PDRY - chart (translated)

THE WORLD BANK INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE July 18, 1985

TO Mr. Roberto Fernandes, Division Chief, EMI1B

FROM S. Rangachar, Economist, EMI1B

EXTENSION 32496

SUBJECT PDRY: "Human Resources: Development, Issues and Prospects" Report Discussion - Back-to-Office Report

1. According to my terms of reference dated June 14, I visited the People's Democratic Republic of Yemen along with Mr. Zachariah, Senior Demographer to discuss the above mentioned report. The review meetings took place in the Ministries of Planning and Labor and in the Central Statistical Organization (CSO). The Ministry of Education had passed on its comments to the Ministry of Planning.

2. At the Ministry of Planning, Mr. Abdullah Abaddan and Dr. Jaffar Hammed (Deputy Ministers) informed us that the Government attaches major importance to manpower planning in PDRY and that the report provides an excellent opportunity for reviewing manpower issues. This was followed by detailed discussions of the analysis presented in the report, the data base used, and the recommendations made by the Bank. After these discussions, Mr. Abaddan informed us that the detailed comments from different Government agencies would be consolidated and submitted to the Bank in September.

3. At the Ministry of Labor and the CSO, the mission met with the Deputy Minister and Chairman respectively. They both expressed reservations about the population and employment figures used in the report and some of the conclusions reached on the basis of these data. They suggested that these figures be changed before the report is distributed to the Board of Directors of the Bank. However, they were unable to provide the mission with alternative data and estimates and asked for more time. It was agreed that specific comments would be sent to us through the Ministry of Planning by the first week of September.

4. The situation regarding the demographic data has not changed much since our last visit to PDRY in October 1984. An apparent improvement is that under its new chairman the CSO has become more dynamic and effective. The tabulation of the 1983 household survey has been completed and is now awaiting Cabinet approval for its release. We have impressed upon Mr. Othman Abdul Gabbar (Chairman, CSO) and Dr. Jaffar Hammed (Deputy Minister of Planning) the importance of these data for the manpower report. They promised to release the data to us as soon as possible.

5. The mission was provided with the opportunity to respond to some of the queries and comments on such issues as: the size and rate of growth of the population, migration pattern, employment projection methodology and the relevance of the report's recommendations to the third Five-Year Plan (1986-90). It was agreed that any comments and information from the household survey would be incorporated in the report, and that its conclusions and recommendations would be modified accordingly before it is distributed to the Bank's Board of Directors.

Investment Review

6. During my stay in Aden I had the opportunity to discuss with the Ministry of Planning the scope and coverage of the forthcoming CEM mission. The Deputy Minister, Dr. Jaffar Hammed, suggested that it would help the Government if the Bank were to undertake an investment review of the forthcoming Five-Year Plan (similar to the one the Bank undertook in 1979). The Government will provide the Bank with the draft plan in Arabic by end October and a Bank mission could visit PDRY in early January 1986. I agreed with him subject to your approval either at the time of the Bank's Annual Meetings or at the time of your visit to PDRY (tentatively scheduled for October 1985).

National Accounts

7. As you may know, at the request of the Government we had prepared terms of reference for a consultant to revise PDRY's National Accounts. Dr. Chalak, a Syrian national accounts expert living in Paris, had initially agreed to accept the assignment but later declined. During the mission, the Chairman of the CSO requested me to contact Dr. Chalak once again and persuade him to undertake this assignment. Accordingly, on my way back to Washington, I stopped over in Paris to talk to Dr. Chalak and he now has agreed to carry out this task in two stages. We have cabled the Government the proposed terms of employment for Dr. Chalak and it is now up to the Government to act.

cc: Messrs./Mdems. Wapenhans, Hasan (EMNVP); Lari, Harrison, Moreau, Grais, Ingram, Kwaku, Denton, Mangosing (EM1); Picciotto, Dewey, Goffin, Pranich, El-Maaroufi, Liebenthal, Prosser, Ramasubbu, Schlechtriem, Sigurdsson, Socknat (EMP); Rajagopalan (PPD); Scott (PPDDR); Gustafsen (IFC); de Azcarate, El-Serafy (CPD); Habte (EDC); North, Denning, Vassiliou, Zachariah (PHN); Abed (IMF); Mission Members; EMENA files.

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Correspondents / Participants
Dr. Jaffar Hamed Mohamad and Abdulrahman Mohamad Tarmoom

Subject / Title
An Evaluation Study of the Impact of Women in the WADI Hadramawt Agricultural Development Project (Credit No. 615)

Exception(s)

Additional Comments
Translation not Available.

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May 14, 1985

PDRY--Human Resources

Women in the Labor Force

In 1983 females represented respectively 47 percent and 66 percent of the urban and rural working age population (15-59 years). Due to male migration the sex ratio in rural areas in the 30-34 and 35-39 age groups was particularly unbalanced (5.5 and 4.4 females to every male). Consequently the demand for women's labor is high, although as noted, their participation is undercounted. Steps to ensure that better information about women in the labor force is forthcoming from the 1985 Manpower survey should include definitions of the components of work, training interviewers to recognize women's work, including trained female interviewers, and ensuring that females as well as males are interviewed. In addition to showing where/what women are contributing to the economy, such information would be useful to plan upgrading programs to improve the quality of the labor force, identify gaps which it would be appropriate for women to fill, and in general indicate directions for deployment of trained females which would be more efficient in relation to the investment in their education.

In 1983, 37 percent of girls 7-14 years were enrolled in unity schools and of these 70 percent were in two Govenorates. This has many long term implications for human resource development as primary education,

especially of females, has favorable effects on the health of the next generation, on family nutrition and child care, and on lowering fertility. Education also increases individual productivity. In small farming, substantial production increases have been correlated with farmers' education, even at primary level, and this is significant for PDRY where labor input of females in agriculture is high. The functional relevance of the adult literacy programs should be kept under review. At the higher levels of education alternatives to increase access of females to fellowships for foreign studies include selection of institutions in other Arab countries which would be socially acceptable, and increasing the provisions for short-term post-graduate courses. The impact of fellowships could be further enhanced by bringing expertise to design and run local ad hoc courses in which women would be able to participate, instead of only sending fellows abroad.

Females as well as males are required to do national service. Greater attention should be given to integrating this service with manpower needs as done for instance with special incentives for training for health services.

WORLD BANK / INTERNATIONAL FINANCE CORPORATION

OFFICE MEMORANDUM

DATE: April 29, 1985

TO: See Distribution List Below

FROM: J. Simmons, Acting Division Chief, EM1DA

SUBJECT: PDRY: Yellow Cover Report - Human Resources: Development, Issues and Prospects

1. You are invited to attend a review meeting to discuss the above mentioned report at 3:00 p.m. on Friday, May 10, in Romm H7-144. Mr. Eugenio F. Lari will chair the meeting. Please send your comments to Mr. S. Rangachar, Extension 32496.

Distribution

Messrs./Mdmes. Harrison, Moreau, Denton, Hinayon, King, Kessides, Mangosing, Siri, Wall (EM1); Hasan, Dhanji (EMNVP); Picciotto, Dewey, Goffin, Pranich, Stewart, Liebenthal, Howard, El-Maaroufi, Prosser, Briggs, Sigurdsson, Socknat, Rodriguez, Schlechtriem (EMP); de Azcarate (CPD) (2); Scott (PPDPR); North, Birdsall, Vassiliou, Zachariah (PHN); Dherse (EISVP); Rovani, Hume, Vedavalli (EGY); Golan (IND); Baneth (EPD); Abed (IMF); Regional Information Center; Internal Dcoments (3).

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Report No. 5630-YDR

PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN

SPECIAL ECONOMIC REPORT

HUMAN RESOURCES: DEVELOPMENT, ISSUES AND PROSPECTS

April 29, 1985

Country Programs I
Europe, Middle East & Africa Region

PREFACE

This report is based on the findings of a mission that visited the People's Democratic Republic of Yemen in October/November 1984. The mission consisted of:

S. Rangachar	Chief of Mission
Edwards Anthony	Consultant, Manpower Productivity
Gawi Salem	Consultant, Education
Hinayon Carlos	Economist, Migration
Mangum Garth	Consultant, Education
Scott Gloria	Adviser on Women in Development
Zachariah K.	Demographer

2. The purpose of the mission was (a) to review the present manpower situation in PDRY, ascertaining manpower balances overall and in major sector; (b) to assess existing policies and institutions impacting on PDRY's manpower situation and to evaluate their effectiveness in dealing with present and future manpower issues; and (c) to assist the Government in preparing the manpower dimension for the Third-Five Yean Plan (1986-90).

3. These issues provide the focus for the mission's report (Chapters I, II and VI). In addition, the impact of Yemenis working abroad on the manpower situation is considered, as is their contribution to the country's general economic development (Chapter IV). Educational, technical and vocational training programs and needs are examined in Chapter V. Finally, an attempt is made to evaluate labor productivity and to identify the factors determining it (Chapter III).

4. As PDRY has only limited data on manpower balances and trends, the mission's findings are not always conclusive. But it is hoped that the analysis provided by the report will assist the Government in strengthening its own manpower policies and planning efforts.

5. The mission gratefully acknowledges the support provided by the various PDRY ministries particularly the Ministry of Planning, Ministry of Education and Ministry of Labor and Civil Service.

PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN

SPECIAL ECONOMIC REPORT

HUMAN RESOURCES: DEVELOPMENT, ISSUES AND PROSPECTS

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CURRENCY EQUIVALENTS

Currency Unit:	Yemen Dinar (YD)
	YD 1 = 1,000 Fils
Currency Equivalents:	Before December 1971
	YD 1 = US$2.40
	US$1 = YD 0.417
	December 1971 to February 1973
	YD 1 = US$2.61
	US$1 = YD 0.384
	Since February 1973
	YD 1 = US$2.90
	US$1 = YD 0.345

NOTE: Until 1975 fiscal years were from April 1 to March 31. The 1975 fiscal year ended on December 31, 1975. Since 1976 the fiscal year coincides with the calendar year.

PDRY: COUNTRY DATA

AREA	POPULATION	DENSITY (mid-1980)
333,000 km^2 Agriculture: 92,700 km^2	1.975 million (mid-1983) Rate of Growth: 2.2% (from 1973 to 1983)	5.9 per km^2 21.3 per km^2 of arable land

POPULATION CHARACTERISTICS (1982)		HEALTH (1980)	
Crude Birth Rate (per 1,000)	47.6	Population per physician	7,200.0
Crude Death Rate (per 1,000)	19.0	Population per hospital bed	680.0
ACCESS TO PIPED WATER (1976)		**ACCESS TO ELECTRICITY (1975)**	
% of population - total	24.0	% of population - total	22.0
- urban	30.0	- urban	57.6
- rural	5.0	- rural	1.6
NUTRITION (1982)		**EDUCATION (1982)**	
Caloric intake as % of requirements	86.0	Adult literacy rate (%)	53.0
Per capita protein intake (grams/day)	53.0	Primary school enrollment (%)	64.0

GNP PER CAPITA IN 1983 a/ - $470.0

NATIONAL ACCOUNTS

	1983 US$ mln	1983 %	Annual Rate of Growth (%) (constant prices) 1976/81
GNP at market prices	1029	100	
Gross Domestic Investment	507	49	
Gross National Savings	252	24	
Export of goods and NFS	122	12	
Imports of goods and NFS	884	86	
GDP at factor cost	696	100	4
of which:			
Agriculture & Fisheries	87	12	0
Industry	61	9	10
Construction	116	17	10
Transport	78	11	-3
Government Services	188	27	12

GOVERNMENT FINANCE

(in millions Yemeni Dinars)	1974/75	1975[b/]	1976	1977	1978	1979	1980	1981	1982	1983
Total receipts [c/]	23.6	16.9	32.1	43.4	67.1	68.5	113.9	135.3	148.2	155.0
Current expenditures	27.6	25.6	39.2	47.4	61.3	75.3	94.5	139.5	138.5	156.0
Current deficit	-4.0	-8.7	-7.1	-4.0	5.8	-9.5	19.4	-4.2	9.7	-1.0
Development expenditures	19.6	18.9	39.2	57.3	55.6	44.7	60.9	91.1	120.7	138.0
Overall deficit[d/]	-23.6	-27.6	-46.3	-61.3	-42.7	-41.6	-44.5	-72.6	-117.7	-117.9
Borrowing from Banking System	10.4	12.5	15.6	18.5	14.6	23.1	17.2	23.6	65.1	66.4
External Financing	13.2	15.1	30.7	42.8	28.1	18.5	27.3	49.0	52.6	51.5

MONEY, CREDIT AND PRICES

(Y.D. million, end period)	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Money and quasi-money	55	67	98	140	168	217	286	321	383	447
Bank credit to Government	24	37	62	72	87	110	127	151	216	282
Bank credit to non-Government Sector[e/]	19	24	31	49	59	61	98	106	102	102
Increase in %										
Consumer prices	24	12	4	5	6	10	10	4	10	5

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a/ World Bank Atlas Methodology.

b/ The fiscal year was April - March 31 until March 31, 1975 when it became April 1 - December 31, 1975 and thereafter is on a calendar year basis

c/ Includes current and development revenues from domestic sources and self-financing of public enterprises.

d/ Includes unclassified receipts/expenditures and statistical discrepancy from 1978/83.

e/ Mostly public sector agencies.

BALANCE OF PAYMENTS (US$ million)	1975	1976	1977	1978	1979	1980	1981	1982	Prov. 1983
Exports a/	8	26	24	17	20	38	28	21	23
Imports a/	-178	-268	-365	-386	-411	-650	-763	-730	-752
Trade Deficit	-170	-242	-341	-369	-391	-612	-735	-709	-729
Non-factor Services, net	14	20	10	17	14	14	10	-6	-4
Factor Services, net	18	43	76	111	142	176	199	210	186
Labor Income	(15)	(37)	(69)	(103)	(131)	(146)	(155)	(160)	(160)
Investment Income	(3)	(6)	(7)	(8)	(11)	(30)	(44)	(50)	(26)
Current Account Deficit	-138	-179	-255	-241	-235	-421	-526	-505	-547
Transfers	52	125	174	191	205	284	399	433	362
Official	(10)	(46)	(55)	(36)	(23)	(83)	(144)	(126)	(53)
Private b/	(42)	(79)	(119)	(155)	(182)	(201)	(255)	(307)	(309)
Official M and Lt Capital, net	31	73	70	94	59	76	171	177	160
Gross Disbursements	(32)	(75)	(71)	(95)	(64)	(86)	(175)	(188)	(173)
Repayments	(-1)	(-2)	(-1)	(-1)	(-5)	(-10)	(-4)	(-11)	(-13)
Other Capital (incl. E and O)	42	4	29	45	-8	86	-24	-73	19
Changes in Official Reserves (- = increase)	13	-27	-18	-89	-22	-25	-20	-32	6
Memo Item:									
Gross Official Reserves (end year)	54	81	99	188	210	235	255	287	281

MERCHANDISE EXPORTS	Average 1980-81 US Million	Percent
Fish and Fish Products	12	38
Agricultural Products	13	41
Other	7	21
	32	100

EXTERNAL DEBT (June 30, 1984)	US$ Million
External Public Debt Outstanding	1,715
of which: Disbursed	1,054
Debt Service Payments in 1982	15
Debt Service Ratio (Exports of Goods and Services)	4.5 percent

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a/ Net of re-exports.

b/ Workers' remittances.

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SUMMARY AND CONCLUSIONS

Population

1. The structure and growth of PDRY's population and labor force are determined not only by natural population growth, but also by external migration which has long been important in the resource-poor country.

2. The first national population census, taken in May 1973, estimated a total population of 1.59 million. Preliminary results of a 1983 household survey suggest that population growth during the intervening 10 years has been 2.2% p.a., somewhat slower than previously assumed (2.57% p.a. by the CSO, 2.50% p.a. by the UN, and 2.33% p.a. by the 1984 World Development Report). If the new estimates are correct, the main reasons for slower population growth have probably been migration abroad and overestimation of fertility rates.

3. It is now estimated that PDRY's mid-1983 population was 1.975 million, against the CSO's estimate of 2.055 million. If the fertility rate remains at an assumed 6.3 while net external migration declines from 9,000 to 3,000 a year, as seems possible, population would reach 2.6 million by 1993 and 3.4 million by 2003. Because of changing population structure, a significant acceleration in population growth thus seems likely, from 2.2% p.a. during 1973-83 to 2.8% p.a. during 1983-2003.

Manpower and Employment

4. Official estimates, based on assumed trends since the 1973 census, are that the total 1982 labor force was 468,000, with hardly any unemployed. Allowing for workers under 16 and over 59, less than 50% of the official estimates of those of working age are included in the labor force. This clearly understates the working population by a large margin. While overall figures on employment in the planned (mainly government) sector are reasonably reliable, the number of workers in the non-organized (mainly private) sector is not. The most important reason is that, because of traditionalist attitudes by respondents, the 1973 census results seriously understate the number then at work, especially women and especially in agriculture.

5. Tentative mission estimates are that the total 1982 labor force was 780,000 and the employed civilian labor force was 733,000. Actual agricultural employment could be about double the official estimate of 196,000, though a good deal of the difference is attributable to seasonal and part-time workers. The private trade sector may also employ considerably more than shown in official figures. Those differences have important implications for estimates of GDP.

6. There is a general shortage of labor in PDRY and it is difficult to recruit even unskilled workers in many areas. Unemployment appears very low, though there are no firm figures. Underemployment is far more prevalent. It is disguised in the planned sector by overmanning and in the unplanned sector by traditional attitudes, particularly in respect of work by women. Labor

shortages are particularly marked among most technical and professional skills and for construction workers. Most branches of the economy have been affected to some extent. Migration abroad and the construction boom at home have been major factors. There are no quantitative data on labor shortages, but qualitative shortages are in any case often more serious than the quantitative ones.

7. Firmer estimates of the overall employment levels should be possible following a manpower survey planned by the CSO for 1985. But the results cannot be available in time for Third Plan preparation.

8. Far better information is available on planned sector employment, though much of the data supplied by individual Ministries is not fully analyzed. Its share of the total has risen, but it still represents only about one-fifth of total national employment. Agricultural cooperatives, state farms, public sector industry, and the civil service make up the bulk of it. About half the total is concentrated in and around Aden, while there is relatively little planned sector employment in the eastern half of the country.

9. The Ministry of Labor operates a job placement system for all planned sector operations. This exercises fairly tight control on where graduates work, but most other skill grades can choose freely whether to accept a job within the system, and if so, where. It is illegal for planned sector operations to hire permanent workers, except through the system, though in practice this is circumvented by use of casual labor on a semi-permanent basis (notably, it seems, on state farms where normal pay levels are too low to attract unskilled workers).

Labor Productivity and Output

10. Labor productivity is low in all branches of the economy and in most individual planned sector operations. Productivity trends have often been discouraging, too. Official figures do, however, give a distorted picture of both absolute productivity levels and trends, and exaggerate the adverse trend. They suggest that overall output per worker fell by 6% in real terms between 1978 and 1983, with falls in all the main productive sectors apart from agriculture; real industrial output per worker was halved, while in construction there was a 25% drop. The figures also indicate very low agricultural output per worker (YD 161 in gross output terms and YD 138 in added value terms in 1983, only about 8% of the average level throughout the rest of the economy).

11. These figures are clearly incorrect, both in absolute terms and as trends. They contradict clear evidence of real growth in most economic sectors, and of higher living standards, as evidenced inter alia by wage levels and a difficulty in getting unskilled workers at those wages. The reasons for the distortions are the underestimation of total national employment, particularly agricultural employment, and a still larger underestimation of the value of agricultural output. There is also probable underestimation of output in informal sector industry, and data on output in other sectors could be deficient, too.

12. The mission estimates gross agricultural output for 1982 to have been around YD 85 million, compared with an official estimate of YD 29 million.

Together with a possible underestimate of industrial production and service sector output, this implies that 1982 GDP may be underestimated by about 18%, and that the share of agriculture in GDP was about 22% instead of the unusually low proportion of 9% shown in published data.

13. But even if the revised estimates are applied, labor productivity appears low in relation to productivity levels achieved in most other developing countries. The following reasons can be cited for the low (by developing country standards) level of value added per worker found in every major branch of the economy and in both planned and informal sectors:

- Low capital equipment per worker;
- Low average number of hours worked per year;
- Overmanning, particularly in respect of non-productive workers;
- Technical and general management weaknesses, due in part to inadequate skill and know-how levels and in part to insufficient motivation.

14. Low wages and salaries in the public and cooperative sectors have contributed to the inadequate productivity levels. They have caused problems in attracting and retaining skilled workers and most grades of construction workers. However, pay incentives and productivity-linked schemes have recently been introduced in many operations and these are having a considerable impact in reducing the problem. In industry and construction, the two sectors so far mainly affected, labor turnover and absenteeism have declined and productivity has improved.

Migration and Remittances

15. On a very rough estimate based mainly on foreign data, some 171,000 PDRY citizens were residing abroad in 1982, of which 120,000 were working. Most are in Saudi Arabia and the Gulf states. An unknown additional number of ethnic Yemenis with foreign nationalities also live abroad. Many of those are in long-established Yemeni communities, though a fair proportion continue to remit funds to PDRY. So do most of the Yemeni nationals, who typically are working on contracts for about two years. It is hoped to have more accurate and fuller data on Yemenis working abroad when the manpower survey, planned for 1985, has been completed and analyzed.

16. One-hundred-and-twenty-thousand nationals working abroad are the equivalent of about 16% of PDRY's domestic labor force. Probably about half are unskilled and a further quarter only semi-skilled; they nevertheless represent a disproportionate share of the country's scarce resources of more highly skilled workers. But the funds they send to PDRY are often larger than the loss to the economy through their not working at home. This may even be the case if they have to be replaced in the domestic labor force by foreign workers, as in much construction work. Crucial in this context is the country of origin of the foreign workers and, consequently, how much they have to be paid.

17. Remittances and private transfer into PDRY have grown dramatically over the past ten years, reaching approximately $550 million by 1984. They

have financed more than half of total imports, which are crucial to PDRY's economy. But they have also had a major stimulating effect on the domestic economy, through consumption spending and the construction boom. They have also had generally favorable income distribution effects.

18. There are probably now around 15,000 foreign workers in PDRY, concentrated in the construction sector. Most come from other poor countries, particularly from South Asia. Many work on turnkey projects where the whole labor force may be foreign. The import of foreign workers to fill domestic labor shortages reflects in part the exodus of Yemenis to work abroad. But it also reflects on approach to plan implementation which relies quite heavily on turnkey projects in the interests mainly of speed of construction and ease in administration. This is a common approach by rich capital surplus countries, but is unusual in a poor one. Moreover, in general, foreign workers have not been used to pass on technical skills and knowhow to Yemeni workers. Their training role has been very minor.

19. The Government's policy is, in principle, to limit both the number of Yemenis working abroad and the number of foreigners working in PDRY. But this aid does not appear to be based on any real analysis of the advantages and disadvantages both economic and social for the country of outward and inward labor flows. Nor have the measures to translate the policy into action been very consistent or effective. Tight controls were introduced in 1974 on those going to work abroad, were relaxed in 1976 and then tightened up again in 1979. But periods of severe restraint have been accompanied, it would seem, by a rise in illegal movements which are almost impossible to prevent.

Education and Training

20. Educational enrollments have risen very rapidly since independence and by 1983, around 70 percent of all those aged 7-14 were enrolled in the eight year basic (unity) education program. Most of the unity-age-group boys (89%) were enrolled, but only 37% of the girls. Academic secondary enrollments are equivalent to 16% of the relevant age group, but there is far less emphasis on technical and vocational secondary education (only 3%). About 2.5% of those of university age are enrolled at Aden University. As a result of this growth in education, the number of schools has tripled and the number of teachers has risen from 2,000 at independence to 13,000 in 1983. The success of the education program has meant that emphasis has recently shifted to a campaign to eradicate adult illiteracy by 1985. Eighty percent of the estimated 195,000 illiterates are women.

21. However, while the level of dropouts from unity level education is quite low for the first few years, it accelerates in later years when the children concerned become old enough to help in the home or in work. Only about 45% of the girls and 55% of the boys entering the system complete all 8 years. There is an equally high dropout rate for boys, but a much lower one (only 23%) for girls in secondary education. The relative position of women improves as they go up through the educational system, and female university enrollments are equal to 94% of male.

22. The teacher-pupil ratio is unusually low (1:21) at both unity and secondary levels. This does not necessarily mean better quality of education

though, as many teachers are poorly qualified; a fifth of all unity level teachers have no qualifications. Because of the lack of qualified Yemenis, around a third of teachers in secondary and technical education are foreign.

23. There is a relative lack of emphasis on vocational and technical training, with five times as many students in academic secondary education as in vocational or technical. Numbers have risen quite rapidly, though. Moreover, only a few firms give workers on-the-job training, apart from traning given in the use of new equipment by foreign firms supplying this. Responsibility for the 31 different vocational and technical training institutes is divided between eight different Ministries.

24. Educational facilities are often poor, with a lack of modern equipment in technical training institutions. Consequently, the quality of practical training suffers. Another problem is that teaching material in these institutes is frequently in English, although few of the students have an adequate grasp of the language, a problem sometimes exacerbated when the teachers are themselves foreign.

25. The major focus of the educational program is on providing basic education through unity schools and through the literacy campaign. A second emphasis is on a relatively vigorous academic secondary education preparing specifically for a narrowly specialized university program, which, in fact, only a small minority of those starting secondary education reach. Those who fail to achieve university entrance have few job options open and are possibly less qualified than those who take academically less-demanding technical training courses.

26. When unity education is complete at 14, there is a two-year gap before the legal minimum age for either employment or enrollment in secondary education. No doubt, many in practice work informally. Another gap may be created by the period of compulsory military service for men, or national service for women. There is no integration of this into the educational system either in terms of timing, or in ensuring that military or national service can use and build on existing skills so that the individual is better able to continue in education or get a more skilled job on completion.

Manpower Planning

27. The lack of reliable data on total national employment by sector and by skill or educational level makes adequate manpower planning in PDRY difficult. This may be improved after the manpower survey planned for 1985 has been completed and analyzed, but only if steps are taken to ensure reasonable accuracy.

28. In principle, overall manpower planning is the responsibility of the Ministry of Labor and Civil Service. But, in practice, the Ministry confines its functions mainly to 104,000 public sector employees, or about 13% of the labor force. The use it makes of the material available on these, submitted to it by each Ministry via a detailed annual questionnaire, is very limited. Though there are undoubtedly deficiencies in these data, far more detail could be produced from them. A considerable amount of valuable data for manpower planning for the organized sector could also be generated from the Ministry of Labor's job placement system.

29. There is considerable scope for using workers more efficiently in PDRY. Indeed, it would be practicable to meet additional labor needs during the Third Plan period largely through more efficient use of existing resources. An analysis recently carried out on the Highway Authority demonstrates how this might be done in one sector. Only in a few specific job categories could labor shortfalls represent a significant constraint. Productivity-linked pay incentives, changes in the general public sector pay system, in-service training and skills development, and improving management skills and know-how are all key elements in improving labor productivity.

30. Tentative mission estimates have been drawn up, based on a presumed continuation during the Third Plan period of the rate of output increases targeted for the Second Plan, and on three different scenarios as to productivity increases in the years ahead. Using mission estimates of existing employment levels and a presumed emigration of 17,000 during 1982-85 and 22,000 during 1985-90, the projections suggest that, following negligible unemployment up to 1985, there will be a labor surplus of between 110,000 and 167,000 workers by 1990 (depending on the productivity scenario). If the far lower official estimates of the existing labor forces are used, the surplus would be between 52,000 and 97,000.

31. These estimates are very approximate only. However, even on the scenario which implies the slowest productivity growth (1 to 3% p.a., depending on sector), to maintain full employment would require a 22% annual real GDP growth during the Third Plan period. This is clearly impossible. Logically, there are four possible approaches to this situation:

a) allow unemployment to rise;

b) allow little or no increase in productivity;

c) invest predominantly in labor-intensive operations during the Third Plan period;

d) allow a higher rate of emigration.

32. The first is clearly unacceptable. The second would have only a modest impact on the labor surplus, and would make the economy less competitive in the longer term. The third would have more effect, but implies that the gap between what workers can earn at home and what they can get abroad will widen still further. It is concluded that a substantial part of the surplus must be allowed to emigrate abroad, so that the foundations can be laid for a better balanced economy and slower emigration during the 1990's.

RECOMMENDATIONS

Data Sources

33. As the next census is not planned until 1988, 15 years after the first one, the manpower survey planned for 1985 on the basis of a 5-10% sample from the 1983 household survey is of major importance. It should be realistically planned, and technical assistance may be needed. Particular emphasis should be placed on:

a) probing respondents to determine whether those family members of working age who are declared to be economically inactive may not be carrying out work functions (and so should, under UN definitions, be included in the working population);

b) family members currently out of the country, how long they have been, whether they are working, and whether they are remitting funds to PDRY.

It is also crucial that the raw data from the manpower survey and from the 1983 household survey be fully analyzed, and that the results be released as soon as practicable, if necessary in preliminary form.

Productivity and Pay

34. A range of measures is needed to raise PDRY's productivity levels. They should concentrate on improving public sector productivity, since the Government's ability to influence the private sector in this respect is still distinctly limited. In the long term, the key to a steady improvement in productivity levels lies in gearing the educational system more closely to the needs of productive enterprises in particular. Particular emphasis is needed on improving practical skills for all grades, from qualified engineers to semi-skilled manual workers. Emphasis is also needed on improving management skills, particularly in accounting, marketing, and operations planning.

35. In a more immediate context, the following are needed:

a) Continuing the policy of introducing productivity-linked pay schemes on an enterprise-by-enterprise basis and giving incentives to encourage workers to go to rural areas to take unpopular jobs.

b) Worker motivation could also be improved by better physical working conditions and by in-service training schemes to enable them to enhance their skills and their pay.

c) Managements should be given greater freedom to take decisions and their own pay and promotion prospects should be linked to the success of the operation they are responsible for.

d) Since it will take time to develop fully higher level management skills through the education system and since young Yemeni graduates need to acquire more practical know-how in management and technical aspects after completing their formal education, a limited number of high-level foreign specialists could be recruited to work on a contract basis in particular productive undertakings. The need is perhaps most urgent in industry and construction.

e) A determined attempt is needed to reduce overmanning, particularly among non-productive workers throughout the public sector. Whenever possible, workers should be retrained in skills of which there are significant shortages (whether within the particular operation concerned or more generally in PDRY). Many non-productive workers could be trained to take productive jobs, while some might be allowed early retirement with full benefits.

Such measures should not be limited to productive undertakings. Most are equally applicable to non-productive concerns and to the civil service.

36. Productivity-linked pay schemes and pay incentives for rural areas and unpopular jobs need to be accompanied by a more fundamental remodeling of the public sector pay system. This should:

a) give general increases in line with changes in the cost of living, and so reduce the need to regrade jobs so frequently;

b) limit the incentives needed for particular skill grades to work on site or outside Aden to perhaps 30-50%. This implies higher general pay levels for these grades and building housing and other facilities more comparable with those in Aden;

c) increase normal pay levels for unskilled workers in particular to levels more competitive with what can be earned in the private sector or as temporary workers in the public sector. This applies especially to state farms, where an excessive part of the labor force is casual, and has a positive incentive to low productivity.

d) sharply increase general pay levels, particularly for senior staff, for graduates, and for other higher grades in the civil service. At the same time, a policy should be introduced of gradually increasing charges for public sector housing to bring these closer to the real cost of providing and maintaining adequately the facilities concerned.

Migration Abroad and Foreign Workers

37. There is need for more explicit recognition that: first, remittances by Yemenis abroad play a crucial role in supporting the economy and stimulating its growth; and, second, foreign workers, properly used, can do much to improve the operational efficiency of undertakings in PDRY. Policies should aim at maximizing net remittances. Instead of discouraging skilled

workers from going abroad, they should be helped to obtain well-paid jobs by gearing the educational system to train in the practical skills most needed in neighboring Arab countries. New outlets for remittances must be found in PDRY, or the flow may dry up once the immediate needs of relatives and for house construction have been met. Investment opportunities in the banking system and direct investment in new enterprises must be made attractive relative to those available in Saudi Arabia and the Gulf countries.

38. Minimum participation of Yemeni workers should be made a condition of granting turnkey projects, with emphasis placed on transfer of skills and know-how; so the Yemenis' participation should involve particularly the higher skill levels to be now found in the country. This might be done by insisting on an effective participation by Yemeni subcontractors as a condition for tendering. Foreign workers, particularly engineers, technicians, and accountants, should also be recruited in limited numbers to improve the efficiency of existing and new undertakings in PDRY, by helping in the management of these and by passing on their practical experience to young Yemeni graduates.

Education and Training

39. The emphasis of post-unity education needs to be shifted away from academic secondary courses and into more vocational and technical training.

40. The gap between completing unity education and starting secondary education should be eliminated. The timing and to the extent possible the

character of military and national service need to be better integrated with the educational needs of the nation.

41. "Second-chance" possibilities should be introduced for those who have started work or completed unity or some element of secondary education, and who wish to go back into education to upgrade their skills or for retraining.

42. There is a need for increased emphasis on practical aspects, particularly (but not solely) in technical and vocational training. This will necessitate considerably more investment in equipment. Those taking two-year training courses should have more opportunity to continue into more advanced level technical training.

43. On-the-job training should be strengthened. Large firms should be obliged to establish training facilities and these, together with smaller operations, should be encouraged to collaborate with technical and vocational training institutes to develop part-time training courses. Both could benefit from such collaboration.

44. Management skills also need developing. Accounting, marketing, and production management are particular deficiencies on which training efforts should be concentrated. University-level courses in some subjects should be supplemented by in-service training and courses abroad for existing managers.

Manpower Planning

45. The new information on manpower resources and uses which should be produced by the survey planned for 1985 is unlikely to be available until 1989. In advance of this, a fuller analysis could be carried out of information on organized sector employment stemming from the annual questionnaires completed by each Ministry and from the Ministry of Labor's job placement system. Such information could strengthen manpower planning for the organized sector and could be of particular value for the Ministry of Education. Though it would be preferable to computerize the analysis and to have it on the new job classification system, which the Bank has been involved in helping develop, neither is essential. A considerable amount could be done manually on the existing data bases.

I. POPULATION AND DEMOGRAPHIC TRENDS

1.01 Demographic data for the area of the Peoples' Democratic Republic of Yemen (PDRY) have traditionally been weak and incomplete. Official estimates concerning the size, composition and growth of PDRY's population must therefore be interpreted cautiously as they contain substantial margins of error. The same applies to estimates of the labor force.

A. Overall Size and Growth of Population

1.02 Before 1931, Aden was part of the then Bombay Province of British India. Census and other demographic data of Aden were, therefore, given in the Indian Census Reports. For example, the census report for Bombay Province (1931) gives the following figures for the total population of Aden.

Table 1.1: POPULATION GROWTH IN ADEN
1881-1931

Year	Population	Annual % Growth
1881	34,860	+ 2.3
1891	44,079	- 0.2
1901	43,974	+ 0.5
1911	46,165	+ 0.5
1921	56,500	2.0
1931	51,478	- 0.9

Source: Census of India, 1983, Vol. VIII-Part III Bombay presidency, Aden Report and Tables by D.S. Johnston, Table No. II, Page 16.

1.03 Between 1931 and 1967 when the country became independent, the British took two censuses, one in 1946 and the other in 1953. As with the pre-1931 census, these two were also confined to Aden and its suburbs. According to these censuses the population of Aden rose from 81,516 (1946) to 138,441 (1953). [1/]

1.04 The first national population census of PDRY was taken in May 1973. Unlike earlier censuses it covered the whole area of PDRY and endeavored to establish a firm basis for future population estimates. But the full potential of the census material was not made use of and the data from the comprehensive tabulations were never published. Much of what we know today of the demography of PDRY or its labor supply is based largely on a sample tabulation from this census taken twelve years ago. [2/]

1.05 Building on the data provided by the 1973 census, the Central Statistical Organization (CSO) has estimated the current (1983) population of PDRY as about 2.055 million. The CSO also gives a breakdown by urban-rural residence and by governorates. All these estimates were derived by assuming the same rate of growth (2.57% p.a.) at all levels of aggregation.

1/ El-Dabagh Mostafa Morad, Arab Island, Vol. II, Pioneer Publications Press, Beirut, 1963.

2/ Other sources of demographic data are (a) vital registration which is confined mostly to Aden City alone; (b) a few demographic and socio-economic sample surveys conducted in selected governorates in 1973-74; (c) survey of socio-economic conditions on the northern districts; and (d) a survey to check the validity of the 1973 census conducted in 1976, the results of which are not widely available.

1.06 In a country like PDRY where population growth is affected not only by deaths and births but also by significant volumes of external and internal migration, an assumption of a uniform growth rate in all parts of the country is unrealistic. But in the absence of specific information on regional variations in fertility, mortality, and migration, the CSO approach is understandable. In any case, errors in such an approach will not show up very significantly in short periods. For longer time intervals, assumption of uniform growth rates for all parts of the country will result in distorted population estimates.

1.07 In 1983 the CSO conducted a Household Survey with the main objective of preparing a reliable frame for sampling purpose--for employment survey, agricultural survey, etc. When the work is completed a list of all households by the number of males and females living in the household, including the number of migrants living outside the country, will be available. Thus, it will be possible to derive an estimate of the total population of the country by sex in each of the geographic subregions, as well as an estimate of the number of emigrants. Together with the 1973 census data, this new information will throw considerable light on post censal population growth at the national level, by governorates, by urban/rural residence, etc. It will also be possible to derive some indirect estimate of fertility, mortality and internal migration for the period 1973-1983.

