and revenues obtained. The reestimated rates of return show a distinctly improved pattern compared with last year's group. In all cases, the rates of return this year were either close to or above 10%. The reestimated return for the two telecommunications projects was especially high and also higher than the appraisal estimates. In power and water supply, eight projects had rates of return in line with those

estimated at appraisal while two were lower. Growth in sales below expectations, increases in construction time and cost and in operating costs coupled with inadequate tariff increases contributed to reducing the reestimates. No rate of return was calculated at appraisal for one power project and one water supply project although these were calculated at audit and found to be high. No rate of return has been calculated for the Singapore Sewerage Project although the project easily met its objectives, both in terms of the number and proportion of people served.

Project Results: Institutional

3.160 Loans and credits for this group of fifteen public utilities projects covered twelve borrowing entities. Of these, all six utilities in the power sector (Brazil, Thailand, Honduras, Malawi, Cyprus and Uruguay) and three (Singapore, Malaysia and Nicaragua) in the water supply, sewerage and telecommunications sectors had all received previous loans or credits. Unlike the group reviewed last year in which eight of the sixteen borrowers were new, the majority of the present group comprised entities with which the Bank already had a continuing relationship. Whether new to the Bank or not, the group represents a substantial effort at institutional support and improvement; institutional objectives featured in all water supply, sewerage and telecommunications loans and credits and in two of those for power.

3.161 The institutional objectives pursued by the Bank were traditional and their essential concern was to have in place an autonomous and well-managed entity. Efforts were directed towards the strengthening of management, improvement of financial performance and operating efficiency, the establishment of tariff regulations and proper accounting procedures, and the training of local staff. The results of these efforts are considered to have been generally satisfactory with only one clear disappointment (Uruguay).

3.162 The best results were probably obtained in Tunisia where the Bank played an important role in helping the government establish an autonomous water supply authority. Assistance was provided through consultants to improve organization and financial management. On-the-job training has greatly improved the quality of staff - although the entity was fortunate in starting with a nucleus of well-trained personnel - and subsequent recruitment and retention of staff have been assisted by attractive conditions of employment. The authority is now a well-managed and efficient entity and the implementation of projects has been quite successful. In Colombia, the water supply authority has grown from a small, understaffed, poorly organized and geographically fragmented entity into a reasonably well-managed and technically competent organization. Institutional improvements have occurred especially in procedures relating to water leak control, billing, collection and accounting.

A good training program has been developed and operations and financial management improved despite a somewhat high turnover of key staff.

3.163 Nicaragua presented the kind of difficulties encountered in public utilities in so many developing countries: an unattractive salary structure resulting in high staff turnover and recruitment difficulties and inadequate accounting procedures and staff training. Following a study by consultants, effective steps were taken to remedy these deficiencies. While the explicit institutional component in the Singapore Sewerage Project was modest, the Bank's aims of strengthening management and improving financial information systems were achieved. The company pursues an active program of staff training, both at home and abroad.

3.164 Both the telecommunications projects were carried out by institutions which were already quite strong and well developed. The utility in Malaysia operates a well-organized school of telecommunications and the caliber of its staff is high. The Bank's efforts were aimed mainly at strengthening the utility's financial management and the results have been generally good. The question of financial management was also addressed in Yugoslavia, where the Bank encouraged a proper division of accounts between the postal and telecommunications services. Such a division has been carried out but the Bank's attempts to fix a limit on telecommunications subsidies to postal operations was not successful. There has been an improvement, however, in the tariff structure for telecommunications.

3.165 In the power sector, explicit institutional objectives were not proposed for Malawi, Thailand, Brazil and Cyprus. These were well-managed entities whose overall performance continued to improve during project implementation; the utility in Cyprus suffered a setback resulting from the political upheaval of 1974 but its basic institutional soundness has not been impaired and the setback is viewed as being temporary. The loan to the power utility in Honduras envisaged an improvement in the quality of management and accounting, the creation of a rural electrification department, and staff training. The results have been somewhat mixed. Progress towards improvement of accounting and administration has been slower than expected and further measures have been taken under subsequent loans. The training component produced good results and has been subsequently enlarged. In view of staff shortages, preliminary action taken to create a rural electrification department was later reversed; it was decided that it would be more efficient to handle rural electrification within the existing organization and the utility has in fact successfully implemented the rural electrification component of the project in an expanded form.

3.166 The major failure lay in Uruguay, all the more disappointing since the Bank appears to have made careful efforts to address the

utility's institutional problems prior to appraisal and the resolution of these problems was an important part of the justification for lending. Comprehensive institutional objectives were devised. With all that, the management of the entity has not been strengthened and lacks autonomy, tariff regulations were established but adjustments are not systematically made, financial performance has been very poor, a study to improve operating efficiency was never undertaken and overstaffing not eliminated. Numerical targets for staff training at various levels were set and largely met under the project but without any clear beneficial effect on staff performance. Even allowing for the deep-rooted nature of the institutional problems and the severe political and economic difficulties facing the country during the period of project implementation, the experience in Uruguay remained disappointing. In retrospect, it would appear that the Bank was overambitious in its objectives and that a graduated approach to institutional change might have been more fruitful.

Project Results: Other Objectives

3.167 The telecommunications projects in Malaysia and Yugoslavia contributed to the development of domestic manufacture of telecommunications equipment. In Tunisia, the two water supply projects have assisted the development of local contractors and pipe manufacturers. The advantage of such project spin-offs are clear in terms of helping to establish a domestic industrial base, creating employment and saving foreign exchange through import substitution. The experience in Yugoslavia telecommunications also shows the potential for exports which can be realized.

3.168 The rural electrification component of the Honduras Power Project was increased following loan approval and has been implemented so as to extend service to several villages. Similarly, the national telecommunications program in Malaysia, of which the project was a part, has helped rectify some of the regional imbalance in the provision of services.

SUMMARY FINDINGS

(i) Demand Forecasting

3.169 Demand forecasting in public utility projects continued to be a problem; there has been consistent underestimation of demand in telecommunications and overestimation in electric power and water supply. The nature of the problem however varies in different sectors. In addition to distortion in the historical data caused by suppressed demand, facilities in telecommunications projects are usually designed to increase supply within available resources; demand forecasts therefore more truly represent targets to be met rather than estimates of the market potential. It is however necessary to make clear this distinction

at the time of appraisal and attempts made at least to forecast the pattern of demand insofar as this has a bearing on the least cost solution. In respect of electric power and water supply, demand forecasts are admittedly determined by a variety of factors in the economy, not easy to project with precision. It can also be argued that the provision of capacity is only one dimension of the problem as new generating capacity would normally produce lower-cost energy than some existing plants and, consequently, reduce overall system operating costs. Nevertheless, since unduly optimistic forecasts of demand carry some potential for premature investment (para. 3.152), it is necessary that the Bank analyze in some depth the dimensions and causes of divergence from forecasts with a view to defining how to develop a methodology which will result in more realistic forecasts for electric power and water supply projects. In the meantime, improved and broader-based forecasting techniques are now being used in water supply; in electric power projects, the Bank plans to revise demand forecasts more frequently and to adjust implementation schedules to minimize the economic effects of divergence wherever feasible.

(ii) Preparation of Hydroelectric Projects

3.170 Unexpected geological conditions have resulted in time and cost overruns in implementing hydroelectric projects, and affected the two Brazil power projects in this group. Feasibility studies are normally expected to undertake sufficient geological investigation prior to construction work on the project; nevertheless, problems persist. It is necessary that the Bank use a geological expert on hydro project appraisals in every case where geology is in any way suspect. Also, the establishment of a board of consultants is usually required in hydro projects; if established early, these could be valuable in resolving problems as they arose and keeping to a minimum the time and cost overruns.

(iii) Financial Performance: Covenants and Tariffs

3.171 Most of the public utilities achieved the rates of return stipulated in the loan and credit agreements and were successful in reaching the financial objectives set for them. A number of questions however surround the financial covenants and their relationship with other factors bearing on the financial situation of the entities. The rate base on which rate of return calculations are prepared differs from country to country; some borrowers include an allowance for working capital, some don't. There are no generally accepted procedures for revaluation of fixed assets, depreciation and work-in-progress. While the Bank has made increasing efforts to encourage the utilities to take initiatives in tariff reform, a dialogue between the Bank, the government and the project entity on pricing policies in the early stages of project preparation is desirable to reach agreement on acceptable changes and to

establish a program of action on tariffs and other related matters. In this group, Tunisia (water supply) and Malawi (power) are good examples of clearly articulated efforts by the Bank in which tariff studies have been required and tariff structures modified, keeping in view the objective of charging for the incremental long-run cost of supplying different categories of consumers. A similar study is being carried out under a subsequent project for the power entity in Honduras.

3.172 Last year's Review commented that the incremental financial rate of return as an indicator of performance of public utilities needs to be placed in the context of a variety of performance indices for the public utilities sector in different countries, and that a systematic data collection effort was needed for this purpose. Tariff studies like those mentioned above would probably provide a good vehicle for doing just that, in addition to addressing the subject of tariff structures in the context of the long-run cost of supplying different categories of consumers. A small group of key monitoring indices corresponding to the particular problems and potentials of the borrowers are now identified in appraisals for water and power projects, along with agreed year-by-year target values, which are then actively followed up in project supervision. Also, in electric power, sector data sheets are being prepared for each borrowing country, and include several financial performance indicators.

(iv) Institutional Change

3.173 Most of the borrowers in this year's Review had received previous Bank loans or credits and were already regarded as relatively strong institutions. In these cases, institutional objectives concentrated more on the process of continuing and consolidating previous efforts rather than bringing about a basic change in approach. Supervision and overreliance on expatriate assistance were correspondingly not special issues and training programs were generally adequate to maintain progress. Where occasions arose to test the progress achieved and the underlying resilience of the institutions - through their ability to cope with significantly modified and expanded investment programs (Singapore, Malaysia and Honduras), the serious effects of an earthquake (Nicaragua) and major political disturbances (Cyprus) - the results were encouraging.

3.174 The markedly different experiences with a new institution in Tunisia and a long-established institution in Uruguay highlight in a striking manner the basic ingredients which are important to successful institutional performance in public utilities; they provide the most durable lesson from the group of projects under review. In Tunisia, the creation of a stable and autonomous institution, with clearly defined responsibilities and government support, good working conditions and morale and a reasonably sound financial performance led to a well-managed and efficient entity. In contrast, the Bank resumed lending in Uruguay after an interruption of about fourteen years, before similar conditions

were established for the entity concerned and without satisfactory assurances that they would be established either before or within a reasonable period of time after loan approval. The absence of such conditions must be seen as being partly responsible for the institutional failures which developed in Uruguay during project implementation.

D. EDUCATION

3.175 The five education projects covered by this Review - Tunisia II (FY67), Tanzania II (FY69), Chile II (FY70), Dominican Republic I (FY71) and Senegal I (FY71) - were approved during the same period as the eleven projects included in the last review. When these projects were developed, the Bank Group's educational lending was in the transitional stage: while there was a strong focus upon providing physical plant, by FY69 increasing involvement was evident in financing software aspects of educational development such as educational planning and curriculum development, with a strong emphasis on the reform of outmoded and irrelevant curricula.

Objectives and Approach

3.176 All of the projects save that in the Dominican Republic included technical/vocational education, and three (Tunisia, Tanzania, Dominican Republic) the reform and diversification of secondary education; the major component of the Senegal project was also originally secondary reform and diversification but this was excluded following appraisal when it was found that the proposals did not have high-level government support. Two projects (Dominican Republic, Tanzania) included teacher training. Technical assistance was provided for preparation of a comprehensive educational plan under two projects (Tunisia, Dominican Republic) and for curriculum development under two (Senegal, Dominican Republic); fellowships were provided in only one project (Dominican Republic).

3.177 The general theme was the development of revised and more relevant curricula; Senegal, the Dominican Republic and Tanzania specifically undertook to do this. Various other actions were agreed by borrowers: Senegal agreed to establish advisory boards including representatives of private industry for technical and vocational schools; Tunisia undertook to control increases in recurrent educational expenditures, improve educational efficiency, and increase the time spent on science and technology. Chile was to evaluate its training courses and develop educational programs in cooperation with industry. The Dominican Republic undertook to initiate the preparation of a long-range education plan and to provide additional scholarships for students. Tanzania was

to develop agricultural, commercial and technical subjects in teacher training colleges and secondary schools. While various, the general thrust of these agreements was clear: emphasis on science and technological courses with control of recurrent costs. The latter concern was also apparent in the projects included in the last Review.

Implementation: Construction Design, Time and Cost

3.178 Architectural designs in this group of projects were considered to have been functional and economical. In one country (Tunisia), where the Bank Group had financed architectural design studies in conjunction with the previous project, the design of project buildings was expeditiously done. As in previous projects, minor deficiencies arose from inadequate briefing of architects (Senegal, Tanzania, Dominican Republic) and insufficient advance planning for some utilities (Tanzania, Dominican Republic). The construction of project buildings was generally satisfactory and, despite international competitive bidding, all construction was done by locally based contractors. There were problems of inadequate site supervision and consequent shortcomings in the detailing and finishing of buildings, none of them critical.

3.179 The procurement of instructional equipment was done relatively efficiently in two projects (Chile and Tunisia), where experience with the previous project proved useful. In two cases of first projects (Senegal, Dominican Republic) and in a second project where the recruitment of a procurement officer was delayed (Tanzania) there was duplication, in varying degrees, of the range of problems experienced in education projects previously reviewed: delays in preparation of lists, the need to readvertise bids because of poor response, the lack of adequate storage facilities for equipment, the lack of spare parts and accessories, and difficulties in distributing and installing equipment.

3.180 On the average, these projects took 73 months to be substantially completed and 78 months to their eventual closing instead of the average original estimates of 43 and 54 months respectively. In one case (Chile), extraordinary conditions of civil unrest and economic constraints impeded implementation. However, the delays on the whole reflected implementation scheduling that was unrealistic; this was particularly so in the initial startup of implementation such as mobilizing project management staff, recruiting architects and experts, and preparing building designs. In recent years, the Bank Group has sought to bring projects to a more advanced state of preparation by the time of loan or credit approval.

3.181 The above delays acquire a more serious aspect considering that all projects were reduced in scope during implementation. In Chile, because of unforeseeable severe economic constraints, only three instead of the intended seven project buildings were constructed. In Tunisia, three agricultural training centers, which were subsequently considered

unnecessary, were deleted and some of the savings used to finance equipment for secondary schools and technical assistance experts for planning. In Senegal, the delays in recruiting an expert to advise on programs and equipment for a merchant marine school resulted in deferment of the equipping of that school to the second education project. Not all the available manyears of technical assistance experts were utilized in the Dominican Republic, partly because of unexpectedly high costs per manyear and partly because of the borrower's lack of enthusiasm for the experts. In Tanzania, in order to stay within cost estimates, less school places were built than were originally envisaged. In no case, however, was the overall purpose of the project defeated by such reductions.

3.182 In three projects (Senegal, Tunisia and the Dominican Republic), despite minor reductions in scope, there were cost overruns, especially on civil works, caused by delays and the exceptional and unforeseeable rate of inflation in the early 1970s. In the other two projects (Chile and Tanzania), the reductions in project scope produced an overall cost underrun. In every project except Chile the expenditures and disbursements on civil works were substantially higher than appraisal estimates and were compensated for by reductions in other components.

Project Results: Educational and Institutional

(i) Educational

3.183 To the extent that project items survived, they achieved their immediate objectives; however, project schools had not operated for a sufficient length of time to enable them to be thoroughly evaluated at the time of audit. Enrollment targets have been achieved in some cases and not in others. 1/ The expected output of vocational training programs in one project (Chile) has been exceeded by over 25%. The secondary school enrollment targets were achieved in Tunisia, while the shortage of boarding facilities resulted in a slight enrollment shortfall in

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1/ A recent analysis done by the Central Projects Staff of the Bank makes the interesting observation that non-university technical training provides cause for special concern, recent project completion reports having noticed consistent under-enrollment by 32% or more. The analysis goes on to observe that since the costs of technical training can be seven times as much as general secondary education, the effects of underutilization of capacity can be serious and should be investigated. It has been suggested that the low utilization of costly technical/vocational facilities may be due to a lack of economic incentives for graduates. Low utilization rates are also reported for non-formal basic education centers. On the other hand, high rates of utilization are noted in general university faculties and secondary schools, followed by secondary teacher training institutions and technical, vocational, and agricultural secondary schools.

Tanzania. In Senegal there were minor shortfalls in enrollment at one technical institute because insufficient attention had been given to the need for technical teacher training and to properly equipping secondary technical schools as feeders to the project technical institutes - needs that are being addressed by the subsequent third project. Also in Senegal there was a major enrollment shortfall in an agricultural school as a result of unexpectedly lower demand for its graduates. In the Dominican Republic, the secondary schools and teacher training colleges had not as yet built up to their full enrollment but are expected to do so with successive new annual intakes.

3.184 In terms of equity and access, a broader social and geographic distribution of educational and training opportunities has been achieved by three of the projects (Dominican Republic, Tanzania, Tunisia), while mobile training units in a fourth (Chile) have extended training services to rural areas. The access to project schools of poorer segments of the population was noted in three cases (Tunisia, Dominican Republic, and Tanzania). The access of girls to educational opportunities was improved in Tanzania at the lower secondary level but not at the upper secondary level; in Tunisia, for reasons that are not clear and may derive from sociological factors, only half of the enrollment target for girls was achieved. In Senegal, the low enrollment of girls in a technical institute was attributed to the employers' reluctance to engage female workers. In the other two projects (Chile, Dominican Republic), no information on female enrollment was available.

3.185 The vocational training agency assisted under the Chile project was considered to be operating very efficiently and competing successfully with other training agencies for candidates and operating resources. In the Tunisia and Tanzania secondary schools there was a good staff:student ratio, and retention, dropout and examination pass rates were more favorable than the national averages. In another project (Senegal), two of the schools operated at very high staff:student ratios, in one case because of a decline in enrollment without a corresponding reduction in staff, and in the other, because of an uneconomic number of specializations being taught. In other cases it was noted that some practical work facilities were underutilized because of insufficient equipment in the workshops (Senegal), shortage of practical teachers (Tanzania), and the continuation of traditional science teaching methods (Tunisia).

(ii) Employment and External Efficiency

3.186 In two projects (Senegal and Tunisia), agricultural education items were included without full recognition of their manpower implications. In Senegal, the problem was not foreseeable: the government services, for which the school produced agricultural staff, proved unable to finance the absorption of graduates at the expected rate and the school's enrollment declined drastically. In Tunisia, the agricultural

centers had been included without the benefit of review by a Bank economist or agricultural educator and, soon after implementation began, were deemed by the government to be redundant.

3.187 Tracer systems were not built into these projects to follow up project school graduates. Thus, insufficient information was available to audit on employment of project school graduates. In two projects (Tanzania, Tunisia), there was some evidence of unemployment among secondary school leavers with technical and vocational training. In two projects concerned with technical/vocational education (Senegal and Chile), it was observed that employers were satisfied with the graduates trained in the project schools and that closer ties with employers had been developed.

(iii) Institutional

3.188 As was usual with projects of the period, the institution building objectives of this group of projects were limited. While in one of the projects (Tunisia) no project implementation unit (PIU) was required and the project was, on the whole, successfully implemented, the four projects approved between FY69 and FY71 required the establishment of PIUs. In two projects (Senegal and Dominican Republic), these PIUs were established, operated with some success, and have been useful in implementing subsequent projects. However, the Senegal PIU was located in the Ministry of Works and experienced problems in coordinating educational aspects of implementation. In a third project (Tanzania), the PIU was staffed largely by expatriates and little local expertise was developed. In the fourth case (Chile), the PIU performed satisfactorily.

3.189 Some progress was achieved toward larger institutional objectives through the strengthening of educational planning and administration. The central technical department of the training agency in the Chile project, and the educational planning units under the amended Tunisia project and the project in the Dominican Republic, were assisted. However, in no case was such strengthening achieved to the extent originally anticipated: in Chile because of forced economies; in Tunisia and the Dominican Republic because of insufficient prior agreement between the Bank and the borrowers on the nature of planning needed and the function of the technical assistance experts provided under the projects; in Tunisia also because there were basic borrower reservations about the relevant project component.