1.08 Unfortunately, the data are yet to be tabulated. An approximate hand count of the total number of households and total population gave the following results:

	1973 Census	1983 Household Survey	Growth Rate
Number of Households	283,978	415,631	3.8
Number of Persons	1,590,277	1,975,000	2.2

1.09 If the estimate from the hand count is approximately correct, the population growth rate in PDRY (2.2%) would be lower than previously assumed, i.e., 2.57 by the CSO, 2.50 by the United Nations, and 2.33 by the 1984 World Development Report. The reasons could be underestimation of external migration during 1973-83 and/or over-estimation of fertility rates. We think that both these elements are involved.

1.10 Analysis of the 1973 census data indicate a crude birth rate of about 48 per 1,000, a life expectancy of 42 years, an infant mortality rate of 170 per 1,000 births, and a crude death rate of 23 per 1,000 population. Thus the estimated rate of natural population increase would have been 2.5 percent per year.

1.11 These estimates have a weak statistical base, yet they are the only ones available. Even assuming that they are realistic, they have only historical importance as they refer to years before 1973. For current and future periods, PDRY does not have a reliable source of information on demographic trends.

1.12 In the absence of such information the CSO uses a constant growth rate of 2.57 per year. In the light of the results of the Household Survey, we think that this rate is on the high side. If the reported count of the total population of PDRY in the Household Survey (1.975 million in 1983) is correct, a crude birth rate of 48 may be too high, while emigration from PDRY

may have been larger than assumed. Estimates and projections used in this report, therefore, assume a slightly lower fertility (6.3 instead of 6.9) and a net emigration of about 83,000 persons during 1973-83. These parameters are selected so that, together with the 1973 census age-sex distribution, they will give an estimate of about 1.975 million as the population of mid 1983.

1.13 For periods beyond 1983 it is assumed that fertility would remain constant until 1988 and that net external migration would decrease gradually from 47,000 during 1983-88 to 15,000 by the end of the century.

1.14 The principal results of the population projection are given in Table 1.2. According to this, the population of PDRY would pass the 3 million mark by the turn of the century. The growth rate is likely to increase partly due to decreasing emigration, partly due to a decreasing death rate and partly due to a more favorable age structure.

Table 1.2: POPULATION ESTIMATES AND PROJECTIONS PDRY 1973-2003

Year	Population (in '000)	Growth Rate (%)	Birth Rate	Death Rate	Net Migration in '000
1973	1,590				
1978	1,752	1.93	46	21	47
1983	1,974	2.39	47	20	36
1988	2,265	2.75	48	18	26
1993	2,613	2.85	46	16	15
1998	3,006	2.80	44	15	15
2003	3,448	2.74	41	13	15

Source: Statistical Annex Table 1.1.

B. Population Structure

1.15 Although direct information on regional variation in components of population growth is not available, the 1973 census data can be manipulated to produce some approximate data on regional pattern of fertility, mortality and migration. Fertility is the easiest, as regional age distributions are available. Orders of magnitude of migrations can be inferred from information on sex ratios. Mortality differentials are the least amenable of all to measurement, but an assumption of slightly lower mortality in urban areas and Aden governorate may be valid. Using rough estimates of regional mortality, fertility and migration, new estimations of the population by governorates can be obtained for 1983 and 1993 (Table 1.3). These estimates take into consideration the national total shown in Table 1.2. Detailed information on the fertility rates, mortality rates, migration rates, etc. for each of the governorates is given in Statistical Appendix Tables I.1(A) - I.1(f).

Table 1.3: TOTAL POPULATION BY REGION, 1973-93

		1983		1993	
Governorates	1973	CSO	Bank	Pro-rated	Bank
Aden	298	376	400	486	535
Lahej	275	354	349	458	468
Abyan	310	402	387	520	514
Shabwah	160	209	191	271	253
Hadramawt	487	635	571	821	742
El-Mahra	61	79	76	102	102
Urban	529	684	726	884	953
Rural	1,061	1,371	1,249	1,774	1,660
PDRY	1,590	2,055	1,975	2,658	2,613

Source: Statistical Appendix Tables 1.1 - 1.1(F).

1.16 In 1973 the urban population was a little more than half a million, constituting one-third of the total population of the country as shown below:

Urban population, 1973	-	529,000
Rural population, 1973	-	1,001,000
Total population, 1973		1,590,000
% Urban		33.3%

Much of the urban population was concentrated in Aden governorate (82% urban or 45% of the total urban population) and Hadramawt governorate (38% urban or 32% of the total urban population). Lahej was the least urbanized (only 9% urban) of all governorates.

1.17 According to the CSO estimates, the urban population has grown to 684,000 by 1983. This estimate is based on the assumption that there was no urban-rural differentials in growth rate in PDRY during 1973-83. Using a slightly lower mortality rate in urban areas as described in the previous paragraph, it can be estimated that the urban population is likely to be around 726,000 by 1983 and 953,000 by 1993 (Table 1.3).

1.18 One of the basic demographic parameter needed for the analysis of labor force and employment is the age-sex distribution. These are readily available from the census for 1973. But, as in most developing countries, the age distribution reported in the 1973 census is deficient and must be corrected before it is used for estimating future population and labor force. The correction indicates that the census tends to over-estimate ages of older persons, and it enumerated fewer than expected at younger ages. At the same time, the age group 5-9 is very much over-enumerated. In all the other younger age groups, the enumerated population is less than expected on the basis of past fertility, mortality and migration.

1.19 The adjusted 1973 population by age and sex is projected forward to derive the 1983 age/sex composition of PDRY, governorates, and urban-rural. These are given in Table 1.4 and Statistical Appendix Tables 1.1(A) - 1.1(F).

Table 1.4: POPULATION OF PDRY BY AGE AND SEX, BY URBAN-RURAL RESIDENCE, 1983

	Male			Female		
Age	Total	Urban	Rural	Total	Urban	Rural
0- 4	178,031	55,650	122,381	172,572	53,945	118,627
5- 9	137,409	43,172	94,237	133,246	41,935	91,311
10-14	131,738	42,806	88,932	129,339	41,227	88,112
15-19	122,149	41,730	80,419	111,913	36,603	75,310
20-24	101,732	41,638	60,094	94,366	32,149	62,217
25-29	65,933	39,536	26,397	78,287	27,406	50,878
30-34	41,473	33,867	7,606	65,049	23,387	41,662
35-39	34,752	26,664	8,088	54,227	19,390	34,837
40-44	28,587	20,199	8,388	44,954	14,658	30,296
45-49	31,201	17,249	13,952	36,955	12,943	24,012
50-54	23,234	11,268	11,966	29,968	9,331	20,637
55-59	20,750	8,329	12,421	23,687	6,975	16,712
60-64	15,573	5,626	9,947	17,920	5,028	12,892
65-69	11,758	3,534	8,224	12,523	3,427	9,096
70-74	5,914	1,695	4,219	7,746	1,919	5,827
75+	5,417	1,344	4,073	5,786	1,554	4,232
	955,651	394,307	561,344	1,018,539	331,877	686,662

Source: World Bank estimates and Central Statistical Organization (C.S.O.).

1.20 The adjusted age sex structure is used to estimate population in the working age groups (15-59 years) in 1973 and 1983. These are given in Table 1.5. In 1973, the population in working ages was about three-quarters of a million. By 1983, the working age population has grown to nearly a million. This represents an annual increase of 2.7 percent per year, compared with a growth rate of 2.2 per year for the total population. The growth rate of the working age population is likely to increase slightly during the next decade. By the year 1993 they could be about 1.3 million.

Table 1.5: POPULATION IN WORKING AGES 1973-1993
(15-59 ages)

Age	Population in '000 1973	1983	1993
15-29	370	524	673
30-49	285	337	484
50-59	76	98	125
15-59	731	959	1,282
% of total population	46	48	49
----------Annual Growth Rate (%)----------			
15-29		3.5	2.5
30-49		1.7	3.7
50-59		2.5	2.4
15-59		2.7	2.9
All ages		2.2	2.8

Source: Table 1.4 and Statistical Appendix Table 1.1.

1.21 The growth rate is somewhat uneven by age groups. During 1973-83 the younger age group grew much faster than the middle ages. But during 1983-93, the higher growth rate will move to the middle age group.

1.22 Estimates of working age groups by governorates and rural/urban distribution are given in Tables 1.6 and 1.7 below.

1.23 The working age population constituted less than half (46%) of the total population of the country in 1973. However, their proportion will increase to about 50 percent by 1993.

Table 1.6: POPULATION IN WORKING AGES BY GOVERNORATES
(in thousands)

Governorates	1973	1983	1993
Aden	153(21)	219(22)	290(22)
Lahej	125(17)	170(18)	226(18)
Abyan	138(19)	182(19)	252(20)
Shabwah	67(9)	85(9)	120(9)
Hadramawt	220(30)	265(28)	345(27)
Al-Mahra	28(4)	38(4)	49(4)
PDRY	731	959	1,282

The figures in parenthesis are percent of the national total.

Source: C.S.O. and World Bank Estimates.

Table 1.7: POPULATION IN WORKING AGES BY URBAN-RURAL RESIDENCE

Resident	1973	1983	1993
Urban	257(35)	407(42)	528(41)
Rural plus Nomads	474(65)	552(58)	754(59)
PDRY	731(100)	959(100)	1,282(100)

The figures in parenthesis are percent of national total.

Source: C.S.O. and World Bank Estimates.

1.24 The dependent population consists essentially of children below 16 years. The proportion of children among the dependent population was about 93 percent in 1973. But this proportion would decrease slightly by 1993 due to a possible decrease in fertility.

1.25 Population estimates for the school going ages 5-21 are given in Statistical Appendix Table 1.2. These are obtained by interpolation and are best used in aggregates such as unity school ages, secondary school ages, etc. A summary is given in Table 1.8, on the following page, for 1973, 1983, 1993.

1.26 The unity school population (ages 7-14 years) is expected to increase to more than half a million (540,000) by 1993. The increase will be much more rapid among the younger children (3.1% among the 7-11 age group) than among the older children (1.7% among the 12-14 age group). The pattern was very much different during 1973-83 when 12-14 year olds grew much faster than 7-11 year old children due to the rapid increase in the number of women in the childbearing ages. Even with constant fertility, an increasing proportion of women produces a more rapidly increasing number of births than otherwise. The phenomena is likely to continue for several more years until such time when a declining fertility rate would compensate for an increasing proportion of women in the 15-40 age group. As a result, PDRY can expect to experience a relatively rapidly increase in its school age population for quite some time. This basic demographic phenomenon should be taken into consideration in educational plans for PDRY.

Table 1.8: SCHOOL AGE POPULATION
(in thousands)

	1973	1983	1993
Pre-school 0-6 years	403.4	459.3	628.3
Unity School 7-10	189.2	211.0	288.4
11-14	168.2	212.1	250.6
Secondary & Higher 15-21	223.8	317.8	356.0
----------Growth Rate----------			
0- 6		1.30	3.13
7-11		1.09	3.12
12-14		2.32	1.67
15-21		3.51	1.14

Source: C.S.O. and World Bank Estimates.

1993F
4/1/85

II. MANPOWER AND EMPLOYMENT

2.01 As is the case with population statistics, the data base on manpower and employment in PDRY is fragmentary and of limited reliability. The 1973 census constitutes the principal source for past and present estimates, supplemented by more detailed and up-to-date information for the organized or planned sectors. In this chapter, these data are carefully reviewed and interpreted in an attempt to arrive at realistic estimates of present manpower and employment structures.

A. Overall Manpower and Employment

1. Official Estimates

2.02 Official data show total employment for 1982 as 467,000 (Table 2.1), equivalent to only 52 percent of the population aged 16-59 (the official working life) plus estimated actual numbers of workers aged under 16 or over 59. The overall male participation rate (32 percent of the total male population is estimated as working) is exceptionally, indeed implausibly, low. In other Arab countries, and indeed in most other countries at a similar stage of development similar to PDRY, and whose population structures are generally similar to PDRY's, the labor force represents between 42 and 50 percent of the male population. PDRY's overall female participation rate (15 percent) is higher than in most other Arab countries (3-9 percent), reflecting the more developed position of women. As elsewhere, the proportion of working women is reduced by a restricted view of what constitutes "work".

Table 2.1. BALANCE OF MANPOWER RESOURCES AND USES
(in thousands)

	1973	1979	1980	1981	1982	1983 estimate	1984 Annual Plan	1985 5-Year Plan Objective
Resources								
Population aged 16-59	668	780	799	—	842	—	—	909
Workers under 16 or over 59	48	55	57	—	59	—	—	63
Total resources	716	835	856	—	901	—	—	972
Uses								
Industry	21	41	45	48	50	51	55	66
Agriculture		189	195	196	196	196	196	237
Fisheries	164	9	9	9	9	9	9	10
Building and construction	17	30	33	36	41	42	43	38
Transport and communication	17	26	27	29	29	31	33	31
Trade, restaurants and hotels	29	37	39	42	43	45	48	46
Total of above	248	332	348	359	368	375	385	428
Other services (non-producing)	70	89	92	96	99	—	—	104
Total employed	318	421	440	455	467	—	—	532
Students of working age	6	27	33	—	42	—	—	47
Household activities	344	375	371	—	391	—	—	384
Unemployed	48	12	12	—	1	—	—	9
Total uses	716	835	856	—	901	—	—	972

Source: Ministry of Planning (Second Five Year Plan and Annual Plans).

2.03 The same data show 42 percent of the employed population as working in agriculture, another 2 percent in fisheries, 11 percent in industry, 9 percent in construction, and the remainder (36 percent) in services activities. They also show 5 percent of the manpower resources as being students of working age, while unemployment is shown as negligible. The entire balance--43 percent of the total population of working age plus estimated actual under age and over age workers--are recorded as being engaged in "household activities". This represents around 23 percent of the male labor force and 63 percent of the female.

2.04 But all these figures are only rough estimates based on assumptions as to trends since the 1973 census--the only reasonably firm base for overall national employment. Far better data exist for the organized or planned sector--the public and mixed (i.e. part public and part privately owned) sectors, cooperatives, and a handful of larger private firms. These are based on annual returns for all except cooperatives following a 1977 survey, and returns on cooperatives to the Ministries concerned (mainly in respect of agricultural and fisheries cooperatives). However, only about 30 percent of the total national employment is in this organized sector. Only in fisheries and transport and communications is the estimated employment share of the non-organized private sector under half the total. In most other sectors it is around three-quarters, while in retail trade and related activities the private employment share is shown as well over 90 percent.

2.05 Inevitably, the assumptions as to employment growth since 1973 in the non-organized private sector are not based on firm evidence. The subtraction of public, mixed sector and cooperatives from the 1973 and 1982 totals

suggests that total private employment rose by 11 percent p.a. in the industrial sector, by 8 percent p.a. in building and construction, and by 5 percent p.a. in the retail trade sector. The growth in private industrial employment appears improbably high. In contrast, private sector employment in agriculture and fisheries appears to decline by 1 percent a year--reflecting the impact of emigration and continued growth in cooperatives and state farms.

2.06 The official figures on total national employment (467,000) undoubtedly considerably underestimate employment in the non-organized sectors. There are three main reasons:

a) the definitions used, or implied by interviewers, or interviewees, in the 1973 census underestimated the number then at work by a substantial amount, especially for women and in agriculture;

b) the assumptions on employment changes since 1973 probably somewhat overestimate employment growth (especially in industry and retail trade);

c) the published figures appear to exclude the armed forces and the police from the total employed, though not from total manpower resources. Yet precise balancing of total manpower resources and uses (as in Table 2.1) implies they should be included in both. If two years military service for men and one year national service for women is in practice universal, this could represent 15 percent of the oficial estimate of the employed labor force.

2. Revised Estimates

2.07 By far the biggest source of error is understatement of the number employed in 1973. CSO census data show male participation rates of only 14 percent in the 15-19 age group, 52 percent in those aged 20-24, and 67 percent among the 25-29 year-olds. Thereafter, male participation rates range from 81 percent to 98 percent until the usual drop after 60. By international standards, these are low rates. Military service and students could not account for the very low 1973 participation rates throughout the 15-29 age group; both the unemployed and the military should in any case be included in the labor force. Nor, in view of the almost total absence of unemployment, are there likely to be many voluntary withdrawals from the labor force on the grounds that it is impossible to find a job (as occurs in some other countries).

2.08 Female participation rates in 1973 were more uniform, at 10-15 percent throughout the age groups from 15 to 60. These, too, are low for a predominantly rural population. There is, in fact, ample evidence that in PDRY, as in most other least developed countries, the overwhelming majority of the population of both sexes in rural areas work throughout the period from leaving shcool, or even earlier if they don't attend school. Most, of course, work on family farms and on livestock care. Rural women participate in the production of most crops and usually have the main responsibility for looking after animals. The average household has 7-10 of these, mainly sheep and goats. Since 1973, the role of women in agriculture has increased, partly because with male emigration they have taken on some traditional male tasks, and it is probable that the bulk of the agricultural labor force is now female

in the organized sector as well as in private agriculture. The hours worked tend, however, to be somewhat shorter than for men.

2.09 The underestimation of the working population was probably primarily because in 1973 much of this was not counted as representing "work"; census respondents, predominantly male heads of households, did not consider as work what their women folk and sons did. PDRY's experience in this is paralleled by that in most other Arab countries. But international definitions[1/] make it clear that unpaid family workers should be included in both the labor force and in the employed population, even if the number of hours worked is quite limited. Employment includes those engaged in the production of goods and services for their own and household consumption when this production represents an important contribution to total household consumption. Under this definition, the vast majority of PDRY's rural population over the age of 15, both male and female, is employed. Participation rates, for women particularly, would be appreciably lower in urban areas, but still higher than available data imply (because of artisans' work by women and the appreciable number of livestock owned even by urban households).

2.10 Table 2.2 shows a revised estimate of total employment and labor force in PDRY for 1982. It takes into account both the probable actual 1973 employment level and possible trends since and uses more realistic participation rates. Unemployment is put at an arbitrary 10,000. Estimated numbers in the armed forces, police and women on their national service have

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1/ As agreed by the UN Statistical Commission in 1966 and by the 1982 Conference of Labor Statisticians.

Table 2.2: REVISED ESTIMATE OF 1982 EMPLOYMENT AND LABOR FORCE
(in thousands)

	Male	Female	Total
Organized Sector			
Industry	12.5	3.0	15.5
Agriculture[a]	49.4	9.5	58.9
Fisheries	5.9	0.5	6.4
Building and construction[b]	6.4	1.0	7.4
Transport and communications	8.9	0.5	9.4
Trade, restaurants, hotels	7.6	1.5	9.1
Other services (non-producing)	119.9	10.0	39.2
Total civilian organized sector	119.9	26.0	145.9
Military, national service and police (v. approx.)[c]	25.0	12.5	37.5
Non-organized private sector			
Urban areas	137.0	78.0	215.0
Rural areas[a]	127.1	244.5	371.6
Total non-organized private sector	264.1	322.5	586.6
Total employed labor force	409.0	361.0	770.0
Unemployed	6.0	4.0	10.0
Labor force	435.0	365.0	780.0

[a] seasonal agricultural workers on state farms and cooperatives included in non-organized private sector.

[b] excludes 2,848 foreign workers.

[c] excludes those included in labor forces of individual enterprises who are normally their employers.

N.B. Total labor force is estimated by Mission from probable actual participation rates for each age group separately by sex for urban and rural areas. A small arbitrary estimate of unemployment is used to arrive at the employed labor force. Those working in the non-organized private sector are the difference between this figure and the total recorded for the organized sector, including rough estimates of those on military service (taken from published international sources) and not included in the data for individual enterprises, and a similar figure for women's national service. Foreign workers are excluded.

been included in the organized sector except for those already on the payroll of other organizations to which they are expected to return on completion of national service. Of the 76 percent of the total believed to be in the non-organized private sector, the great majority in rural areas work in agriculture. In urban areas, males work predominantly in industry and trade with substantial minorities in building and transport services, while females work especially in industry and in animal care.

3. Foreign Workers

2.11 The figures in Table 2.2 exclude foreign workers,[1/] of whom there are some 15,000 at present. Most foreign workers are in construction, where they represent over a quarter of the public sector labor force, and perhaps as much as a third of the private (notably the bulk of the labor force of foreign contractors undertaking turnkey projects). There are also a fair number of foreign workers in the main hotels and in the transport sector. A sharp rise in foreign workers up to 1982 has probably slowed since then. In principle, the aim of the Ministry of Labor is to reduce the number of foreign workers, but in practice this is difficult in view of the existing shortage of skilled Yemeni workers.

4. Unemployment and Labor Shortages

2.12 Though underemployment is widespread--as emerges from the analysis of labor productivity (Chapter III)--there is very little formal unemployment;

[1/] It is not clear whether the official estimates in Table 2.1 include them, or not.

however, as in any country, there are some who for physical reasons or other reasons are incapable of working. Official figures show a decline in unemployment from 48,000 in 1973 to 12,000 in 1980, and, it seems, a residual of only 1,000 in 1982 (Table 2.1). The definitions used for the 1973 census were not clear, however, and the basis for the subsequent estimates is probably little more than guesswork.

2.13 There is a real shortage of most labor skills in the construction sector and possibly approaching a third of its labor force is now foreign. In some agricultural areas there are also significant general labor shortages; this is mainly because of the emigration of many young men. In other sectors these tend to be shortages of particular skills only; skilled machinists in clothing factories and hotel staff are examples. There are now widespread shortfalls on stated requirements for most types of graduate manpower and higher level technicians. But often the problem in this area is qualitative rather than genuinely quantitative, reflecting the limited practical experience of many professionals and technicians.

5. 1985 Manpower Survey

2.14 A more relative estimate of employment levels should be possible when a manpower survey planned for 1985 is carried out by the CSO. The intention is to take a 5-10 percent sample from the nationwide survey of all households which took place in 1983, and analysis of which is in the early stages. The questionnaire covers occupation, industrial sector, ownership sector, as well as classification by age, sex, place of residence, and education. It is hoped that in coding the results, classification will be possible to the two-digit

ISCO level. The survey will also cover the number of days actually worked in the last week, information on unemployment and on subsidiary as well as main types of work, plus data on members of the household currently out of the country and whether remittances from abroad represent a source of household income.

2.15 A great deal of very valuable information should be forthcoming from this survey, provided:

a) that respondents who claim there are members of the household not working are questioned further to discover whether this is in reality the case (i.e., whether there is no function which they carry out which helps produce food or other goods for the household's own consumption);

b) that the information is processed fully without delay and that all results, including preliminary ones, are immediately made available to all interested government organizations.

Even so, it is clear that the full results of the survey cannot be expected to be available until 1987.

B. Organized Sector Employment

1. Structure and Characteristics

2.16 The organized, or planned, sector includes all public sector organizations, "mixed" sector corporations (part public, part privately owned, but normally with a majority state shareholding), cooperatives, and a few relatively large private firms, predominantly in the industrial sector. It represents about 20 percent of probable national civilian employment (see Table 2.2). In principle, though not in practice, all private firms with 5 or more workers are included.

2.17 Considerably more, and far more reliable, information exists on this organized sector than on total national employment, essentially via the records kept by the individual Ministries responsible. The data come from employment records, with usually no element of estimation (though there are some gaps--in respect, for instance, of the number of casual day workers on state farms). In principle, information on the bulk of the organized sector (but not on the small, organized private sector or on cooperatives) should be available via the returns to questionnaires submitted to the Ministry of Labor for preparation of the annual Manpower Plan. The crude data for this is broken down by specialization and education level.[1/]

[1/] There are some discrepancies between the Ministry of Labor data included in the Annual Plan and returns by individual Ministries. In particular, the Ministry of Labor's 1982 figure for combined public and mixed sector industrial employment is some 4400 below returns by the Ministry of Industry and the other organizations concerned.

2.18 A summary of the estimated 1982 civilian employment structure in the organized sector appears in Table 2.3. Even excluding those engaged on military and national service, two-thirds of total organized sector employment is public sector, and nearly one-third is in cooperatives (virtually all in agriculture and fisheries). The relatively tiny mixed and organized private sector employment is predominantly in manufacturing industry.

2.19 There is a heavy concentration of planned sector employment in the Aden area. While only about 18 percent of PDRY's estimated population is in Aden governorate, half of planned sector employment is there. All the other governorates have a lower share of planned sector employment than of population (and, hence, of total employment). The imbalance is particularly large in Shabuwa, Hadramawt, and Al Mahra govenorates.

2.20 Around 18 percent of the organized sector total are women, but the proportion would be appreciably higher if casual workers on state farms and cooperatives (predominantly women) could be included. The share of female employment has increased appreciably in recent years, particularly in the civil service itself.

2.21 Though the proportion of the total labor force in the organized sector is still quite low, it has risen rapidly since the first survey carried out by the Ministry of Labor in 1977. In that year, excluding the armed forces and police, it represented about 20 percent of the officially estimated national employment total: by 1982, the proportion had increased to

Table 2.3: ORGANIZED SECTOR CIVILIAN EMPLOYMENT IN 1982 BY OWNERSHIP SECTOR
(in thousands)

	Public Sector Productive enterprises	Civil service	Total	Mixed sector	Cooperatives	Organized Private Sector	Total
Industry	10.9	2.7	13.5	1.0	0.7	0.3	15.5
Agriculture	-	-	14.9 c/	-	44.0	-	58.9
Fisheries	0.7	2.4	3.1	0.2	3.1	- d/	6.4
Building and construction	6.9 e/	0.5	7.4 e/	-	-	-	7.4
Transport and communication	...	...	9.4	-	-	-	9.4
Trade, restaurants and hotels	...	...	8.3	-	-	-	8.3
Financial services	0.8	-	0.8	-	-	-	0.8
Other non-producing services	-	39.2	39.2	-	-	-	39.2
Total b/	...	...	96.6	1.2	47.8	0.3	145.9

a/ Includes utilities, and the Petroleum and Minerals Corporation (including Aden refinery).

b/ Excludes Ministry of Interior and police as well as armed forces.

c/ Excludes the considerable number of part-time workers on state farms.

d/ There are no data on employment by foreign vessels fishing in PDRY waters, but the total labor force is probably over 500.

e/ Excludes 2,848 foreign workers.

f/ Although no private building contractors are included in the planned sector, the 15-20 significant local firms who get government contracts probably have a combined labor force of around 1,000-1,500. Foreign contractors have considerably more workers, most of them foreign.

Source: Ministry of Planning and C.S.O.

around 31 percent.[1/] The increase was mainly because of the sharp increase in the number working on state farms and in agricultural and fisheries cooperatives. There has also been a substantial rise in those employed directly by the government in the civil service (i.e., non-producing services).

2. Job Placement Service

2.22 The Ministry of Labor operates a job placement system for, in principle, all vacancies in the organized sector (public sector, mixed sector cooperatives, and the larger private enterprises). It is illegal to hire permanent workers except through this, though it is unclear to what extent it in practice applies to cooperatives, and on state farms "casual" labor is apparently often used on a semi-permanent basis (and, while it seems that at least half of state farm and cooperatives workers are female, of those recorded by the Ministry of Agriculture in organized sector employment, the female proportion is only around 16 percent).

2.23 Those finishing their education at whatever level and wanting a job in the organized sector plus those wishing to rejoin the formal labor force (e.g. women returning to work after having had families) go to the local Ministry of Labor office, fill out a simple form, and are told where appropriate vacancies exist. In general, the individual decides which to apply for, and sometimes rejects all the vacancies suggested. The general labor shortage has made applicants selective and employing firms often have to

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[1/] Using the higher Mission estimates of total employment and again excluding the armed forces, police, and women on their national service, the proportion had risen from 15 percent to 20 percent of total civilian employment over the same period.

accept all who choose to apply to them. For nongraduates, the Ministry of Labor placement system thus operates essentially as a clearing house.

2.24 A tighter control is, however, exercised on where graduates work. For these, a central national allocation system exists, and for their first two years they may be posted anywhere in the country; but in practice, graduates try to use contacts and influence to help ensure they get the jobs they would like. In a situation where several different organizations may be competing for a limited pool of people with a particular graduate skill and have a number of vacancies to fill, there appears to be no fixed criteria or allocation system for deciding that one organization should get priority over others. Overall priorities, the influence which individual organizations can bring to bear, and the preferences of the graduates concerned all play a role in exerting pressures.

3. Impact of Higher Real Levels of Pay

2.25 The low nominal levels of public sector pay have been a very real obstacle to recruiting and retaining certain types of skilled workers. The labor shortfall has been particularly serious in the construction industry, but affected some types of worker in most other branches of the economy. The increasing flexibility of the pay system and, in particular, the introduction of double pay for construction workers on site and of productivity-linked incentive schemes for industrial workers have recently done much to overcome this problem.[1/]

[1/] The Annex on public sector pay and the social security system describes the steps taken.

2.26 Though shortages of particular skills in the public sector remain, they tend now to reflect national shortages rather than a tendency for workers to opt, when they can, for private sector employment. Both labor turnover and absenteeism have been substantially reduced. Moreover, the greater ease of recruitment has been a factor enabling public sector industrial enterprises, for instance, to adopt a policy of taking on no new workers who have not completed their military or national service; during this, workers not only have to be paid by their civilian employer, but tend to lose the skills they had acquired.

4. Industry

2.27 More information is available on organized sector employment in industry than in any other sector. It is summarized in Appendix Table 2.3. About 85 percent of the total is in the public sector, 8 percent in the mixed sector, 5 percent in cooperatives, and only 2 percent in private firms. Although the Government's estimates of total national employment in industry suggest that nearly 80 percent of total industrial employment is private, no data exist since 1973 to support this; it is distinctly unlikely that total private sector industrial employment rose as the data suggest, from 15,500 in 1973 to some 39,200 in 1982, given the strong preferences which, until very recently, the public sector has enjoyed.

2.28 Of the organized sector total of some 15,500, around 30 percent are women. The female proportion is relatively low in most public sector factories (except for the textile mill and in clothing and footwear). It is highest in the organized private sector because this is dominated by those

subsectors which throughout the world tend to have mainly female work forces (especially clothing). This suggests that the proportion of women in the work force of the nonorganized private sector may also be relatively high.

2.29 It is claimed that there is no general shortage of labor in industry. Skilled machine operators in clothing factories and accountants are exceptions. There are hardly any expatriates, apart from a few from suppliers of technological know-how (in the brewery and the cigarette factory, for instance) or linked to the purchase of new equipment. A lack of practical know-how among graduate engineer recruits, in particular, is, however, a significant problem.

5. Agriculture

2.30 Recorded organized sector agricultural employment is dominated by the 44,000 members of cooperatives, predominantly in the Abyan and Lahej governorates. This is around four times the recorded full-time employment on state farms, although the combined output of cooperatives is only about 2-1/2 to 3 times that of the state farms. The reason is that the state farms, far more than the cooperatives, are heavily dependent on part-time workers, especially at harvest times. There is no estimate of the numbers involved.

2.31 Most, and in many areas the bulk of the organized sector agricultural labor force are women. Many, though not formally employed, apparently work for a large part of the year. The departure of many men to work in towns or abroad, especially from the Hadramawt, has meant that women are increasingly taking on traditionally male jobs in agriculture. But the vast majority of

this labor force has simple traditional skills only. Many are illiterate. The lack of women with professional skills in practical agricultural work makes it extremely difficult to improve skill levels among female workers.[1/]

6. Fisheries

2.32 In 1983, fishing cooperatives employed 3,054 workers; the public sector fishing corporations, 1,178; the joint venture fishing operations, 164, and the Marketing Corporation and canning factories, 599. These last might more properly be considered part of the internal trade and industrial sectors, respectively.

2.33 A breakdown by broad skill category appears in Appendix Table 2.4. A feature is the high proportion of administrative staff, especially in the Yemen National Fish Corporation. This is in addition to the substantial number working directly for the Ministry of Fish Wealth. Overall, over a third of the labor force in the organized fisheries sector is nonproductive--the worst ratio among the productive sectors in PDRY. In marketing, preparing, canning, and freezing fish many of the workers are female; in fishing proper there are few, if any, women.

2.34 The fishing sector as a whole has some difficulty in attracting workers at all levels, due essentially to the nature of the work and the lack

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[1/] For instance, the 34 extension officers and technicians in the Wadi Hadramawt project extension service are all male, although around 60 percent of the work force is female. The women trained at the faculty of Agriculture at Aden University rarely go into practical work. At the secondary diploma level, the situation is worse still.

of modern housing in many fishing areas (there is a plan to build public housing specifically to remove this deterrent). Shortages are most serious in the more technical skills needed for industrial-scale fishing (mechanical engineers, radio engineers, processing engineers, and electrical engineers, together with ship officers). But cooperatives, too, need people to operate refrigerating plants, to supervise simple processing, for radio links, and to operate road transport links to consuming centers (when the Marketing Corporation is not used). It is also claimed that canneries could be operate on a two-shift basis if only workers could be found for this (70 percent of cannery workers are, however, women with mostly other commitments).

7. Construction

2.35 The Ministry of Construction employed 10,156 workers in 1982, mostly in the various road construction units, the Public Construction Corporation, and the regional construction corporations. 2,848 of these were foreign. The total has risen by around 13 percent annually since the mid-1970's, in spite of a rising proportion of public sector construction demand being met by placing orders with foreign contractors (and, to a lesser extent, with the few significant local private firms).

2.36 Labor shortages at all levels are a key reason for this dependence on expensive foreign contractors and for the sharply increased number of foreign workers employed by the Ministry. Skilled and semi-skilled workers, mainly from India, Bangladesh, and China, represented around 2,500 of the 1982 foreign labor force. Most of the rest are technicians and engineers. Foreign contractors awarded turnkey projects (around 40 percent of total public sector

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construction in 1982) usually bring in all or nearly all the work force they need. Yemeni workers consequently get little opportunity to improve their own skills and know-how by working alongside experienced foreign teams. The Ministry's dependence on foreign workers reflects a general acute shortage of construction workers in PDRY, a shortage which appears particularly severe in higher skill and lower professional grades. The private housing boom, especially in the Hadramawt, the limited local training facilities, and the attractions of work in Saudi Arabia and the Gulf have all contributed.

2.37 However, there is evidence of overmanning in some posts and considerable potential for filling gaps by transferring existing staff, often with further training. Table 2.4 summarizes the results of a recent detailed consultant's analysis of the staffing at the Highway Authority. It suggests a substantial need for additional staff in various skilled trades (with a particular need to create 89 new posts of gangers) and in intermediate level technical staff, such as draughtsmen. But it also suggests a considerable amount of overmanning among unskilled workers particularly, and that of 334 posts to be filled, no less than 273 could be filled by internal transfers. If this situation exists in other branches (and it is almost certainly not limited to the construction industry), the shortage of skills is more apparent than real. The consultant's analysis may be overoptimistic, but it does suggest that much can be achieved by a reorganization of existing resources.

Res.

p. 21 – ? training women : qualitative shortage

22. – training of interviewers – ✓

– Q of interviewers/res

✓ p. 74 exchange Q in early schools.

p 79 ST training, incl Q aspects.

p 84. –

? Library program small.

– ? + productivity issues

p. 88. Not area – eg. health

way of taking shortage.

✓ – Productivity of pool of women ed.

– benefit to economy – pp.

pop ✓

child care ✓

✓ productivity

agric –

water

Table 2.4: HIGHWAY AUTHORITY STAFFING NEEDS

	% increase on existing staff (net)	Total additional staff (net)	Proposed transfers from existing job	Proposed recruitment (inc. transferred staff) a/
Degree level engineers and other technical staff	-2	-1	-13	12
Other degree level staff (not necessarily engineers)	20	2	0	2
Those needing intermediate level training as a minimum	61	32	-5	37
Those for whom vocational training is a minimum requirement				
- skilled	39	75	-49	124
- semi-skilled	1	10	-18	28
- clerical etc. support	-5	-49	-131	82
Total	2	61	-273	334

a/ often with additional training.

Source: Kampsax report on Manpower Review and Training Needs of Highway Authority, July 1984 (see Appendix Table for more details).

III. LABOR PRODUCTIVITY

A. Levels and Trends in Productivity

3.01 One of the key objectives of economic policy in developing countries is to raise the often very low levels of labor productivity. Success or failure in achieving this objective, however, is difficult to ascertain given the uncertain data base not only for the national labor force (see the preceding chapter) but also for domestic production. In this chapter, an attempt is made to arrive at realistic estimates of present levels and past trends in labor productivity for PDRY's major economic sectors. In addition, the relation between economic incentives and labor productivity is highlighted.

1. Some Misleading Official Data

3.02 Government output and employment data imply a discouraging trend in national productivity (Table 3.1). Between 1978 and 1983, overall output per worker appears to have fallen by 4 percent in real terms, with falls in all the main productive sectors apart from agriculture and a more than halving of output per worker in industry. Indeed, only in the non-productive services sector is the apparent trend in added value per worker reasonably satisfactory. The figures also suggest that gross output per worker in agriculture was only YD 161 in 1983 and added-value per worker only YD 138; this is only 17 percent of the average for all other sectors. The added value is also far below the average annual wages paid to the unskilled agricultural workers on state farms, below the average income of cooperatives members, and

Table 3.1: ESTIMATED VALUE ADDED AND GROSS OUTPUT PER WORKER AT CONSTANT 1980 PRICES, ON GOVERNMENT LABOR FORCE AND OUTPUT ESTIMATES (YD) a/

	Value Added per Worker						Gross Output per Worker in 1983	
	1978	1979	1980	1981	1982	1983 b/	Current Prices	1980 Prices
Industry	718	624	422	487	423	346	1,439	1,202
Agriculture	93	103	111	108	86	115	161	134
Fisheries	833	711	933	667	659	630	1,196	998
Building and construction	1,107	880	755	760	730	835	1,811	1,512
Transport and communication	1,068	1,165	1,022	799	719	803	2,300	1,920
Commerce, restaurants, hotels	847	911	774	803	706	821	1,712	1,429
Other services non-producing	535	585	605	635	646	671	n.a. c/	n.a. c/
Combined Total	462	461	426	429	405	444	716	598

a/ Uses Aden retail price index as deflator for all sectors; if different deflators are used for different sectors (as in principle should be done), results appear seriously distorted with still bigger falls in productivity in some sectors (notably transport).

b/ Based on estimated output and employment.

c/ Included in output of productive branches of the economy.

d/ GDP at factor cost, and combined national production, per worker.