SUMMARY FINDINGS

(i) Approach to Lending

3.190 As noted in the two previous Annual Reviews, the Bank has progressively modified its approach to educational lending, with software items increasingly emphasized and a closer relationship sought between

project design and the borrower's priorities and problems. The five projects included in the present Review illustrate this evolution, and point to the difficulties encountered where project items were insufficiently prepared or had low priority in the borowers' view.

3.191 Projects in two countries (Chile and Tunisia) that had previous experience with similar education projects, were identified and prepared principally by local staff. In each case the Bank Group invested only 16 manweeks in the field during the project generation period of less than two years. The project in Tunisia was also well implemented, except in regard to two components: agricultural training centers which were deleted on grounds of redundancy, and educational planning which encountered severe difficulties. In Chile, the implementation difficulties were principally economic and of a type that could not have been anticipated at the design stage.

3.192 On the other hand, in three other projects (Tanzania, Dominican Republic, Senegal) the countries' role in project generation was substantially less and the Bank Group invested an average of 56 manweeks in the field over a high average project generation period of four years per project. The problem in the Dominican Republic and Senegal was partly due to the Bank's interest in financing educational reforms that the countries were still considering; in the Dominican Republic these reforms took a long time to crystallize, and in Senegal they were not finalized in time to be included in the project. In Senegal and Tanzania, the Bank also sought to save time by substituting brief reconnaissance missions for regular project identification and preparation missions; in the long run, this proved inefficient because it did not facilitate mutual understanding of the projects and thorough project preparation

3.193 The Bank reinforced several of the initiatives in its subsequent lending. In Senegal, the second project financed elements of a reform of secondary education which had been discussed but were not ready for financing under the first project, and also the equipment of a merchant marine school whose programs had been reviewed at the first project appraisal. The third project in Tunisia provided further support for educational planning; it also provided for agricultural education at the primary level instead of leaving it entirely to the government to provide as had occurred in the second project. The follow-on project in the Dominican Republic, while being more oriented towards basic education than the first, included equipping of lower secondary schools. In Tanzania, subsequent projects have provided for continued improvement of secondary schools (Tanzania IV) and for evaluating the use of the physical plant in secondary schools (Tanzania).

(ii) Technical Assistance

3.194 Once again, the projects in this group reflected insufficient understanding between the Bank and the borrower on technical assistance

and its management. These considerations applied both to the Tunisia and Dominican Republic projects and were compounded in each case by what the borrower perceived to be inadequacies in the technical assistance teams. At the time of approval of these projects the Bank generally underestimated the difficulties in attracting well-qualified experts to serve for medium-term periods, and the problems of establishing harmonious working relations between experts and local staff who are paid much less than expatriates. Added to the intrinsic difficulties of judging the needs for such assistance, this lack of understanding appears to have been at the root of the problems encountered. The Bank is now more aware of the problems which must be overcome before technical assistance is successful and gives more attention to specifying the tasks to be performed, and to the possibility of using local experts and/or the use of high-level foreign experts only on short-term assignments.

(iii) Procurement

3.195 Civil works procurement in this group of projects was reasonably efficient. The Bank is increasingly recognizing that schools with their dispersed locations and comparatively simple demands on construction contractors, are in most cases particularly suitable for construction by local contractors. However, despite recent corrective efforts, the problems of efficient procurement and utilization of equipment are far from having been solved. The problem becomes more acute when, as often happens, the original equipment lists have to be scaled down to offset cost overruns in civil works. With one exception (Chile), problems of equipment procurement and utilization afflicted all projects in this group and were especially acute in the Tanzania project. The Fourth Annual Review suggested a strong case exists for greater recourse to local competitive bidding 1/ and shopping and for a reconsideration of the Bank's own capacity and procedures to review adequately detailed equipment lists in the various disciplines and at the various levels included in education projects. Also, equipment lists should be compiled during the process of curriculum development. At present, the lists are generally drawn up well after the curriculum has been developed, and the discipline that their compilation would bring to the curriculum development process is lost.

(iv) Supervision

3.196 The supervision efforts of Bank staff proved valuable in the implementation of these projects, particularly in the scrutiny of building designs and equipment lists. In one project, the Bank provided

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1/ Operational Manual Statement No. 2.40 of April, 1979 provides for competitive bidding in accordance with local procedures, which is being increasingly used where appropriate in Bank-financed education projects.

valuable assistance to the borrower in reducing the scope of the project in the light of adverse economic trends without compromising project objectives. However, some of the supervision problems noted in previous Reviews did recur in this group, including (a) insufficient use of educators on supervision, (b) lack of continuity, (c) absence of country visits during crucial phases of implementation, and (d) insufficient assistance during early stages of implementation. The importance of Bank supervision of the educational aspects of projects has been highlighted once again, though there is some evidence of improvement in this respect. There remain areas of supervision that need to be strengthened, including assistance with procurement problems and the use of educators in the specializations demanded by the circumstances.

(v) Impact Evaluation

3.197 Experience with this group underlines the difficulty of evaluating at audit the impact of education projects, also brought out in last year's Review. Audit reports note the difficulty of evaluating educational achievements shortly after physical plant has been provided; the lack of built-in evaluation measures has been a particular handicap in the past. The subsequent lending operations of the Bank in the bulk of these countries as well as in others have aimed at establishing machinery for monitoring and evaluating the projects and the education systems or subsectors. These evaluations can best be carried out by the borrowers themselves, with varying amounts of expert assistance depending upon the circumstances. However, there are problems of relatively high cost, and some lack of definition about their objectives. As was mentioned in the Fourth Review, the Bank is aware of the difficulties and continues to experiment with various approaches, without having yet found a wholly satisfactory conclusion.

E. DFCs AND INDUSTRY

DFCs

3.198 This Review covers eight loans and credits to development finance companies (DFCs) in seven countries. Six of the operations are relatively recent, having been approved in FY72-75, and one each in FY71 and FY69. This group is marked by three special features: (i) all of the DFCs, except Pakistan, received Bank support for the first time; (ii) the operations represented a change in Bank policy in that government-owned DFCs were financed; and (iii) financing was provided for specialized operations. These new departures in Bank policy had a bearing on institutional objectives and their attainment, in addition to the pattern of industrial development sought.

Objectives and Achievements

3.199 The operations had industrial and institutional development objectives. In recognition of local conditions and the role of the government as owner in providing domestic currency resources to them, the Bank did not set resource mobilization as a specific objective in Ethiopia, Iran, Liberia and Trinidad and Tobago. On the other hand, there were some specific objectives and expectations: in Ethiopia, greater autonomy for the DFC was sought; in Iran, the objective was to reach smaller scale industries; in Mauritius, broader economic objectives were sought relating to the diversification of the industrial base and the creation of additional employment; in Morocco the Bank expected to help define the DFC's investment policy in financing hotels.

I. Investment Objectives

(i) Implications of the New Approach

3.200 Of the seven DFCs, six were first-time recipients of Bank finance; of these six, three (Ethiopia, Mauritius, Morocco) were sub-sector specialized or multipurpose DFCs (agricultural and industrial financing in Ethiopia and Mauritius; hotel financing in Morocco). Four of the DFCs (Ethiopia, Iran , Mauritius, Trinidad and Tobago) were publicly-owned and one (Morocco) had only a nominal majority private shareholding. These characteristics affected the Bank's approach and highlighted certain issues. The time needed to scrutinize the organization and operational procedures of the DFCs, and to reach agreement on operational and institutional issues, was on the whole especially long. The interest rate to be charged by the DFCs was a special issue; it involved major government policy in which considerations relating to the DFCs were seen as being of minor importance. The government-owned DFCs, forming a small part of the financial sector, had little latitude in determining interest rate policies and, since the governments were agreeable to provide or allocate the required local currency resources, the role of interest rate as an instrument for mobilizing resources for the DFCs was of little significance. DFC operations proved an ineffective vehicle for discussing interest rate issues, and the timings of the operations were victims of differences in approach between the governments concerned and the Bank, over which the DFCs had little control.

(ii) Commitment and Disbursement

3.201 As with the group reviewed last year, loan proceeds in this group were invested in industrial development at a slower pace than envisaged at appraisal. Bank loans and credits are normally intended to meet the commitment requirements of DFCs for approximately two years, shorter periods of less than 18 months having been allowed in Morocco and Liberia in this group. With the exception of Iran, which was committed ahead of schedule, the commitment of Bank funds took anywhere between 20

months and 54 months. Disbursements to borrowers took an average of 54 months instead of the estimated 45; this was substantially less average delay (20%) than in the group reviewed last year (44%). In Iran, faster commitment and disbursement resulted mainly from the use of funds for subprojects larger than planned at appraisal; more rapid transfer was thus achieved at the cost of the primary objective of reaching smaller subprojects. The longest time was required by PICIC-Pakistan whose disbursements stretched to more than six years mainly because of the special conditions resulting from the creation of Bangladesh.

(iii) Industrial Objectives and Employment

3.202 The geographic and sectoral dispersion of subprojects financed generally continued to reflect the prevailing pattern in each country, with the exception of hotel financing in Morocco. Most of the AIDB-Ethiopia's operations were located in Addis Ababa and Asmara and were concentrated in the textile sector. The same was true of PICIC's operations with respect to industrial concentration in the Karachi area and in the textile sector. Geographic concentration was also acute in the case of ICB-Iran, which allocated 74% of the loan amount to subprojects in the Teheran metropolitan area. Half of the loan to LBDI-Liberia went to a foreign-owned forestry enclave project, characteristic of enclave operations which accounted for 85% of the country's GDP. The subprojects financed were thus essentially in traditional sectors and in or near metropolitan areas. In Mauritius and Trinidad and Tobago, however, the sector distribution of subprojects was wider, reflecting the aims of these countries to broaden the industrial structure and give it an export orientation. The Bank provided finance to a DFC in Iran which was involved at the time in relatively small-scale industry financing; in the event, the financing went to larger enterprises, partly because of a change in the environment which increased the demand for funds from large enterprises, and partly because the Bank itself did not make any requirement in respect of the scale of enterprises to be financed out of Bank funds.

3.203 Data on six of the seven DFCs (excluding ICB-Iran), show that Bank financing helped job creation; the number of jobs directly created by subprojects under this group are expected to exceed 16,000. In Mauritius additional jobs helped increase female participation in the work force. The table below indicates the average size of subprojects financed, the proportion of World Bank finance in total investment costs, and investment costs per job created.

Table 3

	Average Size of Project (US$ million)	Ratio of Loan/ Credit Amount to Total Investment (%)	Investment Cost per Job Created (US$)
Ethiopia - AIDB I	0.6	50	11,000
Mauritius - DBM I	1.9	11	9,000
Liberia - LBDI I	0.3 1/	32	9,600
Iran - ICB	8.2	8	n.a.
Pakistan - PICIC VIII	1.2	41	9,000
Morocco - CIH	2.8	13	23,000 2/
Trinidad & Tobago - TTDFC I & II	0.4	14	15,000 3/

1/ One project amounting to US$2.15 million received 50% of the loan amount.
2/ "A" projects only (which received 98% of the loan amount).
3/ Ratio of sub-borrowers' total employment to their total assets.

3.204 The investment per job created in Trinidad and Tobago was low because the DFC was highly promotional in its orientation and provided funds to subprojects in light and export industries. In Mauritius, similarly, the focus of operations was on export and light industries, in addition to tourism.

(iii) Financial Performance of Subprojects

3.205 Data on the financial performance of subprojects is available for six of the seven DFCs (the exception being Iran), but only for the early years of operation, usually the second year. Data are thus available on early operations for 100 subprojects out of 191 financed from Bank funds. The information indicates that around 60% of these subprojects had earned a positive net return on equity. For 37 subprojects for which data are available on projected and actual profits it was found that

actual profit was higher than projected for 15, lower for 21, and the same as projected for 1. Given that these results reflect very early years of operation when profitability is generally not achieved, they speak well of the decision-making process in these DFCs.

3.206 On the basis of the above limited information, the profitability was satisfactory for most DFCs, and subprojects financed and completed were, on the whole, financially viable. Partial economic indicators, such as jobs created and investment per job, were usually satisfactory. These conclusions must however remain tentative. More comprehensive information for a representative sample extending over a period of years would be needed to enable a considered judgment being reached on the performance of subprojects. Systematic collection of data on sub-projects has now been instituted by the Bank.

II. Institutional Objectives

(i) Management and Organization

3.207 Considerable progress was made in improving the management and organization of these DFCs. In Liberia and Mauritius, Bank initiatives led to changes in management which improved the functioning of the DFCs in these countries; in Mauritius, a whole set of organizational and policy changes were brought about before the Bank loan was approved. Many DFCs, like ICB-Iran, improved their financial management practices and introduced forward planning operations. In Morocco, the maturity structure of the subloans was longer than that of the DFC's borrowings; on expression of concern by the Bank, the DFC took steps to lengthen the maturity structure of its borrowings, though not to the full extent required. In Trinidad and Tobago, despite initial Bank reservations, the management of the DFC was found to be competent.

3.208 A major objective of Bank financial assistance to DFCs has traditionally been to ensure their autonomy in policies and financing decisions. As the Bank began to get involved with government-owned DFCs, which predominated in the present group, its concern about institutional autonomy increased and it sought to introduce mechanisms, including policy statements and operational criteria, to ensure such autonomy for the DFCs.

3.209 On the whole, the experience with this set of projects turned out to be satisfactory in respect of both the government-owned and the privately-owned DFCs. In Mauritius and Trinidad and Tobago the DFCs showed considerable autonomy in their decision-making process and the government exhibited respect for DFC decisions. In Ethiopia, while government control ostensibly increased as a result of the nationalization of the DFC after the revolution, the DFC was able to reject a number of government-sponsored projects on viability grounds. In Liberia, the

Board of Directors helped to insulate the privately-owned DFC from outside interference and to maintain its autonomy. The autonomy of CIH-Morocco, which was nominally privately owned, appears to have been abridged by the government clearance system and, at least during the period covered by the project under review, it exercised little independence in its financing decisions on projects.

3.210 What emerges from this experience is that neither the nature of ownership nor procedural devices ensure autonomy in DFC operations. It is far more a function of the government's confidence in the quality and integrity of the DFC's judgment, government restraint, and the respect the management of the DFC builds up in the economy. In this respect, the present group was fortunate in having a set of circumstances which made for the autonomous functioning of the DFCs; the Bank contributed to the outcome by helping to strengthen organizations and procedures which made it possible for the DFCs to operate efficiently.

(ii) Financial Position of the DFCs

3.211 Generally the financial position of the DFCs was satisfactory. The return on net worth of three (Morocco, Pakistan and Liberia) was above 10%, and in all cases except Pakistan and Morocco the actual return was higher than projected. The DFC in Mauritius had higher approvals, commitments and disbursements than projected and thus showed better financial results. The operations of LBDI-Liberia were slow in the initial phase and its profits affected by the revaluation of certain of its foreign currency loans for which no cover had been properly arranged. Overall operations of PICIC-Pakistan were seriously affected by political changes and the economic climate, including devaluation of the Pakistan rupee, the oil crisis and international recession. None of the DFCs had a serious arrears problem although some increases were noted, reflecting mainly the short-term difficulties of sub-borrowers in the aftermath of the oil crisis.

(iii) Appraisal and Supervision of Subprojects

3.212 The build-up of appraisal and follow-up capabilities is a continuous process: in the case of new DFCs, it involves the introduction of techniques for financial, technical and market analysis of projects; for established DFCs, it calls for greater sophistication in such analysis, including the use of economic analysis.

3.213 The Bank's objectives and expectations in this respect were achieved with varying success in this group. Appraisal procedures were improved, though some DFCs had reservations about and were therefore reluctant to carry out calculations of economic rates of return. DBM-Mauritius achieved respect in the local financial community for the high quality of its appraisal standards; PICIC-Pakistan maintained its already

high appraisal and follow-up standards despite some loss of experienced staff. DFCs in Ethiopia and Trinidad and Tobago concentrated their attention on making financial appraisals while continuing to be reluctant to undertake economic analyses; this was also the case in Iran and Morocco. Even in countries where economic rates of return were calculated, this was done to meet Bank requirements rather than as an instrument to guide decision making; economic rates of return were often calculated at the end of the project cycle to confirm an earlier decision to finance the project on other criteria. DFCs also found it difficult to obtain the required data; and some of them felt that distortions in the economy were not serious enough to warrant calculation of economic rates of return. In Liberia there was inadequate assessment of organizational and management aspects of subprojects and insufficient market analysis; adequate appraisal of these aspects would have led to a recognition of the need to nurture the entrepreneurs through the earlier phases of the projects and to strengthen supervision efforts by the DFC. ICB-Iran, LBDI-Liberia, and CIH-Morocco did not undertake adequate analysis of the technical aspects of subprojects. In Morocco, the main influence of the DFC appears to have been limited to the design and organization of subprojects, effective decisions being made outside the DFC.

3.214 The main objective of effective supervision is to provide a first alert to a DFC on problem projects and to provide feedback on project experience for realistic appraisal. Achievements in improving supervision procedures in this group were severely limited. TTDFC-Trinidad and Tobago and AIDB-Ethiopia set up comprehensive and effective supervision procedures. In Mauritius, staff constraints left scope for improvement. In Iran, supervision was confined to technical matters and, in both Iran and Morocco related mainly to the construction phase of the subprojects. There was little progress in supervision in Liberia and limited attempts made to identify or deal with problem projects.

(iv) Promotional Activities

3.215 A major consideration in the Bank financing of DFCs has been to induce them to play an active role in promoting industrial growth in their respective countries. The performance of the DFCs in this group, whether publicly or privately owned, was highly satisfactory in this respect.

3.216 The promotional activities of ICB-Iran in project identification, organization of joint ventures and in undertaking share underwriting, were an important element in the Bank decision to provide funds through a second DFC in that country. Starting out as a wholly government-owned enterprise, TTDFC-Trinidad and Tobago proved highly promotional in its orientation by providing active assistance to new entrepreneurs. AIDB-Ethiopia was similarly active in promoting new enterprises, and

CIH-Morocco specialized in housing and hotel finance, setting up a number of subsidiaries to support and extend its hotel financing activities. In Liberia, on the other hand, it was expected that a government agency would play an active promotional role, with the DFC concentrating on providing finance; promotion at government level was weak and the DFC did not have the resources to undertake promotion on its own.

III. Role of DFCs in the Capital Market

3.217 As previously mentioned, many DFCs in this group were government owned. The others, with the exception of Liberia, operated in the context of state control in respect of access to the capital market; Liberia, with a free economy, had no control on the movement of capital. In such environments, the role of DFCs in developing the domestic capital market was limited. In all these countries, the rate of interest was formally set, and the interest charged by the DFCs on local currency was lower than that charged by commercial banks (usually for shorter maturities); as a result the DFCs were not in a position to raise funds on the market.

3.218 No quantitative targets were laid down for resource mobilization by the DFCs; it was expected that they would raise the required local currency resources and diversify their sources of foreign currency funds. The DFCs were generally able to raise the domestic currency resources; however these were obtained from the government (Trinidad and Tobago, Iran, Mauritius and Ethiopia); CIH-Morocco obtained such resources from its shareholders and government institutions; PICIC-Pakistan issued debentures with tacit government backing. On the other hand, LBDI-Liberia was not able to raise local currency resources and sought, and obtained, Bank consent to use a part of Bank funds from a subsequent loan for its local currency operations. None of the DFCs,, except Iran, was able to raise foreign currency resources other than from the Bank.

SUMMARY FINDINGS

(i) Perspective for DFC Lending

3.219 The group of DFCs covered by this Review differs from those in earlier Reviews: most of the DFCs represented are government owned, with multi-sector or specialized operations. The experience raised questions of the DFCs' organizational structure and autonomy of operations, and of industrial sector and interest rate policies in reference to Bank lending.

3.220 The first question appears to have been addressed with reasonable degree of success. Since several of these operations represented the inception of the Bank's relationship with the DFC concerned, the Bank

acted wisely in establishing a close relationship with the DFCs prior to loan approval and to ensure that essential changes in the organizational structures were made. The Bank also helped strengthen the capability for efficient decision making by the DFCs. And although the Bank did not seek explicit understandings in respect of their autonomy, this demonstrated capability encouraged restraint on the part of the governments (para. 3.210), thus effectively assuring autonomy for all DFCs in this group except CIH-Morocco.