Source: Ministry of Planning.

almost certainly of many private farmers, too. Were the agricultural labor force to be at the level implied by mission estimates of the total labor force (i.e., around 485,000 against the official estimate of 196,000), gross output per worker would be, according to official estimates of agricultural output, only YD 65 in 1983.

3.03 These productivity figures are clearly incorrect, both in absolute terms and as trends. There are four major reasons:

a. As emerged from the analysis of total national employment, official figures understate the total employed by probably 265,000. Most of these work in agriculture, many of them women.

b. But total employment growth has probably been appreciably slower than the 5.2 percent p.a. shown by official figures between 1973 and 1978, and 3.1 percent p.a. between 1978 and 1983. Main reasons are migration abroad and the higher actual 1973 female participation rates than shown in the census (so women tend to have entered new occupations, rather than having been hitherto economically inactive).

c. The gross volume of agricultural output is probably appreciably higher than official estimates suggest; the value of private agricultural output appears understated.

d. The value of the output of non-organized private sector industry has not fallen as drastically as official estimates imply.

3.04 There may well be deficiencies in output and employment data for other sectors, too. It certainly seems improbable that at a time of a construction boom, output per worker in construction should have fallen by a quarter since 1978, or that there should have been a similar fall in productivity in the transport and communications sector. Nor do trends in the commerce sector's productivity correspond to evidence of higher living standards and more goods in the shops. The sections which follow concentrate on agriculture and industry, the two sectors where the evidence of underestimated productivity is clearest.

2. Agricultural Productivity

3.05 Ministry of Planning data show the 1982 gross value of output in agricultural cooperatives at YD 12.0 mn, against YD 4.3 mn for state farms, and YD 22.7 mn in the private sector.[1/] This implies annual gross output per worker of YD 270 in cooperatives, probably a little less on state farms (taking the approximate annual equivalent of a rough estimate of work by casual and seasonal workers into account), but only about YD 167 per worker in the private sector.

3.06 However, minimum agricultural wages for state farm employees are YD 30 a month, while the average without overtime is around YD 40. Reports suggest that those working in cooperatives usually do at least as well. Seasonal workers get a minimum of YD 2-3 a day, and a good deal more in some

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1/ This total of YD 39.0 mn is YD 7.5 mn above another Ministry of Planning estimate of the gross output of agriculture (as shown in national accounts data) and double agricultural value added.

areas. Gross output per worker on cooperatives and state farms therefore is probably over YD 600 a year. If labor force figures are correct (and they are more likely to undercount than overcount), the organized agricultural sector could have a gross output value of YD 35-40 million.

3.07 Evidence from agricultural areas suggests that families with private farms generally enjoy as high or a higher standard of living than do those working in cooperatives or state farms. While some, especially nomads, have meagre living standards, others are quite well off. Output per worker is probably lower, as many women and children in particular only devote a few hours a day to agricultural work, but with perhaps 100,000 families wholly or largely dependent on private agriculture, it would be surprising if the gross value of their output is much under YD 50 mn a year; it could well be more and total gross agricultural output in PDRY might even exceed YD 100 mn.

3.08 Crude though the basis of these estimates is, and impossible though it is to assess the true value of private agricultural output, it does seem that official figures, probably through largely disregarding the contribution of subsistence agriculture, seriously understate the scale of agricultural output in PDRY.

3. Industrial Productivity

3.09 If the value of the organized sector industrial output (including the refinery) is subtracted from total estimated gross industrial output, the balance contributed by the non-organized private sector appears to shrink dramatically--from around YD 18.6 mn at constant 1980 prices in 1978 to some

YD 7.5 mn only in 1982. At the same time, the number of workers employed (the difference between estimated total industrial employment and organized sector employment) rose from 28,600 to 36,800. So, apparent gross output per worker, which in the organized sector rose from YD 3,746 per year in 1978 to YD 4.148 in 1982 (at 1980 prices) was in the non-organized private sector slashed from YD 650 a year to only YD 204.

3.10 Again, this is far below the normal level of private sector wages. Almost certainly, official figures greatly underestimate the gross output contribution of small private sector industry (mostly in artisan operations). At the same time, they probably overstate the growth in, and possibly the absolute level of, private sector industrial employment. Taking into account a more likely level of gross output per worker in non-organized industry and a presumed labor force in this of 32,500, national gross industrial output would amount to some YD 92 mn in 1982, gross output per worker would be YD 2,025 and value added per worker about YD 600--or a third above the level implied by official data.

4. Organized Sector Productivity

3.11 It is evident that official figures cannot be used to accurately measure productivity levels and trends at the national level. In the context of organized sector employment alone, a clearer picture emerges, however. Because the performance of plants in PDRY can be directly compared with similar plants in other countries, because climate and other external factors have far less influence on output than in agriculture and fisheries, because nearly all workers are full-time employees and some individual plants

concentrate on the production of one or two products only,[1/] and because of the form in which data are available, it is practical to make comparisons only in the industrial sector.

3.12 However, there is no evidence that organized sector productivity trends are any better in agriculture, fisheries, or construction in PDRY than they are in industry; indeed, in the fisheries sector they are certainly worse. Nor does it seem that absolute levels of productivity are better in PDRY relative to standards in comparable developing countries.

3.13 Table 3.2 shows industrial output per worker from 1977 to 1982 in twelve industries where output is measurable in physical terms (e.g. tons of flour milled per worker) without being distorted by major changes in production character. This is not to say that there were no qualitative improvements. In some sectors, such as textiles and shoes, the average value of output has changed significantly in real terms. In others, there is no scope for this (e.g. electricity generated). Over the 5 years, only in two of the twelve (rubber sandals and nails) has the trend been reasonably good throughout. Several others show markedly improved productivity in recent years after a big earlier fall (salt extraction and textiles), or show a reasonable rise in productivity overall in spite of some setbacks in earlier years (leather shoes and electricity). Five other industries all show declining productivity trends (flour milling, dairy products, tomato canning,

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[1/] While farms not only produce a wide range of items, but switch the acreage devoted to each year by year. Moreover, productivity is difficult to measure because of the lack of adequate data on inputs by temporary workers who form a large part of the labor force of the organized sector and some of whom in practice apparently work on a semi-permanent basis.

Table 3.2: PRODUCTIVITY TRENDS IN SELECTED INDUSTRIAL SUBSECTORS

	Unit per Worker p.a. /a	1977	1978	1979	1980	1981	1982
Flour Milling	tons	276	282	251	243	257	154
Dairy Products	'000 lts	149	78	38	39	38	34
Tomato Canning	tons	6.1	7.3	8.7	8.0	5.5	5.6
Salt Extraction	tons	362	253	97	62	128	287
Cigarettes & Machines	mln b/	4.3	4.7	4.1	3.7	3.1	3.1
Cotton Textiles	metres	3,945	1,108	842	702	711	1,084
Leather Shoes	pairs	478	1,301	1,416	862	1,029	1,495
Paint	'000 lts.	14.2	21.7	21.3	22.6	23.3	18.5
Rubber Sandals	'000 pairs	2.56	4.91	10.53	7.55	10.65	13.70
Nails	tons	17	23	20	25	19	29
Liquid Batteries	no.	667	1,020	783	565	465	553
Electricity	'000 kwh	136	167	164	159	163	198

a/ Labor force data include ancillary as well as direct production workers.

b/ Million cigarettes plus 10,000 gross boxes of matches per worker.

Source: Draft of Annual Statistical Yearbook.

cigarettes, and liquid batteries) while the final industry (paint) shows a drop in the most recent year after a fairly steady rise.

3.14 In each case there are good reasons for the trend--technical difficulties, market factors, changing production characteristics, etc. But the best managements are those which can achieve good output and productivity growth in spite of all except the most severe problems. There is some room for disquiet in these figures. It appears that the 11 percent growth in real output per worker in the organized industrial sector between 1978 and 1982 has been due to two main factors: the rise in refinery throughput due largely to contracts obtained because of events in the Gulf war (a one-time gain which could be reversed when the war ends); and the startup of new investments achieving higher output per worker than do existing plants.

5. Absolute levels of productivity

3.15 International comparisons of productivity are notoriously difficult. However, it is clear that even for a poor country at an early stage in the development process, PDRY's levels of productivity tend to be on the low side. Nor is this because of a marked contrast between a large traditional economy with very low levels of productivity and a much smaller modern sector in which productivity is comparable with that found in many more developed countries. Visits by Bank staff to farms, factories and fisheries have generally suggested that organized sector productivity lags behind that in many other countries, and when differences in equipment and farm inputs are taken into account, is not a great deal better than in the non-organized sector.

3.16 For the few industrial operations, which are sufficiently similar in end products and equipment in different developing countries for tentative comparisons to be made on a statistical basis, it seems that the best productivity levels achieved in PDRY in recent years are frequently low by global standards.[1/]

3.17 Productivity can also be measured more broadly by comparing in money terms value added per worker in wide branches of the economy. Table 3.3 compares the data available on PDRY with international figures for some other developing countries. All are a good deal more advanced in the development process than is PDRY, and Hong Kong and S. Korea can be considered semi-industrial. The comparison can only be very approximate because:

a. a particular sector may be far more capital-intensive in some countries than in others (though differences in agriculture, construction, and commerce are rarely large);

1/ Output per worker in the cotton textile mill was still, in spite of some improvement only 1,084 meters of cloth in 1982. In similar mills in many other countries over 2,000 meters per worker is normal (Egypt, Pakistan, and Turkey). Some achieve well over 4,000 meters on average and far more in the best mills (India, Dominican Republic Republic). In leather shoe manufacture, productivity has increased considerably in PDRY in recent years to nearly 1,500 pairs per worker in 1982. Yet, many countries achieve 5,000 or more pairs a year per worker, and often of better quality shoes than those made in PDRY (Dominican Republic, Egypt). In cigarette manufacture, PDRY's record is a good deal better. Most poor countires achieve considerably less than the 3.3 mn cigarettes per worker a year now produced (though the level in the late-1970s was still higher). On the other hand, some manage over twice this level (Colombia and Jordan).

Table 3.3. INTERNATIONAL COMPARISONS OF VALUE ADDED PER WORKER IN MAJOR BRANCHES OF THE ECONOMY ('000 $p.a.)

	Agriculture, Forestry, Fishing	Mining Quarrying	Manu-facturing	Electricity gas, water	Construc-tion	Commerce Restaurants Hotels	Transport and Comm-unications	Banking Insurance Business Services	Community Social and Personal Services
Cyprus (1980)	4.8	20.7	8.4	20.0	13.5	10.3	14.9	29.6	4.0
Egypt (1979)	1.0	118.5	1.4	2.2	1.4	3.0	2.6	3.5	1.4
Hong Kong (1979)	..	7.0	5.5	28.4	14.9	9.1	14.0	33.1	15.7
S. Korea (1980)	2.0	6.3	5.5	29.7	6.3	3.4	5.7	13.2	3.0
Libya (1978)	3.4	543.3	10.9	3.4	13.3	23.0	11.8	122.3	12.0
Syria (1979)	1.5	2.9		2.7	1.8	6.7	5.6	26.0	0.4
Tunisia (1980)	2.3	62.2	3.0	14.6	3.3	8.4	7.5	28.6	2.1
PDRY (1980) a/									
National total	0.4	d/	1.2 d/	2.9	2.2	2.2	2.0	3.0	1.8
Organized sector b/	0.5	0.2	3.5	2.9	4.8	...	...	...	...
Non-organized sector bc/	0.3	d/	0.5 d/	n.a.	1.4	...	...	...	...

a/ Based on Government value added, gross output and employment data; alternative Mission estimates of employment and output imply higher levels of value added per worker.
b/ It is assumed that the ratio of value added to gross output is identical for the organized and non-organized sectors.
c/ Arrived at by subtracting organized sector output and employment from official estimates of the national total.
d/ Mining and quarrying are included in the manufacturing total.

Sources: UN National Accounts Yearbook and ILO Yearbook.

b. The overall level of development of a country is reflected in wage rates which account for a substantial part of value added in most sectors;

c. The subsectoral balance within each broad sector varies from country to country, and a predominance of high value added subsectors will increase the average;

d. exchange rates may reflect an overvaluation of an undervaluation of a particular currency.

3.18 Nonetheless, it is clear that the relatively low level of value added per worker in every major branch in PDRY must be mainly because of low physical productivity in most main individual branches and subsectors. Yemeni productivity appears particularly low in agriculture[1/] and throughout the services sector. Indeed, even organized sector productivity (a more reliable estimate, probably, than the national total) does not compare particularly well with total national productivity in other countries.

3.19 Why is Yemeni productivity lower than in many other developing countries? The most important reason is obviously that the amount and level of sophistication of capital equipment per worker is generally a good deal lower than in the more advanced developing countries. It is not so dissimilar, though, to that in other least-developed countries. But capital

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1/ And would still be low on higher mission estimates of agricultural labor force and output.

equipment per worker is not low in all subsectors and enterprises. A crucial problem in PDRY appears to be that productivity is not very good even when the equipment available is comparable to that found elsewhere. There are probably four main reasons for this:

a. Partly for reasons of climate and partly through tradition, the nominal number of hours worked per day and per year is low. This is exacerbated by many actually working still fewer hours and by absenteeism. It is difficult for PDRY to compete with countries where it is normal to work for approaching 2,500 hours a year.

b. Yemeni workers are not particularly highly motivated and make little attempt to work hard. The new pay incentives have helped considerably in this respect (see below). Better physical working conditions could also have an appreciable impact where it is practical to introduce these.

c. Some functions are clearly overstaffed for large parts of the year, especially perhaps in the civil service and in the administration of some enterprises. So there is not much for some people to do.

d. Perhaps most important, and to a considerable extent the cause of the reasons mentioned above, is the weakness of many managements both technical and general. Steps are being taken to rectify this, but there is still a long way to go.

Managements need to be more effectively motivated. They also need far better technical and management skills at their disposal, and this should include capabilities in systems analysis, accountants qualified through post-graduate study, and marketing skills, as well as engineering and technical disciplines. Above all, the emphasis should be on quality, not quantity. Some operations have more graduates and diploma-level technicians on their staffs than they really need. The requirement is for training to a higher level of performance than at present, and with a greater emphasis on practical aspects during the training.

B. Pay Incentives and Labor Productivity[1/]

3.20 The Government realizes that productivity has often been low. It has sought to tackle this by strengthening managements and in particular by introducing productivity-linked pay incentives for many public sector workers. Schemes have now been introduced in nearly all the organized industrial sector, in construction, for fishermen in the industrial fleet, and, still unofficially, on state farms. Some workers have been able to double their take-home pay.

3.21 In the industrial sector, at least, the result has been an almost immediate increase in output per man day and also a reduction in both labor

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1/ The annex on public sector pay and the social security system describes the productivity incentives and inducement allowances given.

turnover and absenteeism. At the same time some inducement allowances have been introduced to make public sector work more attractive for particular types of skilled labor and in particular trades and areas. The most important is double salary payment for all construction workers in on-site work. This has worked well, and a general inducement allowance is now under consideration for all public sector employees while working in rural areas. These inducement allowances have also had an important effect on productivity by offsetting the low base levels of public sector pay and making it possible to attract and retain workers.

3.22 To a major extent, the various allowances and incentives now being offered to productive workers are a means of overcoming a certain lack of flexibility in the normal public sector pay structure and to compensate for low nominal pay levels. Because of these and because of a system of regularly regrading jobs as a means of giving periodic increases,[1/] what appears on paper a rigid pay system is in practice quite flexible. It is also not unresponsive to market forces; difficulty in attracting particular skills into public sector work are important reasons for giving inducement allowances and for regrading jobs.

3.23 However, since the incentives benefit mainly productive workers and those outside Aden, non-productive government personnel based in Aden often get little more than the low nominal pay rates. They are, however, prime

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1/ Though general levels of public sector pay have not been increased since 1979, regrading appears to have been the main reason for a 50 percent rise in basic pay rates per worker in industry between 1979 and 1982, while the new pay incentives have led to considerably larger increases in average take-home pay.

beneficiaries from heavily subsidized government housing and cheap loans for, for instance, car purchases. For some, these subsidies represent an addition of over 50 percent to nominal pay. Nonetheless, it is evident that public service pay levels have had an adverse effect on staff quality in some civil service jobs. It is not necessarily a healthy sign, for instance, that the proportion of women working in some of these jobs far exceeds the proportion of females leaving the education system with the skills required; it may well indicate that the best male graduates have moved elsewhere, where they can expect better real pay.

3.24 Low normal levels of pay for unskilled state farm agricultural workers (in particular) seem also to have led a heavy reliance on temporary workers paid on a daily basis. Though in principle this is mostly seasonal labor, working at peak periods, and so paid considerably more than the monthly wage for full-time workers, in practice many it seems work for a large part of the year or are even semi-permanent. This system, possibly the only way of attracting unskilled labor to many state farms at present pay rates in the present general labor shortage, has an adverse effect on productivity. Obviously, such workers have an incentive to work slowly and so work for more days a year, since there is little likelihood of the farms being able to get replacements who might work harder. This problem is probably not confined to state farms.

3.25 The improvement in productivity which has been achieved in many public sector operations since pay incentives have been introduced, should not, however, be attributed solely to these. A number of other measures have been taken at the same time to boost productivity levels, and to create the

conditions for productivity increases to take place. Steps are being taken to improve marketing, distribution, and product quality so that increased output can be sold. New equipment has been introduced. Finally, managements are being strengthened. In industry, for instance, there appears greater awareness of the need to order foreign raw materials and spares well in advance, and to strengthen stock control and accounting systems. And, greater freedom in marketing agricultural produce has had a considerable impact on the operations of cooperatives, reflected in a corresponding rise in their productivity.

IV. INTERNATIONAL MIGRATION

4.01 The importance of work abroad to the Yemeni economy has risen sharply since the early 1970s. Remittances and private transfers from those outside the country underpin the entire balance of payments position and have stimulated economic growth of the past decade. While a continuing rapid rise in remittances more or less guarantees general economic expansion, a drop could have extremely serious implications. The movement abroad of a substantial proportion of the labor force, especially males in their twenties, is also of considerable significance to labor force demand/supply balances and to manpower planning. Yet this crucial dimension is more or less ignored in such planning, and, indeed, in general macroeconomic planning. This is partly because there is no firm information on the number of Yemenis working abroad, on migration flows, or on the proportion of incomes remitted. Policy on migration abroad fluctuates only in the effectiveness of attempts to discourage it. A clear policy also seems to be lacking on the role to be played by expatriate workers in PDRY, the number of which has risen substantially in recent years.

A. Yemenis Abroad

4.02 Outward migration from Yemen long antedates independence, and there are established Yemeni communities in many Arab countries and farther afield. A substantial proportion of these, though regarding themselves and generally regarded as Yemenis, have taken foreign nationality. This includes some of those who left PDRY over the past 10 years (it was fairly easy for Yemenis to

get Saudi Arabian nationality, for instance, until about five years ago). The widely varying figures[1/] on the number of Yemenis living and working outside the country reflect in part definitional differences between ethnic Yemenis and those with PDRY or YAR nationality. For manpower planning purposes, nationality is all-important. It can be presumed that while most of those with PDRY nationality envisage returning to the country at some time (indeed, many will have to because their families remain in PDRY), few of those with foreign nationality are ever likely to return except for short visits. Distinctions should also be drawn between those who left the country legally and those who did not, and between those working on contracts of, say, 1-3 years as against those who are established abroad on a longer-term basis (many of them representing illegal departures). When considering remittances and private transfers, however, it is not only the number of PDRY nationals which is relevant, as a significant proportion are undoubtedly by ethnic Yemenis with foreign nationalities; in this context, a key element is whether close relatives remain in PDRY.

4.03 The only firm data on Yemenis abroad are in terms of nationality, and are taken from census and entry and exit data for the main countries in which they work, plus citizens' arrival and departure data for PDRY itself. However, all the census data are now rather old (1974 for Saudi Arabia and 1975 for other Arab countries), and some of those then recorded, plus, of course, some of the later arrivals, have subsequently become local citizens. Unrecorded flows represent an additional problem. It is hoped to have better data on the number now abroad, through questions which are planned to be

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1/ Ranging, in the case of PDRY, from 100,000 to over 250,000 for 1980.

included in the 1985 employment survey; but the results of this are unlikely to be available until 1987.

Some very rough estimates, based on existing figures, appear in Table 4.1.

Table 4.1: ESTIMATED NUMBER OF PDRY NATIONALS IN SAUDI ARABIA, KUWAIT, BAHRAIN, QATAR, AND OMAN (in thousands)

	Census Total in 1975	Possible Net Increase, 1975-82	Possible 1982 Total
Males	66	62	128
Females	30	13	43
Total	96	75	171
of which: working locally	71	49	120

Source: Mission estimates.

4.04 Over three quarters of the 1975 total for Saudi Arabia and Gulf countries were in Saudi Arabia, and 36% of these were women, a far higher population than elsewhere, and reflecting the existence of an established Yemeni community. Saudi data show the main net inflow of Yemenis as taking place in 1977 and 1978, while PDRY arrivals and departures figures show a 1979 peak (19,000 net departures), far above the levels of earlier or later years. Changes in regulations and, hence, unrecorded flows and individuals adopting foreign nationality after arrival abroad are reasons. In addition to the 1982 estimate of 171,000 PDRY citizens in Saudi Arabia and the Gulf, there could be perhaps 10-20,000 in other countries (excluding, however, the YAR).[1/]

[1/] But some of these, though born in the country and retaining PDRY nationality, may not be ethnic Yemenis, their families having come to Aden in the colonial era. Far more important are, of course, the ethnic Yemenis who have taken foreign nationality and are not included in these figures.

4.05 Some 120,000 Yemenis working abroad is equivalent to around 16% of PDRY's labor force (or 26% of the total, according to published figures). In 1975, half the total (as recorded in census data) were unskilled workers and another quarter were only semi-skilled. This proportion has probably remained roughly constant. However, though skilled workers and those with higher technical professional skills represent only a modest share of the total, they are equivalent to a large part of PDRY's scarce resources of such manpower.

B. Remittances and Private Transfers by Workers Abroad

4.06 Data on foreign currency payments into the National Bank of Yemen by those working abroad show a dramatic growth over the past 10 years or so, even when the impact of inflation is taken into account. They have clearly financed the great majority of the rise in imports and are now equivalent to around 60% of GDP (however, as suggested in Chapter 3, it seems that the official estimates of this are too low). On the presumptions that three-quarters of those making such payments are working abroad for over one year, but that, although their income is on average higher, their annual payments are somewhat lower than those by short-term migrants, only around 30% of the total is in the form of remittances, and the balance in private transfers.[1/] The sharp rise reinforces the view that the absolute number of Yemenis working abroad has risen considerably in recent years (although rising incomes in Saudi Arabia and the Gulf have undoubtedly increased payments per head by both short- and long-term migrants).

1/ According to the UN system of national accounts, only remittances are included in GNP; these are defined as payments by short-term migrants (abroad for less than one year). Payments by those abroad for longer than this are counted as private transfers.

4.07 Though these data are probably reasonably complete in respect of monthly payments, they exclude significant transfers in the form of goods brought back by returning residents or sent home as gifts by those remaining abroad. There is ample evidence at airports and in the goods widely

Table 4.2. REMITTANCES AND PRIVATE TRANSFERS TO PDRY

	Total (net) a/ $ Million	As Percent of GDP	As Percent of Imports
1973	33.7	14	28
1974	42.1	16	22
1975	58.0	20	32
1976	116.0	31	43
1977	188.5	41	52
1978	258.1	51	67
1979	313.2	52	76
1980	348.1	55	54
1981	410.0	58	54
1982	467.8	62	63
1983	480.0	57	64
1984 (provisional)	547.0	60	70

a/ Gross receipts are about 2% higher than net.

Source: National Bank of Yemen.

available in shops which could not have been legally imported through regular trade channels of the importance of these. Possibly they represent an addition of around 10% to the recorded total of remittances and transfers. Payments on this scale not only substantially enhance the purchasing power of the resident population, much of which is spent however on imported goods, but may have very real effects on the labor force. It would be surprising if it did not lead to some of those who would otherwise have to work withdrawing from the active labor force. There is no evidence on the scale of this, which possibly mainly affects part-time family work, though we do not believe the problem is as yet a serious one.

6.08 In the absence of data on the number of workers making payments to their families in PDRY, it is impossible to gauge whether the proportion of their incomes remitted is rising, falling, or stationary. It is believed--plausibly, though unsupported by any real evidence--that short-term migrants at least remit a high proportion of their earnings home. This is likely to continue so long as their families are in real need of the funds. But if their basic needs do not necessitate transfer of all the funds which the workers concerned have available, other outlets have to be found. The housing boom and related purchases of durables have mopped up much of the excess in recent years, but this expenditure will inevitably fall eventually. When this happens, either the workers concerned will spend more of their incomes in the countries where they are working, or they will look to investment opportunities. They could be in PDRY or they could be abroad. Even poorly educated workers can rapidly become quite sophisticated in appraising the advantages of different investment opportunities. Unless these appear relatively attractive in PDRY, some fall in the proportion of incomes remitted may be unavoidable.

C. The Impact of Remittances

4.09 Although a high proportion of the remittances and monetary transfers, plus, of course, all those made in the form of goods, represent additional imports, they have a very substantial stimulating effect on the domestic economy, too. Demand for foodstuffs, especially non-basics, and for local manufactures has been boosted considerably. And, of course, the additional imports represent a big improvement in the living standards of ordinary Yemenis. One of the features of remittances is that their impact is widely

spread throughout the population. Though it seems that a particularly large share goes to the predominantly agricultural Hadramawt, overall it would be difficult to devise any scheme for distributing funds originating abroad which had so favorable effect on income distribution. Apart from consumption spending, the main use to which remittances have been put has been private housebuilding, plus the purchase of related consumer durables. A major construction boom, concentrated in, though not limited to, the Hadramawt has resulted, with effects spreading throughout the economy. This has been a very real factor in the acute shortage of construction workers which has developed.

D. Foreign Workers in PDRY

4.10 Prior to independence, expatriates were used not only for most administrative, professional, and high-skill posts, but for many manual jobs, too, in Aden itself. The impact of the departure of almost all of these workers still lingers. Initially, the newly independent country found itself extremely short of most skills requiring higher or even secondary education. The development of the educational system has reduced, though it certainly has not eliminated, the numerical shortages. But even those who finished their education 10 or 15 years ago have had their later professional and skills development restricted by the absence of senior colleagues who could pass on their accumulated experience which they, in turn, had learned in part from their seniors many years earlier. Particularly in engineering and in management of operations of all kinds, it can take as much as 20 years before a graduate gains the practical expertise to realize his full potential, and this is rarely possible in the absence of older colleagues on whose own

experience he can build. Even in some of the more complex manual skills the learning curve can be long.

4.11 In the last few years, an increasing number of foreign workers have come to work in PDRY. As noted in Chapter 2, there are probably around 15,000 of these, predominantly in the construction sector, where they represent a substantial share of the total labor force. There are also relatively high numbers of foreign workers in hotels and in some transport undertakings. A sharp rise up to 1982 has probably slowed since. On the whole, however, and with the exception of those in the education sector, they have not been used to pass on skills to Yemeni workers, but simply to fill numerical shortfalls in the country's own manpower resources. In construction, for instance, a high proportion of the foreign workers are in Yemen to implement turnkey projects. Often the entire labor force is foreign, and where there are Yemeni workers these frequently undertake only the least-skilled tasks; the transfer of practical know-how is slight. In assisting in the operations of existing concerns, where their experience is perhaps needed most, the number of foreign engineers and technicians is still very small; this has had adverse effects on the operational efficiency of the industrial sector, for instance.

4.12 It is not easy, however, to attract competent professionals to PDRY. It is necessary to pay as much, possibly more, than the going rate for foreign workers in Saudi Arabia and the Gulf. (To an engineer, for example, seeking work outside his own country, the more relaxed social atmosphere of PDRY tends to be more than offset by less adequate living conditions.) The language problem may also limit the choice, and can mean that those who come are unable to pass on their know-how effectively.

4.13 To a large extent, the foreign workers now in PDRY fill jobs involving only moderate and sometimes low skill levels (particularly in implementing turnkey construction projects). This is a common phenomenon in rich countries, but is unusual in a poor one. Unusually, too, PDRY is itself an exporter of many of the types of workers which it is importing. Foreigners are taking jobs into which it is difficult to attract Yemenis. Low levels of public sector pay for Yemeni workers have been one reason; special allowances and incentives recently introduced should help in this context. The country may well, however, gain in the short term from the process. Low-skill Yemenis can often earn more and remit more from short-term work in Saudi Arabia and the Gulf than it costs to employ equally low-skill Indian or Bangladeshi workers in PDRY. But, in the longer term, this does nothing to develop skill levels or project implementation capability within the country, as those working abroad rarely use any of the skills they have obtained there when they return to PDRY, and as foreign workers within PDRY tend to work in a vacuum from which little can be passed on to Yemenis.

4.14 Central Bank data show remittances and private transfers by foreign workers in PDRY as only $5 million in 1980 (the latest year available). This is a gross understatement of the cost of foreign labor to the country. Most of the pay of foreign workers is paid outside PDRY and very little represents receipts in the country which are remitted home. A large part is included in the price of turnkey projects. Some is included in foreign aid, and some in the purchase price of equipment (when foreign workers come to install this). The real overall cost, excluding foreign grant aid, could be much higher.

E. Policies on Migration

4.15 In principle, the Government seeks to limit both the number of Yemenis working abroad and the number of foreigners working in PDRY. At the same time, it is obviously keen to encourage those already abroad to maximize their remittances and to persuade them to invest these in productive undertakings; investment in industry is, for instance, encouraged by pricing policies which allow part-public, part-private, joint ventures to make high rates of profit. In practice, though, effective restrictions on working abroad have been applied only intermittently.

4.16 An almost total stop was imposed on outward migration in 1974, but was relaxed in 1976, subject to payment of a fee of YD 1,000 a person. A rapid outflow up to 1979 was followed by a tightening up, though the fee system was dropped. At present, only one member of a family is normally allowed to go abroad and only on a short-term basis. Normally such travel is not for work but for purposes of visiting relatives or education, etc. It is particularly difficult for those with higher skills to get permission to go abroad. It seems, though, that the system is applied quite flexibly. And, in addition, of course it has never been possible to seal PDRY's frontiers effectively, and periods of clamp-down have tended to be accompanied by a rise in illegal movements. A substantial proportion of those who left between 1974 and 1979 probably did so illegally, and, though they make remittances to their families, they may feel they cannot now return, even for short visits; both those who have now obtained foreign nationality, and those who have not, are affected.

4.17 Policies on migration, both for Yemenis going to work abroad and for foreigners working in PDRY, need rethinking. A fundamental starting point must be a more overt recognition of the crucial role which remittances now play in supporting the economy and in stimulating growth. It should also be recognized that foreign workers can do much to improve the operational efficiency of undertakings in PDRY. Unless some major new development, such as large oil finds, intervenes, the country's dependence on workers' remittances is likely to continue for many years.

4.18 Policies must therefore be devised to maximize them. There seems little point in trying to prevent people, even the most skilled, from going to work abroad if they are likely to remit far more to PDRY than they could earn at home and more, too, when relevant, than it would cost to pay a foreign worker to replace them. Indeed, they should be helped to obtain well-paid jobs by, for instance, gearing the educational system to train in the skills most needed in neighboring Arab countries. The attempt to discourage longer-term migration by allowing travel only by those going for short periods and leaving members of their families behind is likely to be increasingly circumvented by those concerned, proving impossible to implement effectively. It may also be counterproductive.

4.19 The strong attachment which most Yemenis have for their homeland and the fact that most are likely to continue to have relatives in the country (even if travel restrictions were lifted) is a major factor stimulating a high level of remittances. But in due course new outlets for such funds will have to be found. They cannot all go on financing relatives' current expenditures

and new construction. As those working in Saudi Arabia and the Gulf inevitably become more sophisticated in their appreciation of investment opportunities in different countries, the attractions of transferring funds to PDRY will need to be reinforced.

V. EDUCATION AND TRAINING

5.01 The education and training system of PDRY is well-conceived from both human and manpower development vantage points. But largely because of resource limitations and newness of modern education in the country, the system still is a long way from realizing maturity. Thus, enrollments in the system have expanded with such speed that quality has been sacrificed to quantity. Pressed to provide education for its rapidly expanding youth population, PDRY has not sufficiently addressed the upgrading needs of its adults. Finally, as a socialist country, most of its manpower planning is focused on the public and cooperative sectors while little thought is given to the manpower needs of the very large private sector. These are major weaknesses of PDRY's present education system which need to be addressed in the future.

A. The Formal System

5.02 The structure of the PDRY education system manifests considerable imaginative thought. It is briefly described below before assessing the progress in carrying out its concepts.

1. Structure and Administration

5.03 PDRY's entire education and training effort and all of the institutions involved are under government control. At independence (1967), there were only a handful of schools in the entire country and illiteracy was

above 90 percent. A 1968 decree nationalized all private and foreign educational establishments. Law No. 26 passed in 1972 committed the new nation to expand and diversify education and training opportunities to all regions and people of the country.

5.04 The country had inherited a 4-3-3 system consisting of four primary years followed by three intermediate and three secondary years. The few students at the secondary level were specialized as either arts or science students and continued their education, if at all, only in those fixed tracks. A new system introduced in 1975 sought to encompass all youth in the country, give them all a unified basic education and allow more diversity beyond the eight-year unity schools which would be common to all. Figure II illustrates the flow among various components of the system.