3.221 On industrial policy objectives the Bank appears to have gone along with the role assigned to these DFCs in the economies concerned. There was apparently little effort at deconcentration of industry, and in one case where the Bank tried to reach small-scale industries (ICB-Iran), the mechanics of reaching this objective were not laid down, the scale of enterprises to be financed out of the Bank funds was not specified, and the operation ended up financing much larger enterprises. There was some diversification in the projects financed in Mauritius and Trinidad and Tobago in line with the aims of these economies. This group of operations was not used to consciously seek certain industrial policy objectives. The experience highlights the need for policy statements and operational criteria agreed in advance between the Bank and the borrower if DFC lending is to serve as an instrument to effect changes in industrial policy. Such policy statements will naturally need to take into account the sector context of DFC operations and the larger economic objectives of the country concerned.

3.222 The other issue concerns interest rates and the resource mobilization and allocation role of the DFC. In all the countries in this group, DFC lending rates, being promotional, were lower than commercial bank lending rates. This effectively inhibited the DFCs from raising funds on the market for their operations; they obtained their local resources from the government or through captive sources controlled by the government; only ICB-Iran was able to raise resources abroad. The Bank did seek to encourage the DFCs to raise their lending rates as an instrument to strengthen their allocative function; larger issues were however involved and DFC lending proved to be a poor instrument for setting interest rates in consonance with larger country objectives. A dialogue on interest rates, in order to be meaningful, is therefore to be carried on with the government in a macro-economic context. In more recent times, in channeling funds for small-scale industries through DFCs, the Bank has placed emphasis on technical assistance, promotion and allocative efficiency rather than on financial intermediation to develop the capital market. The role of the ultimate users of funds is also being emphasized, often requiring Bank funds to be used for specific purposes like export promotion or employment generation.

(ii) Appraisal and Supervision

3.223 The Bank's efforts in the above areas were clear and consistent but had mixed results. The monitoring of appraisals, by setting low free limits above which Bank approval is required for subprojects, involved considerable communication between the DFCs and the Bank. Appraisal procedures were improved although the DFCs remained unpersuaded of the need to carry out analysis of the economic rates of return; even where such analysis was attempted it was done in a pro-forma fashion to meet Bank requirements rather than as an instrument to guide decision making. And yet, economic analysis remains crucial in countries where distortions are caused by economic interventions, and if less favored borrowers are to be reached through DFC operations and other industrial objectives achieved. Achievements in improving supervision procedures were even more limited, with only TTDFC-Trinidad and Tobago and AIDB-Ethiopia in this group setting up comprehensive and effective supervision procedures.

INDUSTRY

3.224 Four industrial projects were audited during the period of this Review; two loans were made in FY74 and one each in FY71 and FY62. The first two loans financed Yugoslav casting and engineering enterprises; the third was made to a fertilizer company in Indonesia; and the fourth to a captive coal mining unit of a steel plant in India.

3.225 Three of the projects were efficiently implemented: the two projects in Yugoslavia close to the original schedule, and the fertilizer project in Indonesia within the time span projected at appraisal. The cost overruns in these three range between 5-32%, mainly due to exchange rate changes. Efficient implementation was effected by special project management arrangements which were made in Indonesia and Yugoslavia.

3.226 Production capacity as planned was built up and even exceeded in in the two projects in Yugoslavia and one in Indonesia; their reestimated economic rates of return at audit were high, in the range of 18-25%. The Bank played a useful role in helping the borrowers in procurement and in providing efficient supervision of project implementation. The Bank also introduced the two Yugoslav borrowers to improved systems of financial management including long-term projections of operations. However, the Yugoslav borrowers found the loan covenants on external audit and the allocation of profits, onerous and insensitive to the needs of the local situation. Subsequent developments in Indonesia showed the Bank to have been overcautious in its judgment of the size of the fertilizer project it was willing to finance.

3.227 The colliery project in India (FY62) was never completed. A delay of seven years in the actual work done was caused by design changes during implementation, the requirements for additional drilling, and inadequate management. Management for project implementation was divided between the consultant and the company and, within the latter, concentrated at its headquarters; it was almost six years after loan approval that, at the suggestion of the Bank, project management responsibilities were centralized and more efficient arrangements introduced. The cost overrun on the work done was about 50%.

3.228 The project was the first colliery project handled by the Bank. The Bank at that time did not have in-house capacity to assess the project and had to depend upon help from outside consultants. The project subsequently underwent substantial design changes. Supervision was inadequate and failed to identify the problems in slow implementation; specialized expertise was brought in only after the project had got delayed and then had little significant influence on its implementation. While the additional facilities and production capacity were ultimately built, flooding at one of the collieries led to the closing of the related mine. The additional coal was also not needed because of a fall in the production of steel.

F. PROGRAM LOANS

3.229 The exceptional set of circumstances following the oil price rise in 1973 - strong inflationary conditions, a recession in the developed countries, deterioration in the terms of trade and sharp increases in the balance of payments pressures in developing countries - provided the justification for most of the program loans reviewed. The main objective of such lending was to furnish quick disbursing assistance to countries facing balance of payments difficulties and to support corrective policy measures to help safeguard the development process.

3.230 Of the seven program loans and credits in this group, made during the period FY73-77, six were repeat operations (Zambia, Korea, Bangladesh, India), the seventh being the first of the series in Bangladesh. The loan to Zambia was made to alleviate foreign exchange shortages resulting from the continuing low prices of a single export product (copper), to enable the import of essential goods and to support an appropriate investment program. The first credit to Bangladesh was intended to serve reconstruction needs following a cyclone; the two subsequent credits were aimed at supplying the needs of priority industries and increasing their capacity utilization. In Korea, Pakistan and India, there were continuing foreign exchange deficits resulting

from the conditions mentioned above. The credit to India was one of a continuing series for industrial material imports needed for established production capacity in capital goods industries. In Zambia, Korea and Pakistan, counterpart funds were earmarked for specified investment programs of the governments. While the audit reports found the funds to have been so used, the overall allocation of internal resources did not appear to have been altered by this earmarking.

Objectives and Achievements

(i) Resource Transfers

3.231 Rapid disbursements were effected in Pakistan, Korea, Zambia and India where the credits were used up in less than one year. The first credit to Bangladesh, on the other hand, was very slow to disburse due to rigidity in internal licensing procedures and to lack of familiarity with the Bank's disbursement system; the pace of disbursement improved for the subsequent credits but was still slower than projected. The program operations enabled an increase in imports in all countries, and in India, Pakistan and Bangladesh they improved capacity utilization in the specific sectors for which the imports were obtained. In some industries in Bangladesh, however, the constraint on increased output and capacity utilization was found to have been not so much the limitation of imports but of markets.

(ii) Policy Objectives

3.232 The operations were accompanied by understandings on policy changes whose implementation, it was expected, would be facilitated by the program funds. The agreements with the governments related to macro-economic policy, to investment policy, and to studies of specific issues related to problems of economic efficiency and growth.

3.233 In Pakistan and Korea, policy understandings related to increased resource mobilization by the governments, actions to curb price inflation and to promote exports. Generally, the agreed measures were carried out. In Korea, they also achieved the expected results. An inability to control public expenditures and a recession in export markets intervened in Pakistan to defeat export promotion and resource mobilization efforts. In Pakistan and Zambia, it was expected that the governments would take measures to strengthen agriculture. In Pakistan, budgetary measures to improve agriculture were taken but the required institutional improvements were not brought about; in Zambia, producer prices were increased, but neither adequately nor in time to significantly influence agricultural output. In India and in Bangladesh studies on specific industries and on import procedures respectively were undertaken.

Comment

3.234 Experience with the present group of program loans reinforces the two points made in last year's Review. First, timeliness is clearly an essential ingredient in program lending. In the present group, both loan approval and the disbursement of funds were timely. The one exception was the program loan to Zambia, which was delayed by difficulties in Zambia reaching agreement with the IMF on issues which were also of substantive concern for the Bank program. In Bangladesh, delays in disbursement of funds were caused by administrative problems, partially defeating the purpose of program lending.

3.235 The second point relates to the specificity of agreed policy measures and the monitoring of their implementation and impact on economic performance. The Bank required that a program of specific measures be developed at the time of the first program loans to Korea, Pakistan and Zambia; the subsequent loans in this group required such policies to continue. Positive results were observed in Korea after its second program loan. Although both Zambia and Pakistan implemented some of the measures agreed with the Bank, at the time of audit their impact on the countries' balance of payments was not discernible. Recent program loans have been tranched as a device to permit more effective response to observed performance during the disbursement period.

G. TECHNICAL ASSISTANCE

3.236 This Review covers three technical assistance credits, all of them to Indonesia during fiscal years 1969-72. The credits were intended to help finance the services of consultants with a twofold objective: to undertake preinvestment and feasibility studies, and to perform advisory services of various kinds. It was intended that the preparation of projects for financing should be accelerated, and domestic capability built to sustain the flow of projects in the long run. The sub-projects to be financed were not defined at the time the credits were made but were to be agreed between the country and the Bank's resident mission.

3.237 In all, fifty sub-projects were financed. A substantial proportion of the feasibility studies prepared under the credits led to projects which were later financed by the Bank or other financing agencies. Results in respect of advisory services were mixed.

3.238 The experience of these credits provides two lessons. First, the flexibility built into the credits for the selection of priority sub-projects was appropriate and well used, as indicated by the high proportion of sub-projects which led to subsequent financing. Second,

advisory services are likely to be more effective if the deployment and the work of advisors is guided and monitored by a high-level local steering committee which would have an overview of the economy's priority needs and how best they can be met.

IV. CONCLUDING COMMENTS

Experience and Response

4.01 In discussing projects in each sector, an effort has been made in this Review to relate lessons of experience with current Bank practice. In most sectors, a quick look has been taken at the projects immediately following the ones reviewed here. Most of these follow-on projects carry evidence of the Bank's sensitivity to lessons of experience; in some other cases, policies and procedures have been subsequently modified in response to broader patterns of deficiencies.

4.02 In agriculture, deficiencies of preparation and design affected a number of projects in this group, as they did in the ones reviewed earlier; the follow-on projects built upon the lessons learned from those preceding. The effect of the most recent Bank instructions, which lay down criteria for the desirable level of preparation for different types of projects, can only become visible in the future. Last year's Review noted wide variations between demand forecasts and actual materialization in transport and public utilities projects. It was then emphasized that projections of future traffic growth should be attempted in the context of broader economic analyses. Although the present group shows similar deficiencies in demand forecasting, broader economic analysis is being undertaken in current project preparation for highways, especially for feeder roads. A closer study of major traffic categories which would be sensitive to intermodal competition is still indicated in railway projects, and is being considered. In respect of electric power and water supply, demand forecasts are admittedly determined by a variety of factors in the economy not easy to project with precision. Nevertheless, improved and broader-based forecasting techniques are now being used in water supply. In electric power projects, the Bank plans to revise the forecasts more frequently and to adjust implementation schedules to minimize the effects of divergence where feasible.

4.03 Previous Reviews have emphasized that in designing projects for revenue earning enterprises, due attention should be given to the potential for improving operational efficiency. Insufficient consideration of productivity improvements, especially in port projects, has also surfaced in the present group. Operational efficiency indicators are now in use in railway projects and are beginning to be applied in port projects. In

planning transport projects, consideration is also being given to risk analysis that would take account of the probabilities of traffic reaching different levels and of efficiency improvements proceeding at different paces. Key monitoring indices are also being developed for borrowers in public utilities.

4.04 The review of the present group has been designed to highlight a few other lessons. One of these concerns project supervision. The projects reviewed continue to bear out the relationship between the quality of Bank supervision and acceptable results in many projects. Not all problems are susceptible to correction during supervision; a surprisingly large number are, and others can result from or not be recognized in time for correction due to deficient supervision. What is noteworthy in this group is not the frequency of supervision or the manpower input as much as its variable quality (paras. 3.36-3.46, 3.196). The Bank has taken steps to strengthen supervision by providing additional manpower and by diversifying the available expertise. The supervision experience is being monitored by senior management through the Problem Projects Reviews and in annual papers prepared by the Central Projects Staff and reviewed by the Executive Directors. A revised Operational Manual Statement (OMS 3.50) was issued in February, 1979 and is aimed at making the process more efficient and cost effective. Increasing use is also being made of the Bank's resident mission staff to provide close and continuous supervision, especially of risk-prone projects in which such staff have a clear advantage.

4.05 A second lesson that deserves special attention is the high proportion of projects changed during implementation (para. 2.03), and the related cost and time overruns (paras. 2.06, 2.08). The proportion of projects with clearly defined physical content which were changed during implementation was 61% in this group, up from 56% last year. Sometimes the changes effected were relatively minor; quite often they represented a welcome flexibility in response to changing circumstances. In other cases, they resulted from deficient initial project preparation and design. Whatever the reason, subsequent changes in project design and scope are often accompanied by changes in objectives and accomplishments, and there are usually cost implications. While a procedure exists in the Bank for reviewing proposed changes in project design and content during implementation, the high incidence of such alterations suggests the need for a study to identify their major causes and costs, and the potential for minimizing them. It is also suggested that innovative and risk-prone projects should invariably provide for a special mid-term review during implementation so as to systematically determine any changes that may be necessary, and their implications for project costs and benefits. The Bank now provides for mid-term reviews in some but not yet in all such projects.

Sector Environment

4.06 This review underlines once again the importance of the sector context in which projects are designed and implemented. This applies as much to the institutional context as to the framework of sector policies.

4.07 A repeated cause of failure to realize the institutional change and improvement incorporated in a project appears to have been the lack of borrower's readiness to undertake the effort and to give it full support. Borrower commitment can of course fall victim to political change, or a change in the key personnel involved, or become eroded by inter-agency rivalries. In a number of cases, however, there is evidence that borrower commitment was lacking from the beginning; being unpersuaded of the need for the proposed institutional change, or for the expatriate consultants who most frequently provided the instrument of such change, borrower support remained half-hearted, and the resulting institutional improvement, marginal.

4.08 More effort by the Bank seems indicated to enlist full borrower understanding and support for the institutional components of projects. Systematic efforts at institutional improvement could be improved by the Bank and borrower jointly developing an institutional profile of the sector and a time-phased program of action. The institutional profile would review the technical manpower availability within the country and the sector. It would analyze the existing institutional framework in the sector, define its capabilities, identify areas that might need change and strengthening, and clarify the potential for local staff to carry out project activities. It would define the needs for training and develop a training program to be implemented over time. It would also identify interim requirements of expatriate consultants.

4.09 An institutional analysis of this type is all the more necessary when, on the evidence of this review, over 80% of the Bank's operations are one of a series in the country and sector concerned. The sector profile could, in the circumstances, provide a frame of reference for designing the Bank's support for strengthening domestic capability over time. A joint exercise of this kind might help overcome political resistance to expatriate experts, where needed; it should also enlist the borrower's commitment to an agreed institutional effort. At least one Region in the Bank has recently undertaken an analysis of the administrative framework in a country and proposes to follow this up with more detailed institutional analysis. This is an initiative to be encouraged and, directed specifically at sectors of substantial Bank involvement in a country, should provide a systematic basis for institutional development.

4.10 Similar comments could be made about the other aspect of the sector context mentioned above. An important cause of the lack of

success in a number of agricultural projects in this group as well as in those reviewed earlier was the policy environment which ran counter to project objectives. Inappropriate producer price policies, for instance, either did not provide the required incentives for increased production or pointed to an economic response from the farmer which was at variance with the project goals. The result was a shift to crops other than those promoted by the project, and a failure to attain production objectives.

4.11 Supportive sector policies are the responsibility of the borrower. To the extent that the Bank makes series of loans in any sector, the policy environment becomes crucial to the attainment of longer-term sector objectives. Sufficient sector analyses are thus essential to establish a basis for reaching prior understanding with the borrower on sector policies and keep them under frequent review thereafter. This applies to operations in the industrial and DFC sectors as it does in agriculture and education.

4.12 A variety of efforts are now being undertaken by the Bank to relate sector and project objectives more closely and to provide the strategic underpinning for its lending. An important development in recent years has been a substantial increase in the use of country sector memoranda; these are intended to provide a brief synthesis of sector knowledge and summarize the Bank's strategy in the sector in terms of policies and projects. A recent (July, 1979) staff review of the Project Brief System, introduced by the Bank in 1977, also indicates that, together with the sector memoranda, this may evolve into a suitable instrument for more effectively defining project objectives in a sector context. The success achieved in establishing and sustaining such coherence between project and sector objectives will only be evident over time.

ANNEX I

Page 1 of 6

Classification of the Projects Covered by Reviews I - VI

The group of 98 projects under review is part of the 384 whose performance has been audited by OED up to December 31, 1978. 1/ Table 1 indicates the coverage of the 384 in terms of the year in which the loans or credits were fully disbursed, and Table 2 the year in which they were signed. This Annex shows the projects included in each of the five Reviews to date under different classifications.

Table 2 shows the distribution of projects covered in each of the five Reviews by the year in which the loan or credit agreement was reached. Some 93% of the loans in the present group were signed in fiscal year 1969 or later. The proportions for the same period in the First, Second, Third and Fourth Reviews were 26%, 57%, 74% and 88% respectively. Classification of projects in terms of the date when disbursements are completed, and project performance audits undertaken, groups together projects of differing ages. There is a wide variation in the period required for execution of individual projects deriving from the nature of the project, the experience of the borrower and, in the newer fields of operation, the experience of both Bank and borrower. Taken as a group, however, these projects belong to a generation younger than those previously reviewed, and some of the more recent policy shifts in the Bank's lending are beginning to surface in their results.

The distribution by sector is shown in Table 3, where the current group is compared with those previously reviewed. The distribution by sector and Region, and by sector and size, appears in Tables 4 and 5. In each case, summary figures have been provided for the four earlier Reviews.

Taken together the tables in this Annex provide a quick reference to the nature and scope of operations covered by the project performance audit review system through December 31, 1978. A more complete reference appears in the "Concordance to Project Performance Audit Reports Issued by the Operations Evaluation Department", of May 15, 1979. To be issued shortly.

1/ Another 71 projects were the subject of performance audit in the first six months of calendar year 1979.

Table 1

PROJECTS COVERED BY PPARs

BY YEAR OF FINAL DISBURSEMENT

	Total Number for which Loans/Credits Disbursed	Number Covered by PPARs					
		Issued Through 3/31/75	Issued 4/1/75 to 12/31/75	Issued 1/1/76 to 12/31/76	Issued 1/1/77 to 12/31/77	Issued 1/1/78 to 12/31/78	Total Issued Through 12/31/78
		Review I	Review II	Review III	Review IV	Review V	
Before July 1, 1972	n.a.	11	2	3	4	-	20
Second half of CY1972	24	20	3	-	1	-	24
CY1973	66	14	32	13	7	-	66
CY1974	75	3	17	28 a/	18	7	73
CY1975	79	-	2	19	36 b/	9	66
CY1976	104	2	-	6	30	34	72
CY1977	106	-	1	1	9	32	43
CY1978	123	-	-	-	-	12	16
After January 1, 1979	n.a.	-	-	-	-	4	4
		50	57	70	109	98	384

a/ Includes one loan cancelled prior to disbursement (Loan 958-VE)

b/ Includes two loans cancelled prior to implementation at borrower's request (Loans 699 and 832-SP).

Table 2

PROJECTS COVERED BY PPARs

BY DATE OF LOAN/CREDIT AGREEMENT

Fiscal Year	Annual Review I	II	III	IV	V	Total
Prior to FY 1963	7	-	-	-	1	8
1963	-	1	-	-	-	1
1964	3	-	2	2	-	7
1965	5	3	2	1	1	12
1966	5	2	4	3	2	16
1967	9	8	7	9	1	34
1968	8	16	3	6	8	41
1969	5	11	24	26	14	80
1970	5	12	12	24	23	76
1971	3	1	8	20	15	47
1972	-	1	5	8	14	28
1973	-	2	1	6	9	18
1974	-	-	1	1	7	9
1975	-	-	1	3	-	4
1976	-	-	-	-	3	3
TOTAL	50	57	70	109	98	384

Table 3

PROJECTS COVERED BY PPARs

BY SECTOR

	Annual Review					
	I	II	III	IV	V	Total
Public Utilities						
Power	7	13	14	10	7	51
Telecommunications	1	6	2	8	2	19
Water Supply & Sewerage	2	3	3	2	6	16
Sub-Total	10	22	19	20	15	86
Transportation						
Highways	11	8	12	25	18	74
Railways	7	1	-	6	3	17
Ports	4	1	2	4	4	15
Pipelines	2	-	2	-	-	4
Others	-	-	2	3	3	8
Sub-Total	24	10	18	38	28	118
Agriculture	6	8	21	17	28	80
Education	4	2	3	11	5	25
DFCs	6	11	3	14	8	42
Industry	-	-	5	2	4	11
Industrial Imports	-	4	-	-	-	4
Program Loans	-	-	1	7	7	15
Technical Assistance	-	-	-	-	3	3
Grand Total	50	57	70	109	98	384

Table 4

PROJECTS COVERED BY ANNUAL REVIEW V

BY SECTOR AND REGION

	Eastern Africa	Western Africa	East Asia & Pacific	South Asia	Europe, Middle East & N. Africa	Latin America & Caribbean	Total
Public Utilities							
Power	1	-	1	-	1	4	7
Telecommunications	-	-	1	-	1	-	2
Water Supply & Sewerage	-	-	1	-	2	3	6
Sub-Total	1	-	3	-	4	7	15
Transportation							
Highways	3	5	1	1	2	6	18
Railways	-	1	1	-	1	-	3
Ports	1	-	1	-	2	-	4
Others	-	1	-	-	1	1	3
Sub-Total	4	7	3	1	6	7	28
Agriculture	-	8	9	3	2	6	28
Education	1	1	-	-	1	2	5
DFCs	2	1	-	1	2	2	8
Industry	-	-	1	1	2	-	4
Program Loans	1	-	1	5	-	-	7
Technical Assistance	-	-	3	-	-	-	3
Total	9	17	20	11	17	24	98
Review I	11	2	5	5	9	18	50
Review II	13	-	13	7	7	17	57
Review III	10	5	11	7	19	18	70
Review IV	15	39	6	13	15	21	109
Grand Total	58	63	55	43	67	98	384

Table 5

PROJECTS COVERED BY ANNUAL REVIEW V

BY SECTOR AND SIZE OF LOAN/CREDIT

	Size in millions of US$							
	0-5	6-10	11-15	16-20	21-25	26-30	Over 30	TOTAL
Public Utilities								
Power	-	2	1	1	-	2	1	7
Telecommunications	-	-	-	1	-	-	1	2
Water Supply & Sewerage	1	2	3	-	-	-	-	6
Sub-Total	1	4	4	2	-	2	2	15
Transportation								
Highways	7	4	2	2	1	1	1	18
Railways	-	1	1	1	-	-	-	3
Ports	-	1	3	-	-	-	-	4
Others	1	-	-	-	1	-	1	3
Sub-Total	8	6	6	3	2	1	2	28
Agriculture	12	9	2	2	1	1	1	28
Education	4	-	1	-	-	-	-	5
DFCs	4	1	1	-	1	-	1	8
Industry	-	-	1	2	-	1	-	4
Program Loans	-	-	-	-	-	1	6	7
Technical Assistance	3	-	-	-	-	-	-	3
Total	32	20	15	9	4	6	12	98
Review I	14	11	5	4	5	1	10	50
Review II	13	15	9	5	5	2	8	57
Review III	16	13	9	11	5	2	14	70
Review IV	32	28	9	7	9	4	20	109
Grand Total	107	87	47	36	28	15	64	384

Table 1

PROJECTS FOR WHICH PROJECT PERFORMANCE AUDIT REPORTS WERE ISSUED

January 1 - December 31, 1978

	Projects by Sector	Amount (US$ mlns) a/	Date of Board Approval	Date of Loan/Credit Agreement	Date of Final Disbursement	Brief Project Description
PUBLIC UTILITIES						
	Power					
1	Malawi II Power (Cr. 426)	7.5	9/73	9/73	2/77	Construction of a 20 MW hydroelectric power station as extension to existing plant; installation of 12 MW gas turbine; tariff study.
2	Thailand South Bangkok Thermal Unit (Ln. 790)	27.0	10/71	11/71	2/77	Installation of a 310 MW oil-fired generating unit.
3	Cyprus IV Power (Ln. 831)	9.0	6/72	6/72	8/77	Construction of a 30 MW steam unit, a 132 KV transmission line and substations; extension of distribution system; consulting services.
4	Brazil Jaguara Power (Ln. 442)	49.0	3/66	3/66	4/75	Construction of a rock fill dam, power house, concrete spill way, substation, and transmission lines.
5	Brazil Volta Grande Hydropower (Ln. 566)	26.6	10/68	10/68	9/76	Construction of an earthfill dam, a power house, concrete spill way, transmission lines, and substations.
6	Honduras IV Power (Ln. 692/Cr. 201)	11.0	6/70	6/70	9/75	Expansion of interconnected transmission system, improvements to existing distribution system and installation of a gas turbine; training, tariff study.
7	Uruguay IV Power (Ln. 712)	18.0	1/71	1/71	7/77	Steam unit at existing power station and rehabilitation and expansion of Montevideo distribution system; studies to improve organizational efficiency, accounting and long term planning.
	Telecommunications					
8	Malaysia II Telecommunications (Ln. 753)	18.7	6/71	6/71	3/77	Expansion of services, including improvement and extension of installation of local and long distance telephone and telex services, and provision for additions to international network.
9	Yugoslavia I Telecommunications (Ln. 657)	40.0	2/70	2/70	11/76	Automatic international telephone and telegraph exchanges; earth satellite station; high capacity microwave system; transit telephone exchanges.
	Water Supply and Sewerage					
10	Singapore II Sewerage (Ln. 918)	12.0	7/73	7/73	9/76	Improvement and extension to sewerage system.
11	Tunisia I Water Supply (Ln. 581)	15.0	12/68	1/69	1/77	Expansion and improvement of water supply and distribution systems of several regions; improvement to project unit management.
12	Tunisia II Water Supply (Cr. 209)	10.5	6/70	6/70	2/77	Expansion and improvement of water supply and distribution systems of several regions and cities; consultants for implementing National Water Supply Program.
13	Colombia I Bogota Water Supply (Ln. 536)	14.0	5/68	6/68	1/77	Extension of capacity of an existing water treatment plant and of water transmission and distribution system.
14	Nicaragua II Managua Water Supply (Ln. 808)	6.9	3/72	3/72	10/77	Construction of water wells, pumping stations, service reservoirs, administrative facilities; installation of transmission pipelines, service connections; and improvement of project units organization and operations.
15	Nicaragua Water Supply-Earthquake Reconstruction (Cr. 389)	2.5	5/73	6/73	NYFD b/	Emergency repair and rehabilitation of existing installation; materials and equipment for repair and maintenance; and civil works under II Managua Water Supply Project.
TRANSPORTATION						
	Highways					
16	Kenya III Highway (Ln. 639)	23.5	8/69	8/69	11/74	Construction and consultant services for study of reorganization of Ministry of Works and partial implementation.
17	Madagascar III Highway (Ln. 876/Cr. 351 & 351A)	35.6	12/72	1/73	3/76	Construction of primary roads; consultants services for construction supervision, detailed engineering, and review of traffic counting system.
18	Zaire I Highway (Cr. 152)	6.0	5/69	6/69	12/76	Improvement of administration through reorganization of Roads Department, technical assistance, expatriate in-line functions; road maintenance equipment and rehabilitation.
19	Chad Highway Maintenance (Cr. 125)	4.1	7/68	8/68	9/78	Execute five-year road maintenance program through purchase of equipment, spare parts, and materials; improve workshops; provide training.
20	Congo Highway Maintenance (Cr. 274)	4.0	12/71	12/71	10/76	Consultants services to reorganize Public Highway Department; advice on maintenance and equipment repairs; procurement of equipment and spare parts.
21	Mali I Highway (Cr. 197)	7.7	6/70	6/70	4/76	Improve road maintenance practices through institution building; feeder road construction program.
22	Mauritania Highway Maintenance (Cr. 159)	3.0	6/69	6/69	1/76	Execute four-year road improvement and maintenance program through purchase of equipment; improvement of maintenance operations; provision of training.
23	Sierra Leone I Highway (Ln. 710/Cr. 218)	7.2	10/70	10/70	1/76	Construction of Bo-Kenema Road (43 mi.); detailed engineering of Bo-Kenema road and Freetown-Waterloo road (18 mi.); procurement of maintenance equipment.
24	Indonesia I Highway (Cr. 154)	28.0	6/69	6/69	6/76	Emergency rehabilitation of 3,000 Km of roads; four-year maintenance program in 20 provinces; technical assistance and training.
25	Nepal I Highway (Cr. 223)	2.5	11/70	12/70	2/78	Improve maintenance capacity of Department of Roads; four-year maintenance program and bridge construction; consultant services for bridge design and tender documents; technical assistance for procurement and supervision of works.

Table 1

PROJECTS FOR WHICH PROJECT PERFORMANCE AUDIT REPORTS WERE ISSUED

January 1 - December 31, 1978

	Projects by Sector	Amount (US$ mlns) a/	Date of Board Approval	Date of Loan/Credit Agreement	Date of Final Disbursement	Brief Project Description
26	Peoples Democratic Republic of Yemen I Highway (Cr. 240)	1.60	4/71	4/71	4/76	Reorganize Public Works Department, acquire equipment spares, provide consultants services for preinvestment studies, furnish overseas fellowships.
27	Peoples Democratic Republic of Yemen Highway Engineering (Cr. S-12)	.56	11/72	11/72	10/74	
28	Chile II Highway Maintenance (Ln. 558 & 558A)	13.2	9/68 ✓	9/68 ✓	12/76	Execute four-year maintenance program through purchasing equipment and spare parts, extending workshops and providing training; consultants services.
29	Colombia V Highway (Ln. 550)	17.2	7/68	7/68	8/74	Construction of 460 Km of roads and a bridge; reorganization; studies, equipment, consulting services.
30	Costa Rica II Highway (Ln. 664)	15.7	3/70	4/70	6/77	Construction of a highway and consultant's services.
31	Costa Rica Highway Studies (Ln. 872)	1.4	12/72	12/72	6/77	Feasibility studies; detailed engineering.
32	Paraguay Second Road Maintenance (Ln. 652)	6.0	1/70	1/70	3/76	Execute four-year maintenance program through purchasing equipment and spare parts, extending workshops, improving road administration, training, recruitment.
33	Venezuela III Highway (Ln. 616)	20.0	6/69	6/69	9/77	Construction, supervision and a study of road use charges.
	Railways					
34	Mali II Railway (Cr. 384)	6.7	4/73	5/73	8/77	Partial renovation of Mali Railways and expansion of passenger and freight-carrying capacity.
35	China IV Railway (Ln. 750)	15.0	5/71	6/71	3/76	Track materials and equipment; workshop and freight handling equipment; construction of marshalling yards, improvement of station yards; management consultants.
36	Tunisia I Railway (Ln. 606/Cr. 150)	17.0	4/69	6/69	1/76	Track renewal, renewal of workshops, procurement of motive power and rolling stock; consultant services and advice on equipment, layout cost accounting and tariffs.
	Ports					
37	Madagascar Tamatave Port (Cr. 200 & 200A)	11.4	6/70 ✓	6/70 ✓	NYFD b/	Construct two deepwater berths; breakwater extension, tanker terminal, warehouses; procure equipment; establish Port Authority; consultants services; training.
38	Thailand III Bangkok Port (Ln. 702)	12.5	7/70	8/70	6/77	Construct four deepwater and two lighterage berths; two transit sheds; consultants services for engineering and supervision; experts for dredging, cost accounting and cargo handling.
39	Cyprus Port of Limassol (Ln. 628)	11.5	6/69	6/69	1/77	Construct deepwater facilities for cargo and passenger traffic; equipment; consultants services for construction supervision, and studies.
40	Iceland Fishing Harbors Rehabilitation (Ln. 941)	7.0	10/73	10/73	9/76	Earthquake rehabilitation for three fishing ports on main island; consultants services for detailed engineering, assistance in tender documents preparation and bid evaluation.
	Other					
41	Nigeria Transport Rehabilitation (Ln. 694)	25.0	5/70	6/70	5/78	Rehabilitate roads; repair port sheds and warehouses; acquire railway and track equipment and materials, port cargo handling equipment, spares; consultant services.
42	Iran-Teheran Urban Transport (Ln. 952)	42.0	8/73	12/73	8/77	Improve bus transport, traffic engineering, urban planning; consultants services for urban transport study.
43	Guyana II Sea Defense (Ln. 765)	5.4	6/71	6/71	1/77	Rehabilitation and construction of new sea wall; diversion road, drainage cutfall, floating craft, slipway; consultants services.
AGRICULTURE						
44	Benin Hinvi Agricultural Project (Cr. 144)	5.2	2/69	3/69	10/78	Establishment of oil palm plantations, expansion of annual food crop area, planting of timber and construction of oil mill; components for grain storage, roads and administrative infrastructure.
45	Benin Zou-Borgou Cotton Project (Cr. 307)	6.1	5/72	5/72	6/78	Expansion and improvement of cotton and rice production; processing and marketing of crops.
46	Cameroon Semry Rice (Cr. 302)	3.7	1/72	4/72	6/76	Provision of funds for irrigating rice on about 4,300 ha; land-leveling; construction of rice mill and store.
47	Ivory Coast First Cocoa (Ln. 686)	7.5	5/70	6/70	9/77	Establishment of 16,000 ha of hybrid cocoa; rehabilitation of 16,000 ha of smallholder cocoa plantations.
48	Niger Agricultural Credit (Cr. 207)	0.584	6/70	6/70	5/77	Increase groundnut, rice and cotton productivity to compensate about 400,000 farmers for projected reductions in producer prices.
49	Nigeria Western State Cocoa (Ln. 764)	7.2	5/71	6/71	NYFD b/	Support Western State program for planting and replanting smallholder cocoa trees and raising technical standards.
50	Senegal Casamance Rice (Cr. 252)	3.7	5/71	6/71	6/78	Improvement of 2,000 ha of swamp rice; clearing 9,500 ha for agricultural production; extending agricultural credit; construction of rice mills; and improvement of roads.
51	Sierra Leone Integrated Agricultural Development (Cr. 323)	4.3	6/72	6/72	8/76	Funds for oil palm plantation; construction of oil and rice mills; financing smallholder credit scheme for swamp rice, cocoa and oil palm.
52	Indonesia First Irrigation Rehabilitation (Cr. 127)	5.0	9/68	9/68	3/77	Rehabilitation of three irrigation schemes in Java and completing construction of a fourth; also pilot scheme improved management in South Sumatra; technical assistance.
53	Indonesia First North Sumatra Estates (Cr. 155)	16.0	6/69	6/69	5/77	Rehabilitation and expansion of four groups of state-owned rubber and oil palm estates in North Sumatra.
54	Indonesia Second North Sumatra Estates (Cr. 194)	17.0	5/70	6/70	2/78	

Table 1

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January 1 - December 31, 1978

	Projects by Sector	Amount (US$ mlns) a/	Date of Board Approval	Date of Loan/Credit Agreement	Date of Final Disbursement	Brief Project Description
55	Korea Agricultural Credit (Cr. 335)	10.5	5/72	9/72	5/76	Funds for medium and long term lending to small farmers and improvement of technical services and training facilities.
56	Korea First Integrated Dairy Beef Development (Cr. 234)	7.0	1/71	2/71	12/76	Support establishment and development of dairying on relatively small farms and construction of two dairy plants; technical assistance.
57	Malaysia Jengka Forestry (Ln. 673)	8.5	5/70	5/70	11/74	Improvement of recovery and utilization of timber removed from settlement operation through construction of mechanized facilities.
58	Malaysia Jengka Triangle I (Ln. 533)	14.0	4/68	4/68	6/75	Agricultural development (oil palm and rubber) and support of settlement program.
59	Papua New Guinea (Second) Agricultural Development (Part) (Cr. 175 - Part)	5.5	1/70	1/70	6/76	Development of cattle ranches and coconut palm estates.
60	Philippines First Livestock (Ln. 823)	7.5	5/72	5/72	9/76	Onlending activities by Development Bank of Philippines for pig and poultry farms, beef cattle ranches and slaughter houses; strengthening of DBP.
61	Bangladesh Irrigation Engineering (Cr. S-14)	3.15	3/73	4/73	2/76	Preparation of three water control and agricultural development projects and making outstanding payments to Dacca southwest project.
62	Pakistan Flood Rehabilitation Program Credit (Cr. 466)	35.0	3/74	3/74	1/78	Disaster relief credit for rehabilitation of flood protection works, damaged roads and flood warning systems and program to replace foreign exchange loss resulting from 1973 flood.
63	Pakistan Third Credit for the Agricultural Development Bank (Cr. 157)	30.0	6/69	6/69	6/76	Assist in lending program for tractors and tube wells, also spare parts and farm management services.
64	Afghanistan First Agricultural Credit (Cr. 202)	5.0	6/70	6/70	12/75	Onlending activities by the Agricultural Development Bank (AgBank) for tractors, wells and pump sets and minor irrigation works; strengthening AgBank and Minagric (Irrigation Section).
65	Iran Ghazvin Development (Ln. 517)	22.0	9/67	10/67	2/74	Development of agriculture in the Ghazvin Plain: irrigation works and supporting agricultural services.
66	Colombia Caqueta Land Colonization (Ln. 739)	8.1	5/71	5/71	11/76	Design and construction of penetration and access roads; credit for farm development (mainly livestock); strengthening of executing agency; establishment of research center; construction of primary schools and health centers.
67	Dominican Republic Livestock Development (Cr. 245)	5.0	4/71	5/71	8/77	Development of dairy, dairy-beef and beef farms.
68	Honduras First Livestock Development (Cr. 179)	2.8	1/70	3/70	1/75	Supervised long-term credit to medium and large scale ranchers for pasture and herd development.
69	Jamaica First Agricultural Credit (Ln. 719)	3.6	12/70	12/70	11/76	Agricultural credit to farmers for beef, dairy, citrus and coconut development.
70	Paraguay Third Livestock Credit (Cr. 156/Ln. 620)	8.6	6/69	6/69	9/75	Development of beef cattle production focussing on basic ranch infrastructure, pasture improvement and breeding stock.
71	Peru San Lorenzo Irrigation and Land Settlement (Ln. 418)	11.0	4/65	6/65	1/77	Irrigation and land settlement, including credit for on-farm investments.
	EDUCATION					
72	Tanzania II Education (Cr. 149)	5.0	4/69	5/69	2/77	Expansion and diversification of secondary education and primary & secondary teacher training; improvement of a technical college.
73	Senegal I Education (Cr. 253)	2.0	6/71	6/71	4/78	Expansion and improvement of University Institute of Technology, agricultural extension training, and secondary technical education; equipment of marine training school.
74	Tunisia II Education (Cr. 94)	13.0	9/66	9/66	12/77	Expansion, diversification and improvement of secondary schools; provision of agricultural training centers.
75	Chile II Education (Ln. 666)	1.5	3/70	4/70	7/76	Strengthening of non-formal vocational training agency in various specializations including agricultural and fishery training.
76	Dominican Republic I Education (Cr. 235)	4.0	11/70	2/71	7/78	Diversification, improvement and expansion of secondary education and primary teacher training; educational planning.
	DEVELOPMENT FINANCE COMPANIES					
77	Ethiopia AIDB (Cr. 304)	11.0	4/72	5/72	4/77	Assist DFC operations.
78	Mauritius DBM I (Cr. 313)	3.5	6/72	6/72	8/76	Assist DFC operations.
79	Liberia LBDI I (Ln. 839)	1.0	6/72	6/72	11/76	Assist DFC operations.
80	Pakistan PICIC VIII (Ln. 590)	40.0	3/69	3/69	10/77	Assist DFC operations.
81	Iran ICB (Ln. 1002)	25.0	5/74	6/74	3/77	Assist DFC operations.
82	Morocco CIH (Ln. 704)	10.0	8/70	8/70	5/76	Assist DFC operations in tourism sector.
83	Trinidad and Tobago TTDFC I (Ln. 819)	2.0	5/72	5/72	4/76	Assist DFC operations.
84	Trinidad and Tobago TTDFC II (Ln. 1056)	5.0	12/74	12/74	1/79	Assist DFC operations.
	INDUSTRY					
85	Indonesia Pusri II Fertilizer (Cr. 193)	30.0	5/70	6/70	8/76	Expand facilities by increasing urea capacity; install natural gas conservation and transmission system.
86	India Iron and Steel Co./ Coal Mining Project (Ln. 307)	19.5	12/61	12/61	2/74	Develop, modernize coal properties; install coal washery facilities for sand gathering; two rope ways and coal handling and storage facilities.