2. Administrative Authority

5.05 Centralized education policy-making facilitated the decisions. De facto decentralization in administration, however, impedes the implementation of policy. All schools in the country, except the University of Aden and a number of specialized vocational training centers and technical institutes, are directly under the authority of and receive their funding from the Ministry of Education (Figure I). An order issued from Aden can command such a structural change. But education at the unity and academic secondary levels, along with teacher training institutions, is carried out by the directorates of education in each of the governorates, which vary in distance from the capital and are limited in communication and staff capability. The Ministry of Education can issue its edicts but it has little or no

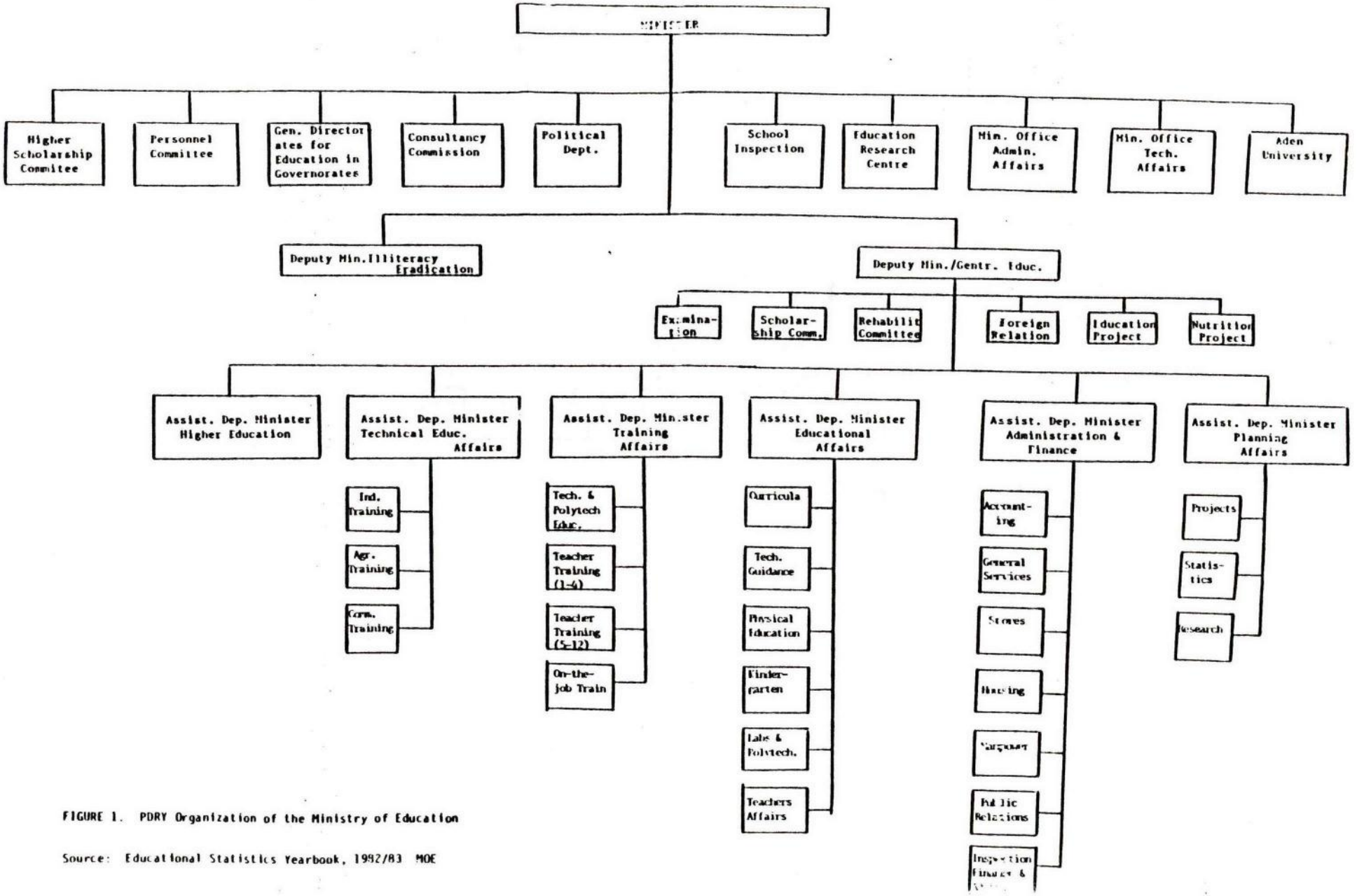
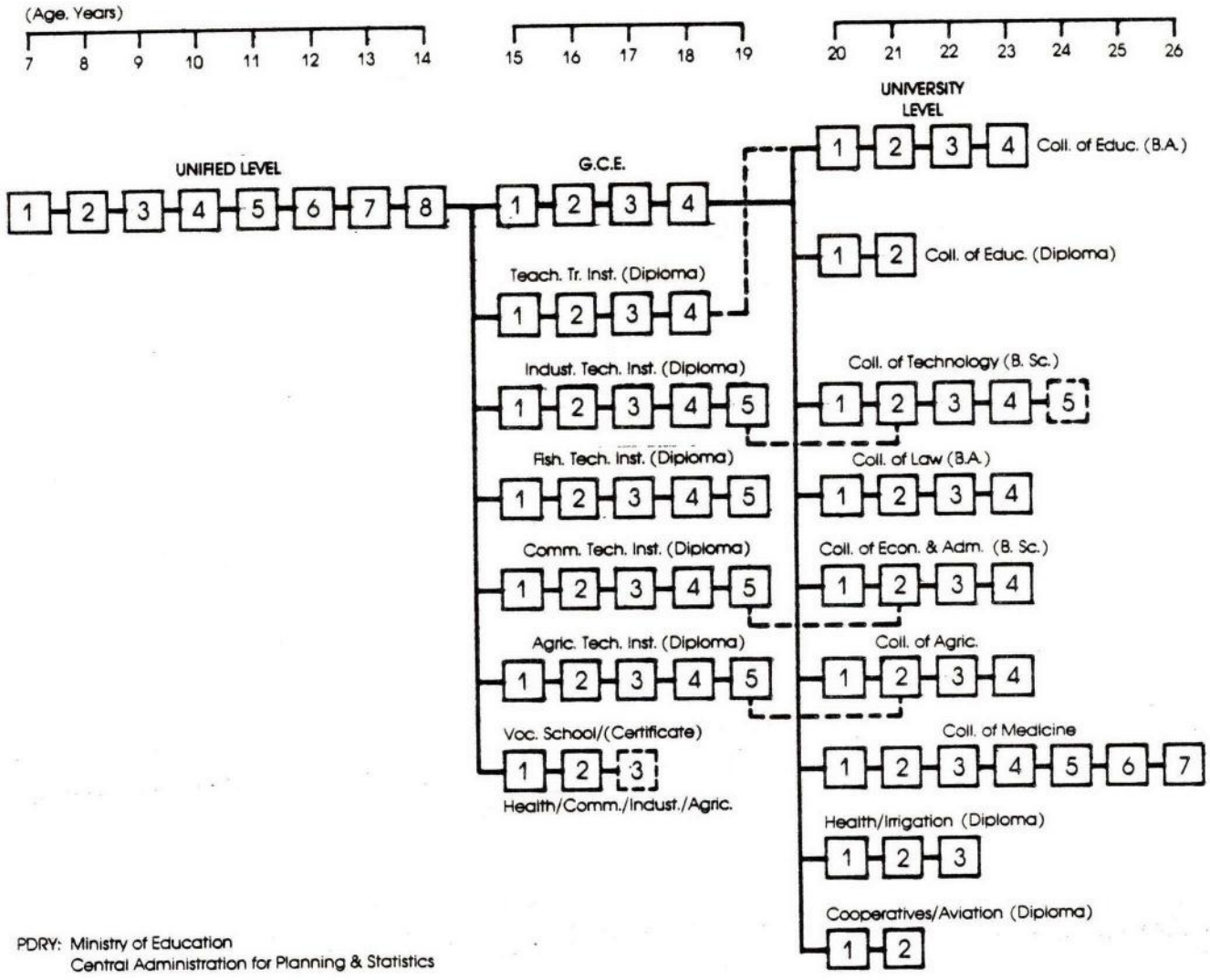


FIGURE 1. PDRY Organization of the Ministry of Education

Source: Educational Statistics Yearbook, 1982/83 MOE

Figure 2:
Education Ladder System
Educational Ladder for Study Stage



PDRY: Ministry of Education
Central Administration for Planning & Statistics

World Bank—27073

representation at the governorate level to see to the pace of implementation and the quality of what is put in place.

5.06 The President of the University of Aden reports directly to the Minister of Education, but, in fact, the University functions virtually autonomously. An appointed Higher Education Council is responsible for its external affairs and a University Council of administrators and faculty for its internal governance. In addition to the Ministry of Education, the Ministries of Agriculture, Civil Aviation, Construction, Fish Wealth, Health and Labor, and Civil Service all fund and operate specialized vocational training centers to relieve or avoid labor shortages in the areas of their responsibilities. There is no effective coordination mechanism within government to relate these activities, though they all do report their enrollments and graduations to the Central Statistical Office and the Planning Ministry.

3. Unity Schools

5.07 Unity schools exist in every governorate. Capacity is supposedly sufficient for the entire age 7-14 population, though as noted below, the facilities are poor in many cases.

5.08 Students begin the unity schools at age 7 and are passed from grade to grade without examination until the end of the eighth year. Then, if they want to continue for more education, they must pass a single national examination. Admission to the various alternatives is dependent upon the

scores on these exams, along with other criteria set by the agencies operating the specialized training centers.

5.09 Since the unity school sequence normally ends at 14, and the minimum age for enrollment is officially 16, it is assumed that all will continue to some post-unity formal education and training activity. Those youth who do not continue are in limbo unless engaged in some family economic activity.

4. Post-Unity Options

5.10 Regardless of the qualifying examination scores, post-unity education and training of some kind is open to all. However, the hierarchy of choices is delimited by exam scores. The options--in order of their scoring preference--are:

-- Four-year academic secondary
-- Five-year technical institutes
-- Four- and three-year technical institutes
-- Three-year teacher training centers
-- Two-year vocational centers

5.11 All young men are required to serve two years in the military while the young women put in an equal period of other national service. It is not clear at what ages this service is required. Those completing the academic secondary program plus their military and national service are eligible for the next phase, which consists of:

-- Aden University, faculties of

Agriculture

Commerce

Education

Technology

Law

Medicine

-- Two-year diploma courses in

Civil Aviation

Cooperatives

Education

5.12 Graduates of the five-year technical institutes may, if graduating with sufficiently high scores, enter the appropriate faculty at the University of Aden in the second year of the university program. Graduates of the three-year post-unity teacher training centers are allowed to teach unity school, grades 1-4. Holders of the two-year post-secondary diploma can teach grades 5-8. Graduates of the faculty of education are allowed to each secondary students, grades 9-12.

5. Curricula

5.13 An Educational Research Center has been established in the Ministry of Education with the major responsibility of preparing curricula for the unity schools, for academic secondary education, and for the teacher training institutions. It would also be the appropriate agency if any evaluation studies were to be undertaken.

5.14 The unity schools are conceived as the provider of basic skills, preparers for further education, and the source of prevocational orientation. They are designed to encompass the entire population, from ages 7 through 14, both male and female. Arabic, physical education, mathematics, and religion are taught in all grades. Environmental and social education is taught during the first four years. English, history, geography, and biology are taught in grades five through eight; physics from the sixth through the eighth, and chemistry in the seventh and eighth grades. The prevocational component focuses on handicrafts during the first three years. For those in rural areas, gardening and plant and animal production is taught from the fourth through the eighth year. Urban students are taught the rudiments of carpentry in the fifth year, metal work in the sixth, mechanical skills in the seventh, and electricity in the eighth. The primary purpose is to introduce the students to the range of alternatives and help them in their choice among post-unity options. However, useful skills for home production and maintenance are also learned.

5.15 The new academic secondary program began in 1979 and the 1984 class was its first output. It is planned as preparation for the university and offers few electives. Arabic, English, mathematics, and philosophy are taught during all four years, whereas biology, chemistry, history, geography, sociology, drafting, and religion are required only during the first four years, leaving that much flexibility for specialization or broadening during the final year. Since each faculty of the university establishes its own separate specialized requirements, the secondary level is the last general education the student will receive.

5.16 Teacher training institutions concentrate on what to teach and how to teach it with little room for general education. Those in the four-year teacher training institutions which parallel in student age the academic secondary schools concentrate on learning to provide basic skills during the 1-4 grades. Those secondary graduates who opt for a two-year teaching diploma learn what is necessary to teach grades 5 through 8. The university four-year program prepares teachers for the secondary school who must specialize to some degree among the offerings at that level.

5.17 The first two years of the five-year technical institute programs provide the mathematical, scientific, and theoretical background for the technical specialization to be pursued during the final three years. The top graduates of these institutes are assumed to have sufficiently paralleled the general education of the academic secondary schools and become enough more deeply specialized to be able to skip over the first year at the university in the appropriate discipline.

5.18 The University of Aden was established in 1971, where it started with the Faculty of Higher Education giving a two-year post-secondary diploma course. In 1972/73 and with the help of UNESCO, the Faculty of Agriculture was opened followed by the Faculty of Commerce in 1973/74, Faculty of Technology in 1974/75, Faculty of Medicine in 1975/76, and lastly, the Faculty of Law in 1978/79.

5.19 Since 1983/84, Aden University has been operating six faculties--Agriculture, Commerce, Technology, Medicine, Law, and Education. There are at present four education facilities, one in Aden and the other in

Mukala, both of which are running four-year courses, and one each in Zingibar and Saber, both of which conduct two-year programs. With the exception of the Medicine Faculty with its seven-year program, the other faculties are running four-year post-secondary courses.

5.20 In addition to the University, there are other institutes that also offer post-secondary education, such as the Cooperative Institute, Civil Aviation Institute, Irrigation Institute, and the Institute of Health Manpower Development. The postsecondary Health Institute includes courses in professional nursing, nurse midwifery, medical assistant, dental assistant, pharmacy technician, laboratory technician, radiographer, and health inspectors. These courses require three years post-secondary with the exception of the nurse midwifery which usually requires four years post-secondary.

5.21 Apart from the faculties and the diploma course institutes attached to the University of Aden, the other higher education institutes serve the needs of specific agencies, so these institutes follow different courses from time to time with no control on the curriculum from the Ministry of Education. This situation has led in many cases to duplication and sometimes to over- and underutilization of training facilities.

6. Assessment

5.22 The 1984 class was the first to complete the new academic secondary programs. No class yet has had time to complete the new unity curriculum and then traverse any of the post-unity options. It is too early, therefore, to

make any judgment about the effectiveness of the new system. However, there should be concern to put in place tracer studies and provisions for formative and summative evaluation to take an early reading of the successes, failures, and needed improvements in the system. The Education Research Center should be charged with both continuous development of the curriculum and continuous follow-up and evaluation to know what development is indicated.

7. Enrollments

5.23 One third of a million young Yemenis, 17 percent of the total population and 42 percent of the appropriate age group, were enrolled in some component of the PDRY education and training system in academic year 1983/84 (Appendix Table 5.1). About 70 percent of the corresponding age group were enrolled in the unity schools (89% of boys, but only 37% of girls), 3 percent in the vocational and technical schools, 16 percent in academic secondary schools, and 26 percent at the university level.

5.24 This represents an exceedingly rapid rate of growth, considering that only 54,000 were enrolled in 1966/67, the year of independence. Over the same period of time the number of schools and training institutions more than tripled from 262 to 980 while the number of teachers increased over sixfold from approximately 2,000 to 13,000. There were only 13 post-unity institutions in 1966/67 compared to 80 in 1983/84 (Appendix Table 5.2). Education comprised a relatively high proportion of the budget during the early post-independence years, but has declined sharply as a percentage since 1980 (Appendix Table 5.3).

5.25 However, three statistics seriously mar that picture of growth. Attrition is very high, with only 12 percent of total enrollments in all of the post-unity components combined. Fifty eight percent of the appropriate age groups are not in school, including 30 percent at the unity level (Appendix Tables 5.1 and 5.4). Sixty three percent of the young women of the corresponding age group are not enrolled in the unity schools (Appendix Table 5.1). However, once they pass the unity level, their progress improves, with females comprising approximately one third of the academic secondary and one-half of the university students, though only one out of eight of vocational-technical enrollees. The enrollments are geographically maldistributed with almost 60 percent of total enrollments compared to 50 percent of the total population in Aden and Hadramout governorates (Appendix Table 5.5). Over 70 percent of all female unity students were enrolled in those two governorates (Appendix Table 5.6), with 70 percent of female academic secondary enrollments in Aden alone (Appendix Table 5.7). To achieve a more balanced situation in the availability of educational services, the state is building more schools in the remote governorates and achieving more rapid rates of enrollment growth in them, but cultural barriers remain, particularly in relation to female enrollments.

5.26 Table 8 provides the enrollment as well as current and projected graduations by occupation for each of the technical institutes, vocational centers, and teacher training institutes. To some degree, the failure to complete the education and training cycle is a shortfall in capacity. Statistical Appendix Table 5.9 shows the extent to which the total intake of the post-secondary academic schools plus the total capacity of the other post-unity institutions failed to equal unity school completions in 1983/84.

The intake and retention of all post-unity schools and training institutions would undoubtedly be less (though no one can say how much less) if the government did not provide stipends for attendance which differ among the various programs.

8. Internal Efficiency

5.27 Wastage is a serious problem throughout the system. Table 6 has already indicated the dropout rates through each year of the unity level. Of each 100 female students, only 45 complete the eighth grade, compared to 55 males. The fifth and sixth years experience the highest dropout rates, perhaps because that is the point at which the shift is made from soft to hard subjects. There is also the problem of inadequate premises with the number of unity schools having increased by 15 percent while the number of enrollments was growing by 22 percent (Appendix Table 5.2).

5.28 The secondary academic attrition rate is also quite high, with 53 of the males and 77 percent of the female students of each 100 who enroll in the first year completing the fourth years (Appendix Table 5.10). There, again, facilities may be a problem, since the number of schools has grown 37 percent while enrollment has climbed 47 percent (Appendix Table 5.2). Howver, the fact that the dropout rate is so much higher for the males than females suggests that labor market attractions may be more important. A similar pattern exists for the vocational and technical secondary institutions as well as the teacher training centers (see Appendix Table 5.2).

5.29 On the other hand, the teacher-pupil ratio is very low at both the unity and secondary levels; it reached--for both levels--1:21 (Appendix Table 5.11). That does not mean better quality of education because, as statistics of the Ministry of Education show, over 20 percent of the unity teachers in 1982/83 were unqualified (Appendix Table 5.12). Thus, the low teacher/student ratio implies an unnecessary increase in current expenses. By raising the ratio from 1:21 to 1:25 in the unity schools, the annual recurrent costs of education could be reduced by $3.7 million; raising it to 1:30 ratio would result in a savings of $7 million annually. A similar increase in ratio for secondary teachers would result in a saving in recurrent costs of $8 million, probably without affecting the quality standards of education.

9. Teacher Qualifications

5.30 As noted previously, the following educational requirements have been set for teachers at three levels of the school system: A four-year secondary program for the teachers of the primary classes (1-4); a two-year diploma program beyond the secondary level for teachers of classes 5 through 8; and four years at the higher college of education for secondary teachers in classes 9 through 12. Completion of the appropriate education is considered evidence of qualification.

5.31 As noted, the ratio of the unqualified teachers in unity schools is relatively high, ranging from 14 percent in Aden to about 24 percent in Hadramout with general average of 20 percent in all governorates in 1982/83 (Appendix Table 5.12), whereas all teachers in the vocational and academic secondary schools were considered qualified in the same year. The high ratio

of unqualified teachers in unity schools is in part due to the fact that over 98 percent of the teachers at this level are Yemenis who have had limited education opportunities in the past. In contrast, 27 percent of academic secondary teachers and 37 percent of teachers in technical institutes are expatriates (Appendix Tables 5.13 and 5.14).

5.32 The state has been launching summer training programs for unity school teachers as well as for upgrading the skills of other teachers at the secondary level. In light of this program, the ratio of unqualified teachers in unity schools dropped from 28 percent in 1981/82 to about 20 percent in 1983/84. Whether or not those who are qualified by level of education are qualified by ability is an unprobed question.

10. Higher Education

5.33 The University of Aden has grown rapidly by 78 percent in the past six years, from 2,400 to 4,300 students. Their distribution by discipline is shown in Statistical Appendix Table 5.15. It is notable that the majority of that growth has occurred as women increased their enrollment by 176 percent compared to 34 percent for men. There is now nearly equal balance between the sexes at the university level, though women tend to dominate in health and education offsetting a deficit in agriculture and technology. Another major factor in that growth has been the establishment of branches of the College of Education in other governorates. Since several of the colleges or faculties are relatively new, the apparently declining size of the advanced classes shown in Table 16 is a sign of growth rather than retention problems. That growing trend is also shown by degree in Statistical Appendix Table 5.17.

5.34 A totally new and consolidated campus is planned for the near future which should provide a new impetus for growth. With the exception of a new teaching hospital recently completed for the faculty of medicine, units of the university are housed in makeshift facilities throughout the area. The physical conditions are not conducive to either good education or good administration.

5.35 Graduations have increased even more markedly than enrollment from 40 in 1972 to 1,003 in 1984 (Appendix Table 5.18). However, the current quality of the facilities and the faculty are cause for serious concern about the qualifications of the graduates. Though national policy would prefer minimizing reliance on expatriates, they comprise the best assurance for quality in the short run. The number of lecturers at the university rose 53 percent from 356 in 1980/81 to 545 in 1983/84. One-quarter of the total are expatriates ranging from one-third in law and medicine to 11 percent on education campuses (Appendix Table 5.19).

5.36 Given the limited faculty base, only the training of numerous Yemenis abroad can bring a redress in the higher education system in terms of home-grown quality. For this, the country is dependent upon technical assistance since neither the state nor individuals can afford the expense of foreign study.

5.37 In 1982/83, some 430 scholarships in seven different fields were provided by six donor nations (Appendix Table 5.20). That number is equal to about one-third of the total intake of Aden University. The USSR is the primary donor, offering two-thirds of the scholarship. The rest, with minor

exceptions, are Eastern Bloc countries. About 40 percent of the scholarships are engineering-related with the arts and medicine comprising most of the remainder. Though more such outlets are needed, the flowback of graduates now provides major additions to the high talent manpower complement of the country.

B. Vocational and Technical Training

5.38 Not counting the two-year university diploma courses in education and economics, there are currently 31 different vocational and technical institutes in PDRY, some of which are outlying branches of main institutes located in Aden Governorate. Of these 31 institutes, 14 are located in Aden Governorate, five each in Lahej and Hadramout, four in Abyan, two in Mahra and one in Shabala. Data on each of these was included in Statistical Appendix Table 5.8. They are of nine different types: Industrial, Commercial, Agriculture, Construction, Health, Fine Arts, Civil Aviation, Cooperative and Teacher Training institutions. Fourteen of these are run by the Ministry of Education, six by the Ministry of Health, four by the Ministry of Labor and Civil Service, three by the Ministry of Agriculture, and one by each Ministries of Commerce, Civil Aviation, Fish Wealth, and Construction.

5.39 Three levels are involved: (a) those offering diplomas after two or three years beyond completion of the academic secondary level, such as the Cooperative Institute, Civil Aviation Institute, Irrigation Engineering Institute, and the Institute of Health Manpower Development; (b) the five-year post-unity level, such as the Industrial Technical Institute and the Fish Wealth Institute; (c) the one-, two-, three-year post-unity vocational centers, such as the Ministry of Education commercial and industrial centers,

the Vocational Training Centers of the Ministry of Labor and Civil Service, the Farm Machinery vocational school at Hadramout, Agriculture Vocational School at Lahej, the two-year post-unity program of the Institute of Health Manpower Development, and three Teacher Training Centers. The five-year post-unity technical institutes were described previously because two of their four years is primarily general education. The other three years and the remainder of the institutions cited here have in common that they all prepare for specific occupations at less than the baccalaureate level.

5.40 The total capacity of all of these institutes adds only to 7,500 students for 1983/84 with a maximum intake of about 3,200 students and an average annual output of about 2,800 students. The numbers of such institutes grew by 23 percent and enrollments by 39 percent between 1966/67 and 1983/84.

1. Efficiency of the Training System

5.41 Efficiency is customarily measured by the ratios between enrollments and completions and the occupational congruity between enrollments, completions, and labor market demand. On the first criterion, the internal efficiency of the system is commendable. Across the board, more than 80 percent of those who enroll complete the training requirements.

5.42 There appear to be four primary reasons for this high completion rate. First, for the two-year programs and for the first two years of the other post-unity programs there is no place else to go. The students complete unity school at age 14 and cannot enter the organized sector market until they are 16. As demonstrated before, there is a huge dropout within the unity

schools and between them and the next phase. But once enrolled in a post-unity program, there is no labor market incentive to drop out. Those who get past the first two years of the technical institutes have proved themselves sufficiently academically oriented and motivated that they are likely to continue through the "hands-on" technical training. Secondly, the students receive stipends while in training, the level varying but the desire of the planners does encourage retention. Finally, the curricula of the two-year vocational centers do not appear rigorous and probably do not require great effort on the student's part in relation to the stipends received and the attractiveness of the alternatives.

5.43 As to labor market demand, the Ministries of Planning and of Labor and Civil Service do provide planning data to the agencies operating the training centers. Lacking the data bases and projections necessary for sound manpower planning, it is only of a best-guess nature, but it doesn't matter. The needs estimates provided are always beyond the capacity of the training institutions. The institutes simply operate at full capacity insofar as they are able to attract students. Only in certain isolated locations is there unused capacity. To the extent the planning requirements are adequate, the output is distorted in that for some the shortfall may be small and for others large, with no attempt to balance to relative need.

5.44 The problem is accentuated by the lack of central guidance in the training system. Each of the ministries operates its training centers without much coordination with the other. There are wide differences in quality and efficiency. There is also the possibility of duplication and under- and overutilization. The planned enrollments from the Planning Ministry could

provide a measure of articulation, but cannot for the lack of data and the lack of capacity already cited.

2. Facilities and Equipment

5.45 Facilities are overcrowded, dingy, and haphazardly located, but that is less important than equipment inadequacies. The academic institutions also suffer from inadequate facilities. While pleasant surroundings may be conducive to better learning, vocational and technical instruction cannot progress without adequate and up-to-date equipment and instrumentation for "hands-on" learning. Of those institutes visited by the mission, equipment was almost universally outdated, scarce, and in poor condition. Test equipment was especially lacking. Curriculum materials were typically in English, despite the limited English knowledge of the young post-unity students. The instructors were caught between the language of their materials and that of their students.

5.46 There is some dispute over the accuracy of the planning projections which constantly demand more output than the capacity of the training institutions. But any need for further expansion should take low priority in comparison to the need to update the quality as well as expand the quantity of equipment and curriculum materials for vocational and technical training.

3. Incentives and Deterrents

5.47 In summary, there are several major factors which encourage or deter students from enrolling in the vocational training centers:

a) Incentives

1. The lack of alternatives upon completing unity schools at age 14 with labor market entry generally restricted to age 16.

2. The absence of other educational alternatives for those who do not get the required scores for entrance to academic secondary and technical education.

3. The possibilities of preparing to retake the qualifying examinations to recycle into these preferred levels.

4. The stipends received while training.

5. Bonuses received when recruited upon completion of a skill in high demand.

b) Deterrents

1. The low quality of facilities and equipment.

2. The tracking into low-status jobs.

3. The difficulty of continuing education and training beyond the two-year programs.

4. The narrow occupational offerings and lack of free choice of preferred occupation.

C. Informal Alternatives

5.48 Few educational and training options exist in the PDRY outside the system already described, but three are worth mention.

1. On-the-job Training

5.49 A number of the larger public and mixed enterprises have taken on-the-job training to meet their own manpower needs. It is probable that the larger private enterprises do as well but there is little direct information concerning them. No government agency has responsibility for promoting on-the-job training and there is no reporting concerning it.

5.50 Public employers are required to hire only through the placement offices of the Ministry of Labor and Civil Service. Employers cannot legally hire anyone under 16 years of age. The major responsibility of the placement offices is to place the graduates of the two-year vocational centers. The public employers interviewed preferred those for on-the-job training rather than secondary school graduates who do not view themselves as potential industrial workers.

5.51 A major amount of on-the-job is provided by the foreign vendors of industrial machinery who send instructors to see that their machines are properly staffed. A few key people are taken to the machinery factories abroad for that purpose. The majority are trained informally at the workplace.

2. "Second Chance" Programs

5.52 With limited resources, a high birth rate and a burgeoning youth population, no programs have been undertaken to provide training or retraining for adults. Any adult may, however, participate in the examinations given at the end of the unity shcools or the academic secondary level and to enter the following phase of the education and training system if the exam score is adequate. But, in practice, few adults without previous education could pass sufficiently high to win admission. Older workers are also less likely to be chosen for on-the-job training than the younger ones with better basic education and more years to serve. For these reasons, an anti-illiteracy campaign is the only second chance program available.

3. The Literacy Campaign

5.53 Prior to 1967, illiterates constituted 90 percent and 95 percent among males and females, respectively. In December 1973, the first law concerning illiteracy eradication was passed, forcing all illiterates between ages 12-45 to enroll in special classes. Between 1973 and 1980, about 365 thousand enrolled. In October 1980, another illiteracy eradication law was passed. All male illiterates between the ages of 12 and 40 and their female counterparts between the ages of 12 and 35 were required to enroll in illiteracy eradication classes. The new goal was to eradicate illiteracy within five years. By July 1984, the estimated number of adult illiterates had dropped to about 195 thousand (Appendix Table 5.21). Lahej governorate had the highest illiteracy rate, followed by Hadramout and Abyan. Toward that end, ten million dollars were earmarked for the program in 1984, schools were

closed for a time, and all students at the secondary, educational, and teacher training institutions, plus teachers of unity, secondary, and educational institutions, were mobilized to participate in the campaign (Appendix Table 5.22).

5.54 To encourage illiterates joining this campaign, those who finish literacy classes will be granted certificates equivalent to the fourth-year unity level. The Ministry of Education is now studying the possibility of establishing a two- or three-year special course to bring those finishing literacy classes to the level of general education attained by unity school graduates.

D. Issues in Education and Training

5.55 The PDRY education system appears well-conceived. For the first eight years, every student gets the same education which seeks a balanced introduction to all aspects of life--intellectual, moral, and practical. Thus, by age 14, each has an exposure to life skills and prevocational skills. The preparation is the same for males and females, but differentiated for rural and urban areas.

5.56 Since the unity school ends at age 14 and employment is not legal until age 16, the system contemplates continuation into some form of preparatory and preparation for employment. The academic secondary prepares specifically for a university program which is very narrowly specialized. Therefore, the academic secondary is broad in its coverage, but rigorous and "hard" with little election. Mathematics, physical sciences, natural

sciences, and humanities are all required. One can forego none of the requirements but one can specialize in an area of interest. From the four-year program, the student goes into a university setting where every college is separate and self-contained and professionally oriented.

5.57 Those contemplating the labor market as their post-secondary option can do a five-year technical program or a two-year vocational program. In the technical program, the first two years provide the mathematical, scientific, and theoretical background through classroom training, whereas the final three years have a stronger "hands-on" emphasis. The top graduates from any of the technologies can continue on starting in the second year of the corresponding university program. The two-year vocational program is designed to provide entry-level skills for entering the job market at the legal age of 16.

5.58 Of course, there are many problems in practice. A universal one is the inadequate facilities and equipment at all three levels. This, however, does not negate the value of the concept.

5.59 Probably the most serious conceptual gap is failure to continue beyond unity. The design contemplates universal choice of secondary education, but a substantial proportion do not continue. They cannot legally become employed at that age, though probably many do, especially in agricultural areas. However, there is no legal outlet for those who do not choose to continue formal education and training beyond the age of 14. The choice is either to add another component to fill this hole for the 14-15 group or to enforce involvement in the current components. Probably the best choice would be a cooperative program worked out with employers wherein some time could be spent in the schools and some time in on-the-job training.

5.60 Another shortcoming of the concept is the lack of integration of the compulsory military service for the young men and the corresponding compulsory national service for the girls. That could be integrated so as to both build on and use skills more effectively.

5.61 Furthermore, there are very limited "second chance" options. There appears to be no organized program whereby after a few years in the labor market a worker seeking better opportunity or displaced for one reason or another can find a way back into the education system for upgrading or retraining. A key element in this second chance system is continuance of the anti-illiteracy campaign. Abandoning it or failing to reinforce with followup the efforts of the newly literates will result in atrophy of those skills with much of the determined effort coming to naught.

5.62 There is a need for strengthening on-the-job training. The jobs in any economy can be divided into three categories for manpower development. There are those which require some formal preentry preparation before they can be undertaken. This will be so where the tasks are complex and nonrepetitive and require the exercise of considerable judgment, where there is a high theoretical and intellectual content to the job, or where therre is a threat to persons or equipment from untrained operation. This is always a minority of the total employment. There is also a second range of jobs which requires no preentry training but which requires on-the-job training. These jobs are usually firm-specific or industry-specific, may be repetitive, but sufficiently complex to require instruction and practice and have a job content and work environment which cannot be synthesized in a classroom setting. It may also be that the equipment is too expensive for a school to

duplicate. These are also always somewhere less than half of all the jobs. There is a third range of jobs which can be performed by anyone of normal intelligence and dexterity with only the most minimal instruction.

5.63 The PDRY system is overoriented to the first category, in that it gives no overt attention to the second and third. Thus, the need to cooperate with employers, in promoting and improving on-the-job training and filling in the one year after Unity until employment is compelling.

5.64 Another weakness is the lack of attention to the private sector. A socialist government tends to focus upon the public and cooperative sectors. But the private sector in PDRY is large and vigorous. It pays adequate wages and is an effective competitor in the labor market. It undoubtedly absorbs a large proportion of the output of the education and training system and makes major inputs through its own on-the-job training. Sensible planning cannot be accomplished for either product or labor markets without taking into account the entire economy.

5.65 A final concern is for that planning element. Occupationally oriented education and training has the dual obligation of merging the employment needs of people with the skill needs of the labor market. A long-term enterprise such as formal education and training is not totally feasible, is limited in the short-run changes it can make, and requires long- or at least medium-range planning. To date, almost any training has been useful. The employment and the training system has been expanding rapidly. Both are now slowing while the population is continuing rapid growth and outmigration is slowing. Overtraining in certain occupations is now a real

possibility with its consequent waste and frustration. Planning requires data on present status and perceived need. Neither are available in PDRY. Household and establishment surveys and fuller use of administrative data are essential to labor market planning.

VI. MANPOWER PLANNING

A. Introduction

6.01 The lack of any reliable data on total national employment by sector and by skill or education level makes overall manpower planning in PDRY difficult at present. As discussed in Chapter II, this situation cannot be rectified until the employment survey planned for 1985 has been completed and analyzed; and this, too, will be of only limited value unless respondents are probed to ensure that those declared to be "not working" really have no occupation which contributes to household consumption. The data now used as estimates of total national employment start from a massive understatement of the true level (particularly for agriculture and also for women) in 1973 and are based on largely arbitrary assumptions as to trends since then in the non-organized private sector (which may account for up to three-quarters of total national employment).

6.02 In principle, manpower planning in PDRY is the responsibility of the Ministry of Labor and Civil Service. In practice, though, the Ministry confines its functions to the organized sector and mainly to the 104,000 public sector employees in organizations which in 1983 came directly under the control of Ministries other than Defense and Interior. This total excludes agricultural and fisheries, but not industrial, corporations; in the private sector includes only the few hundred workers in "organized" private industry. The overall estimates of total national employment by sector are, made within the Ministry of Planning, which each July sends out questionnaires to all

Ministries and autonomous government agencies to establish the basis of the Annual Manpower Plan, itself an input to the National Annual Plan.

6.03 The questionnaires are fairly detailed and generate a considerable amount of information on public and organized sector employment and manpower needs. All forms are to be submitted to the Ministry of Labor by October of each year (though it seems that this is not always the case) and they are then discussed between the Ministry of Labor and the Ministry concerned. That Ministry is itself responsible for aggregating the existing manpower sources and needs of all organizations coming under its control (a substantial number in industry, for instance). Following these discussions, the Annual Manpower Plan goes to the Ministry of Planning and, after any changes, then to the Council of Ministers as part of the overall Annual Plan.

6.04 In principle, the analysis of the questionnaire responses should show:

a) existing manpower by Ministry by broad skill level and by educational background;

b) similar data showing extended recruitment (by skill grade and education) in the current year;

c) similar data showing additional needs by skilled and education during the next year;

d) situation year-by-year data or workers leaving (because of retirement, resignation, or going in military service, etc.);

e) existing employment by Ministry by more detailed specialization (each Ministry lists its own and uses its own definitions) and by education level;

f) similar information for the next year, showing additional needs;

g) data on training (enrollment, total number required and number of graduates) by specialization in each training institution coming under each Ministry's control;

h) a breakdown of labor force and ways for the last, the current and the next year between direct production and other workers, to compare with output data and then assess productivity trends;

i) details on employment graduates from all secondary training institutions, plus Aden University and on dropouts from such training;

j) future requirements of manpower from training institutions by specialization and by governorate.

6.05 In actual fact much detailed analysis is not carried out. Consequently the considerable effort put by technical Ministries and public agencies into answering the questionnaire is largely wasted. The Ministry of Labor claims that it lacks the manpower to do a proper analysis and that because the job classifications used are not uniform as between Ministries and give insufficient detail, this would in any case be impossible. Both claims

appear only partly justified. By using a proper occupational classification and computerizing the whole process (on both of which the Ministry of Labor puts considerable emphasis and for which the Bank has already been involved in helping in preparatory work). The analysis could probably be undertaken at little additional cost. But even without computer the volume of data is certainly not such as to make a full manual analysis impracticable. And, although there are certainly some inconsistencies between Ministries in classifying manpower by skill level and specialization, these are probably not so serious as to make the results of an analysis open to question. A considerable amount of very valuable information could thus be compiled from the answers to these questionnaires (assuming they are reasonably fully completed). This would be sufficient to make a start on proper manpower planning for the public sector, at least. Requirements by broad skill specialization could be projected, roughly, for perhaps five years ahead. This could be very valuable for linking manpower to educational plans.

6.06 An illustration of what can be done, very detailed, though not sufficiently forward-looking, is provided in the July 1984 report for the Ministry of Construction by the Danish consultants, "Manpower Review and Training Needs of the Highway Authority." This compares existing resources and future needs and suggests how gaps could be filled (by transferring staff to different jobs, and by retraining as well as by recruitment of new workers)/

6.07 Also data for the organized sector generated by the Ministry of Labor's job placement system[1/] could be of considerable value to manpower

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1/ See paras 2.22 - 2.24 above.

planning. It seems (though not all within the Ministry agree) that an analysis of this could be prepared fairly easily, and that it could generate the following data:

a) an annual survey for the last seven years of organized sector employment and those seeking employment through the job placement system by governorate, by broad skill level, by sex, by age group, and by level of education;

b) an annual survey of those placed in jobs through the system by establishment where they are to work, by educational level, and by salary grade (supplementary details are available on graduate placements).

It also seems that the Ministry has details on all expatriates working in PDRY by skill and by establishment where working. In short, though manpower planning for the organized sector is no substitute for comprehensive planning on a national scale, far more could be done with what is already available.

B. Planning Manpower Needs

6.08 The usual approach to projecting manpower needs is first to assess current surpluses and shortfalls by skill classification by geographical area and by sector, then to assess future needs in each of these categories (perhaps over 1,000 in total) on the basis of alternative rates of sectoral economic growth, and general presumptions as to rates of productivity in each sector (perhaps even differentiated by area). Additional needs for each skill

in each area, taking into account those withdrawing from the labor force, mainly women having families, retirement, emigration, and death) can then be translated into plans for educational development and specific gaps which might have to be filled by foreign workers identified. This approach to overall national manpower planning is not at present possible in PDRY. A major step toward it will be taken when the manpower survey planned by the CSO for 1985 is completed. However, it is essential that:

a) job classifications are sufficiently detailed to be related to outputs from particular educational programs;

b) in carrying out the fieldwork, respondents are probed as to whether those individuals in each household declared working may in fact be carrying out some productive or non-productive economic activity including on a part-time basis only (notably women in rural areas);

c) the results are analyzed promptly and are made available to the Ministries and government agencies concerned.

6.09 Parallel with this in order to set the basis for the proper manpower planning in the Fourth Plan, the Government could set in train investigations into current surpluses and shortfalls and the efficiency of manpower utilization in the organized sector and in more general terms in the non-organized private sector, too. For the Third Plan it would, in principle, be possible to make a start on more detailed manpower planning than has so far been carried out, but for the public and mixed sectors only. This would use

the information which the Ministry of Labor has on file plus the base data for this which exists in other Ministries.

C. Using Workers More Efficiently

6.10 In spite of the general labor shortage and marked apparent shortfalls in some skills, this mission, building on the work of previous Bank missions, gained the strong impression that it would be practicable to meet all additional labor needs during the Third Plan period by more efficient use of existing manpower resources and so boosting overall national labor productivity. This conclusion--examined in more detail later--would hold at any likely rate of overall economic growth which the Plan is based on. Only in a few specific job categories could labor shortfalls represent a significant development constraint. There are five main ways for improving worker utilization, discussed in the paragraphs which follow.