Table 1

PROJECTS FOR WHICH PROJECT PERFORMANCE AUDIT REPORTS WERE ISSUED

January 1 - December 31, 1978

	Projects by Sector	Amount (US$ mlns) a/	Date of Board Approval	Date of Loan/Credit Agreement	Date of Final Disbursement	Brief Project Description
87	Yugoslavia Kikinda Iron Foundry Expansion (Ln. 947)	14.5	11/73	11/73	3/78	Expand substantially range and output of castings, pipe fittings and machine tools.
88	Yugoslavia IMT Expansion Project (Ln. 965)	18.5	2/74	2/74	3/78	Diversify range of tractor production and increase production of tractors, accessories and implements more than twofold.
	PROGRAM LOANS					
89	Zambia II Program Loan (Ln. 1322)	30.0	9/76	9/76	3/77	Help overcome difficulties originating in a drop in copper prices.
90	Korea II Program Loan (Ln. 1219)	75.0	3/76	3/76	2/77	Finance increased need for foreign exchange arising from world economic trends following rise in petroleum price.
91	Bangladesh I Import Program Credit (Cr. 345)	50.0	11/72	11/72	10/75	Reconstruction credits for recovery from massive natural disaster and for essential import needs following economic destruction caused by war for independence.
92	Bangladesh II Import Program Credit (Cr. 458)	50.0	2/74	2/74	4/76	
93	Bangladesh III Import Program Credit (Cr. 515 & 515A) c/	75.0	10/74	10/74	3/77	Provide funds for industrial inputs needed to increase capacity utilization.
94	India IX Industrial Imports Program Credit (Cr. 474)	150.0	5/74	5/74	2/75	Cover foreign exchange needs arising out of higher import prices and lower agricultural output due to 1972-73 drought.
95	Pakistan Program Credit (Cr. 629)	50.0	5/76	6/76	3/77	Assist long-term program of economic adjustment following the devaluation of the currency and subsequent liberalization of imports.
	TECHNICAL ASSISTANCE					
96	Indonesia I Technical Assistance (Cr. 135)	2.0	12/68	12/68	3/74	Financing of preinvestment studies and various advisory services.
97	Indonesia II Technical Assistance (Cr. 216)	4.0	9/70	9/70	1/75	
98	Indonesia III Technical Assistance (Cr. 275)	4.0	12/71	12/71	1/77	

a/ Before cancellations.

b/ Not yet fully disbursed.

c/ Credit administered in two tranches of US$50.0 and US$25.0 m.

Table 2

ESTIMATED AND ACTUAL PROJECT COSTS AND REASONS FOR MAJOR COST CHANGES

	Projects by Sector a/	Total Costs Estimate (US$ mlns)	Total Costs Actual (US$ mlns)	% Increase	Reasons for Changes: Changes in Scope b/	Changes in unit quantities c/	Changes in Prices d/	Comments
PUBLIC UTILITIES								
	Power							
1	Malawi II Power (Cr. 426)	14.3	18.2	28			H	Cost overrun due mainly to currency fluctuations and general price increases.
2	Thailand South Bangkok Thermal Unit (Ln. 790)	43.1	43.0					
3	Cyprus IV Power (Ln. 831)	11.9	12.4	4	E		H	Some distribution work suspended in northern region; additional work included in the south. Most of cost increase attributable to inflation.
4	Brazil Jaguara Power (Ln. 442)	83.2	106.9	28	E	H	)	Unexpected soil conditions created problems for foundations of the dam.
5	Brazil Volta Grande Hydropower (Ln. 566)	95.3	218.9	130	E	H	H)	
6	Honduras IV Power (Ln. 692/Cr. 201)	14.8	16.7	13	E		H	
7	Uruguay IV Power (Ln. 712)	22.6	38.9	72	E		H	Inflation; delays in project completion.
	Telecommunications							
8	Malaysia II Telecommunications (Ln. 753)	94.0	170.4	81	EE	H	H	Project scope increased to meet greater than expected demands; inflation.
9	Yugoslavia I Telecommunications (Ln. 657)	95.0	139.2	47	EE	H		Project scope increased and new technology subsequently introduced.
	Water Supply and Sewerage							
10	Singapore II Sewerage (Ln. 918)	29.5	51.0	72	EE	H	H	Enlarged and redesigned in 1974; inflation.
11	Tunisia I Water Supply (Ln. 581)	32.8	42.8	31			H)	80% of cost overrun due to currency fluctuation; remainder due to general price increases and time delays.
12	Tunisia II Water Supply (Cr. 209)	19.2	25.2	31			H)	
13	Colombia I Bogota Water Supply (Ln. 536)	35.3	47.5	35			H	Local costs originally underestimated.
14	Nicaragua II Managua Water Supply (Ln. 808)	9.97	8.84	-11	R			Reduction in transmission lines; overestimation of basic costs at appraisal.
15	Nicaragua Water Supply-Earthquake Reconstruction (Cr. 389)	3.0	2.9	-3				Overestimation of cost to secure lake embankment at appraisal.
TRANSPORTATION								
	Highways							
16	Kenya III Highways (Ln. 639)	36.34	54.40	50	EE		H	
17	Madagascar III Highway (Ln. 876/Cr. 351 & 351A)	37.03	58.6	58	R	H	H	Devaluation; deletion of road section; redesign of road section to lower standards; increase in construction, supervision and engineering.
18	Zaire I Highway (Cr. 152)	9.5	9.7	2				
19	Chad Highway Maintenance (Cr. 125)	4.8	5.1	6			H	Increase in price of equipment and spares.
20	Congo Highway Maintenance (Cr. 274)	4.2	4.1	-2	R	L	H	Change due to shortage of local funds and underestimation of technical assistance needs.
21	Mali I Highway (Cr. 197)	9.3	9.4	1	R		H	
22	Mauritania Highway Maintenance (Cr. 159)	3.8	4.1	8		H		Increase in consultants services; higher than expected cost.
23	Sierra Leone I Highway (Ln. 710/Cr. 218)	11.4	13.8	21	E		H	Expansion of consultants services and program; price increase and currency realignment; underestimation of unit costs.
24	Indonesia I Highway (Cr. 154)	46.7	50.0	7				
25	Nepal I Highway (Cr. 223)	3.4	4.6	35			H	
26	Peoples Democratic Republic of Yemen I Highway (Cr. 240)	3.38	3.22	-5		L	L	Decrease in spare parts; deletion of one road section for detailed engineering; reduction in number of trainees; appraisal overestimation of price of feasibility studies.
27	Peoples Democratic Republic of Yemen Highway Engineering (Cr. S-12)							
28	Chile II Highway Maintenance (Ln. 558 & 558A)	19.7	16.5	-16		L		Decrease in equipment, spare parts and workshops.
29	Colombia V Highway (Ln. 550)	39.5	42.3	15	E	H	H	Additional design work required; cost overrun would have been greater had "maintenance" been included.
30	Costa Rica II Highway (Cr. 664)	21.6	23.5	9	E	H		Low estimates of unit price, type of road surface changed, additional work on ground required.
31	Costa Rica Highway Studies (Cr. 872)	1.9	2.1	10	E			Inclusion of alternative design.
32	Paraguay II Roads (Ln. 652)	6.3	6.4	2		H		Increase in consultants services and training.
33	Venezuela III Highway (Ln. 616)	43.2	63.7	47	E	H	H	
	Railways							
34	Mali II Railway (Cr. 384)	9.3	13.9	71	R	L	L	
35	China IV Railway (Ln. 750)	41.8	n.a.	n.a.				
36	Tunisia I Railway (Ln. 606/Cr. 150)	23.3	35.4	52			H	Underestimation of unit costs and delays during period of inflation.

Table 2

ESTIMATED AND ACTUAL PROJECT COSTS AND REASONS FOR MAJOR COST CHANGES

	Projects by Sector a/	Total Costs Estimate (US$ mlns)	Total Costs Actual (US$ mlns)	% Increase	Reasons for Changes: Changes in Scope b/	Changes in unit quantities c/	Changes in Prices d/	Comments
	Ports							
37	Madagascar Tamatave Port (Cr. 200 & 200A)	16.1	18.5	15	R		H	Increase in prices of all items; project scope reduced by deletion of tanker terminal construction.
38	Thailand III Bangkok Port (Ln. 702)	21.0	26.5	26				Changes due mainly to inflation and currency realignments.
39	Cyprus Port of Limassol (Ln. 628)	18.6	21.1	13		H		Partly due to exchange rate fluctuations.
40	Iceland Fishing Harbors Rehabilitation (Ln. 941)	11.2	13.6	21	R			Cost increases due to inflation.
	Other							
41	Nigeria Transport Rehabilitation (Ln. 694)	33.0	35.7	8		H	H	Only railway items did not have cost increase. (Based on comparison of actual and contract prices - not appraisal estimates.)
42	Iran Tehran Urban Transport (Ln. 952)	65.9	n.a.	n.a.	R	L		Percent increase not known as no data on local cost expenditures are available.
43	Guyana II Sea Defense (Ln. 765)	7.2	11.7	62		H		
	AGRICULTURE							
44	Benin Hinvi Agricultural Project (Cr. 144)	9.59	9.10	-5		H, L	H	To compensate for cost and size increases of some components other project components were scaled down.
45	Benin Zou-Borgou Cotton Project (Cr. 307)	12.68	12.27	-3	RR		H	Inflation; project was scaled down.
46	Cameroon Semry Rice (Cr. 302)	8.0	9.3	16			H	Major cost increases due to exchange rate adjustments.
47	Ivory Coast First Cocoa (Ln. 686)	13.6	10.4	-24	R			Reduction in scope; cocoa area under project reduced from 38,000 to 16,000 ha; savings from reduction of fertilizer component.
48	Niger Agricultural Credit (Cr. 207)	0.871	n.a.	n.a.		H, L	H	Total actual cost not known but input cost rose more quickly than output prices.
49	Nigeria Western State Cocoa (Ln. 764)	11.7	18.1	54		H, L		Price increases, particularly in terms of management and operating costs; but fertilizer requirements were less.
50	Senegal Casamance Rice (Cr. 252)	4.9	5.4	10	RR	L	H	Underestimation of unit costs and higher inflation led to significantly reduced investment in road construction and irrigation works.
51	Sierra Leone Integrated Agricultural Development (Cr. 323)	5.6	5.9	5	E		H	Higher than expected cost of materials and wages.
52	Indonesia First Irrigation Rehabilitation (Cr. 127)	8.8	54.0	514	EE	H	H	Expansion of area served by canals and other project works; inflation.
53	Indonesia First North Sumatra Estates (Cr. 155)	32.1	57.8	80	EE	H	H	Unit cost inflation; reduced rubber plantings, increased oil palm plantings.
54	Indonesia Second North Sumatra Estates (Cr. 194)	31.6	73.86	133.5	RR	H	H	Unit cost inflation; rehabilitation of processing facilities with capacities above appraisal estimates; considerable underestimation of oil mill costs.
55	Korea Agricultural Credit (Cr. 335)	18.2	18.7	3				Inflation;staff pressures led to reduction in scope.
56	Korea First Integrated Dairy Beef Development (Cr. 234)	12.7	14.8	16	R	H	H	Not anticipated price increases; procurement of costlier heifers; use of sophisticated processing technology.
57	Malaysia Jengka Forestry (Ln. 673)	12.4	n.a.	n.a.	R			
58	Malaysia Jengka Triangle I (Ln. 533)	29.1	34.5	19	E	H	H	Increase attributed to additional works: design changes and price increases for mill construction and fertilizer.
59	Papua New Guinea (Second) Agricultural Development (Part) (Cr. 175 - Part)	8.8	8.5	-3	R			Livestock component was scaled down; coconut subproject was never implemented.
60	Philippines First Livestock (Ln. 823)	15.5	15.5	0				Inflation; reduced project scope.
61	Bangladesh Irrigation Engineering (Cr. S-14)	5.3	5.6	6			H	Consultant did not complete job within original credit allocation and $175,000 had to be disbursed out of Cr. 409.
62	Pakistan Flood Rehabilitation Program Credit (Cr. 466)	222.5	222.5	0				Amount includes both civil works and procurement of imports required to offset the negative effects of the flood on the economy.
63	Pakistan Third Credit for the Agricultural Development Bank (Cr. 157)	48.0	50.0	4			H	As a result of exchange adjustments some costs of import items doubled.
64	Afghanistan First Agricultural Credit (Cr. 202)	7.2	7.2	0				Smaller number of subloans due to shift from minor irrigation to tractors.
65	Iran [illegible] Development (Cr. 317)	50.9	32.5	-36	R			Dispute over procurement and financial issues resulted in cancellation of more than one-half of the loan.
66	Colombia Caqueta Land Colonization (Cr. 739)	21.6	20.3	-6	RR		H	Technical and managerial difficulties in implementing a pioneer project in a remote area were underestimated; project was scaled down.

Table 2

ESTIMATED AND ACTUAL PROJECT COSTS AND REASONS FOR MAJOR COST CHANGES

	Projects by Sector a/	Total Costs Estimate (US$ mlns)	Total Costs Actual (US$ mlns)	% Increase	Reasons for Changes: Changes in Scope b/	Changes in unit quantities c/	Changes in Prices d/	Comments
67	Dominican Republic Livestock Development (Cr. 245)	9.0	10.1	11	RR		H	Cost increases due to inflation. Project was scaled down.
68	Honduras First Livestock Development (Cr. 179)	5.2	4.8	-8	RR		H	Cost increases due to inflation. Project was scaled down.
69	Jamaica First Agricultural Credit (Ln. 719)	8.0	7.3	-9	RR		H	Cost increases due to inflation. Project was scaled down.
70	Paraguay Third Livestock Credit (Cr. 156/ Ln. 620)	8.6	8.6	0	E			More medium farmers reached with reduced size of subloans per borrower.
71	Peru San Lorenzo Irrigation and Land Settlement (Ln. 418)	30.4	61.5	102	ER		H	Changes in project design, the extended period of implementation and inadequate data make comparison of appraisal costs with final costs meaningless.
	EDUCATION							
72	Tanzania II Education (Cr. 149)	7.2	7.2	-1	R			Increase in construction costs offset by cost savings on equipment.
73	Senegal I Education (Cr. 253)	2.5	3.6	44	R		HH	23% US Dollar devaluation affected project cost estimates.
74	Tunisia II Education (Cr. 94)	19.8	20.8	5	R, E			Training centers deleted; technical assistance added.
75	Chile II Education (Ln. 666)	3.0	2.0	-35	RR	L	H	Inflation; high equipment costs more than offset by reduction in project scope.
76	Dominican Republic I Education (Cr. 235)	8.2	9.6	18	R		H	Technical assistance reduced.
	INDUSTRY							
77	Indonesia Pusri II Fertilizer (Cr. 193)	90.8	120.0	32	E	H	H	Further exploration and new drillings for gas project; currency realignments; delay in startup phase.
78	India Iron and Steel Company/Coal Mining Project (Ln. 307)	40.2	59.1	47	E, R			Geological problems; major design modifications, including elimination of deep mining project.
79	Yugoslavia Kikinda Iron Foundry Expansion (Cr. 947)	35.1	40.3	15	E		H	Inflation; fluctuations in foreign exchange parities.
80	Yugoslavia IMT Expansion (Cr. 965)	79.7	83.9	5	E		H	Inflation; fluctuations in foreign exchange parities.

a/ Excludes DFC projects (8); program loans (7); technical assistance credits (3).

b/ E = Expansion; R = Reduction; double letter indicates major changes.

c/ Change in quantity of work or material per unit because of inaccurate original estimate or design changes; H = higher than appraisal estimate, L = lower.

d/ Change in unit prices.

Table 3

ESTIMATED AND ACTUAL TIMES FOR COMPLETION AND REASONS FOR MAJOR EXTENSIONS OF TIME

	Projects by Sector a/	Date of Loan/Credit Agreement	Date of Completion Estimate	Date of Completion Actual b/	Increase in Months	Increase in %	Reasons for Increase: Changes in Scope	Reasons for Increase: Execution of Works c/	Reasons for Increase: Procurement d/	Reasons for Increase: Administration e/	Comments
PUBLIC UTILITIES											
	Power										
1	Malawi II Power (Cr. 426)	9/73	4/77	5/77	1	2					
2	Thailand South Bangkok Thermal Unit (Ln. 790)	11/71	1/76	12/75	-1	-2					
3	Cyprus IV Power (Ln. 831)	6/72	12/75	12/77	24	57					Most delays attributable to civil disturbances and hostilities of 1974.
4	Brazil Jaguara Power (Ln.442)	3/66	1/71	7/71	6	11					
5	Brazil Volta Grande Hydro-power (Ln. 566)	10/68	3/74	6/75	15	18		X			
6	Honduras IV Power (Ln. 692/ Cr. 201)	6/70	9/73	7/75	22	56					Strikes in country of supply caused delays in shipment of equipment.
7	Uruguay IV Power (Ln. 712)	1/71	12/73	11/76	35	50	X	X	X	X	Problems in establishing management autonomy and increasing salaries to attract staff. (Overrun calculated on completion of major components.)
	Telecommunications										
8	Malaysia II Telecom. (Ln. 753)	6/71	12/75	12/75							Overall program greatly expanded; about 70% of original project completed on time.
9	Yugoslavia I Telecom. (Ln.657)	2/70	12/74	3/78	39	67	X	X			Subsequent introduction of new technology & underestimation of time.
	Water Supply and Sewerage										
10	Singapore II Sewerage (Ln. 918)	7/73	6/78	9/77	-9	-17	X				Project redesigned in 1974.
11	Tunisia I Water Supply (Ln.581)	1/69	2/73	12/76	46	93		X		)	Underestimation of construction periods at appraisal; problems with performance of local contractors.
12	Tunisia II Water Supply(Cr.209)	6/70	2/73	12/76	46	143		X		)	
13	Colombia I Bogota Water Supply (Ln. 536)	6/68	6/71	6/73	24	66		X			Deficient workmanship and subsequent withdrawal of contractors.
14	Nicaragua II Managua Water Supply (Ln. 808)	3/72	12/75	10/77	21	46		X			Delays in delivery of materials; labor strike; difficulties in obtaining materials and qualified workers.
15	Nicaragua Water Supply - Earthquare Reconstr. (Cr.389)	6/73	12/75	3/78	27	90		X			Delays in delivery of equipment and materials; labor strikes; difficulties in obtaining materials and qualified workers.
TRANSPORTATION											
	Highways										
16	Kenya III Highway (Ln. 639)	8/69	12/73	6/75	18	50	X	X			
17	Madagascar III Highway (Ln. 876/Cr. 351 & 351A)	1/73	6/77	12/78	18	38		X			Traffic counting study (% increase based on 48-month execution period.)
18	Zaire I Highway (Cr. 152)	6/69	6/71	7/74	37	150		X	X		Delays in selection of roads for rehabilitation; contractor's lack of adequate resources; delays in bidding and equipment deliveries.
19	Chad Highway Maint. (Cr. 125)	8/68	12/73	12/73							
20	Congo Highway Maint. (Cr. 274)	12/71	3/76	3/76							
21	Mali I Highway (Cr. 197)	6/70	6/74	12/74	6	13		X	X		Lack of local funds (% increase based on 48-month execution period.)
22	Mauritania Highway Maint. (Cr. 159)	6/69	9/73	4/75	19	42		X			Training (% increase based on 45-month execution period.)
23	Sierra Leone I Hwy. (Ln. 710/ Cr. 218)	10/70	6/74	12/75	18	37			X		Bidding problems; delay in dismantling railway; contractor equipment shortages.
24	Indonesia I Highway (Cr. 154)	6/69	12/73	12/75	24	44		X	X		Maintenance program delays; training program reorganized; procurement of equipment.
25	Nepal I Highway (Cr. 223)	12/70	12/74	7/77	31	65		X	X	X	
26	Peoples Dem. Rep. of Yemen I Highway (Cr. 240)	4/71	12/73	3/76	27	96			X	)	Delay in preparing list of workshop and communications equipment and spare parts for existing maintenance equipment to be procured, and in procurement itself.
27	Peoples Dem. Rep. of Yemen Hwy. Engineering (Cr. S-12)	11/72								)	
28	Chile II Highway Maint. (Ln.558 & 558A)	9/68	12/71	10/76	58	121		X		X	Temporary suspension of purchases and delays in selecting consultants; personnel losses; worldwide recession, budget constraints; delays in equipment delivery.

Table 3

ESTIMATED AND ACTUAL TIMES FOR COMPLETION AND REASONS FOR MAJOR EXTENSIONS OF TIME

	Projects by Sector a/	Date of Loan/Credit Agreement	Date of Completion Estimate	Date of Completion Actual b/	Increase in Months	Increase in %	Reasons for Increase: Changes in Scope	Execution of Works c/	Procurement d/	Administration e/	Comments
29	Colombia V Hwy. (Ln. 550)	7/68	6/72	3/75	39	70	X	X		X	
30	Costa Rica II Hwy. (Cr. 664)	4/70	12/74	2/76	14	20	X		X		
31	Costa Rica Hwy. Studies (Cr. 876)	12/72	6/75	6/75							
32	Paraguay II Road Maint. (Ln. 652)	1/70	1973 g/	7/75	24	56		X		X	Equipment purchases postponed; consultant's services; workshop construction and training.
33	Venezuela III Hwy. (Ln. 616)	6/69	6/73	6/77	48	133	X	X			
	Railways										
34	Mali II Railway (Cr. 384)	5/73	6/77	6/77			X				Change in project scope.
35	China IV Railway (Ln. 750)	6/71	6/74	8/75	14	39			X		Procurement delays due to government administrative procedures.
36	Tunisia I Railway (Ln. 606/ Cr. 150)	6/69	12/72	6/76	42	100		X	X	X	Floods delayed track renewal program; Bank procurement procedures; implementation unit managerial resources temporarily diverted.
	Ports										
37	Madagascar Tamatave Port (Cr. 200)& 200A)	6/70	6/74	12/78	54	113			X		Technical assistance extended.
38	Thailand III Bangkok Port (Ln. 702)	8/70	12/73	5/76	29	73		X			Delay in contract award; technical difficulties during implementation.
39	Cyprus Port of Limassol (Ln. 628)	6/69	9/73	12/75	27	53		X	X		Construction of transit sheds; delays in determining final equipment lists.
40	Iceland Fishing Ports Rehab. (Ln. 941)	10/73	3/76	9/76	6	20		X			Preliminary surveys inaccurate; technical problems; delays in dredging.
	Other										
41	Nigeria Transport Rehab. (Ln. 694)	6/70	6/72	3/75	53	265 f/		X	X		Time needed to identify components not done at appraisal.
42	Iran Tehran Urban Transport (Ln. 952)	12/73	12/76	6/77	6	17	X	X		X	Based on 36-month execution period.
43	Guyana II Sea Defense (Ln.765)	6/71	6/74	Early '77	32	89		X	X	X	Inadequate stone supply; problems with asphalt plant; bidding problems.
AGRICULTURE											
44	Benin Hinvi Agricultural Project (Cr. 144)	3/69	6/77	12/75	-18	-18					
45	Benin Zou-Borgou Cotton (Cr.307)	5/72	9/75	11/77	26	72				X	Changes in government policies led to 7 months delay in effectiveness.
46	Cameroon Semry Rice (Cr. 302)	4/72	6/75	7/75	1						
47	Ivory Coast First Cocoa (Ln.686)	6/70	6/77	1/75	-30	-36					Project was scaled down.
48	Niger Agric. Credit (Cr. 207)	6/70	6/74	4/76	22	46				X	Weakness and lack of experience of Agricultural Development Institute; drought in three out of seven project years.
49	Nigeria Western State Cocoa (Ln. 764)	6/71	9/76	9/76							
50	Senegal Casamance Rice (Cr. 252)	6/71	12/76	12/76							
51	Sierra Leone Integrated Agric. Development (Cr. 323)	6/72	12/75	12/75							
52	Indonesia First Irrigation Rehab. (Cr. 127)	9/68	4/74	3/77	35	52	X	X	X	X	Additional drainage, roads and canal structures; technical difficulties; local procurement procedures; operating and management difficulties in all PROSIDA projects.
53	Indonesia First North Sumatra Estates (Cr. 155)	6/69	6/74	6/76	24	40		X	X		) Difficulties in staff recruitment; insufficient planting material; PNP's lack of familiarity with ICB procedures.
54	Indonesia Second North Sumatra Estates (Cr. 194)	6/70	6/75	12/77	30	50	X	X	X	X	)
55	Korea Agricultural Credit (Cr. 335)	9/72	9/76	5/76	-3	-6					Inflation and staff pressures were main reasons for reduction in scope.
56	Korea First Integrated Dairy Beef Development (Cr. 234)	2/71	1/77	1/77							Project survived extraordinarily difficult implementation period due to policy shifts.

Table 3

ESTIMATED AND ACTUAL TIMES FOR COMPLETION AND REASONS FOR MAJOR EXTENSIONS OF TIME

	Projects by Sector a/	Date of Loan/Credit Agreement	Date of Completion Estimate	Date of Completion Actual b/	Increase in Months	Increase in %	Reasons for Increase: Changes in Scope	Reasons for Increase: Execution of Works c/	Reasons for Increase: Procurement d/	Reasons for Increase: Administration e/	Comments
57	Malaysia Jengka Forestry (Ln. 673)	5/70	n.a.	n.a.							
58	Malaysia Jengka Triangle I (Ln. 533)	4/68	12/74	9/75	9	11	X	X	X		Expansion in scope; floods, game damage; delays by suppliers for factories.
59	Papua New Guinea (Second) Agric. Dev. (Part) (Cr. 175 - Part)	1/70	6/74	6/76	24	45					Project encountered difficulties in finding interested and qualified ranchers.
60	Philippines First Livestock (Ln. 823)	5/72	6/78	9/76	-21	-29					Inflation determined the shorter implementation period.
61	Bangladesh Irrigation Engineering (Cr. S-14)	4/73	12/74	11/75	11	55	X	X			Insufficient expertise in consultant's team.
62	Pakistan Flood Rehabilitation Program Credit (Cr. 466)	3/74	7/74	7/74							
63	Pakistan Third Credit for Agricultural Dev. Bank (Cr. 157)	6/69	12/71	12/75	48	60			X	X	India-Pakistan war.
64	Afghanistan First Agric. Credit (Cr. 202)	6/70	12/74	12/75	12	22			X	X	Lack of experience with Bank's ICB procedures; irrigation section should have been established in AgBank rather than in Ministry.
65	Iran Ghazvin Development (Ln. 517)	11/67	n.a.	1/74							Dispute over procurement and financial issues resulted in cancellation of more than one-half of the loan.
66	Colombia Caqueta Land Colonization (Ln. 739)	5/71	10/74	9/76	23	56	X	X			Technical and managerial difficulties in implementing a pioneer project in a remote area were underestimated; project was scaled down.
67	Dominican Republic Livestock Development (Cr. 245)	5/71	6/76	6/76			X				Reduced project scope allowed full disbursement of project funds on schedule.
68	Honduras First Livestock Development (Cr. 179)	3/70	12/75	8/75	-4	-6					Reduced project scope allowed full disbursement of project funds on schedule.
69	Jamaica First Agricultural Credit (Ln. 719)	12/70	6/74	6/76	24	57		X			Lack of farmers' interest due to uncertainties about political and economic developments during project execution.
70	Paraguay Third Livestock Credit (Cr. 156/Ln. 620)	6/69	6/74	6/75	12	17					Overall slippage, including three months' delay in effectiveness.
71	Peru San Lorenzo Irrigation and Land Settlement (Ln. 418)	6/65	12/67	6/76	102	340	X	X		X	Loan was renegotiated in 1968 due to unforeseen technical problems, compounded by management and budget problems.
72	Tanzania II Education (Cr. 149)	5/69	9/73	12/75	27	50		X	X		Difficulties with provision of counterpart funds and imported materials.
73	Senegal I Education (Cr. 253)	6/71	2/75	10/76	20	45		X	X	X	Differences in design conception between IDA staff and former director of main project institution.
74	Tunisia II Education (Cr. 94)	9/66	10/69	10/72	36	98			X		Delayed by reallocation of project savings, and procurement of equipment and technical assistance.
75	Chile II Education (Cr. 666)	4/70	6/73	3/76	33	91		X	X	X	Delayed by inadequate budget allocations and changes in project content.
76	Dominican Republic I Education (Cr. 235)	2/71	12/74	9/77	33	70			X	X	Delays in site acquisition and construction works.
	INDUSTRY										
77	Indonesia Pusri II Fertilizer (Cr. 193)	6/70	9/73	11/74	13	37			X	X	Delays in appointing technical advisors and consulting firms and in finalizing gas supply contract.

Table 3

ESTIMATED AND ACTUAL TIMES FOR COMPLETION AND REASONS FOR MAJOR EXTENSIONS OF TIME

	Projects by Sector a/	Date of Loan/Credit Agreement	Date of Completion Estimate	Date of Completion Actual b/	Increase in Months	Increase in %	Reasons for Increase: Changes in Scope	Reasons for Increase: Execution of Works c/	Reasons for Increase: Procurement d/	Reasons for Increase: Administration e/	Comments
78	India Iron and Steel Company/ Coal Mining Project (Ln. 307)	12/61	1/67	9/75	105	150	X	X		X	Two-year delay in effectiveness following invalidation of major financial assumptions; additional drilling required to determine coal reserves.
79	Yugoslavia Kikinda Iron Foundry Expansion (Ln. 947)	11/73	2/77	12/76	-2	-5					
80	Yugoslavia IMT Expansion (Ln. 965)	2/74	12/75	3/76	3	14	X		X		Individual plant facilities like utilities delayed six months or more.

a/ Excludes DFC projects (8); program loans (7); technical assistance credits (3).

b/ In some cases, closing date for last disbursement date is used for actual physical completion.

c/ Work-associated problems such as performance of contractor, technical problems, etc.

d/ Procurement of materials and equipment including increases required for bidding procedures and delivery of equipment.

e/ Administration and staff including management and technical competence of beneficiaries' staff.

f/ Percentage reflects railways only; highways: 125%; ports: 175%.

g/ No specific month was mentioned in the Loan Agreement or Appraisal Report.

Table 4

ESTIMATE OF ECONOMIC RETURNS AT TIME OF APPRAISAL AND AUDIT

	Projects by Category of Estimate a/	Loan/Credit Amount (US$ mlns)	Total Project Cost (US$ mlns) Estimated	Total Project Cost (US$ mlns) Actual	Returns (%) Appraisal Estimate	Returns (%) Re-estimated at audit	Comments
	I. PROJECTS FOR WHICH ECONOMIC RETURNS WERE ESTIMATED AT APPRAISAL						
	TRANSPORTATION						
	Highways						
1	Kenya III Highway (Ln. 639)	23.5	36.34	54.40	18	9	High cost overrun (50%).
2	Madagascar III Highway (Ln. 876/Cr. 351 & 351A)	35.6	37.03	58.6	16	14	Higher construction costs and lack of realization of expected agricultural development.
3	Chad Highway Maintenance (Cr. 125)	4.1	4.8	5.1	11	21	Rise in vehicle operating cost savings due to the increased price of oil.
4	Congo Highway Maintenance (Cr. 274)	4.0	4.2	4.1	20	negative	Due to shortage of local funds, project output was minimal and road network deteriorated.
5	Mali I Highway (Cr. 197)	7.7	9.3	9.4	20	12	Higher costs.
6	Mauritania Highway Maintenance (Cr. 159)	3.0	3.8	4.1	11	15	Higher benefits due to paved roads' maintenance.
7	Sierra Leone I Highway (Ln. 710/Cr. 218)	7.2	11.4	13.8	21	25	Increased benefits more than offset the cost increase.
8	Indonesia I Highway (Cr. 154)	28.0	46.7	50.0	40	27 - < 100	Traffic was much greater than projected.
9	Nepal I Highway (Cr. 223)	2.5	3.4	4.6	22	29	Rise in VOC resulting from increased oil prices.
10	Chile II Highway Maintenance (Ln. 558 & 558A)	13.2	19.7	16.5	15	15	
11	Colombia V Highway (Ln. 550)	17.2	39.5	42.3	11-21	9-25	
12	Costa Rica II Highway (Cr. 664)	15.7	21.6	23.5	17	16	
13	Paraguay II Roads (Ln. 652)	6.0	6.3	6.4	51	72	Higher benefits due to maintenance of paved roads.
14	Venezuela III Highway (Ln. 616)	20.0	43.2	63.7	13	25	Improved re-estimated return due largely to different methodology of benefit estimation.
	Railways						
15	Mali II Railway (Cr. 384)	6.7	9.3	13.9	18	15	Traffic developments less than projected.
16	China IV Railway (Ln. 750)	15.0	41.8	n.a.	12-25	14-90	90% return is on automatic warning devices (6% of loan amount)
17	Tunisia I Railway (Ln. 606/Cr. 150)	17.0	23.3	35.4	12-25	10	Increased investment costs.
	Ports						
18	Madagascar Tamatave Port (Cr. 200 & 200A)	11.4	16.1	18.5	15	3.5	Stagnation of traffic.
19	Thailand III Bangkok Port (Ln. 702)	12.5	21.0	26.5	20	10-15	Re-estimate heavily dependent upon continued growth of import traffic.
20	Cyprus Port of Limassol (Ln. 628)	11.5	18.6	21.1	15	40	Higher traffic volume than forecast.
21	Iceland Fishing Harbors Rehabilitation (Ln. 941)	7.0	11.2	13.6	28	20	Lower but still satisfactory re-estimated return (after adjustment for inflation) is due to sharply increased prices of fish.
	Other						
22	Iran Tehran Urban Transport (Ln. 952)	42.0	65.9	n.a.	28	n.a.	Project not implemented as expected. Data on local costs not available.
23	Guyana II Sea Defense (Ln. 765)	5.4	7.2	11.7	31	31	Higher costs.
	AGRICULTURE						
24	Benin Hinvi Agricultural Project (Cr. 144)	5.2	9.59	9.10	12	5	Annual crops suffered from poor rainfall; labor constraints.
25	Benin Zou Borgou Cotton (Cr. 307)	6.1	12.67	12.27	34	negative	Actual cotton output was below pre-project levels due to farmers shifting to more remunerative maize production.
26	Cameroon Semry Rice (Cr. 302)	3.7	8.0	9.3	11	23	Higher ROR resulting from larger double cropped area, higher yields and higher paddy prices.
27	Ivory Coast First Cocoa (Ln. 686)	7.5	13.6	10.4	27	47	Substantial increase in producer prices.
28	Niger Agricultural Credit (Cr. 207)	0.584	0.871	n.a.	infinite	negative	Inadequate attention to project implementation paid by all parties involved; low prices and drought.
29	Nigeria Western State Cocoa (Ln. 764)	7.2	11.7	18.1	17	26	Higher rate of return due mainly to higher prices.
30	Senegal Casamance Rice (Cr. 252)	3.7	4.9	5.4	18.5	22.7	Higher rate of return due to higher yields and prices; lower input costs; reduced scope of project.
31	Sierra Leone Integrated Agric. Development (Cr. 323)	4.3	5.6	5.9	15	20	Low return on food crops but high return on tree crops.
32	Indonesia First Irrigation Rehabilitation (Cr. 127)	5.0	8.8	54.0	52	30 overall	Higher actual yields and prices largely offset cost increases due to increased project size and other factors.
33	Indonesia First North Sumatra Estates (Cr. 155)	16.0	32.1	57.8	18-36	33	Commodity price increases ranging from more than double (rubber) to 4 times (oil) the levels estimated at appraisal.
34	Indonesia Second North Sumatra Estates (Cr. 194)	17.0	31.6	73.86	13-31	17-53	
35	Korea Agricultural Credit (Cr. 335)	10.5	18.2	18.7	32	38	Highly profitable farm investment; successful technical assistance and farmers' ability.
36	Korea First Integrated Dairy Beef Dev. (Cr. 234)	7.0	12.7	14.8	12	negative	Highly successful project at subsidized milk prices; negative economic rate of return at world market prices.
37	Malaysia Jengka Forestry (Ln. 673)	8.5	12.4	n.a.	29	negative	Project failed because of deficiencies in organizational setup, technical design and marketing arrangements.

Table 4

ESTIMATE OF ECONOMIC RETURNS AT TIME OF APPRAISAL AND AUDIT

	Projects by Category of Estimate a/	Loan/Credit Amount (US$ mlns)	Total Project Cost (US$ mlns) Estimated	Total Project Cost (US$ mlns) Actual	Returns (%) Appraisal Estimate	Returns (%) Re-estimated at audit	Comments
38	Malaysia Jengka Triangle I (Ln. 533)	14.0	29.1	34.5	16	16	Cost overruns and 10% yield shortfall have been offset by higher palm oil prices.
39	Papua New Guinea (Second) Agricultural Development (Part) (Cr. 175 - Part)	5.5	8.8	8.5	11	21	Coconut which was dropped from project had very low ROR at appraisal; cattle component benefitted from higher meat prices.
40	Philippines First Livestock (Ln. 823)	7.5	15.5	15.5	36	24	Physical objectives not achieved due to inflation.
41	Pakistan Third Credit for the Agricultural Development Bank (Cr. 157)	30.0	48.0	50.0	18	40	Increase in farm size and new land brought into production accounted for incremental production.
42	Afghanistan First Agricultural Credit (Cr. 202)	5.0	7.2	7.2	21	25	Appraisal estimate based on poor data.
43	Iran Ghazvin Development (Ln. 517)	22.0	50.9	32.5	10	0	Agricultural development activities were not carried out after completing irrigation works.
44	Colombia Caqueta Land Colonization (Ln. 739)	8.1	21.6	20.3	16.5	13	Cattle prices were higher than estimated; road construction program smaller at higher unit cost than estimated.
45	Dominican Republic Livestock Development (Cr. 245)	5.0	9.0	10.1	21	13	Pre-project production higher than estimated at appraisal. Full development not yet reached.
46	Honduras First Livestock Development (Cr. 179)	2.8	5.2	4.8	18	13	Shift from intensive to extensive operations resulted in decreased ROR of beef cattle operations.
47	Jamaica First Agricultural Credit (Ln. 719)	3.6	8.0	9.2	17	10	Total acreage brought into production reached only 65% of the appraisal estimate.
48	Paraguay Third Livestock Credit (Cr. 156/Ln. 620)	8.6	8.6	8.6	29	11	Increases in beef production and in ranch technical coefficients fell short of those anticipated at appraisal; weak technical assistance.
49	Peru San Lorenzo Irrigation and Land Settlement (Ln. 418)	11.0	30.4	61.5	16	17.5	Figures not fully comparable because of different projection periods.
	INDUSTRY						
50	Indonesia Pusri II Fertilizer (Cr. 193)	30.0	90.8	120.3	14	25	Rate of increase in output prices higher than that of production costs.
51	Yugoslavia Kikinda Iron Foundry Expansion (Ln. 947)	14.5	35.1	40.3	18	18	Financial ROR satisfactory though lower than estimated.
52	Yugoslavia IMT Expansion (Ln. 965)	18.5	79.7	83.9	16	20	Financial ROR satisfactory though lower than estimated.
	II. PROJECTS FOR WHICH INCREMENTAL FINANCIAL RETURNS WERE USED AS PROXY FOR ECONOMIC RETURNS						
	PUBLIC UTILITIES						
	Power						
1	Malawi II Power (Cr. 426)	7.5	14.3	18.2	15	14	
2	Thailand South Bangkok Thermal Unit (Ln. 790)	27.0	43.1	43.0	23	12	
3	Cyprus IV Power (Ln. 831)	9.0	11.9	12.4	10	9	If supply to Turkish-Cypriot zone is excluded, return would drop to 3%.
4	Brazil Volta Grande Hydropower (Ln. 566)	26.6	95.3	218.9	10	10	
5	Honduras IV Power (Ln. 692/Cr. 201)	11.0	14.8	16.7	10-14	11	
6	Uruguay IV Power (Ln. 712)	18.0	22.6	38.9	14	14	Appraisal estimate faulty and re-estimated rate more reasonably in range 7-11. Both time and cost overruns and a slower growth of demand than expected.
	Telecommunications						
7	Malaysia II Telecommunications (Ln. 753)	18.7	94.0	170.4	15	24	Rate of Return calculated for overall investment program which included Bank-financed project.
8	Yugoslavia I Telecommunications (Ln. 657)	40.0	95.0	139.2	27	34	
	Water Supply and Sewerage						
9	Tunisia I Water Supply (Ln. 581)	15.0	32.8	42.8	11	10	
10	Tunisia II Water Supply (Cr. 209)	10.5	19.2	25.2	11	10	
11	Colombia I Bogota Water Supply (Ln. 536)	14.0	35.3	47.5	15	10	
12	Nicaragua II Managua Water Supply (Ln. 808)	6.9	9.97	8.84	11	11	Returns not strictly comparable due to slight modification of project after earthquake occurred.