6.11 Productivity-linked pay incentives have had an appreciable impact on many operations. But there is still too often insufficient incentive for non-productive workers and many productive ones, too, to work more effectively. In some cases, the pay system can actually discourage hard work (e.g. some casual laborers paid on a daily basis). Productivity incentives should be introduced wherever practicable; for some it may be impossible to achieve this without reshaping the general public pay system (see next paragraph). But such schemes cannot by their nature apply to all workers, and more emphasis is needed, for production workers, too, on other types of incentive. Prospects of promotion and/or of different or more interesting work, fear of losing one's job, or demotion if one does not work too hard, the

inculcation into the labor force of corporate team spirit, and a cultural tradition which emphasizes the moral worth of hard work (e.g. Japan), and the impact of exhortation on worker attitudes (e.g. Cuba) are all methods which have been used with success in other societies; the natural human desire to be well regarded by one's colleagues and to appear a good citizen can be developed into a real incentive.

6.12 The public sector pay system has become considerably more flexible in developing inducement allowances and productivity incentives and in regrading jobs to encourage people to work in particular occupations or areas where shortages are evident. This seems, however, to be creating new problems in that it is sometimes difficult to get good staff to work in jobs which do not qualify for these allowances and incentives (e.g. non-site work in construction). Central functions may therefore be starved of the best professionals and other staff. Nor do the incentives to work in rural areas as yet extend to a sufficient range of jobs. The absence of adequate housing in many rural areas coupled with low normal salaries and very large subsidies on public sector housing in Aden exacerbate the problem. Possibly the time has come to consider recasting the whole public sector pay system, increasing basic rates substantially, adding incentives to work in rural areas to a maximum of 50 percent, eliminating some allowances (e.g. overtime pay for higher grades--who should be expected, as elsewhere, to work extra hours when the job requires without any extra pay), and cutting the subsidy element on housing, for car purchases, etc.

6.13 As already noted, investigations should be undertaken into current real surpluses and shortfalls of labor in the organized sector and into the

efficiency of manpower utilization. More general surveys might be carried out in the private sector, too. The aim would be to review organization by organization; how existing resources could be used more efficiently--by internal reorganization, by internal transfers, and in-service training to enhance skills and professional capabilities; whether some workers may be surplus to that organization's real needs (in which case, given the general labor situation, it should be easy, perhaps after retraining, to find them jobs elsewhere); and, in the light of development plans for the organization, how many additional workers in different skill brackets can only be found through new recruitment. The analysis carried out on the Highway Authority for the Ministry of Construction (see paragraph 6.06) demonstrates how this might be done. Few, if any, organizations in PDRY have the in-house professional capacity to carry out such analyses, and in any case international experience suggests that insiders are rarely the best people to do them; impartiality is difficult to achieve and there are problems in distancing oneself sufficiently from existing structures and procedures to suggest how these might be remodeled. As in the Highway Authority study, it may be necessary to use foreign consultants, though it would be better and cheaper to entrust the work to a national consultancy organization (as has been proposed in the past) using mainly local staff, if these can be found, supported by a few foreign professional management consultants.

6.14 In-service training and skills development needs to be given far more attention in all sectors and at all levels. Even the best educational system cannot turn out fully competent workers, in any advanced skill, whether manual or intellectual. Practical working experience is needed and this must be coupled with in-service training. While the need for this is often

appreciated in relation to higher level staff, the greatest potential for productivity increases via skills development frequently lies among the unskilled and semi-skilled manual grades--in agricultural workers, for instance. Particular attention might be given to women, including training of female extension workers.

6.15 One of the important reasons for low labor productivity in PDRY, and one responsible for many of the deficiencies noted in the preceding paragraphs, is a lack of management skills. Many enterprises which have fairly adequate technical personnel are much weaker in general management, in financial control, and in marketing. The general lack of experience in working in parallel organizations in other countries, and the almost total absence of foreign management personnel supporting Yemeni managements means that it is not always appreciated how great the shortfall is. The key role that a modern accounting system can have in helping top management use their resources, including labor, effectively needs to be more widely accepted; accountants tend to be little more than bookkeepers rather than high-level professionals with 3-5 years' specialized training after finishing university. Bolstering management capabilities is bound to be a slow process. Technical assistance could help in giving training courses. Selected Yemeni graduates might be sent on management training courses abroad or could be financed to acquire professional accountancy qualifications. And consideration could be given to recruiting a few foreign management personnel to work in larger Yemeni organizations; the problem is in finding appropriate people able to work in Arabic and willing to spend some years in PDRY. Finally, management performance, too, would be helped by incentives. The lack of financial incentives (e.g. profit sharing) is, of course, usual in public

sector operations throughout the world, but it is important for public sector management personnel to be aware that their own career progression will primarily be determined by their success in meeting specific goals laid down by government. Experience suggests that the best goal is usually one measured in profits terms; physical output goals, for instance, are too liable to result in unsold surpluses, indeed, often surpluses which are unsaleable because of inadequate product quality, and to wasteages of both raw materials and finished products.

D. Possible Shortfalls

6.16 Thought the prime role in meeting manpower requirements for Third Plan fulfillment should be through using existing work forces more efficiently, certain probable shortfalls cannot be met in that way. These will have to be met by a combination of:

a) training more Yemenis in the skills concerned (but it is, of course, now difficult to expand the number taking courses lasting for 3 or 4 years sufficiently rapidly to have any significant impact during the Third Plan; educational planning needs to be carried out 5-10 years in advance of anticipated trends in demand for particular skills);

b) recruiting foreign workers to fill gaps;

c) "fudging"--that is, hoping that people will be able to do jobs for which they are not really trained, or have the required experience to

do, that quantitative and qualitative shortfalls can somehow be overcome without affecting Plan implementation.

Obviously, the first is by far the most satisfactory. Foreign workers, though now relied upon to a major extent in the construction industry, are expensive, but this approach is acceptable as a short-term easure to plug gaps and to help build up local skills (though there has been little transfer of skills to Yemeni construction workers). "Fudging" may work well enough if the labor shortage is more apparent than real. It tends to be disastrous, leading to slow project implementation and lagging output growth, when shortages really do exist.

6.17 In general, future shortages which cannot be met through productivity improvements alone are likely to exist in the following (most of them, of course, skills where shortfalls are already apparent):

- Construction workers at all skill levels from graduate engineers down, and in most construction trades (carpentry, plumbing, electricians, masons, etc.)

- Agricultural extension workers (including women)

- Specialist engineers in the various skills needed in industrial-scale fisheries and ship officers for fisheries

- Accountants trained to above graduate level

- Graduate management personnel with training in marketing, personnel management, project analysis and implementation, etc. (as given in post-graduate management schools).

These are likely to be absolute national shortages, not simply shortfalls in the public sector resulting from insufficient competitivity with private sector pay and conditions. In some of these (notably most of the construction skills), shortages have been partly created by emigration abroad of many Yemeni workers. It assumes the introduction of effective programs of skill upgrading for existing workers through in-service training and study abroad. In this context, an important need is to make good past and, indeed, existing, deficiencies in the practical aspects of educational and vocational training in PDRY. Graduate engineers, for instance, need to be able to show workers how to get the best use of machines: at present, it can be the other way around.

E. Some Projections

6.18 Table 6.1 shows some very rough estimates of changes in total national employment needs during the Third Plan period, assuming:

a) target output increases during the Third Plan period similar to those targeted for the Second Plan (the effect of varying this assumption is also shown);

b) that these output increases reflect essentially investments in reasonably modern, though not capital intensive, facilities plus

Table 5.1: APPROXIMATE NUMBER OF ADDITIONAL WORKERS NEEDED DURING THIRD PLAN 1986-90 ON THREE DIFFERENT PRODUCTIVITY ASSUMPTIONS

	Industry	Agriculture and Fisheries	Building and Construction	Transport and Communications	Commerce Restaurants Hotels	Other Services (non-producing)	Total
Scenario A							
Reduction due improved productivity in 1985 base output	8.9	25.5	7.2	4.9	6.0	9.0	61.5
Increase to cope with additions to output during 1986-90	10.1	16.6	15.2	8.9	9.0	22.1	81.9
Net Change	+1.2	-8.9	+8.0	+4.0	+3.0	+13.1	+20.4
Scenario B							
Reduction due improved productivity in 1985 base output	12.1	38.5	9.7	6.7	9.2	13.8	90.0
Increase to cope with additions to output during 1986-90	10.1	16.6	15.2	8.9	9.0	22.1	81.9
Net Change	-2.0	-21.9	+5.5	+2.2	-0.2	+8.3	-8.1
Scenario B							
Reduction due improved productivity in 1985 base output	15.5	52.0	12.4	8.6	12.5	18.8	119.8
Increase to cope with additions to output during 1986-90	10.1	16.6	15.2	8.9	9.0	22.1	81.9
Net Change	-5.4	-35.4	+2.8	+0.3	-3.5	+3.3	-37.9
All Scenarios							
Extra Labor needed for 1 percent faster output growth rate during 1986-90	1.0	2.2	1.8	0.8	1.1	3.3	10.2

Main Assumptions

1. Value added (using government figures) grows at same real rate in 1984 and 1985 as the average achieved in 1981-83 (except for those sectors whose output fell during these years—for which it is taken as remaining at the 1981-83 average rate).

2. Between 1985-90, value added rises at the same annual pace, under all scenarios, as the target rates laid down for the Second Plan. (The last line shows the approximate extra number of workers needed if Third Plan targets are for faster growth than Second Plan ones; for slower growth, subtract the same number of workers). The Second Plan target rates were: industry 13.9 percent; agriculture and fisheries 8.9 percent p.a.; construction 10.4 percent p.a.; transport, etc. 14.5 percent p.a.; commerce, etc, 10.0 percent p.a.; and other services 8.0 percent p.a.

3. During 1984 and 1985, employment by sector is assumed to grow at the same gentle pace in all sectors (sufficient to maintain full employment and representing a productivity increase of around 3 percent p.a.). Using Mission estimates of total existing employment, Scenario A presumes a 1 percent annual rise in agricultural productivity during 1986-90, 2 percent p.a., in commerce and non-producing services, and 3 percent p.a. in industry, construction, and transport. Scenario B put the 1986-90 agricultural productivity increase at 1.5 percent p.a., and increased the other rates to 3 percent p.a. and 4 percent p.a., respectively. Under Scenario C, agricultural productivity rises at 2 percent p.a., commerce and non-producing services productivity rises at 4 percent p.a., and in the remaining sectors there is a 5 percent increase.

4. For net additions to output during the Third Plan period, it is presumed that annual value added per extra worker will be YD 1,000 in agriculture, YD 2,000 in non-productive services, YD 2,250 in industry and construction, and YD 3,000 in transport and YD 3,500 in the commerce sector. These levels of productivity are allowing for inflation roughly equivalent to the level that Tunisia, for example, achieved for total average output per worker in 1980 (excluding mining). They are a reasonable target at which PDRY could aim for increments to output.

increases in output from existing facilities which also reflect a limited switch to modern promotion techniques (and so, higher value added per worker);

c) three different scenarios as to the number of workers required to maintain base level (1985) output in each sector throughout the period in 1990, representing--

Scenario A - a modest increase in productivity relative to the potential which exists.

Scenario B - a rather faster productivity rise.

Scenario C - the most rapid rise in productivity which PDRY could reasonably expect to achieve in relation to existing production.

6.19 These correspond to similar rates of growth in real income per head for those now working in these sectors; even under Scenario C, the implied annual rise in agricultural living standards is, though, quite slow. Occupational breakdowns from other countries suggest that the combined additional labor in sectors other than agriculture can probably roughly be broken down as follows:

professional and technical staff	10 percent
administrative and managerial staff	2 percent
retail trade and other sales workers	15 percent
other service workers (inc. civil service)	10 percent

production workers, transport

equipment operatives,
general laborers, etc. 48 percent

F. Implications for Third Plan

6.20 Table 6.2 compares these projections with the Mission's estimates of labor force growth (shown as Estimate 1). Similar projections on similar assumptions are also made, starting from 1982 labor force levels, as shown in official published data (Estimate 2). Rough though the figures are, the implications are clear. By 1990, even on a slow rate of productivity growth (Scenario A), the shortfall in job opportunities at home will be substantial--110,000 or 52,000, depending essentially on whether the bulk of female agricultural employment is or is not included in the labor force and in 1982 employment. On the higher growth assumptions of Scenario C, the 1980 shortfall will be around 167,000 or 97,000. There is no realistic possible way of absorbing these workers through faster economic growth. To do this would require real GDP growth of an impossible 22% p.a. during the Third Plan period even under Scenario A (using Labor Force Estimate 1, or 16% using Labor Force Estimate 2). Yet, of course, even the 10.5% target GDP growth rate assumed for all these estimates is an ambitious one.

6.21 Logically, there are four possible approaches to this situation:

a) allow unemployment to rise;

b) allow productivity to remain at a very low level;

Table 6.2: APPROXIMATE SHORTFALLS IN JOBS AVAILABLE UP TO 1990 OR DIFFERENT PRODUCTIVITY ASSUMPTIONS AND DIFFERENT LABOR FORCE ESTIMATES ('000 WORKERS)

	1982	1985	1990
Civilian Labor Force - Estimate 1 a/	780	811	932
- Estimate 2 b/	468	508	592
Civilian Employment - Labor Force Estimate 1 c/			
Scenario A	774	801	822
B	774	801	794
C	774	801	765
Civilian Employment - Labor Force Estimate 2 c/			
Scenario A	467	508	540
B	467	508	518
C	467	508	495
Job Shortfall - Labor Force Estimate 1			
Scenario A	10	10	110
B	10	10	138
C	10	10	167
Job Shortfall - Labor Force Estimate 2			
Scenario A	1	0	52
B	1	0	74
C	1	0	97

a/ Mission estimate (no increase in participation rates, but assuming 17,000 emigrants during 1982-85 and 22,000 during 1985-90.

b/ As in published data (assumes 2.6% p.a. population growth throughout from 1973).

c/ The different labor force estimates correspond to differing existing employment levels. Output and productivity assumptions from 1985, as in Table 2.7. For 1982-85, employment estimates under Labor Force 2 are based on a presumed continuation of recent trends to 1984 in published data, while those under Labor Force 1 are slightly slower (and presume continuing a nominal 10,000 are unemployed).

c) invest in less modern and more labor-intensive operations in the Third Plan period;

d) allow for additional emigration (the projections under Estimate 1 presume 17,000 emigrants during 1982-85 and 22,000 during 1985-90, while the method of calculating population in official estimates makes no specific presumption on emigration, though the 2.6% growth may imply one).

6.22 The first is, of course, in direct contradiction of the Government's entire development strategy to date. Allowing productivity of existing operations to remain low has the greatest impact on the potential labor force imbalance. But even if there is no increase in their productivity, an employment gap of some 50,000 would open up during the Third Plan period; to fill this with reasonably modern operations would require a real GDP growth of 16 percent p.a.--almost entirely impracticable in physical and market terms as well as in terms of raising the necessary investment resources. Moreover, a policy of allowing productivity to remain low has the serious snag that the gap between what individuals can earn at home and what they might earn abroad widens further. This in itself encourages emigration. The same objection also applies to some extent to a policy of investing in more labor-intensive operations. It will be difficult to sell the goods without holding down average worker receipts. An average level of labor productivity in net increases in output during the Third Plan of only two thirds of that presumed in Table 6.1 would, in conjunction with a nil increase in productivity in existing operations, closely match the likely increase in the labor force (provided, as always, that participation rates remain unchanged). However,

this clearly implies an increasing gap between what workers earn at home and what they can expect abroad. It also implies that domestically produced income will shrink to a lower proportion of total national resources than at present. Both seem undesirable.

6.23 So, productivity of existing operations must rise and new operations must achieve substantially better levels of productivity than existing ones. This can only be achieved by net emigration of at least 50,000 workers during the Third Plan period. Indeed, full employment and a really significant improvement in productivity will be difficult to achieve unless around 100,000 workers go abroad during these years. Then, the foundations could be laid for a better balanced economy and for a slower rate of emigration during the 1990's.

6.24 In view of this situation, the Government may wish to take generally a more positive attitude to emigration. This not only means it should make it easier for workers to go abroad--encouraging particularly, perhaps, short-term emigration. It also implies considering training people with an eye to job opportunities in neighboring countries. It is becoming more difficult to find such jobs, partly because of the slower rise in oil incomes, partly because of the Saudi Arabian and Gulf construction boom is in any case slowing (many of the facilities needed are now complete), and partly because of competition from low-paid workers from other Asian countries, particularly in the Indian subcontinent. Yemeni workers, if they are to find jobs and are to be reasonably well paid in them, will have to offer more. Common language and cultural heritage are insufficient. Better skills are needed, too. Possibly the nature of future employment opportunities in neighboring countries should

be analyzed to identify what gaps Yemenis might best seek to fill, and what training facilities should be built up in PDRY to enable them to compete more effectively for them.

ANNEX 1

PUBLIC SECTOR PAY AND THE SOCIAL SECURITY SYSTEM

Wages and Salaries

1. Public sector wages and salaries in PDRY appear at first sight very low and tied by a fixed grading system. Moreover, in spite of a rise of over a third in the Aden retail price index, there has been no general public sector pay increase since 1979. But in practice, there is considerable flexibility in the system, regular regrading of jobs amounts to general increases spread over a period of years, and a wide range of allowances is given in addition to nominal pay. In particular, inducement allowances to encourage work in particular areas and jobs, and productivity incentives have a very large effect on the pay of those concerned. Heavily subsidized housing and some other subsidies also increase the attractiveness of public sector work as do the social security benefits (towards which the worker pays no contributions) applicable throughout the organized sector.

2. The theoretical minimum rate of pay in the public sector is YD 20 a month, but this is only a foundation for building up the public sector pay structure and it is claimed that in practice no one now gets under YD 25 a month, and few get only that. There are four main public sector pay grades, each divided into several subgrades and with a "super-scale" as part of the management personnel grade. Unskilled trades usually get a basic YD 35-45 a month. Semi-skilled, skilled grades and technicians are split into a large number of sub-grades, starting at around YD 70, and ranging up to YD 115 a month. In management personnel, basic nominal pay starts at around YD 45 a month for anciliary workers, rather more for

clerical staff, and ranges up to some YD 200 towards the top of the superscale. Allowances, overtime, and incentives are paid on top of these rates. Average pay, excluding all such allowances and incentives, appears to be nearly double the usual rate for unskilled workers.[1/]

3. Each skill and profession is allocated a grade and sub-grade, which is reassessed periodically. This could be every three years or more, but is more often for some skills of which there are particular shortages. In regrading, a process carried out by the Ministry of Labor in discussions with employing organizations and trade unions, shortages of the workers concerned, the productivity record of the labor force concerned (where this can be measured), the skill levels needed, and any factors which might make a job unpopular are all taken into account. The effect of regrading is illustrated by a rise in basic pay per worker in industry rising from an average of YD 44 a month in 1979 to YD 66 a month in 1982.

4. Within their sub-grades, workers get annual increments to bring them from the minimum level to the maximum for that grade, but it seems these are not automatic (so there is no fixed period to get from the minimum to the maximum), but depends on performance (regularity of attendance, etc.); supervisors' reports are a major factor in determining whether increments are paid. Nonetheless, it is usual for people to get promotion to a higher sub-grade before they reach the maximum for their existing grade; and if the maximum is reached without promotion (because, for instance,

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[1/] The average rate for all organized sector industrial concerns was, for instance, YD 66 a month in 1982, ranging from YD 52 in textiles and clothing up to YD 94 in building materials.

necessary exams have not been passed), some additional allowances are normally given as an encouragement. So, a nominally fairly rigid system is, in practice, a flexible one.

Allowances and Incentives

5. In addition to wages and salaries, the labor law lays down a range of allowances, notably:

- transport allowances (the reimbursement of notional fares if transport is not provided by the employer).

- night work allowances (normally 10 percent extra).

- risk allowances (for jobs considered dangerous).

- allowances when acting for a superior.

Furthermore, everyone of whatever grade (except those getting productivity incentives) qualifies for overtime. Rates vary according to the type of work, and eligibility is checked by booking in and out and by supervision by heads of department.

6. All construction workers get double salary while working on-site, a special inducement allowance introduced in the face of a mounting shortage of construction skills in the public sector, especially in rural areas, as competition from private sector building mounted and many left

to work abroad. Its success has led to a scheme for a 50 percent salary addition plus a flat rate YD 24 a month for all working in fisheries away from the Aden area, and a proposal is under consideration for introducing inducement allowances for all public sector employees in rural areas. Electricity workers, many of whom are involved in putting in supplies in country districts, and municipal refuse collection and street cleaning workers also get automatic inducement allowances.

7. Finally, productivity incentives have been introduced in nearly all organized sector industrial enterprises, in construction, and for fishermen in the industrial fleet. State farms also give some incentives, though the scheme has still to be formally submitted to the Ministry of Labor for approval. The impact in the industrial sector at least has been considerable, not only improving output per man-day, but in reducing both labor turnover and absenteeism. Some workers have been able to double their take-home pay through productivity pay schemes. Proposed incentives schemes are normally put forward by the individual corporations and Ministries concerned. Some can be related to the productivity of individual workers. Others have to apply to particular processes, to groups of workers, or relate to the overall productivity record of the enterprise. Schemes are discussed by the enterprises, the unions, and the Ministry of Labor, and often informally with Party authorities before being agreed. Their operation and, hence, the extra pay earned is supervised by the Ministry of Labor. An adequate accounting system is, of course, a prerequisite. These incentives are considered to have worked well, and industrial production figures, at least, for recent years give some support to this contention.

Real Pay and Comparisons with the Private Sector

8. These various schemes result in average public sector take-home pay being often double, and in some sectors such as construction more than double, nominal basic pay rates. But there are no official data comparing average take-home pay with nominal pay.[1/] A major problem is that those benefiting from higher incomes are primarily productive workers and those working outside Aden. On the other hand, little is added to the basic pay rates for, for instance, civil service workers based in Aden. However, the flow of workers out of these occupations is less than might be expected because they tend to be the main beneficiaries of heavily subsidized housing. Government housing is allocated among those who qualify for it at rents of usually YD 3-5 a month (or under 5 percent of what would be a breakeven rental for some of the new government housing now being constructed). The lack of housing is a major problem in trying to induce people to locate outside Aden, especially in professional grades or with higher skills, though some new investments are planned (e.g. in coastal areas where there have been large investments in fisheries). Cheap loans for housing or car purchases can also be used to offset the effect of relatively low pay.

9. In principle, all public sector workers are employed on a full-time basis. However, in some operations, workers are employed on a temporary basis, being paid usually by the day. This is particularly common on

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[1/] Available data on wages paid (as given, for instance, for industry in the new statistical yearbook) apparently exclude all overtime pay, allowances, incentives, and productivity payments.

state farms, all of which need substantial numbers of seasonal workers. Most of them are women. Pay is generally YD 2 a day--well above the normal rate for unskilled agricultural workers in permanent employment (YD 30 a month). The system is not used, as in many other countries, to exploit casual workers, but rather to pay them more than they could earn on a full-time basis, while avoiding the bureaucracy involved in taking on permanent employees.

10. In general, workers in the private sector, except probably those in remoter agricultural areas engaged in subsistence farming, seemingly make appreciably more in terms of net take-home pay, plus the value of production for home consumption, than do those in the public sector. Agricultural and fisheries cooperatives workers also tend to make more than their state sector counterparts. Possibly the average fisheries cooperative member or artisanal fisherman makes some YD 75 a month, while agricultural cooperative members make rather less. Casual workers in agricultural cooperatives, mostly women, are usually paid about YD 3 a day (a longer day than on state farms), though in some areas and at some times of the year rates are well above this. Most of those engaged in private agriculture are, it is said, in respect of the main agricultural areas, appreciably better off than those working for state farms or cooperatives; but probably in remote areas they do a good deal less well. In assessing this, the value of production for home consumption has, of course, to be estimated.

11. However, private sector workers rarely get the fringe benefits of public sector work. Sick pay, holiday pay, retirement benefits, and other

social security benefits usually apply only in the organized sector. Subsidized government housing is not normally allocated to private sector workers. Moreover, private sector workers tend to have to work harder and for longer hours (though this may not apply to all workers on family farms or family retail trading enterprises). So, while government workers sometimes take part-time jobs in the afternoon, private employees are rarely able to take a second job. Overall, there is probably not so much to choose between public and private sector work, though for individual occupations, and particular locations there may well be significant real differentials. This is not surprising in view of the way the job regrading system works and the various incentives paid to public sector workers--reflecting to a considerable extent market forces, though not perhaps with sufficient immediacy.

The Social Security System

12. The social security system applies to the organized sector only, including in principle all private firms with 5 or more workers. Main benefits are:

a) On retirement at 60 (men) or 55 (women) after 35 years of service, a pension is payable equivalent to full normal salary (but not including the important allowances and inducements which form a large part of take-home pay). Women with less than 10 years' service and men with less than 15 years' service get no pension, but do get a lump-sum gratuity of 12 1/2 percent for each year worked, as do all

retirees. For service in excess of these minimums, but under 35 years, a proportionate pension is paid.

b) Those dying in service get a pension equivalent to 50 percent of salary plus a YD 1,000 lump sum. For death due to accidents at work, the pension is full salary and the lump sum is increased to YD 1,500. These apply for all who have worked for more than 2 years for the government; for those who have worked for over 16 years, the death in service pension is increased to above 50 percent of salary. Pensions are maintained after the recipient's own death until all family members (brothers and sisters as well as parents, wife, and children) have either died or are able to support themselves.

13. This generous system, though benefitting only a small minority of the working population, is financed almost wholly by employers' contributions.[1/] In the mixed and private sectors the employer pays a contribution equivalent to 10 percent of salary payments. The great majority of the burden is borne by government, which pays an annual lump sum (not specifically related to 10 percent of salaries) to the social security fund and also makes good any shortfall in the fund's overall resources. The social security fund is kept separate from general government financial resources, and the amount Government needs to put in each year is calculated on an actuarial basis from eventual anticipated outpayments, not just from outpayments envisaged over the next year; this

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1/ A contribution by workers equivalent to 5 percent of their salary is applied only when they are on a working scholarship abroad, but continue to receive full salary at home.

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High Q Lt per bus rec'd views
p 13 - Q what constitutes Q "work"
p 16 "household adults"
p. 21 re qualitative strategy - ? Q training
* p 22 re survey - avoid male respondents
p 24 Q employ increase in manufacturing sector esp civil service. [Q 1 yr not time
p 28 ? fish factory Q mention (white paper 2.33)
p 30 ff - check 1962 no female shoes - agree
p 38 Q - children two hours agric work ?
p 78 Q schools strategy.
p.100 Q strategies

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5 24 agree w No.
6.16 what about cash crops
6.19 Q "plans."
? library campaign in Sch - producing effect

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rec. re p. 21 - tr > Q : qualitative strategy.
22 - otr Q interviewers, & Q interviewees.
Jo rec re p 74 Q in work schools

? p. 56. library program results.
p. 58 - ~~Q~~ not since health training.
p. 79 - short courses - not Q

represents an important principle, as the expansion of the state sector in recent years implies that payments in the next century will be far larger in real terms than they are at present. The surplus resources of the Fund are currently loaned to the banking sector, but in the future the Fund may invest directly in specific projects. It is planned to physically separate the Fund from the Ministry of Labor, of which it currently forms part, giving it its own management. This appears a sound move and could form the basis for extending its activities to more private sector workers.

14. In addition to this social security system for organized sector workers, the government operates a general social assistance "safety net". Funds from the Ministry of Local Government allocated by each Governor through his office to those with no adequate form of income. The amounts paid vary according to family size. We were told that some tens of thousands of people benefit. This, too, appears to be a system which few other poor countries can match.

STATISTICAL APPENDIX

SPECIAL ECONOMIC REPORT

I. POPULATION AND DEMOGRAPHY

TABLE OF CONTENTS

V. EDUCATION AND TRAINING SYSTEM

Table 1.1: PDRY POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	151131	151962	178031	209332	236466	262328	290136
5-9	129304	134852	137409	163307	194937	221667	248059
10-14	113486	125871	131738	134581	160523	192039	218806
15-19	83234	109370	122149	128627	132087	157906	189303
20-24	58835	74737	101732	116207	124237	127940	153615
25-29	49132	48500	65933	94649	110944	119119	123086
30-34	39594	40325	41473	60417	90137	106287	114576
35-39	39860	32720	34752	37448	57140	86189	102173
40-44	29127	34481	28587	31621	35137	54275	82595
45-49	25853	25616	31201	26226	29649	33124	51615
50-54	20372	23174	23234	28764	24405	27733	31136
55-59	17053	18048	20750	21002	26252	22375	25564
60-64	10369	14595	15573	18079	18446	23222	19922
65-69	8422	8258	11758	12698	14897	15347	19509
70-74	6404	5947	5914	8579	9399	11181	11673
75+	4843	5377	5417	5558	7364	8737	10600
TOTAL	787019	853833	955651	1097697	1272019	1469468	1692370
FEMALES							
0-4	148683	147400	172572	203312	228844	253681	280374
5-9	117918	132568	133246	158357	188962	214812	240306
10-14	100327	114534	129339	130401	155607	186163	212120
15-19	85063	97633	111913	126729	128180	153320	183828
20-24	71490	81632	94366	108587	123658	125410	150481
25-29	59682	67932	78284	90913	105378	120454	122516
30-34	49481	56648	65049	75309	88087	102501	117582
35-39	40725	46992	54227	62552	72890	85588	99951
40-44	33335	38705	44954	52106	60438	70685	83290
45-49	27070	31661	36955	43103	50192	58420	68552
50-54	21687	25502	29968	35140	41166	48118	56208
55-59	16868	20038	23687	27995	32995	38838	45608
60-64	12532	14977	17920	21363	25434	30190	35779
65-69	8675	10364	12523	15176	18293	22013	26404
70-74	5545	6385	7746	9539	11743	14377	17564
75+	4174	4880	5786	7180	9088	11572	14704
TOTAL	803255	897852	1018539	1167761	1340953	1536142	1755267
TOTAL M+F	1590274	1751685	1974190	2265458	2612972	3005610	3447637
RELATED INDICATORS							
BIRTH RATE		45.9	47.3	48.0	46.1	43.6	41.3
DEATH RATE		20.9	19.5	17.9	16.3	14.5	12.9
RATE OF NAT. INC.		2.50	2.78	3.00	2.98	2.91	2.84
GROWTH RATE		1.93	2.39	2.75	2.85	2.80	2.74
TOTAL FERTILITY		6.285	6.285	6.286	6.064	5.842	5.621
GRR		3.066	3.066	3.066	2.958	2.850	2.742
NRR		1.935	2.016	2.115	2.121	2.121	2.113
IMR - MALE		171.2	161.9	150.6	141.0	131.3	122.0
IMR - FEMALE		154.8	146.3	135.9	127.0	118.2	109.6
IMR - BOTH SEXES		163.2	154.3	143.4	134.2	124.9	115.9
E(0) - MALE		41.99	43.90	46.28	48.35	50.48	52.61
E(0) - FEMALE		43.98	46.09	48.75	51.05	53.42	55.80
E(0) - BOTH SEXES		43.00	45.03	47.55	49.74	51.99	54.24
E(10) - MALE		49.86	50.80	51.99	53.03	54.10	55.17
E(10) - FEMALE		51.66	52.80	54.24	55.47	56.74	58.02
NET MIGRANTS-MALE		-39000.	-30000.	-20000.	-11000.	-11000.	-11000.
NET MIGRANTS-FEMALE		-8000.	-6000.	-5998.	-3999.	-3999.	-3999.
NET MIGRATION RATE		-5.6	-3.9	-2.5	-1.2	-1.1	-0.9
DEPEND. RATIO	101.0	93.9	89.3	87.7	89.8	88.8	85.6
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	393920.	412685.	447178.	507820.	591927.	676034.	757002.
15-64	373430.	421565.	485384.	563041.	648433.	758170.	893586.
65+	19669.	19582.	23089.	26835.	31660.	35264.	41782.
FEMALES							
0-14	366928.	394502.	435157.	492071.	573413.	654656.	732800.
15-64	417933.	481721.	557325.	643797.	728417.	833524.	963795.
65+	18394.	21629.	26056.	31894.	39123.	47962.	58671.
15-49	366846.	421204.	485751.	559299.	628823.	716379.	826200.
BOTH SX							
0-14	760848.	807188.	882336.	999891.	1165339.	1330690.	1489802.
15-64	791363.	903286.	1042709.	1206838.	1376850.	1591694.	1857381.
65+	38063.	41211.	49145.	58730.	70783.	83226.	100453.
PERCENTAGES							
MALES							
0-14	50.05	48.33	46.79	46.26	46.53	46.01	44.73
15-64	47.45	49.37	50.79	51.29	50.98	51.59	52.80
65+	2.50	2.29	2.42	2.44	2.49	2.40	2.47
FEMALES							
0-14	45.68	43.94	42.72	42.14	42.76	42.62	41.75
15-64	52.03	53.65	54.72	55.13	54.32	54.26	54.91
65+	2.29	2.41	2.56	2.73	2.92	3.12	3.34
15-49	45.67	46.91	47.69	47.89	46.89	46.63	47.07
BOTH SX							
0-14	47.84	46.08	44.69	44.14	44.60	44.27	43.21
15-64	49.76	51.57	52.82	53.27	52.69	52.96	53.87
65+	2.39	2.35	2.49	2.59	2.71	2.77	2.91

Source: Bank staff estimates.

Table 1.1A: FIRST GOVERNORATE POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	25491	27503	32561	37968	42489	47274	52740
5-9	22495	23448	25530	30458	35794	40368	45243
10-14	21035	22201	23182	25276	30181	35504	40089
15-19	18717	20922	22103	23104	25206	30089	35398
20-24	15392	19059	21253	22458	23491	25607	30465
25-29	13136	16096	19692	21879	23114	24187	26323
30-34	11346	13747	16646	20180	22364	23629	24740
35-39	10504	11719	14066	16908	20383	22563	23858
40-44	7325	10562	11759	14049	16833	20245	22421
45-49	6040	7204	10295	11469	13696	16410	19745
50-54	3848	5736	6843	9763	10905	13050	15673
55-59	2829	3533	5263	6299	9007	10104	12139
60-64	1371	2465	3093	4628	5572	8011	9043
65-69	938	1116	2014	2547	3841	4665	6763
70-74	437	685	822	1492	1909	2909	3577
75+	259	363	554	720	1210	1688	2553
TOTAL	161163	186358	215677	249198	285996	326304	370769
FEMALES							
0-4	25322	26683	31565	36777	41124	45720	50970
5-9	19908	23290	24787	29560	34723	39144	43853
10-14	17366	19636	23001	24528	29287	34450	38895
15-19	15041	17144	19410	22761	24313	29061	34223
20-24	13719	14894	16987	19249	22587	24170	28907
25-29	11740	13591	14775	16859	19120	22446	24062
30-34	8700	11577	13408	14602	16680	18942	22257
35-39	7145	8544	11353	13166	14370	16444	18707
40-44	5051	6956	8327	11070	12865	14078	16144
45-49	4003	4879	6722	8064	10739	12513	13729
50-54	2900	3812	4657	6432	7739	10336	12081
55-59	2454	2699	3561	4370	6059	7323	9821
60-64	1283	2194	2430	3226	3984	5561	6765
65-69	974	1072	1849	2069	2776	3463	4882
70-74	435	726	811	1418	1612	2194	2778
75+	296	380	603	760	1239	1600	2191
TOTAL	136337	158075	184245	214910	249218	287442	330265
TOTAL M+F	297500	344433	399922	464108	535214	613746	701034
RELATED INDICATORS							
BIRTH RATE	42.3	42.5	42.0	39.9	38.0	36.5	
DEATH RATE	18.0	16.9	15.9	14.6	13.4	12.3	
RATE OF NAT. INC.	2.43	2.56	2.61	2.53	2.46	2.42	
GROWTH RATE	2.93	2.99	2.98	2.85	2.74	2.66	
TOTAL FERTILITY	5.940	5.940	5.940	5.730	5.520	5.310	
GRR	2.898	2.898	2.898	2.795	2.693	2.590	
NRR	1.866	1.942	2.019	2.024	2.022	2.013	
IMR - MALE	166.6	157.3	147.9	138.3	128.8	119.5	
IMR - FEMALE	150.6	142.1	133.4	124.5	115.8	107.3	
IMR - BOTH SEXES	158.8	149.9	140.8	131.6	122.5	113.6	
E(0) - MALE	42.87	44.81	46.82	48.91	51.02	53.15	
E(0) - FEMALE	45.01	47.16	49.38	51.71	54.06	56.43	
E(0) - BOTH SEXES	43.91	45.96	48.07	50.27	52.50	54.75	
E(10) - MALE	50.28	51.26	52.26	53.31	54.37	55.44	
E(10) - FEMALE	52.21	53.37	54.57	55.82	57.08	58.35	
NET MIGRANTS-MALE	6000.	6000.	6000.	6000.	6000.	6000.	
NET MIGRANTS-FEMALE	1999.	1999.	1999.	1999.	1999.	1999.	
NET MIGRATION RATE	5.0	4.3	3.7	3.2	2.8	2.4	
DEPEND. RATIO	83.0	74.5	71.9	71.6	73.2	73.0	72.5
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	69021.	73152.	81273.	93702.	108464.	123145.	138072.
15-64	90508.	111043.	131013.	150737.	170572.	193896.	219804.
65+	1634.	2163.	3390.	4759.	6959.	9262.	12893.
FEMALES							
0-14	62596.	69609.	79353.	90864.	105134.	119313.	133718.
15-64	72036.	86289.	101630.	119798.	138458.	160872.	186696.
65+	1705.	2178.	3263.	4248.	5626.	7257.	9851.
15-49	65399.	77584.	90982.	105771.	120675.	137652.	158029.
BOTH SX							
0-14	131617.	142760.	160626.	184567.	213599.	242458.	271790.
15-64	162544.	197332.	232643.	270535.	309030.	354768.	406500.
65+	3339.	4341.	6653.	9007.	12586.	16520.	22744.
PERCENTAGES							
MALES							
0-14	42.83	39.25	37.68	37.60	37.93	37.74	37.24
15-64	56.16	59.59	60.75	60.49	59.64	59.42	59.28
65+	1.01	1.16	1.57	1.91	2.43	2.84	3.48
FEMALES							
0-14	45.91	44.04	43.07	42.28	42.19	41.51	40.49
15-64	52.84	54.59	55.16	55.74	55.56	55.97	56.53
65+	1.25	1.38	1.77	1.98	2.26	2.52	2.98
15-49	47.97	49.08	49.38	49.22	48.42	47.89	47.85
BOTH SX							
0-14	44.24	41.45	40.16	39.77	39.91	39.50	38.77
15-64	54.64	57.29	58.17	58.29	57.74	57.80	57.99
65+	1.12	1.26	1.66	1.94	2.35	2.69	3.24

Source: Bank staff estimates.

Table 1.1B: SECOND GOVERNORATE POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	25841	27474	32876	38871	43403	47855	53227
5-9	22760	23082	24824	30032	36044	40635	45200
10-14	19376	22181	22546	24236	29494	35492	40084
15-19	14617	18697	21534	21977	23780	29008	34971
20-24	10753	13225	17402	20467	21222	23043	28235
25-29	9738	9066	11719	16124	19537	20334	22175
30-34	6395	8277	7849	10687	15335	18708	19540
35-39	6846	5309	7280	7085	10104	14652	17981
40-44	4574	5972	4619	6658	6657	9595	14032
45-49	4027	4021	5406	4201	6252	6274	9117
50-54	3648	3607	3637	4967	3899	5848	5893
55-59	3050	3237	3224	3275	4527	3568	5387
60-64	1629	2612	2791	2801	2872	4000	3172
65-69	1143	1298	2102	2271	2305	2387	3356
70-74	749	807	928	1530	1679	1727	1812
75+	511	608	689	808	1241	1528	1705
TOTAL	135657	149474	169426	195991	228351	264645	305889
FEMALES							
0-4	25269	26654	31871	37644	42005	46279	51437
5-9	20888	22553	24075	29119	34935	39377	43786
10-14	18931	20314	21999	23485	28587	34392	38857
15-19	15746	18451	19848	21476	23059	28142	33935
20-24	12249	15167	17843	19117	20903	22514	27575
25-29	10034	11691	14555	17035	18495	20300	21939
30-34	8265	9560	11192	13879	16466	17945	19768
35-39	7625	7872	9147	10673	13405	15972	17467
40-44	5452	7266	7528	8737	10293	12983	15526
45-49	4123	5184	6937	7191	8405	9939	12581
50-54	3200	3885	4905	6585	6862	8052	9556
55-59	2330	2956	3607	4576	6180	6470	7628
60-64	1950	2068	2642	3249	4155	5651	5957
65-69	1427	1612	1727	2234	2779	3593	4939
70-74	966	1049	1204	1313	1726	2182	2864
75+	698	838	963	1138	1310	1688	2199
TOTAL	139153	157120	180043	207450	239566	275478	316015
TOTAL M+F	274810	306594	349469	403440	467917	540123	621903
RELATED INDICATORS							
BIRTH RATE	47.7	49.7	50.1	47.4	44.4	42.1	
DEATH RATE	21.0	19.8	18.2	16.3	14.5	12.9	
RATE OF NAT. INC.	2.67	2.99	3.19	3.11	2.99	2.92	
GROWTH RATE	2.19	2.62	2.87	2.97	2.87	2.82	
TOTAL FERTILITY	6.500	6.500	6.500	6.270	6.040	5.810	
GRR	3.171	3.171	3.171	3.059	2.946	2.834	
NRR	1.992	2.075	2.181	2.186	2.186	2.179	
IMR - MALE	172.2	163.0	151.2	141.6	131.9	122.5	
IMR - FEMALE	155.7	147.2	136.4	127.6	118.7	110.1	
IMR - BOTH SEXES	164.2	155.3	144.0	134.7	125.5	116.4	
E(O) - MALE	41.76	43.64	46.12	48.19	50.33	52.46	
E(O) - FEMALE	43.76	45.86	48.61	50.91	53.28	55.66	
E(O) - BOTH SEXES	42.73	44.72	47.33	49.51	51.77	54.02	
E(10) - MALE	49.75	50.67	51.92	52.95	54.02	55.09	
E(10) - FEMALE	51.55	52.68	54.16	55.39	56.67	57.94	
NET MIGRANTS-MALE	-6000.	-5000.	-4000.	-2000.	-2000	-2000.	
NET MIGRANTS-FEMALE	-1000.	-1000.	-1999.	-999.	-999.	-999.	
NET MIGRATION RATE	-4.8	-3.7	-3.2	-1.4	-1.2	-1.0	
DEPEND. RATIO	101.7	93.9	90.3	91.4	93.0	90.9	87.1
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	67977.	72737.	80246.	93139.	108941.	123973.	138511.
15-64	65277.	74022.	85462.	98242.	114185.	135030.	160504.
65+	2403.	2714.	3719.	4610.	5225.	5642.	6874.
FEMALES							
0-14	65088.	69520.	77945.	90248.	105528.	120048.	134080.
15-64	70974.	84100.	98204.	112517.	128222.	147967.	171933.
65+	3091.	3500.	3894.	4685.	5816.	7463.	10001.
15-49	63494.	75191.	87050.	98107.	111026.	127794.	148792.
BOTH SX							
0-14	133065.	142257.	158191.	183388.	214469.	244021.	272592.
15-64	136251.	158123.	183666.	210758.	242408.	282997.	332437.
65+	5494.	6214.	7613.	9295.	11041.	13105.	16875.
PERCENTAGES							
MALES							
0-14	50.11	48.66	47.36	47.52	47.71	46.85	45.28
15-64	48.12	49.52	50.44	50.13	50.00	51.02	52.47
65+	1.77	1.82	2.19	2.35	2.29	2.13	2.25
FEMALES							
0-14	46.77	44.25	43.29	43.50	44.05	43.58	42.43
15-64	51.00	53.53	54.54	54.24	53.52	53.71	54.41
65+	2.22	2.23	2.16	2.26	2.43	2.71	3.16
15-49	45.63	47.86	48.35	47.29	46.34	46.39	47.08
BOTH SX							
0-14	48.42	46.40	45.27	45.46	45.83	45.18	43.83
15-64	49.58	51.57	52.56	52.24	51.81	52.39	53.45
65+	2.00	2.03	2.18	2.30	2.36	2.43	2.71

Source: Bank staff estimates.

Table 1.1C: THIRD GOVERNORATE POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	31696	29570	34919	41600	47539	53126	58945
5-9	27217	28353	26731	31915	38583	44520	50194
10-14	20670	26542	27714	26111	31349	37988	43924
15-19	16306	19965	25815	27060	25627	30838	37448
20-24	10555	14863	18635	24642	26193	24853	30033
25-29	9197	8875	13301	17319	23599	25186	23948
30-34	6861	7757	7665	12220	16497	22668	24283
35-39	7217	5756	6779	6908	11589	15781	21939
40-44	4791	6325	5046	6177	6486	11029	15126
45-49	4860	4225	5740	4606	5794	6111	10494
50-54	3476	4378	3827	5279	4279	5416	5738
55-59	3440	3082	3922	3448	4813	3918	4988
60-64	2322	2948	2657	3411	3024	4253	3484
65-69	2256	1853	2373	2162	2808	2513	3569
70-74	996	1597	1327	1728	1598	2105	1908
75+	791	850	1239	1252	1531	1592	1970
TOTAL	152651	166938	187689	215838	251309	291897	337890
FEMALES							
0-4	30575	28687	33852	40287	46008	51377	56963
5-9	23651	27327	25926	30946	37398	43143	48625
10-14	18898	23012	26673	25302	30386	36821	42581
15-19	16365	18419	22493	26070	24849	29917	36337
20-24	13163	15768	17812	21701	25405	24272	29323
25-29	11211	12573	15137	17004	21017	24707	23666
30-34	9493	10694	12046	14445	16436	20409	24087
35-39	7434	9053	10241	11500	13955	15943	19878
40-44	6036	7083	8663	9793	11094	13517	15497
45-49	5518	5741	6762	8282	9424	10714	13100
50-54	4268	5203	5433	6418	7905	9029	10303
55-59	3796	3945	4832	5070	6023	7455	8554
60-64	2599	3370	3526	4354	4603	5508	6864
65-69	2110	2149	2816	2982	3725	3981	4813
70-74	1119	1552	1605	2142	2305	2925	3174
75+	896	1004	1335	1539	2008	2363	2991
TOTAL	157132	175580	199149	227834	262541	302081	346756
TOTAL M+F	309783	342517	386838	443672	513850	593978	684646
RELATED INDICATORS							
BIRTH RATE	45.8	47.5	48.6	47.3	44.9	42.4	
DEATH RATE	21.3	19.8	18.3	16.6	14.8	13.0	
RATE OF NAT. INC.	2.44	2.77	3.03	3.07	3.01	2.94	
GROWTH RATE	2.01	2.43	2.74	2.94	2.90	2.84	
TOTAL FERTILITY	6.500	6.500	6.500	6.270	6.040	5.810	
GRR	3.171	3.171	3.171	3.059	2.946	2.834	
NRR	1.992	2.075	2.181	2.186	2.186	2.179	
IMR - MALE	172.2	163.0	151.2	141.6	131.9	122.5	
IMR - FEMALE	155.7	147.2	136.4	127.6	118.7	110.1	
IMR - BOTH SEXES	164.2	155.3	144.0	134.7	125.5	116.4	
E(0) - MALE	41.76	43.64	46.12	48.19	50.33	52.46	
E(0) - FEMALE	43.76	45.86	48.61	50.91	53.28	55.66	
E(0) - BOTH SEXES	42.73	44.72	47.33	49.51	51.77	54.02	
E(10) - MALE	49.75	50.67	51.92	52.95	54.02	55.09	
E(10) - FEMALE	51.55	52.68	54.16	55.39	56.67	57.94	
NET MIGRANTS-MALE	-6000.	-5000.	-4000.	-2000.	-2000.	-2000.	
NET MIGRANTS-FEMALE	-1000.	-1000.	-1999.	-999.	-999.	-999.	
NET MIGRATION RATE	-4.3	-3.3	-2.9	-1.3	-1.1	-0.9	
DEPEND. RATIO	108.0	101.5	93.1	88.2	91.3	90.7	97.6
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	79583.	84465.	89364.	99625.	117471.	135634.	153063.
15-64	69025.	78173.	93387.	111070.	127902.	150053.	177381.
65+	4043.	4300.	4938.	5142.	5937.	6209.	7447.
FEMALES							
0-14	73124.	79026.	86450.	96535.	113791.	131341.	148169.
15-64	79883.	91849.	106944.	124636.	140711.	161471.	187609.
65+	4125.	4705.	5756.	6663.	8038.	9269.	10978.
15-49	69220.	79331.	93153.	108795.	122180.	139479.	161888.
BOTH SX							
0-14	152707.	163490.	175814.	196161.	231262.	266975.	301231.
15-64	148908.	170022.	200330.	235707.	268613.	311524.	364990.
65+	8168.	9005.	10694.	11805.	13976.	15478.	18425.
PERCENTAGES							
MALES							
0-14	52.13	50.60	47.61	46.16	46.74	46.47	45.30
15-64	45.22	46.83	49.76	51.46	50.89	51.41	52.50
65+	2.65	2.58	2.63	2.38	2.36	2.13	2.20
FEMALES							
0-14	46.54	45.01	43.41	42.37	43.34	43.48	42.73
15-64	50.84	52.31	53.70	54.70	53.60	53.45	54.10
65+	2.63	2.68	2.89	2.92	3.06	3.07	3.17
15-49	44.05	45.18	46.78	47.75	46.54	46.17	46.69
BOTH SX							
0-14	49.29	47.73	45.45	44.21	45.01	44.95	44.00
15-64	48.07	49.64	51.79	53.13	52.27	52.45	53.31
65+	2.64	2.63	2.76	2.66	2.72	2.61	2.69

Source: Bank staff estimates.

Table 1.1D: FOURTH GOVERNORATE POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	17075	15590	17545	20726	24065	27221	29992
5-9	13772	15183	13873	16014	19155	22470	25651
10-14	13418	13385	14721	13554	15689	19818	22129
15-19	5331	12755	12857	14340	13254	15383	18500
20-24	4557	3870	11542	12111	13754	12724	14847
25-29	3917	2629	2537	10594	11406	13045	12075
30-34	3527	2287	1491	1934	9962	10783	12416
35-39	2931	2271	1413	1046	1626	9431	10258
40-44	2623	2053	1652	1096	843	1407	8973
45-49	2122	2084	1663	1429	953	714	1258
50-54	1957	1800	1815	1493	1299	855	633
55-59	1736	1695	1578	1628	1347	1176	772
60-64	970	1479	1450	1369	1424	1185	1041
65-69	646	774	1183	1179	1125	1181	992
70-74	456	457	547	859	870	841	895
75+	333	379	397	472	702	814	857
TOTAL	75371	78692	86266	99843	117473	138048	161288
FEMALES							
0-4	17692	15123	17000	20070	23288	26322	28982
5-9	12619	15729	13445	15519	18562	21770	24844
10-14	9116	12235	15239	13124	15198	18235	21446
15-19	7911	8852	11858	14911	12854	14927	17959
20-24	7431	7564	8359	11457	14471	12489	14561
25-29	6515	7041	7025	7980	11019	14004	12097
30-34	4994	6172	6573	6702	7647	10641	13598
35-39	3973	4730	5796	6288	6430	7372	10323
40-44	3382	3767	4458	5552	6044	6202	7140
45-49	3131	3208	3562	4264	5332	5826	5997
50-54	2582	2949	3021	3382	4064	5104	5597
55-59	2058	2385	2732	2819	3172	3831	4834
60-64	1564	1826	2128	2462	2559	2899	3526
65-69	852	1293	1523	1801	2106	2212	2533
70-74	689	626	964	1159	1392	1653	1763
75+	515	604	613	850	1093	1376	1707
TOTAL	85024	94106	104297	118342	135232	154862	176907
TOTAL M+F	160395	172797	190562	218185	252705	292910	338194
RELATED INDICATORS							
BIRTH RATE		47.6	48.4	49.4	48.9	46.9	43.9
DEATH RATE		21.7	19.9	18.3	16.8	15.0	13.1
RATE OF NAT. INC.		2.58	2.85	3.12	3.21	3.19	3.08
GROWTH RATE		1.49	1.96	2.71	2.94	2.95	2.88
TOTAL FERTILITY		6.410	6.410	6.410	6.180	5.940	5.720
GRR		3.127	3.127	3.127	3.015	2.898	2.790
NRR		1.965	2.046	2.150	2.155	2.151	2.145
IMR - MALE		172.2	163.0	151.2	141.6	131.9	122.5
IMR - FEMALE		155.7	147.2	136.4	127.6	118.7	110.1
IMR - BOTH SEXES		164.2	155.3	144.0	134.7	125.5	116.4
E(0) - MALE		41.76	43.64	46.12	48.19	50.33	52.46
E(0) - FEMALE		43.76	45.86	48.61	50.91	53.28	55.66
E(0) - BOTH SEXES		42.73	44.72	47.33	49.51	51.77	54.02
E(10) - MALE		49.75	50.67	51.92	52.95	54.02	55.09
E(10) - FEMALE		51.55	52.68	54.16	55.39	56.67	57.94
NET MIGRANTS-MALE		-8000.	-6000.	-3000.	-2000.	-2000.	-2000.
NET MIGRANTS-FEMALE		-1000.	-1999.	-1000.	-999.	-999.	-999.
NET MIGRATION RATE		-10.8	-8.8	-3.9	-2.6	-2.2	-1.9
DEPEND. RATIO	119.1	112.2	103.8	93.3	95.2	95.3	91.7
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	44265.	44159.	46140.	50293.	58909.	68508.	77771.
15-64	29671.	32922.	37999.	47040.	55867.	66703.	80772.
65+	1435.	1611.	2127.	2510.	2697.	2836.	2744.
FEMALES							
0-14	39427.	43087.	45684.	48714.	57049.	66328.	75272.
15-64	43541.	48495.	55512.	65818.	73593.	83294.	95632.
65+	2056.	2524.	3100.	3810.	4590.	5241.	6003.
15-49	37337.	41336.	47631.	57154.	63797.	71460.	81675.
BOTH SX							
0-14	83692.	87245.	91824.	99007.	115958.	134836.	153044.
15-64	73212.	81418.	93512.	112858.	129459.	149997.	176404.
65+	3491.	4134.	5227.	6320.	7288.	8077.	8747.
PERCENTAGES							
MALES							
0-14	58.73	56.12	53.49	50.37	50.15	49.63	48.22
15-64	39.37	41.84	44.05	47.11	47.56	48.32	50.08
65+	1.90	2.05	2.47	2.51	2.30	2.05	1.70
FEMALES							
0-14	46.37	45.79	43.80	41.16	42.19	42.83	42.55
15-64	51.21	51.53	53.23	55.62	54.42	53.79	54.06
65+	2.42	2.68	2.97	3.22	3.39	3.38	3.39
15-49	43.91	43.92	45.67	48.30	47.18	46.14	46.17
BOTH SX							
0-14	52.18	50.49	48.19	45.38	45.89	46.03	45.25
15-64	45.64	47.12	49.07	51.73	51.23	51.21	52.16
65+	2.18	2.39	2.74	2.90	2.88	2.76	2.59

Source: Bank staff estimates.

Table 1.1E: FIFTH GOVERNORATE POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	46564	46049	53173	62585	69929	76932	84257
5-9	39169	40767	41192	48474	57745	65181	72373
10-14	35174	37755	39636	40238	47495	56733	64185
15-19	24638	33294	36104	38271	39129	46355	55558
20-24	15419	20205	29268	32886	35788	36721	43911
25-29	11184	9756	15288	25209	29741	32668	33679
30-34	10335	6371	5814	12106	22555	27042	29982
35-39	11139	6581	3399	3564	10250	20436	24869
40-44	8827	8405	4476	1900	2453	8920	18819
45-49	8010	7152	6996	3538	1297	1831	8046
50-54	6583	6919	6247	6235	3100	1001	1512
55-59	5167	5725	6098	5565	5616	2760	834
60-64	3587	4376	4910	5289	4861	4939	2428
65-69	3050	2825	3508	3991	4340	4026	4129
70-74	1845	2124	2009	2547	2937	3239	3043
75+	1418	1531	1780	1854	2249	2693	3118
TOTAL	232109	239835	259899	294251	339483	391478	450743
FEMALES							
0-4	44576	44647	51538	60608	67668	74389	81415
5-9	36723	38948	39912	46991	55959	63146	70091
10-14	32101	35306	37804	38952	46023	54978	62201
15-19	26059	30939	34353	36966	38171	45229	54170
20-24	22474	24412	29637	33201	35839	37118	44161
25-29	17996	20665	23086	28407	31958	34638	35993
30-34	16353	16539	19539	22082	27324	30881	33600
35-39	12990	15183	15658	18706	21231	26413	29974
40-44	11715	12140	14430	14993	17991	20506	25623
45-49	9136	11028	11541	13813	14399	17347	19843
50-54	7834	8559	10415	10961	13171	13781	16668
55-59	5599	7217	7938	9723	10282	12415	13050
60-64	4469	4958	6447	7155	8827	9400	11429
65-69	2879	3687	4139	5457	6121	7633	8213
70-74	2153	2112	2751	3150	4218	4806	6085
75+	1623	1889	2014	2531	3060	4064	4992
TOTAL	254680	278227	311202	353695	402243	456745	517507
TOTAL M+F	486789	518062	571101	647946	741726	848223	968250
RELATED INDICATORS							
BIRTH RATE		46.8	48.7	49.9	48.1	45.4	42.8
DEATH RATE		21.5	20.3	18.7	16.9	15.0	13.2
RATE OF NAT. INC.		2.52	2.84	3.12	3.11	3.04	2.96
GROWTH RATE		1.25	1.95	2.52	2.70	2.68	2.65
TOTAL FERTILITY		6.220	6.220	6.220	6.000	5.780	5.560
GRR		3.034	3.034	3.034	2.927	2.820	2.712
NRR		1.906	1.986	2.087	2.092	2.093	2.085
IMR - MALE		172.2	163.0	151.2	141.6	131.9	122.5
IMR - FEMALE		155.7	147.2	136.4	127.6	118.7	110.1
IMR - BOTH SEXES		164.2	155.3	144.0	134.7	125.5	116.4
E(0) - MALE		41.76	43.64	46.12	48.19	50.33	52.46
E(0) - FEMALE		43.76	45.86	48.61	50.91	53.28	55.66
E(0) - BOTH SEXES		42.73	44.72	47.33	49.51	51.77	54.02
E(10) - MALE		49.75	50.67	51.92	52.95	54.02	55.09
E(10) - FEMALE		51.55	52.68	54.16	55.39	56.67	57.94
NET MIGRANTS-MALE		-25000.	-20000.	-15000.	-11000.	-11000.	-11000.
NET MIGRANTS-FEMALE		-6999.	-4000.	-3000.	-3000.	-3000.	-3000.
NET MIGRATION RATE		-12.7	-8.8	-5.9	-4.0	-3.5	-3.1
DEPEND. RATIO	103.2	98.9	95.8	96.0	98.3	97.1	92.1
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	120907.	124571.	134002.	151296.	175168.	198846.	220815.
15-64	104889.	108784.	118600.	134562.	154789.	182675	219637.
65+	6313.	6479.	7297.	8392.	9526.	9958.	10290.
FEMALES							
0-14	113400.	118900.	129254.	146551.	169650	192513.	213707.
15-64	134625.	151639.	173044.	196007.	219193.	247729.	284510.
65+	6655.	7688.	8905.	11137.	13399.	16503.	19290.
15-49	116723.	130905.	148245.	168167.	186914.	212133.	243363.
BOTH SX							
0-14	234307.	243471.	263255.	297847.	344819.	391359.	434522.
15-64	239514.	260424.	291644.	330569.	373983.	430404.	504148.
65+	12968.	14167.	16202.	19529.	22925.	26461.	29580.
PERCENTAGES							
MALES							
0-14	52.09	51.94	51.56	51.42	51.60	50.79	48.99
15-64	45.19	45.36	45.63	45.73	45.60	46.66	48.73
65+	2.72	2.70	2.81	2.85	2.81	2.54	2.28
FEMALES							
0-14	44.53	42.73	41.53	41.43	42.18	42.15	41.30
15-64	52.86	54.50	55.61	55.42	54.49	54.24	54.98
65+	2.61	2.76	2.86	3.15	3.33	3.61	3.73
15-49	45.83	47.05	47.64	47.55	46.47	46.44	47.03
BOTH SX							
0-14	48.13	47.00	46.10	45.97	46.49	46.14	44.88
15-64	49.20	50.27	51.07	51.02	50.42	50.74	52.07
65+	2.66	2.73	2.84	3.01	3.09	3.12	3.05

Source: Bank staff estimates.

Table 1.1F: SIXTH GOVERNORATE POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	4464	5777	6958	8182	9041	9920	10976
5-9	3891	4019	5258	6413	7616	8493	9338
10-14	3813	3806	3940	5168	6316	7515	8395
15-19	3625	3736	3736	3875	5092	6233	7428
20-24	2159	3515	3632	3644	3790	4992	6125
25-29	1960	2079	3396	3523	3546	3699	4886
30-34	1130	1886	2007	3290	3424	3456	3615
35-39	1223	1084	1814	1938	3187	3327	3368
40-44	987	1165	1035	1741	1866	3078	3223
45-49	794	930	1100	983	1658	1784	2955
50-54	860	735	864	1028	922	1563	1688
55-59	831	775	665	787	941	848	1444
60-64	490	716	671	581	692	833	756
65-69	389	392	578	548	479	576	700
70-74	1921	276	282	422	406	359	438
75+	1532	1647	758	452	430	421	397
TOTAL	30068	32537	36695	42576	49406	57097	65792
FEMALES							
0-4	5249	5606	6746	7926	8751	9594	10608
5-9	4129	4723	5101	6222	7385	8232	9106
10-14	3915	4032	4624	5010	6125	7287	8140
15-19	3941	3829	3952	4545	4935	6045	7205
20-24	2454	3826	3728	3862	4453	4848	5953
25-29	2186	2370	3707	3627	3769	4359	4759
30-34	1676	2106	2291	3599	3533	3683	4272
35-39	1558	1611	2031	2220	3498	3445	3602
40-44	1699	1493	1549	1962	2151	3400	3359
45-49	1159	1622	1430	1490	1893	2082	3302
50-54	903	1095	1538	1362	1424	1816	2004
55-59	631	835	1018	1437	1279	1344	1721
60-64	667	561	747	918	1306	1170	1238
65-69	433	552	469	633	786	1130	1023
70-74	183	319	412	357	490	617	901
75+	146	164	258	362	378	482	624
TOTAL	30929	34743	39602	45531	52154	59533	67818
TOTAL M+F	60997	67281	76297	88107	101560	116630	133609
RELATED INDICATORS							
BIRTH RATE		45.5	48.0	48.2	45.3	42.5	40.3
DEATH RATE		25.8	22.8	19.3	16.8	14.8	13.1
RATE OF NAT. INC.		1.97	2.52	2.88	2.85	2.77	2.72
GROWTH RATE		1.96	2.52	2.88	2.84	2.77	2.72
TOTAL FERTILITY		6.220	6.220	6.220	6.000	5.780	5.560
GRR		3.034	3.034	3.034	2.927	2.820	2.712
NRR		1.906	1.986	2.087	2.092	2.093	2.085
IMR - MALE		172.2	163.0	151.2	141.6	131.9	122.5
IMR - FEMALE		155.7	147.2	136.4	127.6	118.7	110.1
IMR - BOTH SEXES		164.2	155.3	144.0	134.7	125.5	116.4
E(0) - MALE		41.76	43.64	46.12	48.19	50.33	52.46
E(0) - FEMALE		43.76	45.86	48.61	50.91	53.28	55.66
E(0) - BOTH SEXES		42.73	44.72	47.33	49.51	51.77	54.02
E(10) - MALE		49.75	50.67	51.92	52.95	54.02	55.09
E(10) - FEMALE		51.55	52.68	54.16	55.39	56.67	57.94
NET MIGRANTS-MALE		0.	0.	0.	0.	0.	0.
NET MIGRANTS-FEMALE		0.	0.	0.	0.	0.	0.
NET MIGRATION RATE		0.0	0.0	0.0	0.0	0.0	0.0
DEPEND. RATIO	97.2	87.1	86.5	89.8	90.3	88.1	83.3
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	12167.	13602.	16155.	19763.	22973.	25928.	28769.
15-64	14060.	16620.	18922.	21391.	25118.	29813.	35488.
65+	3841.	2315.	1618.	1422.	1315.	1356.	1535.
FEMALES							
0-14	13293.	14361.	16471.	19158.	22260.	25113.	27854.
15-64	16874.	19348.	21992.	25021.	28240.	32191.	37415.
65+	762.	1035.	1139.	1352.	1653.	2229.	2548.
15-49	14673.	16857.	18689.	21304.	24231.	27862.	32453.
BOTH SX							
0-14	25460.	27963.	32626.	38921.	45233.	51041.	56623.
15-64	30934.	35967.	40914.	46412.	53358.	62004.	72903.
65+	4603.	3350.	2757.	2774.	2969.	3585.	4083.
PERCENTAGES							
MALES							
0-14	40.46	41.81	44.03	46.42	46.50	45.41	43.73
15-64	46.76	51.08	51.57	50.24	50.84	52.21	53.94
65+	12.78	7.12	4.41	3.34	2.66	2.38	2.33
FEMALES							
0-14	42.98	41.33	41.59	42.08	42.68	42.18	41.07
15-64	54.56	55.69	55.53	54.95	54.15	54.07	55.17
65+	2.46	2.98	2.88	2.97	3.17	3.74	3.76
15-49	47.44	48.52	47.19	46.79	46.46	46.80	47.85
BOTH SX							
0-14	41.74	41.56	42.76	44.17	44.54	43.76	42.38
15-64	50.71	53.46	53.62	52.68	52.54	53.16	54.56
65+	7.55	4.98	3.61	3.15	2.92	3.07	3.06

Source: Bank staff estimates.

Table 1.1G: URBAN POPULATION PROJECTION

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
0-4	46169	46313	55650	65713	73745	81092	88647
5-9	41829	43277	43172	52060	61911	70022	77574
10-14	39498	41635	42806	42789	51626	61447	69576
15-19	33990	40041	41730	42542	42565	51358	61146
20-24	27068	37068	41638	41837	42586	42709	51451
25-29	21037	31790	39536	41992	42080	42930	43166
30-34	16350	25188	33867	39722	42017	42220	43163
35-39	15565	19435	26664	33763	39385	41730	42041
40-44	11000	17325	20199	26289	33120	38661	41054
45-49	9078	11704	17249	19586	25420	32052	37489
50-54	6819	9007	11268	16319	18562	24141	30519
55-59	4887	6409	8329	10362	15036	17177	22426
60-64	2775	4313	5626	7323	9162	13369	15368
65-69	2045	2291	3534	4628	6074	7666	11282
70-74	1250	1525	1695	2611	3457	4593	5869
75+	813	1090	1344	1547	2217	3055	4179
TOTAL	280171	338413	394307	449083	508964	574221	644950
FEMALES							
0-4	44445	44953	53945	63650	71372	78423	85668
5-9	37191	41710	41935	50521	60056	67895	75188
10-14	32578	37028	41227	41547	50099	59624	67503
15-19	27311	32441	36603	40849	41258	49784	59299
20-24	23174	27609	32149	36365	40638	41142	49642
25-29	19458	23666	27406	31980	36210	40501	41105
30-34	14932	19739	23387	27150	31708	35940	40251
35-39	13561	15026	19390	23028	26773	31305	35541
40-44	10025	13394	14658	18947	22543	26258	30761
45-49	7793	9776	12943	14212	18403	21945	25623
50-54	5983	7465	9331	12388	13649	17722	21197
55-59	4536	5587	6975	8755	11673	12918	16843
60-64	3034	4067	5028	6319	7985	10716	11937
65-69	2150	2539	3427	4283	5439	6943	9409
70-74	1596	1607	1919	2631	3339	4303	5572
75+	1125	1411	1554	1850	2481	3279	4360
TOTAL	248892	288018	331877	384477	443626	508696	579899
TOTAL M+F	529063	626431	726184	833560	952590	1082917	1224848
RELATED INDICATORS							
BIRTH RATE		39.1	39.8	40.2	38.8	36.8	35.0
DEATH RATE		17.4	16.5	15.7	14.5	13.3	12.2
RATE OF NAT. INC.		2.17	2.34	2.45	2.42	2.35	2.27
GROWTH RATE		3.38	2.96	2.76	2.67	2.56	2.46
TOTAL FERTILITY		5.600	5.600	5.600	5.400	5.210	5.010
GRR		2.732	2.732	2.732	2.634	2.541	2.444
NRR		1.759	1.831	1.904	1.908	1.909	1.900
IMR - MALE		166.6	157.3	147.9	138.3	128.8	119.5
IMR - FEMALE		150.6	142.1	133.4	124.5	115.8	107.3
IMR - BOTH SEXES		158.8	149.9	140.8	131.6	122.5	113.6
E(0) - MALE		42.87	44.81	46.82	48.91	51.02	53.15
E(0) - FEMALE		45.01	47.16	49.38	51.71	54.06	56.43
E(0) - BOTH SEXES		43.91	45.96	48.07	50.27	52.50	54.75
E(10) - MALE		50.28	51.26	52.26	53.31	54.37	55.44
E(10) - FEMALE		52.21	53.37	54.57	55.82	57.08	58.35
NET MIGRANTS-MALE		27000.	17000.	8000.	7000.	7000.	7000.
NET MIGRANTS-FEMALE		7998.	4000.	3997.	3999.	3999.	3999.
NET MIGRATION RATE		12.1	6.2	3.1	2.5	2.2	1.9
DEPEND. RATIO	90.1	73.5	67.3	66.8	69.9	70.7	70.1
BROAD AGE GROUPS							
NUMBERS							
MALES							
0-14	127496.	131225.	141628.	160562.	187283.	212560.	235797.
15-64	148567.	202282.	246106.	279735.	309934.	346347.	387823.
65+	4108.	4906.	6573.	8786.	11747.	15314.	21330.
FEMALES							
0-14	114213.	123691.	137107.	155717.	181527.	205942.	228359.
15-64	129807.	158770.	187870.	219995.	250840.	288229.	332198.
65+	4871.	5557.	6900.	8764.	11259.	14525.	19341.
15-49	116254.	141651.	166536.	192533.	217533.	246874.	282222.
BOTH SX							
0-14	241709.	254917.	278735.	316280.	368810.	418502.	464156.
15-64	278374.	361052.	433976.	499730.	560774.	634576.	720021.
65+	8979.	10463.	13473.	17550.	23006.	29839.	40671.
PERCENTAGES							
MALES							
0-14	45.51	38.78	35.92	35.75	36.80	37.02	36.56
15-64	53.03	59.77	62.41	62.29	60.90	60.32	60.13
65+	1.47	1.45	1.67	1.96	2.31	2.67	3.31
FEMALES							
0-14	45.89	42.95	41.31	40.50	40.92	40.48	39.38
15-64	52.15	55.12	56.61	57.22	56.54	56.66	57.29
65+	1.96	1.93	2.08	2.28	2.54	2.86	3.34
15-49	46.71	49.18	50.18	50.08	49.04	48.53	48.67
BOTH SX							
0-14	45.69	40.69	38.38	37.94	38.72	38.65	37.89
15-64	52.62	57.64	59.76	59.95	58.87	58.60	58.78
65+	1.70	1.67	1.86	2.11	2.42	2.76	3.32

Source: Bank staff estimates.

Table 1.2: PDRY POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	27201.	24917.	26390.	34552.	41247.	46460.	52694.
6	26430.	27478.	28311.	34802.	41237.	46345.	51789.
7	25759.	28520.	28714.	33587.	39767.	44905.	49857.
8	25190.	27763.	27708.	31339.	37471.	42900.	47730.
9	24723.	26175.	26285.	29028.	35215.	41057.	45989.
10	24304.	26356.	24238.	25770.	33920.	40604.	45847.
11	23719.	25428.	26552.	27457.	33916.	40300.	45405.
12	22916.	24910.	27687.	27956.	32833.	38967.	44095.
13	21894.	24652.	27249.	27249.	30915.	37027.	42454.
14	20654.	24524.	26012.	26148.	28939.	35142.	41005.
15	19244.	23735.	25821.	23791.	25371.	33457.	40116.
16	17866.	23101.	24878.	26083.	27073.	33501.	39872.
17	16567.	22147.	24232.	27111.	27504.	32364.	38484.
18	15348.	20920.	23783.	26519.	26682.	30339.	36425.
19	14209.	19467.	23436.	25124.	25456.	28246.	34407.
20	13167.	18040.	22619.	24931.	23168.	24769.	32789.
21	12288.	16385.	21746.	23818.	25289.	26319.	32696.
TOTAL	787019	853833	955651	1097697	1272019	1469468	1692370
FEMALES							
5	25532.	25512.	26342.	34233.	40469.	45430.	51358.
6	24429.	27369.	27625.	33871.	39992.	44903.	50140.
7	23455.	27820.	27613.	32338.	38356.	43351.	48166.
8	22610.	26785.	26519.	30072.	36136.	41428.	46139.
9	21892.	25081.	25147.	27843.	34010.	39700.	44503.
10	21280.	24673.	24779.	25694.	33584.	39826.	44833.
11	20682.	23504.	26467.	26817.	33049.	39137.	44062.
12	20074.	22675.	27019.	26902.	31642.	37628.	42628.
13	19458.	22075.	26249.	26052.	29647.	35700.	41004.
14	18833.	21608.	24825.	24935.	27686.	33872.	39594.
15	18204.	20784.	24178.	24333.	25303.	33142.	39377.
16	17589.	20219.	23058.	26029.	26447.	32659.	38750.
17	16993.	19574.	22196.	26525.	26491.	31224.	37209.
18	16417.	18882.	21519.	25672.	25566.	29163.	35203.
19	15860.	18175.	20962.	24169.	24373.	27133.	33289.
20	15321.	17585.	20191.	23569.	23821.	24832.	32621.
21	14797.	16921.	19577.	22408.	25427.	25902.	32083.
TOTAL	803255	897852	1018539	1167761	1340953	1536142	1755267

Source: Bank staff estimates.