Table 4

ESTIMATE OF ECONOMIC RETURNS AT TIME OF APPRAISAL AND AUDIT

	Projects by Category of Estimate a/	Loan/Credit Amount (US$ mlns)	Total Project Cost (US$ mlns) Estimated	Total Project Cost (US$ mlns) Actual	Returns (%) Appraisal Estimate	Returns (%) Re-estimated at audit	Comments
	III. PROJECTS FOR WHICH NO ESTIMATE OF RETURNS WAS MADE AT APPRAISAL						
	PUBLIC UTILITIES						
	Power						
1	Brazil Jaguara Power (Ln. 442)	49.0	83.2	106.9		23	
	Water Supply and Sewerage						
2	Singapore II Sewerage (Ln. 918)	12.0	29.5	51.0		n.a.	Project met its objectives in terms of the number and proportion of people served.
3	Nicaragua Water Supply - Earthquake Reconstruction (Cr. 389)	2.5	3.0	2.9		40	Benefits realized with investment to restore and reinforce assets destroyed under the earthquake.
	TRANSPORTATION						
	Highways						
4	Zaire I Highway (Cr. 152)	6.0	9.5	9.7			Not estimated at appraisal or audit due to lack of basic data on situation before project as well as on current traffic volumes.
5	Peoples Democratic Republic of Yemen I Highway (Cr. 240)	1.60	3.38	3.22			Not estimated at appraisal or audit.
6	Peoples Democratic Republic of Yemen Highway Engineering (Cr. S-12)	0.56					
7	Costa Rica Highway Studies (Cr. 872)	1.4	1.9	2.1			Not applicable.
	Other						
8	Nigeria Transport Rehabilitation (Ln. 694)	25.0	33.0	35.7			Not estimated at appraisal or audit.
	AGRICULTURE						
9	Bangladesh Irrigation Engineering (Cr. S-14)	3.15	5.3	5.6			Not estimated at appraisal or audit.
10	Pakistan Flood Rehabilitation Program (Cr. 466)	35.0	225.5	225.5			Not estimated at appraisal or audit.
	EDUCATION						
11	Tanzania II Education (Cr. 149)	5.0	7.2	7.2		satisfactory	
12	Senegal I Education (Cr. 253)	2.0	2.5	3.6		satisfactory	
13	Tunisia II Education (Cr. 94)	13.0	19.8	20.8		satisfactory	
14	Chile II Education (Ln. 666)	1.5	3.0	2.0		satisfactory	
15	Dominican Republic I Education (Cr. 235)	4.0	8.2	9.6		satisfactory	
	DEVELOPMENT FINANCE COMPANIES						
16	Ethiopia AIDB (Cr. 304)	11.0	20.5	21.0		satisfactory	
17	Mauritius DBM I (Cr. 313)	3.5	21.6	25.0		satisfactory	
18	Liberia LDBI I (Ln. 839)	1.0	n.a.	3.1		uncertain	
19.	Pakistan PICIC VIII (Ln. 590)	40.0	36.0 b/	46.6 b/		satisfactory	
20	Iran ICB (Ln. 1002)	25.0	292.5	313.5		satisfactory	
21	Morocco CIH (Ln. 704)	10.0	58.6 c/	67.7 c/		satisfactory	
22	Trinidad and Tobago TTDFC I (Ln. 819)	2.0	17.4	19.8		satisfactory	
23	Trinidad and Tobago TTDFC II (Ln. 1056)	5.0	11.5	n.a.		satisfactory	
	INDUSTRY						
24	India Iron and Steel Company/Coal Mining Project (Ln. 307)	19.5	40.2	59.1			

a/ Projects excluded: program loans (7); technical assistance credits (3).

b/ Projects in West Pakistan only.

c/ Sub-projects above the free limit only.

Table 5

INDICATORS OF FINANCIAL PERFORMANCE OF REVENUE-EARNING ENTITIES

	Projects by Sector	Current Earnings Performance During Project Construction and Early Operation a/		Self-Financing of Investment During Construction Compared With Expectations	Comments
		Compared with Previous Years	Compared with Loan Covenant		
	PUBLIC UTILITIES				
	Power				
1	Malawi II Power (Cr. 426)	Similar	Similar	Lower	Actual self-financing ratio was 21% compared with 25% estimated at appraisal; mainly due to cost overrun and lack of timely and adequate tariff increases.
2	Thailand South Bangkok Thermal Unit (Ln. 790)	Higher	Similar	Higher	Self financing of investment was higher than 30% agreed in loan documents.
3	Cyprus IV Power (Ln. 831)	Lower	Lower	Lower	Financial deterioration due to inability to collect revenues (about 20% of actual billings) from customers in Turkish-Cypriot zone.
4	Brazil Jaguara Power (Ln. 442)	Higher	Higher	Lower	Unusual funds flow system in Brazilian power sector resulted in lower than expected self-financing.
5	Brazil Volta Grande Hydropower (Ln. 566)	Higher	Higher	Lower	Unusual funds flow system in Brazilian power sector resulted in lower than expected self-financing.
6	Honduras IV Power (Ln. 692/Cr. 201)	Lower	Lower	Lower	Lower financial performance due to lower than projected energy sales and inadequate tariff increases.
7	Uruguay IV Power (Ln. 712)	Lower b/	Lower	Lower	Lower sales, higher operating costs, tariffs not increased in line with expectations.
	Telecommunications				
8	Malaysia II Telecommunications (Ln. 753)	Higher	Higher	Higher	
9	Yugoslavia I Telecommunications (Ln. 657)	Similar	Similar	Lower	Self financing ratio was lower because of substantial increase in fund requirements.
	Water Supply and Sewerage				
10	Singapore II Sewerage (Ln. 918)	Higher	n.a.	Higher	Investment during the period was much higher than had been envisaged. Self financing, compared with expectations, was higher in absolute terms but lower as a proportion of total investment.
11	Tunisia I Water Supply (Ln. 581)	n.a.	Similar	Lower	Cost overrun and infrequent tariff increases were causes for lower self financing.
12	Tunisia II Water Supply (Cr. 209)	Higher	Similar	Higher	
13	Colombia I Bogota Water Supply (Ln. 536)	Lower	Lower	Lower	Lower performance due to inadequate tariff increases and lower than projected volume sales.
14	Nicaragua II Managua Water Supply (Ln. 808)	Lower	Lower	Lower	Self financing of the investment was 32% compared with 42% at appraisal, which was excellent considering post-earthquake circumstances.
15	Nicaragua Water Supply - Earthquake Reconstruction (Cr. 389)	Lower	Higher	Similar	
	TRANSPORTATION				
	Railways				
16	Mali II Railway (Cr. 384)	Lower	Lower	Lower	
17	China IV Railway (Ln. 750)	Higher	Higher	Higher	
18	Tunisia I Railway (Ln. 606/Cr. 150)	Lower	Lower	Lower	Financial return target of 7% overoptimistic. Traffic did not increase as expected; no tariff increase.
	Ports				
19	Madagascar Tamatave Port (Cr. 200 & 200A)	Lower	Lower	Lower	Financing situation worsened during project period; currently appears to be improving.
20	Thailand III Bangkok Port (Ln. 702)	Similar	Higher	Higher	
21	Cyprus Port of Limassol (Ln. 628)	Higher	Similar	Higher	
22	Iceland Fishing Harbors Rehab. (Ln. 941)	n.a.	No targets	Higher	
	Other				
23	Iran Tehran Urban Transport (Ln. 952)	Lower	Lower	Lower	Revenues and number of passengers remained constant as against projected growth.
	INDUSTRY				
24	Indonesia Pusri II Fertilizer (Cr. 193)	Higher	Higher	Higher	Larger natural gas capacity put up; higher fertilizer production achieved.
25	India Iron and Steel Company/Coal Mining Project (Ln. 307)	Lower	Lower	Lower	Implementation of project strained company's capabilities, which affected other operations.
26	Yugoslavia Kikinda Iron Foundry Expansion (Ln. 947)	Lower	Lower	Lower	Price control on output.
27	Yugoslavia IMT Expansion (Ln. 965)	Higher	Higher	Higher	Favorable impact of inflationary trends.

a/ Rate of return on average net fixed assets.

b/ Accounts for earning performance during previous years somewhat unreliable.

Table 6

INSTITUTION BUILDING: CASES WHERE BANK MADE SPECIAL EFFORTS TO STRENGTHEN BORROWER'S ADMINISTRATIVE AND TECHNICAL CAPABILITIES

	Projects by Sector	Focus of Effort	Means	Achievement of Objectives	Comments
	PUBLIC UTILITIES				
	Power				
1	Honduras IV Power (Ln. 692/Cr. 201)	Management; creation of new department	Training	Substantial	Improvement in overall management, but in accounting and administration it has been slower. Creation of a new department for Rural Electrification found unnecessary.
2	Uruguay IV Power (Ln. 712)	Management; financial reorganization; tariff structure, long-term system planning	Legislation, consultants, supervision	Partial	Improved basis for long-term planning; financial/accounting reorganization now beginning to show benefits; Bank efforts hampered by economic and political problems.
	Telecommunications				
3	Malaysia II Telecommunications (Ln. 753)	Development of planning organization and coordination with long-term plan of expansion	Covenants, supervision	Substantial	Areas still requiring improvement are financial and physical planning and accounting.
4	Yugoslavia I Telecommunications (Ln. 657)	Development of commercial accounting and information system	Internal action	Partial	Management does not make use of the commercial accounting system for its decision making.
	Water Supply and Sewerage				
5	Singapore II Sewerage (Ln. 918)	Management	Training program	Substantial	These improvements were initiated under the earlier project (Ln. 547) and completed under this project.
6	Tunisia I Water Supply (Ln. 581)	Improvement of SONEDE (project unit) organization and operations	Financing of management and engineering consultants and adviaors for implementation and supervision of National Water Supply Program	Substantial	Bank and management consultants considered important positive influence in the organizational development of SONEDE.
7	Tunisia II Water Supply (Cr. 209)				
8	Colombia I Bogota Water Supply (Ln. 536)	Organizational structure; training; long range planning	Consultants, internal action	Substantial	Substantial improvements in several areas despite high turnover in key staff.
9	Nicaragua II Managua Water Supply (Ln. 808)	Improvement in operations and organization	Financing of management cost	Substantial	
	TRANSPORTATION				
	Highways				
10	Kenya III Highway (Ln. 639)	Partial reorganization of Ministry of Works	Establishing highway center; manuals	Substantial	Objectives were low.
11	Zaire I Highway (Cr. 152)	Reorganization of Roads Department	Technical assistance and staff training	Partial	Part of consultant's institutional proposals implemented under subsequent project.
12	Chad Highway Maintenance (Cr. 125)	Strengthen road maintenance	Enlarge physical plant; training personnel	Partial	Shortages of personnel, local funds, equipment.
13	Congo Highway Maintenance (Cr. 274)	Improve maintenance system	Reorganize Public Works Department; personnel training	Partial	Reorganization implemented but budgetary difficulties prevented full use of technical resources.
14	Mali I Highway (Cr. 197)	Reorganization of Public Works Department	Technical assistance and staff training	Substantial	
15	Mauritania Highway Maintenance (Cr. 159)	Strengthen road improvement and maintenance	Enlarge physical plant; training; improved maintenance techniques	Partial	Lack of local funds; scope too large in terms of available personnel and fund shortages; lack of training; diversion of project equipment to other activities.
16	Sierra Leone I Highway (Ln. 710/Cr. 218)	Improve maintenance organization	Technical assistance; maintenance programs; training	Partial	Programming only partially completed; training reorganization successful.
17	Indonesia I Highway (Cr. 154)	Strengthen highway administration	Training by consultants	Substantial	
18	Nepal I Highway (Cr. 223)	Strengthen Roads Department	Consultants; technical assistance	Negligible	Insufficient appreciation of the need on the part of the borrower.
19	Peoples Democratic Republic of Yemen I Highway (Cr. 240)	Improvement of Public Works Department with emphasis on road maintenance and workshop operations	Reorganize department; develop new programs; provide personnel training	Negligible	Shortage of personnel.
20	Peoples Democratic Republic of Yemen Highway Engineering (Cr. S-12)				
21	Chile II Highway Maintenance (Ln. 558 & 558A)	Strengthen road maintenance	Enlarge physical plant; training	Negligible	Political and economic conditions precluded full achievement of objectives.
22	Colombia V Highway (Ln. 550)	Reorganization	Consultants	Negligible	Lack of borrower's commitment.
23	Paraguay II Roads (Ln. 652)	Strengthen road maintenance; road agency	Enlarge physical plant; training; recruitment	Substantial	Autonomous road agency responsible for all functions resulted from the project.
	Railways				
24	Mali II Railway (Cr. 384)	Improve management and financial performance	Consultants' study and services for reorganization	Substantial	
25	China IV Railway (Ln. 750)	Increase capacity; improve management	Consultants' services for transport policy; overseas training	Partial	Inadequate communication between borrower and consultants.

Table 6

INSTITUTION BUILDING: CASES WHERE BANK MADE SPECIAL EFFORTS TO STRENGTHEN BORROWER'S ADMINISTRATIVE AND TECHNICAL CAPABILITIES

	Projects by Sector	Focus of Effort	Means	Achievement of Objectives	Comments
26	Tunisia I Railway (Ln. 606/Cr. 150)	Strengthen and modernize railway agency	Tariffs; planning; training; introduction of management information systems	Partial	
	Ports				
27	Madagascar Tamatave Port (Cr. 200 & 200A)	Establish new port authority for Tamatave	Technical assistance; expatriates in management positions	Negligible	Few improvements during project period, although situation appears to be improving.
28	Cyprus Port of Limassol (Ln. 628)	Creation of Cyprus Ports Authority	Consultants for administration, operations, accounting	-	Not yet fully implemented; too early to judge results.
	Other				
29	Iran Tehran Urban Transport (Ln. 952)	Improve management of urban transport	Setting up of Tehran Development Council	Negligible	Lack of borrower's commitment.
	AGRICULTURE				
30	Benin Hinvi Agricultural Project (Cr. 144)	Foster oil palm development	Producer cooperatives	Partial	Further development will depend on support provided by Government.
31	Benin Zou-Borgou Cotton (Cr. 307)	To build up national cotton development agency	Cooperation with expatriate agency	Negligible	Disputes with expatriate project management organization led to premature termination of their contract.
32	Cameroon Semry Rice (Cr. 302)	Cameroonization of project management	Revisions of salary scales	Partial	Adequately trained local counterpart staff could not be found.
33	Ivory Coast First Cocoa (Ln. 686)	Strengthen extension services; improvement in farm credit system; Ivorization of staff	SATMACI and IFCC	Partial	Ivorian counterparts for expatriate staff could not always be found.
34	Niger Agricultural Credit (Cr. 207)	Extension service	Training	Partial	Poor performance & low salaries of extension agents; lack of coordination.
35	Nigeria Western State Cocoa (Ln. 764)	Training of project field staff	Establishment and staffing of project development unit	Substantial	The "esprit de corps" was excellent which contributed immensely to project success.
36	Senegal Casamance Rice (Cr. 252)	Promotion of sound cooperative system	Creation of project management unit	Substantial	Continuity and experience of staff; cooperation between project manager and consultants.
37	Sierra Leone Integrated Agricultural Development (Cr. 323)	Creation of autonomous project authority	Foreign experts	Negligible	Project conceived and implemented by expatriates; when they left weakness of project authority became apparent.
38	Indonesia First Irrigation Rehabilitation (Cr. 127)	Establishment of Irrigation Project Agency	Through project design	Substantial	Establishment of executing agency contributed to management efficiency.
39	Indonesia First North Sumatra Estates (Cr. 155)	Basic organizational and management improvements	Expatriate resident advisory team; creation of independent Board of Directors	Negligible	Failure to find best formula to reduce managerial constraint; political interference.
40	Indonesia Second North Sumatra Estates (Cr. 194)	Estate management	Expatriate resident advisory team; Board of Directors	Negligible	Quality of consulting firms mediocre; inefficiency of Board due to political setting.
41	Korea Agricultural Credit (Cr. 335)	Strengthening of and creation of technical unit	Technical advisor, management consultant study, training	Substantial	Good performance of technical unit; management consultant study found not useful.
42	Korea First Integrated Dairy Beef Development (Cr. 234)	Introduction of modern technology to livestock production	Recruitment of livestock technicians	Partial	Good technical assistance but not always timely; greater emphasis needed in preparation and implementation of farm plans.
43	Malaysia Jengka Forestry (Ln. 673)	Improvement of timber operations and management	Supervision experts	Negligible	Conflict between experts and locals.
44	Malaysia Jengka Triangle I (Ln. 533)	Upgrading project unit's financial and management methods	Creation of separate management section	Substantial	Bank still insisted on upgrading FELDA's financial and management methods.
45	Philippines First Livestock (Ln. 823)	Development Bank of the Philippines	Assistance by consultants	Substantial	Project introduced medium and long term financing of livestock for small farmers.
46	Pakistan Third Credit for the Agric. Development Bank (Cr. 157)	Strengthen ADBP's financial position and strengthen administration	Establishment of adequate financial reserves; higher staff salaries and benefits; technical assistance unit	Negligible	Lack of government commitment to project; management difficulties resulting from creation of technical assistance unit.
47	Afghanistan First Agricultural Credit (Cr. 202)	Strengthening AgBank and MinAgric	Technical assistance and staff training	Substantial for AgBank Negligible for MinAgric	AgBank evolved from poor organization into relatively independent, revenue generating agency.
48	Iran Ghazvin Development (Ln. 517)	Strengthening GDA's financial autonomy	Preparation of new charter subsequently made into law	Negligible	Borrower's inadequate financial support of the project agencies.
49	Dominican Republic Livestock Development (Cr. 245)	Livestock Project Division of Central Bank	Training, expatriate staff, supervision	Substantial	Livestock Project Division became efficient organization.
50	Honduras First Livestock (Cr. 179)	Establishing project unit	Employment of expatriate Project Director	Substantial	Project implementation and execution were satisfactory.