Table 1.2A: FIRST GOVERNORATE POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	4671.	4346.	4940.	6330.	7446.	8380.	9567.
6	4568.	4771.	5262.	6428.	7506.	8399.	9426.
7	4482.	4944.	5321.	6265.	7307.	8183.	9100.
8	4413.	4822.	5136.	5910.	6950.	7857.	8730.
9	4361.	4564.	4872.	5526.	6585.	7549.	8419.
10	4321.	4608.	4302.	4897.	6279.	7395.	8334.
11	4275.	4467.	4677.	5167.	6321.	7393.	8286.
12	4218.	4395.	4856.	5235.	6173.	7208.	8084.
13	4150.	4368.	4778.	5095.	5869.	6907.	7815.
14	4070.	4363.	4570.	4881.	5539.	6601.	7570.
15	3979.	4273.	4561.	4267.	4860.	6231.	7344.
16	3875.	4254.	4449.	4662.	5153.	6302.	7373.
17	3757.	4206.	4387.	4848.	5230.	6164.	7199.
18	3625.	4137.	4358.	4769.	5090.	5861.	6896.
19	3480.	4052.	4347.	4559.	4874.	5530.	6586.
20	3327.	4001.	4296.	4587.	4309.	4900.	6260.
21	3185.	3915.	4295.	4495.	4714.	5206.	6347.
TOTAL	161163	186358	215677	249198	285996	326304	370769
FEMALES							
5	4297.	4586.	5002.	6351.	7369.	8251.	9375.
6	4110.	4850.	5170.	6288.	7301.	8152.	9136.
7	3952.	4872.	5115.	6023.	7037.	7886.	8778.
8	3824.	4652.	4885.	5637.	6678.	7567.	8422.
9	3724.	4331.	4616.	5260.	6338.	7287.	8141.
10	3648.	4235.	4530.	4953.	6296.	7318.	8208.
11	3569.	4025.	4757.	5083.	6192.	7202.	8057.
12	3482.	3880.	4788.	5038.	5942.	6951.	7803.
13	3386.	3782.	4604.	4843.	5597.	6637.	7529.
14	3281.	3713.	4321.	4611.	5261.	6343.	7298.
15	3171.	3599.	4183.	4482.	4907.	6243.	7265.
16	3074.	3532.	3988.	4717.	5048.	6154.	7166.
17	2992.	3444.	3843.	4745.	5001.	5904.	6915.
18	2927.	3341.	3737.	4553.	4799.	5552.	6591.
19	2877.	3228.	3659.	4264.	4559.	5208.	6286.
20	2840.	3134.	3560.	4142.	4446.	4875.	6204.
21	2800.	3038.	3494.	3949.	4675.	5011.	6114.
TOTAL	136337	158075	184245	214910	249218	287442	330265

Source: Bank staff estimates.

Table 1.2B: SECOND GOVERNORATE POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	4796.	4139.	4697.	6245.	7519.	8387.	9521.
6	4674.	4644.	5090.	6364.	7594.	8460.	9424.
7	4551.	4892.	5206.	6202.	7381.	8264.	9113.
8	4430.	4820.	5047.	5822.	6984.	7929.	8734.
9	4309.	4586.	4785.	5399.	6565.	7596.	8408.
10	4186.	4655.	4025.	4566.	6124.	7395.	8269.
11	4048.	4503.	4486.	4919.	6196.	7415.	8282.
12	3893.	4407.	4748.	5053.	6057.	7227.	8110.
13	3720.	4340.	4730.	4950.	5738.	6897.	7842.
14	3530.	4278.	4557.	4749.	5379.	6548.	7582.
15	3326.	4090.	4560.	3940.	4492.	6037.	7303.
16	3122.	3946.	4406.	4398.	4847.	6118.	7334.
17	2920.	3766.	4289.	4642.	4970.	5969.	7137.
18	2722.	3560.	4189.	4598.	4846.	5632.	6785.
19	2527.	3335.	4090.	4398.	4624.	5252.	6412.
20	2342.	3123.	3899.	4400.	3835.	4386.	5917.
21	2198.	2876.	3715.	4216.	4262.	4713.	5973.
TOTAL	135657	149474	169426	195991	228351	264645	305889
FEMALES							
5	4418.	4310.	4761.	6232.	7419.	8235.	9307.
6	4270.	4634.	4986.	6196.	7363.	8192.	9116.
7	4150.	4727.	4987.	5950.	7098.	7959.	8786.
8	4057.	4573.	4795.	5566.	6717.	7644.	8434.
9	3992.	4309.	4547.	5175.	6338.	7348.	8143.
10	3946.	4275.	4185.	4625.	6107.	7294.	8119.
11	3887.	4114.	4480.	4823.	6039.	7200.	8032.
12	3807.	4016.	4589.	4843.	5817.	6958.	7820.
13	3706.	3965.	4480.	4697.	5483.	6631.	7561.
14	3585.	3943.	4264.	4497.	5142.	6309.	7324.
15	3445.	3857.	4189.	4098.	4550.	6022.	7208.
16	3300.	3805.	4036.	4392.	4751.	5963.	7124.
17	3152.	3718.	3932.	4490.	4764.	5735.	6875.
18	3001.	3604.	3865.	4364.	4604.	5388.	6533.
19	2847.	3467.	3826.	4132.	4389.	5033.	6194.
20	2694.	3337.	3748.	4062.	4003.	4458.	5921.
21	2555.	3185.	3685.	3897.	4281.	4645.	5850.
TOTAL	139153	157120	180043	207450	239566	275478	316015

Source: Bank staff estimates.

Table 1.2C: THIRD GOVERNORATE POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	5917.	4990.	4870.	6718.	8060.	9306.	10591.
6	5709.	5673.	5421.	6831.	8171.	9348.	10500.
7	5472.	6032.	5639.	6611.	7929.	9065.	10136.
8	5206.	5973.	5523.	6136.	7460.	8618.	9682.
9	4912.	5685.	5279.	5620.	6963.	8184.	9285.
10	4601.	5749.	4856.	4737.	6590.	7929.	9178.
11	4322.	5506.	5484.	5240.	6652.	7981.	9153.
12	4089.	5303.	5858.	5475.	6458.	7765.	8897.
13	3901.	5104.	5864.	5418.	6049.	7368.	8525.
14	3758.	4879.	5651.	5241.	5599.	6945.	8171.
15	3644.	4498.	5636.	4759.	4660.	6497.	7830.
16	3500.	4216.	5395.	5384.	5165.	6569.	7895.
17	3308.	3959.	5170.	5737.	5387.	6366.	7670.
18	3070.	3737.	4938.	5713.	5308.	5938.	7250.
19	2784.	3556.	4675.	5468.	5106.	5468.	6803.
20	2472.	3433.	4297.	5454.	4639.	4551.	6370.
21	2216.	3244.	3978.	5181.	5228.	5026.	6416.
TOTAL	152651	166938	187689	215838	251309	291897	337890
FEMALES							
5	5223.	5243.	5079.	6790.	8041.	9204.	10412.
6	4961.	5643.	5363.	6672.	7941.	9060.	10161.
7	4715.	5745.	5382.	6319.	7598.	8705.	9749.
8	4484.	5530.	5180.	5823.	7133.	8278.	9324.
9	4268.	5165.	4922.	5343.	6685.	7896.	8979.
10	4069.	5060.	5096.	4936.	6656.	7908.	9079.
11	3897.	4784.	5460.	5190.	6505.	7766.	8885.
12	3752.	4567.	5582.	5229.	6179.	7449.	8555.
13	3635.	4384.	5421.	5076.	5737.	7043.	8189.
14	3545.	4217.	5114.	4870.	5309.	6655.	7872.
15	3476.	3978.	4959.	4995.	4857.	6564.	7815.
16	3395.	3814.	4694.	5358.	5115.	6425.	7686.
17	3293.	3664.	4471.	5467.	5145.	6092.	7362.
18	3171.	3533.	4275.	5287.	4977.	5638.	6940.
19	3030.	3429.	4093.	4962.	4755.	5198.	6535.
20	2875.	3367.	3866.	4816.	4884.	4761.	6455.
21	2734.	3277.	3694.	4540.	5228.	5002.	6304.
TOTAL	157132	175580	199149	227834	262541	302081	346756

Source: Bank staff estimates.

Table 1.2D: FOURTH GOVERNORATE POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	2794.	3072.	2842.	3605.	4273.	4957.	5610.
6	2718.	3215.	2918.	3476.	4107.	4756.	5375.
7	2698.	3184.	2856.	3238.	3847.	4486.	5098.
8	2735.	2980.	2700.	2960.	3573.	4231.	4865.
9	2828.	2732.	2558.	2734.	3355.	4040.	4703.
10	2944.	2699.	2961.	2767.	3527.	4193.	4879.
11	2954.	2608.	3082.	2822.	3377.	4003.	4649.
12	2823.	2604.	3069.	2774.	3156.	3759.	4395.
13	2553.	2672.	2908.	2649.	2911.	3522.	4178.
14	2144.	2802.	2701.	2541.	2719.	3341.	4028.
15	1640.	2867.	2628.	2904.	2718.	3471.	4136.
16	1222.	2857.	2530.	3023.	2774.	3327.	3951.
17	935.	2695.	2506.	2998.	2719.	3100.	3702.
18	780.	2389.	2547.	2820.	2583.	2845.	3452.
19	756.	1947.	2645.	2596.	2460.	2640.	3258.
20	835.	1448.	2695.	2521.	2817.	2639.	3388.
21	908.	976.	2642.	2401.	2915.	2678.	3227.
TOTAL	75371	78692	86266	99843	117473	138048	161288
FEMALES							
5	2889.	3090.	2661.	3492.	4093.	4773.	5405.
6	2696.	3290.	2798.	3386.	3984.	4620.	5219.
7	2514.	3310.	2789.	3159.	3756.	4372.	4963.
8	2341.	3144.	2667.	2871.	3484.	4110.	4721.
9	2179.	2894.	2530.	2611.	3244.	3895.	4537.
10	2030.	2787.	2973.	2586.	3413.	4015.	4697.
11	1903.	2590.	3157.	2708.	3293.	3888.	4522.
12	1799.	2426.	3194.	2711.	3081.	3675.	4289.
13	1720.	2283.	3064.	2615.	2822.	3434.	4060.
14	1664.	2149.	2851.	2504.	2590.	3224.	3878.
15	1630.	1980.	2717.	2917.	2540.	3361.	3963.
16	1602.	1856.	2524.	3101.	2663.	3246.	3841.
17	1578.	1750.	2355.	3131.	2660.	3031.	3624.
18	1558.	1664.	2203.	2992.	2556.	2765.	3375.
19	1542.	1602.	2059.	2770.	2436.	2525.	3156.
20	1528.	1570.	1894.	2642.	2844.	2479.	3294.
21	1511.	1536.	1763.	2445.	3016.	2592.	3173.
TOTAL	85024	94106	104297	118342	135232	154862	176907

Source: Bank staff estimates.

Table 1.2E: FIFTH GOVERNORATE POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	8216.	7624.	7999.	10346.	12356.	13689.	15425.
6	7972.	8355.	8527.	10363.	12261.	13625.	15112.
7	7781.	8619.	8597.	9950.	11751.	13185.	14520.
8	7643.	8341.	8257.	9253.	11029.	12601.	13901.
9	7557.	7828.	7812.	8562.	10348.	12081.	13416.
10	7498.	7857.	7365.	7780.	10114.	12120.	13464.
11	7365.	7581.	8029.	8243.	10062.	11945.	13311.
12	7134.	7449.	8329.	8349.	9697.	11484.	12916.
13	6803.	7418.	8156.	8104.	9104.	10874.	12445.
14	6375.	7449.	7756.	7761.	8518.	10309.	12049.
15	5868.	7267.	7661.	7204.	7633.	9950.	11948.
16	5369.	7085.	7345.	7832.	8079.	9890.	11769.
17	4899.	6774.	7139.	8070.	8142.	9485.	11268.
18	4457.	6347.	7015.	7821.	7840.	8837.	10600.
19	4045.	5821.	6944.	7343.	7436.	8194.	9973.
20	3663.	5268.	6708.	7210.	6864.	7300.	9601.
21	3326.	4617.	6392.	6791.	7401.	7661.	9459.
TOTAL	232109	239835	259899	294251	339483	391478	450743
FEMALES							
5	7818.	7357.	7810.	10023.	11975.	13246.	14917.
6	7542.	7970.	8244.	10002.	11848.	13170.	14813.
7	7306.	8177.	8286.	9618.	11370.	12769.	14067.
8	7108.	7942.	7987.	8993.	10706.	12231.	13486.
9	6949.	7502.	7585.	8356.	10061.	11730.	13009.
10	6816.	7453.	7090.	7585.	9789.	11741.	13028.
11	6657.	7169.	7660.	7976.	9721.	11558.	12886.
12	6459.	6989.	7901.	8051.	9380.	11124.	12525.
13	6222.	6881.	7751.	7830.	8841.	10553.	12081.
14	5947.	6814.	7402.	7510.	8291.	10003.	11681.
15	5647.	6615.	7282.	6952.	7453.	9644.	11592.
16	5381.	6457.	7008.	7520.	7846.	9587.	11423.
17	5164.	6238.	6813.	7742.	7905.	9233.	10977.
18	4994.	5969.	6675.	7564.	7657.	8670.	10378.
19	4873.	5660.	6574.	7188.	7310.	8095.	9799.
20	4786.	5365.	6385.	7078.	6770.	7279.	9457.
21	4677.	5072.	6205.	6787.	7305.	7644.	9377.
TOTAL	254680	278227	311202	353695	402243	456745	517507

Source: Bank staff estimates.

Table 1.2F: SIXTH GOVERNORATE POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	808.	745.	1042.	1307.	1593.	1742.	1979.
6	789.	819.	1095.	1340.	1597.	1757.	1953.
7	774.	849.	1096.	1320.	1552.	1723.	1890.
8	763.	826.	1047.	1259.	1476.	1665.	1818.
9	757.	780.	978.	1187.	1398.	1607.	1757.
10	754.	788.	729.	1022.	1286.	1571.	1722.
11	755.	763.	795.	1066.	1309.	1563.	1723.
12	759.	752.	827.	1071.	1293.	1523.	1694.
13	767.	750.	813.	1032.	1244.	1460.	1649.
14	777.	753.	777.	976.	1184.	1397.	1606.
15	787.	740.	774.	718.	1009.	1270.	1554.
16	779.	743.	752.	785.	1054.	1296.	1550.
17	748.	746.	740.	815.	1057.	1279.	1508.
18	694.	750.	735.	799.	1016.	1226.	1442.
19	618.	756.	734.	759.	956.	1163.	1374.
20	527.	768.	724.	759.	705.	992.	1252.
21	454.	756.	724.	735.	769.	1035.	1274.
TOTAL	30068	32537	36695	42576	49406	57097	65792
FEMALES							
5	887.	926.	1029.	1346.	1572.	1721.	1942.
6	849.	982.	1065.	1328.	1555.	1709.	1895.
7	819.	989.	1054.	1268.	1497.	1660.	1823.
8	795.	945.	1005.	1182.	1418.	1599.	1751.
9	779.	880.	948.	1098.	1343.	1543.	1695.
10	770.	863.	904.	1009.	1324.	1550.	1701.
11	769.	822.	954.	1038.	1298.	1524.	1680.
12	775.	796.	964.	1030.	1243.	1471.	1635.
13	789.	780.	929.	991.	1167.	1403.	1584.
14	811.	772.	873.	942.	1093.	1339.	1541.
15	834.	755.	847.	890.	995.	1308.	1534.
16	837.	755.	809.	941.	1025.	1285.	1511.
17	814.	760.	781.	949.	1017.	1228.	1456.
18	765.	771.	763.	912.	974.	1150.	1386.
19	690.	788.	752.	853.	924.	1074.	1319.
20	598.	812.	737.	830.	874.	979.	1290.
21	521.	813.	736.	790.	922.	1008.	1265.
TOTAL	30929	34743	39602	45531	52154	59533	67818

Source: Bank staff estimates.

Table 1.2G: URBAN POPULATION PROJECTION BY SINGLE YEARS AND SEX

AGE GROUP	1973	1978	1983	1988	1993	1998	2003
MALES							
5	8602.	7982.	8204.	10963.	12854.	14488.	16240.
6	8456.	8777.	8826.	11055.	12991.	14564.	16109.
7	8338.	9117.	9000.	10702.	12656.	14211.	15629.
8	8248.	8923.	8756.	10025.	12031.	13650.	15046.
9	8185.	8479.	8386.	9314.	11379.	13109.	14550.
10	8139.	8584.	7909.	8143.	10881.	12771.	14414.
11	8062.	8352.	8608.	8677.	10879.	12801.	14375.
12	7942.	8246.	8958.	8864.	10554.	12493.	14047.
13	7780.	8220.	8843.	8696.	9965.	11965.	13585.
14	7575.	8233.	8488.	8410.	9347.	11417.	13155.
15	7333.	8108.	8508.	7844.	8086.	10801.	12687.
16	7075.	8128.	8353.	8570.	8646.	10837.	12756.
17	6808.	8071.	8288.	8920.	8834.	10517.	12453.
18	6531.	7951.	8280.	8790.	8652.	9918.	11909.
19	6243.	7783.	8302.	8418.	8348.	9285.	11341.
20	5951.	7690.	8284.	8489.	7839.	8091.	10782.
21	5668.	7554.	8366.	8349.	8558.	8651.	10824.
TOTAL	280171	338413	394307	449083	508964	574221	644950
FEMALES							
5	7902.	7992.	8212.	10802.	12614.	14153.	15823.
6	7641.	8568.	8636.	10741.	12603.	14110.	15598.
7	7409.	8729.	8676.	10321.	12217.	13730.	15108.
8	7206.	8451.	8392.	9662.	11616.	13201.	14560.
9	7033.	7971.	8018.	8994.	11007.	12701.	14099.
10	6881.	7884.	7908.	8143.	10715.	12531.	14086.
11	6718.	7565.	8413.	8501.	10586.	12439.	13952.
12	6535.	7343.	8585.	8555.	10190.	12076.	13593.
13	6333.	7182.	8368.	8330.	9602.	11552.	13143.
14	6112.	7054.	7954.	8019.	9006.	11025.	12730.
15	5877.	6827.	7788.	7833.	8081.	10637.	12453.
16	5653.	6694.	7495.	8353.	8457.	10534.	12390.
17	5446.	6519.	7272.	8518.	8507.	10140.	12027.
18	5255.	6314.	7097.	8286.	8269.	9541.	11488.
19	5080.	6087.	6951.	7858.	7944.	8932.	10942.
20	4921.	5893.	6755.	7722.	7789.	8050.	10590.
21	4771.	5686.	6622.	7434.	8298.	8420.	10486.
TOTAL	248892	288018	331877	384477	443626	508696	579899

Source: Bank staff estimates.

Table 2.1: 1977/1978 OFFICIALLY ESTIMATED EMPLOYMENT BY SEX
(In thousands)

	1978	1978			1977		
		Economically Active Between 16 & 59/a			Planned Sector Employment /b		
	Plan Total/a	Male	Female	Total	Male	Female	Total
Industry	40	32.8	13.0	45.8	10.2	2.4	12.6
Agriculture)	184			)	10.4	1.8	12.2
Fisheries)	9	130.7	71.1	201.8)	2.1	0.1	2.2
Building and Construction	29	26.4	7.0	33.4	10.3	1.1	11.4
Transport and Communications	25	19.2	6.3	25.5	7.9	0.4	8.3
Trade, Restaurants and Hotels	36	28.7	12.2	40.9	5.9	0.8	6.7
Other Services (non-producing)	87	87.5	31.1	118.6	20.9	6.0	26.9
Total	410	325.3	140.7	466.0	67.7	12.6	80.3
Planned Sector Employment by Governorate							
First - Aden					33.5	7.6	41.1
Second - Lahej					6.5	1.3	7.8
Third - Abyan					9.5	2.2	11.7
Fourth - Shabwah					4.1	0.2	4.3
Fifth - Hadramawt					13.4	1.2	14.6
Sixth - Al-Mahra					0.7	0.1	0.8
Total					67.7	12.6	80.3

a/ There is a discrepancy between these figures. Obviously the total of those economically active between 16 and 59 should be lower than total employment as cited in Plans. In fact it appears to be some 14 percent higher.

b/ Public and mixed sectors, cooperatives and organized private sector.

Sources: Ministry of Planning and Ministry of Labor (quoted in Statistical Yearbook).

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Table 2.2: ORGANIZED SECTOR EMPLOYMENT BY MINISTRY AND AGENCY RESPONSIBLE a/

	1980	1983 Estimated
Ministry of Indsutry	4,194	4,422
Electricity Corporation	1,703	2,260
Petroleum and Minerals Corporation	3,397	3,914
Water Corporation	1,034	1,250
Ministry of Agriculture	15,504	14,939
Ministry of Fish Wealth	3,800	3,379
Ministry of Construction	9,580	12,952
Ministry of Communications	8,399	9,750
Ministry of Trade and Supply	4,955	5,720
Ministry of Health	4,187	7,726
Ministry of Education	19,076	22,228
Aden University	693	1,146
Ministry of Tourism and Culture	2,235	3,229
State Council for Information	1,672	1,840
Ministry of Local Government	2,367	2,434
Ministry of Finance	1,156	1,632
Ministry of Planning	439	441
Ministry of Labor & Civil Servie	445	521
Ministry of Justice & Religious Affairs	670	698
Ministry of Foreign Affairs	596	894
Ministry of Housing	-	1,117
Presidency of the Republic	466	927
Central Audit Office	231	360
Central Price Organization	24	40
Yemen National Bank	540	604
Bank of Yemen	209	178
Yemen Insurance Company	115	144
Total	87,687	104,645

a/ In principle public and mixed sectors only, including state farms and corporations coming under each Ministry. However, data from some individual ministries suggest coverage may not always be complete. Ministries of Defense and Interior are excluded.

Sources: Second Five Year Plan and 1984 Annual Manpower Plan.

Table 2.3: INDUSTRIAL AND UTILITIES EMPLOYMENT IN THE ORGANIZED SECTOR 1973-1982

	1973	1980	1982
Industry			
Salt Extraction	250	241	202
Food products, Drink, Tobacco	1,553	1,533	1,736
Textiles, Clothing and Leather Products	1,270	3,368	3,180
Wood Products	87	292	620
Paper Products and Printing	30	719	610
Chemicals	169	462	489
Building Materials	20	128	493
Metal Products and Engineering	523	900	953
Other Manufacturing (except refinery)	-	61	67
All Industry (except refinery)	3,902	7,704	8,350
Aden Refinery	1,753	1,908 a/	2,055 a/
Utilities			
Electricity	1,130	1,247	1,362
Water	707	793	997
All Utilities	1,837	2,040	2,359
Overall Total	7,492	11,652	12,764
By Sector of Ownership			
Public	6,028	10,260	10,784
Mixed	261	931	996
Cooperatives	-	129	671
Private	1,203	332	313
Total	7,492	11,652	12,764

a/ Assumes smooth trend from 1977 (1,707 workers) to 1984 (2,213).

Source: CSO.

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Table 2.4: EMPLOYMENT IN ORGANIZED SECTOR FISHERIES, 1983

	Fishermen	Shore-based Manual Workers (mostly Unskilled)	Engineers and Technicians	Administrative Staff	Total
Public Sector					
Yemen National Fish Corporation	383	-	134	191	708
Coastal Fishing Corporation	250	-	185	35	470
Fish Marketing Corporation	-	...	...	...	281
Shuqra Canning Factory	-	...	...	...	159
Mukalla Canning Factory	-	...	...	...	159
Mixed Sector					
Joint Venture	109	-	39	16	164
Cooperatives					
Total for 13 Cooperatives	2,721	35	93	205	3,054
Total[a/]	3,463	546	457	529	4,995

a/ Includes approximate breakdowns for Marketing Corporation and canneries.

Source: Ministry of Fish Wealth.

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Table 2.5: HIGHWAY AUTHORITY MANPOWER NEEDS BY SKILL TYPE AND TRAINING LEVEL
A SUMMARY

	Basic Education or Vocational Schools only					Intermediate Level			
	Present Number of Staff	Proposed Number of Staff	Retained in Post	Transferred (1-3)	Recruitment (2-3)	Present No. of Staff	Proposed No. of Staff	Retained in Post	Transferred (1-3)
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)
Senior Management	-	-	-	-	-	-	-	-	-
General Middle Management (non-technical)	-	-	-	-	-	14	15	11	3
Accountancy Staff (qualified)	-	-	-	-	-	3	6	2	1
Lower Level Manageneement (non-technical)	-	-	-	-	-	24	25	23	1
Secretarial & Clerical Support	139	130	111	28	19	9	38	7	2
Other Support Staff	393	394	364	29	30	8	7	7	1
Total	532	524	475	57	49	58	91	50	8
Civil & Structural Engineers	-	-	-	-	-	-	-	-	-
Other Other	-	-	-	-	-	-	-	-	-
Other Professionaly qualified staff	-	-	-	-	-	49	81	44	5
						49	81	44	5
Works Supervisors & Foreman	71	80	62	9	18	-	-	-	-
Skilled Carpenters	38	28	26	12	2	-	-	-	-
Skilled Electricians	13	13	13	-	-	-	-	-	-
Skilled plumbers	6	6	6	-	-	-	-	-	-
Skilled Gangers	-	89	-	-	89	-	-	-	-
Skilled Steel Fixers	6	11	2	4	9	-	-	-	-
Skilled Concrete Finishers	-	6	-	-	6	-	-	-	-
Skilled Masons	57	33	33	24	-	-	-	-	-
Skilled Others	2	2	2	-	-	-	-	-	-
Semi-skilled - Assistant Carpenters	20	12	12	8	-	-	-	-	-
Semi-skilled - Assistant Masons	8	13	8	-	5	-	-	-	-
Semi-skilled - Rock Drillers	11	8	9	2	1	-	-	-	-
Semi-skilled - Operators	283	275	275	8	-	-	-	-	-
Semi-skilled - Drivers	426	437	426	-	11	-	-	-	-
Semi-skilled - Assistant Electricians	2	7	2	-	5	-	-	-	-
Semi-skilled - Assistant Plumbers	1	5	1	-	4	-	-	-	-
Semi-skilled - Painters	7	11	7	-	4	-	-	-	-
Unskilled - All Jobs	908	859	777	131	82	-	-	-	-

Note: Training level required represents the minimum for each post for new recruits. In practice some may exceed this minimum, while others will have progressed to skilled and foremans jobs (in particular) via practical experience and in service training.

Source: Derived from Kampsax report for Ministry of Construction, Manpower Review of Training Needs of Highway Authority, July 1984.

Table 3.1: PRODUCTIVITY TRENDS IN SELECTED INDUSTRIAL SUBSECTORS

	Unit per Worker p.a. /a	1977	1978	1979	1980	1981	1982
Flour Milling	tons	276	282	251	243	257	154
Dairy Products	'000 lts	149	78	38	39	38	34
Tomato Canning	tons	6.1	7.3	8.7	8.0	5.5	5.6
Salt Extraction	tons	362	253	97	62	128	287
Cigarettes & Machines	mln b/	4.3	4.7	4.1	3.7	3.1	3.1
Cotton Textiles	metres	3,945	1,108	842	702	711	1,084
Leather Shoes	pairs	478	1,301	1,416	862	1,029	1,495
Paint	'000 lts.	14.2	21.7	21.3	22.6	23.3	18.5
Rubber Sandals	'000 pairs	2.56	4.91	10.53	7.55	10.65	13.70
Nails	tons	17	23	20	25	19	29
Liquid Batteries	no.	667	1,020	783	565	465	553
Electricity	'000 kwh	136	167	164	159	163	198

a/ Labor force data include ancillary as well as direct production workers.

b/ Million cigarettes plus 10,000 gross boxes of matches per worker.

Source: Draft of Annual Statistical Yearbook.

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Table 5.1: ENROLLMENTS BY EDUCATION LEVEL FOR 1980/81 THROUGH 1983/84

Education Level/Academic Years	Enrollment Male	Enrollment Female	Total	As Percent of Total Enrollment	As Percent Of Corresponding Age Group	Male Enrollment As percent of Total Enrollment	Female Enrollment As Percent of Total Enrollment	Total Enrollment As Percent of Total Population
University								
1980-81	1,684	1,562	3,246	1.1	2.2	51.9	48.1	0.2
1981-82	1,498	1,694	3,192	1.0	2.1	46.9	53.1	0.2
1982-83	1,862	2,506	4,368	1.4	2.9	42.6	57.4	0.2
1983-84	2,219	2,077	4,296	1.3	2.6	51.7	48.3	0.2
Academic Secondary a/								
1980-81 b/	18,165	8,557	26,722	8.8	14.8	68.0	32.0	1.4
1981-82 b/	19,126	9,128	28,254	9.2	15.2	67.7	32.3	1.4
1982-83 b/	19,092	9,198	28,290	8.9	14.8	67.5	32.5	1.4
1983-84 b/	19,669	9,532	29,201	8.8	14.9	67.3	32.7	1.4
Technical & Vocational a/ (Secondary)								
1980-81	4,715	630	5,345	1.8	2.8	88.2	11.8	0.3
1981-82	4,834	681	5,515	1.8	2.9	87.7	12.8	0.3
1982-83	4,841	685	5,526	1.7	2.9	87.6	12.4	0.3
1983-84	4,866	735	5,601	1.7	2.9	86.9	13.1	0.3
Unity b/								
1980-81	194,236	73,693	267,929	88.3	62.0	72.5	27.5	13.7
1981-82	199,860	70,307	270,167	88.0	61.0	74.0	26.0	13.5
1982-83	206,574	72,472	279,046	88.0	61.5	74.0	26.0	13.6
1983-84	216,537	77,390	293,927	88.2	63.1	73.7	26.3	13.9
Total								
1980-81	218,800	84,442	303,242	100.0	39.7	72.2	27.8	15.5
1981-82	225,318	80,280	307,128	100.0	39.2	73.4	26.6	15.3
1982-83	232,369	84,861	317,230	100.0	39.5	73.2	26.8	15.4
1983-84	243,291	89,734	333,025	100.0	40.4	73.1	26.9	15.8

a/ The same age group.

b/ Includes Beduin Enrollments

Sources: Educational Statistical Yearbook;
MOE and University of Aden 1980/81 through 1983/94
CSO 1981, 1982, 1983
World Bank Report No. 4652-YDR dated April 4, 1984
University of Aden

Age Category

	Unity	Secondary	University
1983/84	466	196	163
1982/83	454	191	159
1981/82	443	186	155
1980/81	432	181	151

Population (000)

1983/84	2,108
1982/83	2,055
1981/82	2,004
1980/81	1,953

Table 5.2: COMPARATIVE EDUCATIONAL STATISTICS, BY NUMBER OF SCHOOLS' ENROLLMENTS AND TEACHERS FOR SELECTED YEARS

Level	1966-1967			1980-1981			1983-1984			Average % Increase 1966/1984			Average % Increase 1980/1984		
	Schools Number	Teachers Number	Enrollments Number	Schools Number	Teachers Number	Enrollments Number	Schools Number	Teachers Number	Enrollments Number	S %	T %	E %	S %	T %	E %
Unity a/	249	1,245	49,828	897	10,072	222,977	900	10,986	238,004	15.4	31.2	22.2	0.1	3.0	1.8
Sec. Academic a/	7	165	2,992	39	1,199	26,160	51	1,555	26,896	37.0	49.6	47.0	10.3	9.9	0.9
Sec. Commerce	-	-	-	1	21	326	1	19	293	N.A	N.A	N.A	-	-3.2	-3.4
Sec. Agriculture	-	-	-	1	19	138	1	21	94	N.A.	N.A.	N.A.	-	3.5	-10.6
Sec. Technical	1	39	492	1	29	611	1	54	625	-	2.3	1.6	-	5.1	0.8
Teacher Training Center	4	45	240	7	81	1,229	10	92	1,261	8.8	6.1	25.0	14.3	4.5	0.9
Vocational Training Center	1	2	6	15	200	3,041	16	285	3,328	88.2	832.3	3256.9	2.2	14.2	3.1
Total	262	1,996	53,558	961	11,621	257,482	980	13,012	270,501	16.1	32.5	23.8	0.7	4.0	1.7

a/ Beduin schools not included.

Sources: Educational Statistics Yearbook and Ministry of Education

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Table 5.3: ANNUAL BUDGET OF THE MINISTRY OF EDUCATION, COMPARED TO THE GOVERNMENT TOTAL BUDGET, 1973-1983
(YD Millions)

Year	Total Government Budget	Ministry of Education Budget	Percent
1973-74	23.5	3.5	14.9
1974-75	29.4	4.3	14.6
1975	22.0	3.2	14.5
1976	38.3	6.5	17.0
1977	48.9	8.2	16.8
1978	65.0	11.7	18.0
1979	75.6	13.4	17.7
1980	103.5	17.5	16.9
1981	134.5	17.9	13.3
1982	163.3	19.2	11.8
1983	182.7	21.1	11.5

Source: Ministry of Education, Educational Statistics Yearbook, 1982-1983.

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Table 5.4: SIMPLE COMPOUND AND CUMULATIVE ATTRITION RATES FOR UNITY LEVEL BY YEAR OF SCHOOLING AND SEX a/

Year	Simple			Compound			Cumulative		
Sex	M	F	T	M	F	T	M	F	T
1st	6.3	4.9	5.9	6.3	4.9	5.9	6.3	4.9	5.9
2nd	3.0	5.7	3.4	2.8	5.4	3.2	9.1	10.3	9.1
3rd	4.1	11.1	6.2	3.7	10.0	5.6	12.8	20.3	14.7
4th	2.7	10.2	4.3	2.3	8.1	3.6	15.1	28.4	18.3
5th	12.8	16.2	13.6	10.7	11.2	10.9	25.8	39.6	29.2
6th	14.8	16.4	15.2	10.5	8.7	10.1	36.3	48.3	39.3
7th	10.1	9.2	9.9	5.7	3.4	5.1	42.0	51.7	44.4
8th b/	7.6	10.5	6.9	3.5	2.9	2.9	45.5	54.6	47.3

a/ Estimated from enrollment data of Unity level schools including Beduin schools for the academic years 1980/81 through 1983/84.

b/ Based on average simple attrition rates for the first seven years of schooling.

Source: MOE.

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Table 5.5: ENROLLMENTS BY GOVERNORATES AND TYPE OF EDUCATION AND TRAINING FROM 1980/81 AND 1983/84

Governorate	Unity/a	Academic b/ Secondary	Comm'l Technical	Agriculture Technical	Industrial Technical	Teacher Training Center	Voc'l Training Center	Total
Aden								
80/81	77,235	12,158	326	-	611	156	2,541	93,027
83/84	78,858	12,841	293	-	625	160 b/	2,781 b/	95,558
83/84 (%)	26.8	44.0	100.0	-	100.0	12.7	83.6	29.1
Av. Inc.(%)c/	0.7	1.9	-3.4	-	0.8	0.9	3.1	0.9
Lahej								
80/81	57,338	4,526	-	138	-	206	-	62,208
83/84	61,794	5,541	-	94	-	212 a/	-	67,641
83/84 (%)	21.0	18.9	-	100.0	-	16.8	-	20.6
Av. Inc.(%)c/	2.6	7.5	-	10.6	-	1.0	-	2.9
Abyan								
80/81	36,697	2,659	-	-	-	448	166	39,970
83/84	39,743	3,583	-	-	-	460 b/	182 b/	43,968
83/84 (%)	13.5	12.3	-	-	-	36.5	5.5	13.4
Av. Inc.(%)c/	2.8	11.6	-	-	-	0.9	3.2	3.3
Shabwah								
80/81	16,456	786	-	-	-	52	-	17,294
83/84	21,293	1,077	-	-	-	53 b/	-	22,423
83/84 (%)	7.2	3.7	-	-	-	4.2	-	6.8
Av. Inc.(%)c/	9.8	12.3	-	-	-	0.6	-	9.9
Hadramawt								
80/81	75,532	6,230	-	-	-	294	334	82,390
83/84	85,572	5,799	-	-	-	302 b/	365 b/	92,038
83/84 (%)	29.1	19.9	-	-	-	23.9	10.9	27.9
Av. Inc.(%)c/	4.4	-2.3	-	-	-	0.9	3.1	3.9
Al-Mahra								
80/81	4,671	363	-	-	-	73	-	5,107
83/84	6,667	360	-	-	-	74 b/	-	7,101
83/84 (%)	2.4	1.2	-	-	-	5.9	-	2.2
Av. Inc. (%)c/	14.2	-0.3	-	-	-	0.5	-	13.0
Total								
80/81	267,929	26,722	326	138	611	1,229	3,041	299,996
83/84	293,927	29,201	293	94	625	1,261	3,328	328,729
83/84 (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.04
Av. Inc. (%)c/	3.2	3.1	-3.4	-10.6	0.8	0.9	3.1	3.2

a/ Includes Bedouin enrollments.
b/ Estimates.
c/ Average increase 1980/81 - 1983/84.

Source: Educational Statistics Yearbook/M.O.E.