Table 6

INSTITUTION BUILDING: CASES WHERE BANK MADE SPECIAL EFFORTS TO STRENGTHEN BORROWER'S ADMINISTRATIVE AND TECHNICAL CAPABILITIES

	Projects by Sector	Focus of Effort	Means	Achievement of Objectives	Comments
51	Jamaica First Agricultural Credit (Ln. 719)	Jamaica Development Bank	Employment of two expatriate experts	Partial	Proper institutional development; training focused exclusively on technical aspects of agricultural development.
52	Paraguay Third Livestock Credit (Cr. 156/ Ln. 620)	Reorganization of project unit	Creation of new agency of Central Bank	Partial	New institutional arrangements led to administrative problems.
	EDUCATION				
53	Tanzania II Education (Cr. 149)	(i) Project management	Establishing a Project Unit	Partial	Relatively weak local involvement in project management.
		(ii) Curriculum development	Technical assistance experts and fellowships	Substantial	Outstanding government support for a more practically oriented curriculum.
54	Senegal I Education (Cr. 253)	(i) Educational planning	Fellowship	Not achieved	Fellowship not taken up.
		(ii) Strengthen organization of technical education	Establish advisory board for technical institute	Substantial	Board meets irregularly.
		(iii) Project management	Establishing project unit	Substantial	
		(iv) Review of merchant marine training program	Technical assistance expert	Substantial	Revised programs implemented with only minor modifications.
55	Tunisia II Education (Cr. 94)	Educational planning	Technical assistance experts; expansion of establishment of planning posts	Partial	Problems of cooperation between experts and Government officials; differences between Bank and Borrower on role of experts.
56	Chile II Education (Ln. 666)	(i) Organization and management of Vocational Training Agency	Providing physical plant for a central Technical Services department (curriculum unit)	Partial	Equipment but not building provided.
		(ii) Project management	Establishing a Project Unit	Substantial	
57	Dominican Republic I Education (Cr. 235)	(i) Project management	Establishing a Project Unit	Substantial	
		(ii) Educational Planning	Technical assistance experts (planning)	Partial	Problems of differences between Bank and UNESCO/borrower on terms of reference.
		(iii) Educational reform	Technical assistance experts (curriculum development)	Partial	Reduced technical assistance and poor timing of team's arrival (arrived before physical facilities ready).
			Fellowships in school management and teaching	Substantial	
	DEVELOPMENT FINANCE COMPANIES				
58	Ethiopia AIDB (Cr. 304)	Improve appraisal capabilities	-	Partial	Objectives expected to be achieved over a number of loans.
59	Mauritius DBM I (Cr. 313)	Organization and management	-	Substantial	
60	Liberia LBDI I (Ln. 839)	Improve appraisal capabilities	-	Partial	
61	Pakistan PICIC VIII (Ln. 590)	Improve appraisal and supervision capabilities	-	Substantial	
62	Iran ICB (Ln. 1002)	Improve appraisal/follow up procedures	-	Partial	No follow-up loan made on country grounds.
63	Morocco CIH (Ln. 704)	Improve appraisal capabilities	-	Partial	Objectives expected to be achieved over a number of loans.
64	Trinidad and Tobago TTDFC I (Ln. 819)	Improve appraisal and supervision procedures	-	Substantial	
65	Trinidad and Tobago TTDFC II (Ln. 1056)	Improve appraisal and supervision procedures	-	Substantial	
	INDUSTRY				
66	Indonesia Pusri II Fertilizer (Cr. 193)	Improve financial accounting system	Appointed financial consultants and independent auditors	Substantial	
67	India Iron and Steel Company/Coal Mining Project (Ln. 307)	Organization and management	Appraisal and supervision missions	Negligible	Bank role elaborate but ineffective.
68	Yugoslavia Kikinda Iron Foundry Expansion (Ln. 947)	Improve financial management and procurement	Project preparation, appraisal and supervision	Substantial	Successful long-term impact on industry.
69	Yugoslavia IMT Expansion (Ln. 965)	Improve financial management and procurement	Project preparation, appraisal and supervision	Substantial	Successful long-term impact on industry.

Table 7

SUMMARY OF PROJECT RESULTS

	Projects by Sector	Date of Loan/Credit Agreement	Loan/Credit Amount (US$ mlns)	Project Execution (Years) Estimate	Project Execution (Years) Actual	Project Expenditures (US$ mlns) Estimate	Project Expenditures (US$ mlns) Actual	Economic Returns a/ % Audit	Economic Returns a/ % Estimate	Bank Contributions to Institution Creation	Bank Contributions to Institution Strengthening	Bank Contributions to Wider Sector Effort	Remarks
PUBLIC UTILITIES													
	Power												
1	Malawi II Power (Cr. 426)	9/73	7.5	3.7	3.8	14.3	18.2		14				
2	Thailand South Bangkok Thermal Unit (Ln. 790)	11/71	27.0	4.2	4.1	43.1	43.0		12				
3	Cyprus IV Power (Ln. 831)	6/72	9.0	3.5	5.5	11.9	12.4		9				
4	Brazil Jaguara Power (Ln. 442)	3/66	49.0	4.9	5.3	83.2	106.9		23				
5	Brazil Volta Grande Hydropower (Ln. 566)	10/68	26.6	5.3	6.8	95.3	218.9		10				
6	Honduras IV Power (Ln. 692/Cr. 201)	6/70	11.0	3.3	5.1	14.8	16.7		11		X		
7	Uruguay IV Power (Ln. 712)	1/71	18.0	2.9	5.8	22.6	38.9		14		X		Bank used consultants' management study prior to appraisal, and power sector study during implementation. Possible follow on project.
	Telecommunications												
8	Malaysia II Telecommunications (Ln. 753)	6/71	18.7	4.5	4.5	94.0	170.4		24		X	X	Development of local industries; improvement in regional balance of telecommunications services.
9	Yugoslavia I Telecommunications (Ln. 657)	2/70	40.0	4.8	8.1	95.0	139.2		34			X	Improved sector's tariff structure; introduction of procurement by competitive bidding resulted in lower prices than would have resulted otherwise.
	Water Supply and Sewerage												
10	Singapore II Sewerage (Ln. 918)	7/73	12.0	5.0	4.2	29.5	51.0		n.a.		X		
11	Tunisia I Water Supply (Ln. 581)	1/69	15.0	4.1	8.0	32.8	42.8		10		X	X	Bank assisted through providing financing for implementing National Water Supply Program as well as water project in rural areas.
12	Tunisia II Water Supply (Cr. 209)	6/70	10.5	2.7	6.6	19.2	25.2		10		X	X	
13	Colombia I Bogota Water Supply (Ln. 536)	6/68	14.0	3.0	5.0	35.3	47.5		10		X		
14	Nicaragua II Managua Water Supply (Ln. 808)	3/72	6.9	3.7	5.5	9.97	8.84		11		X		
15	Nicaragua Water Supply - Earthquake Reconstruction (Cr. 389)	6/73	2.5	2.6	4.8	3.0	2.9		40				
TRANSPORTATION													
	Highways												
16	Kenya III Highway (Ln. 639)	8/69	23.5	4.3	5.9	36.34	54.40		9	X	X		
17	Madagascar III Highway (Ln. 876/Cr. 351 & 351A)	1/73	35.6	4.5	6.0	37.03	58.6		14				
18	Zaire I Highway (Cr. 152)	6/69	6.0	3.1	5.2	9.5	9.7		n.a.	X			Bank helped create Office of Roads - autonomous government agency.
19	Chad Highway Maintenance (Cr. 125)	8/68	4.1	5.4	5.4	4.8	5.1		21		X		
20	Congo Highway Maintenance (Cr. 274)	12/71	4.0	4.2	4.2	4.2	4.1		negative		X		
21	Mali I Highway (Cr. 197)	6/70	7.7	4.0	4.5	9.3	9.4		12		X		
22	Mauritania Highway Maintenance (Cr. 159)	6/69	3.0	4.2	5.8	3.8	4.1		15		X		
23	Sierra Leone I Highway (Ln. 710/Cr. 218)	10/70	7.2	3.6	5.2	11.4	13.8		25	X	X		Bank helped establish maintenance division.
24	Indonesia I Highway (Cr. 154)	6/69	28.0	4.5	6.5	46.7	50.0		27-<100		X		
25	Nepal I Highway (Cr. 223)	12/70	2.5	4.1	6.6	3.4	4.6		29		X		
26	Peoples Democratic Republic of Yemen I Highway (Cr. 240)	4/71	1.60	2.8	4.11	3.38	3.22		n.a.		X		
27	Peoples Democratic Republic of Yemen Highway Engineering (Cr. S-12)	11/72	0.56	1.1	3.4						X		
28	Chile II Highway Maintenance (Ln. 558 & 558A)	9/68	13.2	3.3	8.1	19.7	16.5		15				

Table 7

SUMMARY OF PROJECT RESULTS

	Projects by Sector	Date of Loan/Credit Agreement	Loan/Credit Amount (US$ mlns)	Project Execution (Years) Estimate	Actual	Project Expenditures (US$ mlns) Estimate	Actual	Economic Returns a Audit Estimate	Bank Contributions to Institution Creation	Strengthening	Wider Sector Effort	Remarks
29	Colombia V Highway (Ln. 550)	7/68	17.2	4.0	6.8	34.3	42.3	9-25				
30	Costa Rica II Highway (Cr. 664)	4/70	15.7	4.6	5.8	21.6	23.5	16				
31	Costa Rica Highway Studies (Cr. 872)	12/72	1.4	2.5	2.5	1.9	2.1					
32	Paraguay II Roads (Ln. 652)	1/70	6.0	4.0	6.0	6.3	6.4	72		X		
33	Venezuela III Highway (Ln. 616)	6/69	20.0	4.0	8.0	43.2	63.7	25				
	Railways											
34	Mali II Railway (Cr. 384)	5/73	6.7	4.1	4.1	9.3	13.9	15		X		
35	China IV Railway (Ln. 750)	6/71	15.0	3.0	7.2	41.8	n.a.	14-90		X		
36	Tunisia I Railway (Ln. 606/Cr. 150)	6/69	17.0	3.6	7.1	23.3	35.4	10		X		
	Ports											
37	Madagascar Tamatave Port (Cr. 200 & 200A)	6/70	11.4	4.0	8.3	16.1	18.5	3.5				
38	Thailand III Bangkok Port (Ln. 702)	8/70	12.5	3.3	5.8	21.0	26.5	10-15				
39	Cyprus Port of Limassol (Ln. 628)	6/69	11.5	4.2	6.5	18.6	21.1	40	X			
40	Iceland Fishing Harbors Rehabilitation (Ln. 941)	10/73	7.0	2.4	2.9	11.2	13.6	20				
	Other											
41	Nigeria Transport Rehabilitation (Ln. 694)	6/70	25.0	2.0	6.4	33.0	35.7	n.a.				6.4 years project execution time based on completion of last item (railways).
42	Iran Tehran Urban Transport (Ln. 952)	12/73	42.0	3.0	3.5	65.9	n.a.	n.a.	X			
43	Guyana II Sea Defense (Ln. 765)	6/71	5.4	2.5	6.6	7.2	11.7	31				
AGRICULTURE												
44	Benin Hinvi Agricultural Project (Cr. 144)	3/69	5.2	8.3	6.9	9.59	9.10	5		X		Bank assisted main implementing agency in overcoming crisis.
45	Benin Zou-Borgou Cotton Project (Cr. 307)	5/72	6.1	3.4	5.6	12.67	12.27	negative				Follow on project is technical assistance to strengthen implementing institutions.
46	Cameroon Semry Rice (Cr. 302)	4/72	3.7	3.2	3.3	8.0	9.3	23				Second project provides expatriate assistance to complete institution building efforts.
47	Ivory Coast First Cocoa (Ln. 686)	6/70	7.5	7.0	4.6	13.6	10.4	47				
48	Niger Agricultural Credit (Cr. 207)	6/70	0.584	4.0	5.10	0.871	n.a.	negative		X		Only moderately successful.
49	Nigeria Western State Cocoa (Ln. 764)	6/71	7.2	5.3	5.3	11.7	18.1	26				
50	Senegal Casamance Rice (Cr. 252)	6/71	3.7	5.6	5.6	4.9	5.4	22.7	X		X	Need for closer monitoring and supervision during implementation.
51	Sierra Leone Integrated Agricultural Development (Cr. 323)	6/72	4.3	3.6	3.6	5.6	5.9	20				Success in implementing but failure in institution building.
52	Indonesia First Irrigation Rehabilitation (Cr. 127)	9/68	5.0	5.7	8.6	8.8	54.0	30 (overall)	X			Project trained personnel capable of administering project execution.
53	Indonesia First North Sumatra Estates (Cr. 155)	6/69	16.0	5.0	7.0	32.1	57.8	33		X		
54	Indonesia Second North Sumatra Estates (Cr. 194)	6/70	17.0	5.0	7.6	31.6	73.85	17-53		X		Main Bank contribution was discipline in technical and financial operations.
55	Korea Agricultural Credit (Cr. 335)	9/72	10.5	4.0	3.8	18.2	18.7	38		X	X	Diffusion of technologies and increase in technical efficiency.
56	Korea First Integrated Dairy Beef Development (Cr. 234)	2/71	7.0	5.11	5.11	12.7	14.8	negative		X	X	Despite negative economic rate of return farmers had good financial returns, as a result of favorably administered prices.

Table 7

SUMMARY OF PROJECT RESULTS

	Projects by Sector	Date of Loan/Credit Agreement	Loan/Credit Amount (US$ mlns)	Project Execution (Years) Estimate	Actual	Project Expenditures (US$ mlns) Estimate	Actual	Economic Returns a/ % Audit Estimate	Bank Contributions to Institution Creation	Strengthening	Wider Sector Effort	Remarks
57	Malaysia Jengka Forestry (Ln. 673)	5/70	8.5	n.a.	n.a.	12.4	n.a.	negative			X	Introduction of modern logging system and permanent forest management.
58	Malaysia Jengka Triangle I (Ln. 533)	4/68	14.0	6.8	7.5	29.1	34.5	16		X		First of three Bank supported projects; strikingly successful.
59	Papua New Guinea (Second) Agricultural Development (Part) (Cr. 175-Part)	1/70	5.5	4.5	6.5	8.8	8.5	21				Advancement of independence day jeopardized project activities based on expatriate farmers.
60	Philippines First Livestock (Ln. 823)	5/72	7.5	6.1	4.4	15.5	15.5	24		X		Institutional goal largely fulfilled.
61	Bangladesh Irrigation Engineering (Cr. S-14)	4/73	3.15	1.8	2.7	5.3	5.6	-				Preparation exercise.
62	Pakistan Flood Rehabilitation Program Credit (Cr. 466)	3/74	35.0	0.4	0.4	222.5	222.5	n.a.				Project targets by and large achieved in timely fashion.
63	Pakistan Third Credit for the Agric. Development Bank (Cr. 157)	6/69	30.0	2.6	6.6	48.0	50.0	40		X		Institution building failed for social reasons.
64	Afghanistan First Agricultural Credit (Cr. 202)	6/70	5.0	4.6	5.6	7.2	7.2	25		X		UNDP and IDA instrumental in building up AgBank.
65	Iran Ghazvin Development (Ln. 517)	10/67	22.0	n.a.	6.2	50.9	32.5	0				Protection of land reform beneficiaries from undesirable social changes associated with rapid industrialization.
66	Colombia Caqueta Land Colonization (Ln. 739)	5/71	8.1	3.5	5.4	21.6	20.3	13				This project was one of the first Bank financed integrated development projects trying to cope with regional problems.
67	Dominican Republic Livestock Dev. (Cr. 245)	5/71	5.0	5.1	5.1	9.0	10.1	13	X			Production increased considerably despite relatively high pre-project levels.
68	Honduras First Livestock Development (Cr. 179)	3/70	2.8	5.9	5.5	5.2	4.8	13	X			First livestock project; it set the basis for wider follow-on projects.
69	Jamaica First Agricultural Credit (Ln. 719)	12/70	3.6	3.6	5.6	8.0	7.3	10	X			Economic and political developments made project implementation difficult.
70	Paraguay Third Livestock Credit (Cr. 156/Ln. 620)	6/69	8.6	5.0	6.0	8.6	8.6	11		X		New institutional arrangements led to administrative problems.
71	Peru San Lorenzo Irrigation and Land Settlement (Ln. 418)	6/65	11.0	2.6	11.0	30.4	61.5	17.5		X		Socio-political changes hampered management.
EDUCATION												
72	Tanzania II Education (Cr. 149)	5/69	5.0	4.3	6.5	7.2	7.2	satisfactory	X	X	X	More practical bias to secondary education.
73	Senegal I Education (Cr. 253)	6/71	2.0	3.7	5.3	2.5	3.6	satisfactory	X	X		Higher technical education improved.
74	Tunisia II Education (Cr. 94)	9/66	13.0	3.1	6.1	19.8	20.8	satisfactory		X	X	Redundant agric. centers deleted.
75	Chile II Education (Ln. 666)	4/70	1.5	3.2	5.9	3.0	2.0	satisfactory	X	X		Project assisted key vocational training institute.
76	Dominican Republic I Education (Cr. 235)	2/71	4.0	3.8	6.6	8.2	9.6	satisfactory		X	X	Educational reform has lagged behind the provision of project facilities.
DEVELOPMENT FINANCE COMPANIES												
77	Ethiopia AIDB (Cr. 304)	5/72	11.0	n.a.	-	20.5	21.0	satisfactory	X			
78	Mauritius DBM I (Cr. 313)	6/72	3.5	n.a.	-	21.6	25.0	satisfactory		X	X	
79	Liberia LBDI I (Ln. 839)	6/72	1.0	n.a.	-	n.a.	3.1	uncertain		X	X	Inadequacy of promotion strategy relied upon by 1 bank.
80	Pakistan PICIC VIII (Ln. 590)	3/69	40.0	n.a.	-	36.0 b/	46.6 b/	uncertain		X		
81	Iran ICB (Ln. 1002)	6/74	25.0	n.a.	-	292.5	313.5	satisfactory		X		
82	Morocco CIH (Ln. 704)	8/70	10.0	n.a.	-	58.6	67.7	satisfactory		X	X	Negligible influence on tourism policies.

Table 7

SUMMARY OF PROJECT RESULTS

	Projects by Sector	Date of Loan/Credit Agreement	Loan/Credit Amount (US$ mlns)	Project Execution (Years) Estimate	Project Execution (Years) Actual	Project Expenditures (US$ mlns) Estimate	Project Expenditures (US$ mlns) Actual	Economic Returns a/ % Audit Estimate	Bank Contributions to Institution Creation	Bank Contributions to Institution Strengthening	Bank Contributions to Wider Sector Effort	Remarks
83	Trinidad and Tobago TTDFC I (Ln. 819)	5/72	2.0	n.a.	-	17.4	19.8	satisfactory	X			
84	Trinidad and Tobago TTDFC II (Ln. 1056)	12/74	5.0	n.a.	-	11.5	n.a.	satisfactory		X		
	INDUSTRY											
85	Indonesia Pusri II Fertilizer Project (Cr. 193)	6/70	30.0	3.3	4.4	90.8	120.3	satisfactory		X		
86	India Iron and Steel Co./Coal Mining Project (Ln. 307)	12/61	19.5	5.0	13.8	40.2	59.1	poor		X	X	
87	Yugoslavia Kikinda Iron Foundry Expansion (Ln. 947)	11/73	14.5	3.3	3.2	35.1	40.3	satisfactory		X	X	
88	Yugoslavia IMT Expansion (Ln. 965)	2/74	18.5	1.3	2.2	79.7	83.9	satisfactory		X		
	PROGRAM LOANS											
89	Zambia II Program Loan (Ln. 1322)	9/76	30.0	n.a.	-	n.a.	-	n.a.				
90	Korea II Program Loan (Ln. 1219)	3/76	75.0	n.a.	-	n.a.	-	n.a.				
91	Bangladesh I Imports Program Credit (Cr. 345)	11/72	50.0	n.a.	-	n.a.	-	n.a.				
92	Bangladesh II Imports Program Credit (Cr. 458)	2/74	50.0	n.a.	-	n.a.	-	n.a.				
93	Bangladesh III Imports Program Credit (Cr. 515 & 515A)	10/74	75.0	n.a.	-	n.a.	-	n.a.				
94	India IX Industrial Imports Program Credit (Cr. 474)	5/74	150.0	n.a.	-	n.a.	-	n.a.				
95	Pakistan Program Credit (Cr. 629)	6/76	50.0	n.a.	-	n.a.	-	n.a.				
	TECHNICAL ASSISTANCE											
96	Indonesia I Technical Assistance (Cr. 135)	12/68	2.0	n.a.	-	n.a.	-	n.a.				Little evidence available on the effectiveness of advisory services.
97	Indonesia II Technical Assistance (Cr. 216)	9/70	4.0	n.a.	-	n.a.	-	n.a.				
98	Indonesia III Technical Assistance (Cr. 275)	12/71	4.0	n.a.	--	n.a.	-	n.a.				

a/ Financial returns are used as proxy for economic returns in some cases.

b/ Projects in West Pakistan only.