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Table 5.6: ENROLLMENT IN UNIVERSITY LEVEL BY GOVERNORATE, YEAR OF SCHOOLING AND SEX
(FOR 1980/81 THROUGH 1983/84)

	Aden			Lahej			Abyan			Shabwah			Hadramawt			Al-Mahrah			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1980/1981																					
First Year	6553	4041	10594	8824	2251	11075	5252	1900	7152	2753	343	3096	5961	2525	8486	623	211	834	30966	11271	42237
Second Year	6645	4088	10733	7255	1923	9178	3790	1391	5181	2752	296	3048	7542	3071	10619	641	270	911	28631	11040	39671
Third Year	6646	4302	10948	6337	1831	8168	3475	1283	4758	1856	204	2060	7313	3344	10657	541	107	648	26068	11071	37139
Fourth Year	6312	3818	10130	6357	1775	8132	3742	1406	5148	1947	172	2119	6442	3191	9633	483	159	642	25283	10521	35804
Fifth Year	6229	3311	9540	5558	1191	6749	3449	1117	4566	1850	78	1928	8749	2911	11660	432	103	535	26267	8711	34978
Sixth Year	6249	3136	9385	4709	860	5569	3029	968	3997	1531	63	1594	6762	3275	10037	411	147	558	22661	8449	31110
Seventh Year	5380	2958	8338	3785	658	4443	2445	766	3211	1290	2	1292	5195	2557	7752	288	68	356	18383	7009	25392
Eighth Year	4585	2982	7567	3520	504	4024	2112	572	2684	1317	2	1319	4191	1497	5688	949	65	1014	15974	5622	21596
Total	48599	28636	77235	46345	10993	57338	27294	9403	36697	15296	1160	16456	53161	22371	75532	3541	1130	4671	194263	73693	237956
Percent	25.0	38.9	28.8	23.9	14.9	21.4	14.0	12.8	13.7	7.9	1.6	6.1	27.4	30.3	28.2	1.8	1.5	1.8	100.0	100.0	100.0
1981/1982																					
First Year	9314	3941	13255	9404	2312	11716	5825	1902	7727	3530	354	3884	9031	3123	12154	1009	322	1331	35113	11954	47067
Second Year	7092	4294	11386	7145	1419	8564	4265	1369	5634	2424	257	2681	7765	2986	10751	841	227	1068	29532	10552	40084
Third Year	6946	4241	11187	6536	1410	7946	3773	1208	4981	2770	210	2980	7043	2974	10017	751	260	1011	27816	10303	38119
Fourth Year	6490	3927	10417	5863	1314	7177	3479	997	4476	1827	127	1954	7047	3109	10156	682	95	777	25388	9569	34957
Fifth Year	6472	3722	10194	5907	953	6860	3308	944	4252	2137	86	2223	7164	2985	10149	581	140	721	25569	8830	34399
Sixth Year	5360	2776	8136	4862	753	5615	2985	732	3717	1482	32	1514	7356	2679	10035	470	92	562	22515	7064	29579
Seventh Year	5385	2685	8070	3808	421	4229	2333	674	3007	1365	15	1380	5423	2517	7942	286	130	416	18600	6444	25044
Eighth Year	4930	2663	7593	2972	339	3311	1908	484	2392	112	1	1127	4222	2035	6257	166	69	235	15324	5591	20915
Total	48989	28249	77238	46497	8921	55418	27876	8310	36186	16661	1082	17743	55051	22410	77461	4786	1335	6121	199860	70307	270167
Percent	24.5	40.2	28.6	23.3	12.7	20.5	13.9	11.8	13.4	8.3	1.5	6.6	27.5	31.9	28.7	2.5	1.9	2.2	100.0	100.0	100.0
1982/83																					
First Year	6344	4093	10437	10203	2665	12865	6021	2115	8136	3894	435	4329	9870	4153	14023	1158	490	1648	37490	13951	51441
Second Year	6499	4036	10535	7328	1550	8878	4963	1487	6450	3242	325	3567	9086	3970	13056	666	336	1002	31784	11704	43488
Third Year	5979	4185	10164	6757	1146	7903	3874	1352	5226	2595	249	2844	7731	2899	10630	610	199	809	28546	10030	38576
Fourth Year	6942	4099	11041	6129	1044	7173	3629	895	4524	2739	180	2919	6536	2819	9355	663	241	904	26638	9278	35916
Fifth Year	6500	3834	10334	5965	948	6913	3343	840	4183	1967	81	2048	6676	3018	9694	408	144	552	24859	8865	33724
Sixth Year	5851	3422	9273	5145	610	5755	2867	657	3524	1596	23	1619	6464	2524	8988	426	117	543	22349	7353	29702
Seventh Year	4983	2536	7519	4484	456	4940	2258	525	2783	1193	5	1198	6046	2145	8191	350	61	411	19314	5728	25042
Eighth Year	4969	2630	7599	2983	348	3331	1895	496	2391	1230	1	1231	4271	2001	6272	246	87	333	15594	5563	21157
Total	49067	28835	77902	48994	8767	57761	28850	8367	37217	18456	1299	19755	56680	23529	80209	4527	1675	6202	206574	72472	279046
Percent	23.8	39.8	27.9	23.7	12.1	20.7	14.0	11.5	13.4	8.9	1.8	7.1	27.4	32.5	28.7	2.2	2.3	2.2	100.0	100.0	100.0
1983/84																					
First Year	6025	4290	10315	10938	3506	14444	6315	2591	8906	4038	641	4679	10356	4993	15349	1129	502	1631	38801	16523	55324
Second Year	6258	4216	10474	8319	1873	10192	5487	1887	7374	3708	426	4134	10753	4416	15169	921	406	1327	35446	13224	48670
Third Year	6701	4022	10723	7095	1421	8516	4544	1422	5966	3007	248	3255	8779	3627	12406	764	264	1029	30890	11004	41894
Fourth Year	7025	4033	11058	6238	953	7191	3536	1055	4591	2488	157	2645	7202	2657	9859	646	124	770	27135	8979	36114
Fifth Year	6953	3887	10840	5548	869	6417	3298	792	9090	2423	107	2530	6834	2641	9475	609	181	790	25665	8477	34142
Sixth Year	5926	3485	9411	5131	681	5812	2810	770	3580	1628	30	1658	6062	2542	8604	328	75	403	21885	7583	29468
Seventh Year	5459	3091	8550	4487	483	4970	2216	559	2775	1266	4	1270	5551	2312	7863	361	64	425	19340	6513	25853
Eighth Year	5012	2475	7487	3882	340	4252	1977	484	2461	1121	1	1122	5130	1717	6847	253	40	293	17375	5087	22462
Total	49359	29499	78858	51638	10156	61794	30183	9560	39743	19679	1614	21293	60667	24905	85572	5011	1656	6667	216537	77390	293927
Percent	22.8	38.1	26.8	23.8	13.1	21.0	13.9	12.4	13.5	9.1	2.1	7.2	28.0	32.2	29.1	2.4	2.1	2.4	100.0	100.0	100.0

Table 5.6: ENROLLMENT IN UNIVERSITY LEVEL BY GOVERNORATE, YEAR OF SCHOOLING AND SEX
(FOR 1980/81 THROUGH 1983/84)

	Aden			Lahej			Abyan			Shabwah			Hadramawt			Al-Mahrah			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1980/1981																					
First Year	6553	4041	10594	8824	2251	11075	5252	1900	7152	2753	343	3096	5961	2525	8486	623	211	834	30966	11271	42237
Second Year	6645	4088	10733	7255	1923	9178	3790	1391	5181	2752	296	3048	7542	3071	10619	641	270	911	28631	11040	39671
Third Year	6646	4302	10948	6337	1831	8168	3475	1283	4758	1856	204	2060	7313	3344	10657	541	107	648	26068	11071	37139
Fourth Year	6312	3818	10130	6357	1775	8132	3742	1406	5148	1947	172	2119	6442	3191	9633	483	159	642	25283	10521	35804
Fifth Year	6229	3311	9540	5558	1191	6749	3449	1117	4566	1850	78	1928	8749	2911	11660	432	103	535	26267	8711	34978
Sixth Year	6249	3136	9385	4709	860	5569	3029	968	3997	1531	63	1594	6762	3275	10037	411	147	558	22661	8449	31110
Seventh Year	5380	2958	8338	3785	658	4443	2445	766	3211	1290	2	1292	5195	2557	7752	288	68	356	18383	7009	25392
Eighth Year	4585	2982	7567	3520	504	4024	2112	572	2684	1317	2	1319	4191	1497	5688	949	65	1014	15974	5622	21596
Total	48599	28636	77235	46345	10993	57338	27294	9403	36697	15296	1160	16456	53161	22371	75532	3541	1130	4671	194263	73693	237956
Percent	25.0	38.9	28.8	23.9	14.9	21.4	14.0	12.8	13.7	7.9	1.6	6.1	27.4	30.3	28.2	1.8	1.5	1.8	100.0	100.0	100.0
1981/1982																					
First Year	9314	3941	13255	9404	2312	11716	5825	1902	7727	3530	354	3884	9031	3123	12154	1009	322	1331	35113	11954	47067
Second Year	7092	4294	11386	7145	1419	8564	4265	1369	5634	2424	257	2681	7765	2986	10751	841	227	1068	29532	10552	40084
Third Year	6946	4241	11187	6536	1410	7946	3773	1208	4981	2770	210	2980	7043	2974	10017	751	260	1011	27816	10303	38119
Fourth Year	6490	3927	10417	5863	1314	7177	3479	997	4476	1827	127	1954	7047	3109	10156	682	95	777	25388	9569	34957
Fifth Year	6472	3722	10194	5907	953	6860	3308	944	4252	2137	86	2223	7164	2985	10149	581	140	721	25569	8830	34399
Sixth Year	5360	2776	8136	4862	753	5615	2985	732	3717	1482	32	1514	7356	2679	10035	470	92	562	22515	7064	29579
Seventh Year	5385	2685	8070	3808	421	4229	2333	674	3007	1365	15	1380	5423	2517	7942	286	130	416	18600	6444	25044
Eighth Year	4930	2663	7593	2972	339	3311	1908	484	2392	112	1	1127	4222	2035	6257	166	69	235	15324	5591	20915
Total	48989	28249	77238	46497	8921	55418	27876	8310	36186	16661	1082	17743	55051	22410	77461	4786	1335	6121	199860	70307	270167
Percent	24.5	40.2	28.6	23.3	12.7	20.5	13.9	11.8	13.4	8.3	1.5	6.6	27.5	31.9	28.7	2.5	1.9	2.2	100.0	100.0	100.0
1982/83																					
First Year	6344	4093	10437	10203	2665	12865	6021	2115	8136	3894	435	4329	9870	4153	14023	1158	490	1648	37490	13951	51441
Second Year	6499	4036	10535	7328	1550	8878	4963	1487	6450	3242	325	3567	9086	3970	13056	666	336	1002	31784	11704	43488
Third Year	5979	4185	10164	6757	1146	7903	3874	1352	5226	2595	249	2844	7731	2899	10630	610	199	809	28546	10030	38576
Fourth Year	6942	4099	11041	6129	1044	7173	3629	895	4524	2739	180	2919	6536	2819	9355	663	241	904	26638	9278	35916
Fifth Year	6500	3834	10334	5965	948	6913	3343	840	4183	1967	81	2048	6676	3018	9694	408	144	552	24859	8865	33724
Sixth Year	5851	3422	9273	5145	610	5755	2867	657	3524	1596	23	1619	6464	2524	8988	426	117	543	22349	7353	29702
Seventh Year	4983	2536	7519	4484	456	4940	2258	525	2783	1193	5	1198	6046	2145	8191	350	61	411	19314	5728	25042
Eighth Year	4969	2630	7599	2983	348	3331	1895	496	2391	1230	1	1231	4271	2001	6272	246	87	333	15594	5563	21157
Total	49067	28835	77902	48994	8767	57761	28850	8367	37217	18456	1299	19755	56680	23529	80209	4527	1675	6202	206574	72472	279046
Percent	23.8	39.8	27.9	23.7	12.1	20.7	14.0	11.5	13.4	8.9	1.8	7.1	27.4	32.5	28.7	2.2	2.3	2.2	100.0	100.0	100.0
1983/84																					
First Year	6025	4290	10315	10938	3506	14444	6315	2591	8906	4038	641	4679	10356	4993	15349	1129	502	1631	38801	16523	55324
Second Year	6258	4216	10474	8319	1873	10192	5487	1887	7374	3708	426	4134	10753	4416	15169	921	406	1327	35446	13224	48670
Third Year	6701	4022	10723	7095	1421	8516	4544	1422	5966	3007	248	3255	8779	3627	12406	764	264	1029	30890	11004	41894
Fourth Year	7025	4033	11058	6238	953	7191	3536	1055	4591	2488	157	2645	7202	2657	9859	646	124	770	27135	8979	36114
Fifth Year	6953	3887	10840	5548	869	6417	3298	792	9090	2423	107	2530	6834	2641	9475	609	181	790	25665	8477	34142
Sixth Year	5926	3485	9411	5131	681	5812	2810	770	3580	1628	30	1658	6062	2542	8604	328	75	403	21885	7583	29468
Seventh Year	5459	3091	8550	4487	483	4970	2216	559	2775	1266	4	1270	5551	2312	7863	361	64	425	19340	6513	25853
Eighth Year	5012	2475	7487	3882	340	4252	1977	484	2461	1121	1	1122	5130	1717	6847	253	40	293	17375	5087	22462
Total	49359	29499	78858	51638	10156	61794	30183	9560	39743	19679	1614	21293	60667	24905	85572	5011	1656	6667	216537	77390	293927
Percent	22.8	38.1	26.8	23.8	13.1	21.0	13.9	12.4	13.5	9.1	2.1	7.2	28.0	32.2	29.1	2.4	2.1	2.4	100.0	100.0	100.0

Table 5.8: CHARACTERISTICS OF INTAKE AND OUTPUTS OF TECHNICAL, VOCATIONAL AND TEACHER TRAINING INSTITUTE

	Year of Establishment	Entry Requirements	Duration of Course	Maximum Capacity (Students)	Maximum Annual Intake (Students)	Enrollment Final Year 1982/83	Actual Graduates 1982/83	Average Annual Graduates 1984/90	Remarks
Industrial Tech. Inst./Aden	1979/80	Post Unity	5 yrs.	900	180	193	179	115	Institute starting with 3 year course.
Civil Engineering		"	"	175	35	41	32	20	Intakes expected to drop to 110 in 84/85 onwards.
Refrigeration and A.C.		"	"	125	25	28	28	20	
Mechanical Engineering		"	"	175	35	32	32	20	
Auto Engineering		"	"	125	25	21	19	12	
Electrical Engineering		"	"	175	35	40	38	24	It belongs to the MOE
Telecommunications Eng'g		"	"	125	25	31	30	19	
Commercial Tech. Inst./Aden	1982/83	"	"	450	150	-	-	40	Average intake is about 60. It belongs to the MOE
Accounting		"	"	270	90	-	-	30	
Secretarial Studies		"	"	180	60	-	-	10	
Agriculture Tech. Inst./Lahej	1983/84	"	"	180	60	-	-	42	Belongs to MOE.
Agronomy		"	"	60	20	-	-	14	Graduation starts in 1987
Horticulture		"	"	60	20	-	-	14	
Animal Husbandry		"	"	60	20	-	-	14	
Fish Wealth Inst./Aden	1972		4-5 yrs.	180	60	52	-	50	Intakes depend on skills needed. Belongs to MOFW.
Navigation			5 yrs.	45	15	-	-	11	
Marine Mechanics		"	4 yrs.	45	15	26	-	14	
Refrigeration		"	"	45	15	26	-	14	
Fish Processing & Distribution		"	5 yrs.	45	15	-	-	11	
Industrial Vocational School/Aden	1976	"	2 yrs.	300	150	117	-	110	Using facilities of Ind. Tech. Inst. Belongs to MOE
Mechanical Fitting & Machinery		"	"	60	30	26	-	24	
Auto Mechanics		"	"	60	30	25	-	24	
Welding & Blacksmith		"	"	60	30	16	-	15	
Carpentry		"	"	60	30	23	-	22	
Electrical Installation		"	"	60	30	27	-	25	
Construction Vocat'l Center/Aden	1977	"	1-2 yrs.	400	300	287	-	278	Belongs to MOC.
Electrical Installation		"	2 yrs.	50	25	21	-	34	
Vehicle Maintenance		"	"	50	25	21	-	19	
Equipment Maintenance		"	"	50	25	23	-	20	
Carpentry		"	"	50	25	49	-	34	
Tile Fixing & Plastering		"	1 Yr.	25	25	34	-	24	
Air Ventilation		"	"	20	20	23	-	19	
Masonry & Plastering		"	"	25	25	18	-	24	
Welding & Bar Bending		"	"	25	25	26	-	34	
Concreting & Bar Bending		"	"	25	25	20	-	24	
Sanitary Work		"	"	20	20	21	-	19	
Draftsmanship		"	"	20	20	-	-	19	
Surveying		"	"	20	20	21	-	19	
Shuttering		"	"	20	20	-	-	19	
Vocational Training Center/Aden	1971	"	1-2 yrs.	660	500	519	-	470	Belongs to MOLCS.
General Mechanics		"	2 yrs.	160	80	80	-	75	
Electricity		"	1 yr.	80	80	150	-	75	
Auto Mechanics		"	"	80	80	150	-	75	
Carpentry		"	"	80	80	104	-	75	
General Building		"	"	50	50	35	-	47	
Radio & TV		"	2 yrs.	80	40	-	-	38	
Air Conditioning		"	"	80	40	-	-	38	
Plumbing		"	1 yr.	50	50	-	-	47	
Vocational Traning Center/Abyan	1978	"	2 yrs.	120	60	53	-	50	Belongs to MOA
Tractor Engineering		"	2 yrs.	40	20	21	-	20	
Vehicle Engineering		"	"	40	20	21	-	20	
Store Economics		"	"	40	20	11	-	10	
Farm Machinery Voc'l Sch./Hadramaut	1980	"	2 yrs.	60	30	50	-	28	Belongs to MOE
Farm Machinery Mechanics		"	"	60	30	50	-	28	
Vocational Training Center/ Hadramaut	1975	"	2 yrs.	150-200	75-100	89	-	92	Belongs to MOLCS
Turning and Milling		"	"	50	25	14	-	23	
Auto & Tractor Mechanics		"	"	50	25	20	-	23	
Electricity		"	"	50	25	18	-	23	
Mechanical Fitting		"	"	30	15	20	-	14	
Welding		"	"	20	10	17	-	9	
Agriculture/Voc. Sch./Lahej	1984	"	"	200	100	117	-	96	Belongs to MOE Replaces secondary agricultural school
Agronomy & Horticulture		"	"	50	25	-	-	24	
Animal Husbandry		"	"	50	25	-	-	24	
Dairy & Food Processing		"	"	50	25	-	-	24	
Plant Protection		"	"	50	25	-	-	24	
Voc. Training Center/Abyan	1984	"	"	250	125	-	-	120	Belongs to MOLCS Graduation starts in 1986
Electricity		"	"	50	25	-	-	24	
Air Conditioning		"	"	50	25	-	-	24	
Auto Mechanics		"	"	50	25	-	-	24	
Carpentry		"	"	50	25	-	-	24	
Building		"	"	50	25	-	-	24	
Voc. Training Center/Lahej	1984	"	"	250	125	-	-	120	Belongs to MOLCS. Graduation starts in 1986
Electricity		"	"	50	25	-	-	24	
Plumbing		"	"	50	25	-	-	24	
Auto-Mechanics		"	"	50	25	-	-	24	
Carpentry		"	"	50	25	-	-	24	
Building		"	"	50	25	-	-	24	

Table 5.8: CHARACTERISTICS OF INTAKE AND OUTPUTS OF TECHNICAL, VOCATIONAL AND TEACHER TRAINING INSTITUTE

	Year of Establishment	Entry Requirements	Duration of Course	Maximum Capacity (Students)	Maximum Annual Intake (Students)	Enrollment Final Year 1982/83	Actual Graduates 1982/83	Average Annual Graduates 1984/90	Remarks
Commercial Voc. School/Aden	1983	Post Unity	2 yrs.	300	90	127	109	81	Belongs to MOE
Accountancy		"	"	200	60	85	73	54	
Secretarial Studies		"	"	100	30	42	36	27	
Commercial Voc. Sch./Hadramawt	1982	"	"	300	112	-	-	99	Belongs to MOE
Accountancy		"	"	200	52	-	-	45	
Secretarial Studies		"	"	100	60	-	-	54	
Inst. of Health Manpower Dev./Aden	1970	"	"	220	110	81	-	100	Belongs to MOH
Assistant Nurse		"	"	90	45	39	-	40	
Community Midwives		"	"	60	30	18	-	27	
Assistant Health Inspectors		"	"	70	35	24	-	33	
Inst. of Health Manpower Dev./Lahej	1970	"	"	100	50	39	39	45	Branch of Aden Inst.
Assistant Nurse		"	"	100	50	39	39	45	
Inst. of Health Manpower Dev./Abyan	1970	"	"	100	50	38	34	45	Branch of Aden Inst.
Assistant Nurse		"	"	100	50	38	34	45	
Inst. of Health Man. Dev./Hadramawt	1970	"	"	130	65	65	50	58	Branch of Aden Inst.
Assistant Nurse		"	"	130	65	65	50	58	
Inst. of Health Man. Dev./Mahrah	1970	"	"	40	20	20	13	18	Branch of Aden Inst.
Assistant Nurse		"	"	40	20	20	13	18	
Inst. of Music & Fine Arts/Aden	1973	"	3 yrs.	180	60	17	-	54	Belongs to MOC
Fine Arts		"	"	60	20	-	-	18	
Stage		"	"	60	20	5	-	18	
Music		"	"	60	20	9	-	18	
Inst. of Health Manp. Dev./Aden	1982	Post Secondary	"	563	193	157	-	173	Belongs to MOH
Professional Nurses		"	"	150	50	35	-	45	
Medical Assistants		"	"	150	50	61	-	45	
Pharmacy Technicians		"	"	75	25	32	-	22	
Public Health Inspectors		"	"	60	20	13	-	18	
Dental Assistants		"	"	60	20	16	-	18	
X-Ray Technicians		"	"	30	10	-	-	9	
Laboratory Technicians		"	"	30	10	-	-	9	
Nurse Midwives		Prof. Nurse	1 yr.	8	8	-	-	7	
Irrigation Eng'g Inst./Aden	1976	Post Sec.	3 yrs.	20	15	28	-	13	Belongs to MOA
Irrigation & Surveying		"	"	20	15	28	-	13	
Civil Aviation Inst./Aden	1971	"	3-16 mos.	100	50	52	-	44	Belongs to MD Comm.
Telecommunications		"	12 mos.	20	10	10	-	9	
Basic ATC		"	16 "	10	5	5	-	4	
Meteorology		"	12 "	10	10	7	-	9	
Fire Fighting		"	2 "	20	10	12	-	9	
Electronic Eng'g		"	7 "	20	10	12	-	9	
Civil Aviation Information		"	12 "	10	15	6	-	4	
Cooperative Institute/Aden	1972	"	1-24 mos.	120	65	64	-	58	Belongs to MOA
Accountancy		"	24 mos.	60	30	19	-	27	
Accountancy & Statistics		"	18 "	30	15	-	-	14	
Management & Organization		"	2 "	20	10	17	-	9	
Management & Org./Ag.		"	1 mo.	10	5	14	-	4	
Accounts Clerk		"	2 mos.	10	5	14	-	4	
Teacher Training Center/Aden		Post Unity	3 yrs.	150	50	45	45	50	MOE
Teacher Training Center/Lahej		"	"	300	100	54	54	100	MOE
Teacher Training Center/Abyan		"	"	300	100	74	-	100	MOE
Teacher Training Center/Shabwah		"	"	150	50	26	-	50	MOE
Teacher Training Center/Hadramawt		"	"	180	60	92	52	79	MOE
Teacher Training Center/Mahrah		"	"	90	30	66	64	30	MOE
Grand Total				7,493	3,150	2,419	-	2,808	

Sources: Various Ministries.

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Table 5.9: UNITY LEVEL COMPLETERS OF 1982/83 COMPARED TO SECONDARY LEVEL MAXIMUM INTAKE CAPACITY, 1983/84

	Aden	Lahej	Abyan	Shabwah	Hadramawt	Al-Mahra	Total
8th Year Unity							
Enrollment 82/83	7,599	3,331	2,391	1,231	6,272	333	21,157
% of Success 1982/83	(70%)	(71%)	(61%)	(47%)	(51%)	(51%)	(62%)
No. of Unity							
Completers 1982/83	5,300	2,400	1,500	600	3,200	200	13,200
Intake Academic							
Secondary 1983/84	3,683	1,803	1,206	440	2,218	162	9,512
Maximum Intakes							
Tech'l & Voc'l Inst.	1,540	335	235	-	307	20	2,437
Maximum Intakes							
Teacher Training Centers	50	100	100	50	60	30	390
Balance	-27	-162	+41	-110	-615	+12	-861

Sources: Educational Statistics YearBook/MOE 82/83 and 83/84.

John M. Palmer, Review of Vocational & Technical Education & Training and their Coordinates, PDRY.

Guide on Technical Institutes and Vocational Training Schools, and Centers, MOE, PDRY.

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Table 5.10: SIMPLE COMPOUND AND CUMULATIVE ATTRITION RATES FOR SECONDARY ACADEMIC LEVEL BY YEAR OF SCHOOLING AND SEX **

Year	Simple			Compound			Cumulative		
Sex	Male	Female	Total	Male	Female	Total	Male	Female	Total
1st	17.9	9.3	15.3	17.9	9.3	15.3	17.9	9.3	15.3
2nd	15.7	9.0	13.6	12.9	8.1	11.5	30.8	17.4	26.8
3rd	10.1	3.5	7.7	7.0	2.9	5.8	37.8	20.3	32.6
4th**	14.6	7.9	12.3	9.1	6.3	8.3	46.9	26.6	40.9

* Estimated from enrollment data of secondary academic level schools including bedouin schools for academic years 1980/81 through 1983/84.

** Based on average simple attrition rates for the first three years of schooling.

Source: MOE.

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Table 5.11: STUDENT/TEACHER RATIO FOR UNITY, ACADEMIC SECONDARY AND TEACHER CENTERS, 1980/81 THROUGH 1982/83.

	1980/81			1981/82			1982/83		
Governorate	Unity	Ac. Sec.	Teacher Training	Unity	Ac. Sec.	Teacher Training	Unity	Ac. Sec.	Teacher Training
Aden	26	26	9	23	22	8	23	27	11
Lahej	24	24	13	17	19	9	18	17	18
Abyan	20	25	15	18	20	13	17	19	12
Shabwah	32	16	-	31	14	1	28	13	16
Hadramawt	27	22	33	22	18	22	22	18	14
Al-Mukalla	15	16	37	19	10	12	19	9	8
Average (All Governorates)	25	24	17	21	20	12	21	21	12

Source: Educational Statistical Yearbook/MOE. 80/81, 81/82 and 82/83.

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Table 5.12: NUMBER OF UNQUALIFIED TEACHERS IN THE UNITY LEVEL COMPARED TO THE TOTAL NUMBER OF TEACHERS, 1980/81 THROUGH 1982/83

	1980/81			1981/82			1982/83		
	Unqual-ified	Total	Percent*	Unqual-ified	Total	Percent*	Unqual-ified	Total	Percent*
Aden	679	2,331	28	626	2,344	27	314	2,287	14
Lahej	306	2,306	13	805	2,844	28	546	2,758	20
Abyan	398	1,811	22	324	1,787	18	294	1,903	15
Shabwah	69	549	13	99	551	18	140	662	21
Hadramawt	902	2,820	32	1,041	3,054	34	760	3,154	24
Al-Mahra	93	255	36	65	252	26	35	226	15
Total	2,447	10,072	24	3,060	10,832	28	2,189	10,990	20

* Unqualified as percentage of total.

Source: Educational Statistical Yearbook/MOE, 1980/81, 1981/82 and 1982/83.

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Table 5.13: EXPATRIATE TEACHERS BY LEVEL OF EDUCATION
1980/81 THROUGH 1982/83

	Unity	Secondary				Teacher Training	Voc'l Training Center	Total
		Academic	Com'l	Agr'l	Tech'l			
1980/81	-	337	4	7	5	4	-	357
Percent of Total		28.1	19.0	36.8	17.2	4.9	-	3.1
1981/82	-	426	1	7	6	15	-	455
Percent of Total		32.6	3.7	22.6	18.8	16.1	-	3.5
1982/83	11	413	4	10	20	4	-	462
Percent of Total	0.1	26.6	25.0	47.6	37.0	4.3	-	3.6
% Change 82/83 over 80/81	-	10.7	-	19.5	200.0	-	-	13.8

Source: Educational Statistics Yearbook 1980/81 through 1982/83.

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Table 5.14: EXPATRIATE TEACHERS BY SPECIALIZATION FOR THE YEARS 1980/81 THROUGH 1982/83

Year	Language	Science	Social Science	Engine-ering	Vocat-ional	Com-merce	Agri-culture	Total
1980/81	142	111	83	-	8	4	9	357
Percent	39.9	31.1	23.2	-	2.2	1.1	2.5	100.0
1981/82	155	109	147	12	4	3	25	455
Percent	34.1	24.0	32.3	2.6	0.9	0.7	5.4	100.0
1982/83	178	166	99	9	1	4	5	462
Percent	38.5	35.9	21.4	2.0	0.2	0.9	1.1	100.0
% Change 82/83 over 80/81	12.0	22.3	9.2	-	-64.6	-	-25.5	13.8

Source: Educational Statistics Yearbook, 1980/81-82/83, MOE.

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Table 5.15: ENROLLMENT AT ADEN UNIVERSITY BY FACULTY, YEAR OF SCHOOLING AND SEX FOR 1983/84

Year & Sex	Agri-culture	Eco-nomics	Techno-logy	Medi-cine	Law	Educ. Aden	Educ. Mukalla	Educ. Zinjibar	Educ. Sabr	Total
77/78	151	557	289	177	-	1,054	173	-	-	2,401
Male	128	397	254	119	-	615	138	-	-	1,651
Female	23	160	35	58	-	439	35	-	-	750
79/80	174	682	643	330	130	1,202	194	19	-	3,374
Male	125	444	482	186	71	528	107	15	-	1,958
Female	49	238	161	144	59	674	87	4	-	1,416
81/82	182	550	445	459	214	881	196	127	138	3,192
Male	91	331	312	231	131	242	42	85	34	1,498
Female	91	220	133	228	83	639	154	42	104	1,694
83/84	210	871	540	468	234	1,183	384	155	251	4,296
Male	125	486	381	229	157	380	252	74	135	2,219
Female	85	385	159	239	77	803	132	81	116	2,077
Average rate of Change (%)										
77/78-83/84	11.6	16.1	23.2	38.3	-	3.9	30.4	-	-	21.4
Male	-0.8	7.0	14.5	24.4	-	-14.8	22.2	-	-	10.4
Female	54.6	34.0	65.6	60.3	-	22.3	55.7	-	-	40.4

Source: University of Aden.

Table 5.16: ENROLLMENT AT THE UNIVERSITY OF ADEN BY FACULTY, YEAR OF SCHOOLING AND SEX FOR 1983/84

Year & Sex	Agri-culture	Eco-nomics	Techno-logy	Medi-cine	Law	Educ. Aden	Educ. Mukalla	Educ. Zinjibar	Educ. Sabr	Total
First	53	287	128	82	75	278	127	105	118	1,253
Male	45	222	109	61	57	143	118	50	97	902
Female	8	65	19	21	18	135	9	55	21	351
Second	62	204	129	68	61	372	122	50	133	1,201
Male	40	84	88	31	39	104	50	24	51	511
Female	22	120	41	37	22	268	72	26	82	690
Third	47	201	107	63	47	282	135	-	-	882
Male	27	97	73	26	30	64	84	-	-	401
Female	20	104	34	37	17	218	51	-	-	481
Fourth	48	179	100	66	51	251	-	-	-	695
Male	13	83	60	17	31	69	-	-	-	273
Female	35	96	40	49	20	182	-	-	-	422
Fifth	-	-	76	61	-	-	-	-	-	137
Male	-	-	51	21	-	-	-	-	-	72
Female	-	-	25	40	-	-	-	-	-	65
Sixth	-	-	-	62	-	-	-	-	-	62
Male	-	-	-	32	-	-	-	-	-	32
Female	-	-	-	30	-	-	-	-	-	30
Seventh	-	-	-	66	-	-	-	-	-	66
Male	-	-	-	41	-	-	-	-	-	41
Female	-	-	-	25	-	-	-	-	-	25
Total	210	871	540	468	234	1,183	384	155	251	4,296
Male	125	486	381	229	157	380	252	74	148	2,232
Female	85	385	159	239	77	803	132	81	103	2,064

Source: University of Aden.

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Table 5.17: INTAKE AT THE UNIVERSITY OF ADEN BY FACULTY, TYPE OF CERTIFICATE, FROM 1970/71 TO 1983/84

	Education/Aden		Educ. Mukalla	Educ. Zingibar	Educ. Sabr	Economics		Agri-culture	Technology		Medi-cine	Law	Total		
	Diploma	B.A.	Diploma	Diploma	Diploma	Diploma	B.A.	B.Sc.	Diploma	Special License	B.Sc.	B.A.	Diploma	B.A.	Total
70/71	53	50	-	-	-	-	-	-	-	-	-	-	53	50	103
71/72	47	43	-	-	-	-	-	-	-	-	-	-	47	43	90
72/73	45	76	-	-	-	-	-	25	-	-	-	-	45	101	146
73/74	58	56	206	108	-	-	32	28	-	-	-	-	58	116	174
74/75	124	206	108	-	-	-	119	34	54	-	-	-	286	359	645
75/76	201	149	109	-	-	50	109	36	30	-	67	-	390	361	751
76/77	321	208	87	-	-	63	120	44	57	-	68	-	528	440	968
77/78	253	190	91	-	-	70	125	70	139	-	80	-	553	465	1,018
78/79	165	264	146	-	-	80	121	36	-	190	73	80	391	764	1,155
79/80	66	182	58	26	-	120	136	47	-	129	96	64	270	654	924
80/81	-	254	139	50	50	243	148	66	-	140	92	62	482	762	1,244
81/82	-	329	200	88	116	160	120	50	-	120	86	66	564	771	1,335
82/83	-	451	141	61	186	225	272	62	-	174	85	91	613	1,135	1,748
83/84	-	302	123	121	104	234	308	51	-	130	82	98	582	971	1,553
Total	1,333	2,760	1,202	346	456	1,245	1,610	549	280	883	729	461	4,862	6,992	11,854

Source: University of Aden.

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Table 5.18: GRADUATES FROM THE UNIVERSITY OF ADEN BY FACULTY, TYPE OF CERTIFICATE, FOR 1971/72 THROUGH 1983/84

	Education/Aden		Educ. Mukalla	Educ. Zingibar	Educ. Sabr	Economics		Agri-culture	Technology		Medi-cine	Law	Total		
	Diploma	B.A.	Diploma	Diploma	Diploma	Diploma	B.A.	B.Sc.	Diploma	Special Licence	B.Sc.	B.A.	Diploma	B.A.	Total
71/72	40	-	-	-	-	-	-	-	-	-	-	-	40	-	40
72/73	35	-	-	-	-	-	-	-	-	-	—	-	35	-	35
73/74	42	45	-	-	-	-	-	-	-	-	-	-	42	45	87
74/75	43	45	-	-	-	-	-	-	-	-	-	-	43	45	88
75/76	107	47	102	-	-	-	-	18	-	-	-	-	209	65	274
76/77	86	68	159	-	-	42	25	19	42	-	-	-	329	112	441
77/78	140	150	82	-	-	36	88	15	13	-	-	-	271	253	524
78/79	111	-	63	-	-	36	95	26	90	-	-	-	300	121	421
79/80	56	123	115	-	-	50	115	31	144	33	-	-	365	302	667
80/81	53	198	50	19	-	106	115	46	178	56	-	-	406	415	821
81/82	-	159	66	51	53	267	130	39	-	56	52	52	437	488	925
82/83	-	347	*	63	78	90	101	38	-	86	51	56	231	679	910
83/84	-	255	*	49	134	184	148	48		75	59	51	367	636	1,003
Total	713	1,437		182	265	811	817	280	467	306	162	159	3,075	3,161	6,236

Source: University of Aden.

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Table 5.19: YEMENIS AND EXPATRIATE LECTURERS AT THE UNIVERSITY OF ADEN BY FACULTY FOR THE YEARS 1980/81 THROUGH 1983/84

	Agri-culture	Eco-nomics	Techno-logy	Medi-cine	Law	Educ. Aden	Educ. Mukalla	Educ. Zinjibar	Educ. Sabr	Total
1980/81	41	34	40	51	14	127	37	6	6	356
Yemenis	28	26	22	27	8	123	31	4	3	235
Expatriates	13	8	18	24	6	4	6	2	3	121
Percent Ex-patriates to Total	31	23	45	47	42	3	16	33	50	34
1981/82	54	50	76	83	15	161	43	15	10	444
Yemenis	41	42	43	59	9	120	37	10	8	306
Expatriates	13	8	33	24	6	41	6	5	2	138
Percent	75	16	43	28	40	25	13	33	20	31
1982/83	63	51	74	86	23	159	42	14	13	516
Yemenis	54	44	48	67	18	120	37	10	10	399
Expatriates	9	7	26	19	5	39	5	4	3	117
Percent	14	13	35	22	21	24	11	25	23	23
1983/84	57	60	72	72	31	155	60	22	16	545
Yemenis	48	47	48	55	21	111	53	18	13	414
Expatriates	9	13	24	17	10	44	7	4	3	131
Percent	15	21	33	23	32	28	11	18	18	21

Source: University of Aden.

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Table 5.20: SCHOLARSHIPS AND GRADUATES BY SPECIALIZATION AND COUNTRY
1980/81 THROUGH 1982/83

Specialization / Country	1980/81				1981/82				1982/83			
	Scholarships		Graduates		Scholarships		Graduates		Scholarships		Graduates	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Engineering	202	53.0	166	57.4	172	42.0	61	43.6	172	40.0	151	58.5
Medicine	44	11.5	-	-	48	11.7	30	21.4	64	14.9	38	14.7
Agriculture	47	12.3	17	5.9	26	6.3	12	8.6	16	3.7	13	5.0
Arts	35	9.2	60	20.8	70	17.1	20	14.3	89	20.7	25	9.7
Fine Arts	21	5.5	-	-	24	5.9	-	-	42	9.8	-	-
Economics	24	6.3	30	10.4	29	7.0	11	7.9	38	8.8	19	7.4
Science	8	2.2	16	5.5	41	10.0	6	4.2	9	2.1	12	4.7
Total	381	100.0	189	100.0	410	100.0	140	100.0	430	100.0	258	100.0
Sudan	-	-1	0.3	-	-	-	-	-	-	-	-	-
Syria	-	-	-	-	-	-	5	3.6	-	-	5	1.9
Libya	-	-	3	1.1	10	2.4	4	2.9	-	-	1	0.4
Algeria	-	-	14	4.8	-	-	10	7.1	-	-	3	1.2
Kuwait	-	-	9	3.1	5	1.2	4	2.9	3	0.7	-	-
USSR	233	61.2	161	55.7	229	55.9	51	36.4	289	67.2	140	54.3
Bulgaria	37	9.7	11	3.8	44	10.7	5	3.6	54	12.6	30	11.6
Romania	19	5.0	21	7.3	-	-	10	7.1	-	-	13	5.0
Hungary	17	4.5	22	7.6	15	3.7	11	7.9	-	-	23	8.9
German Dem. Rep.	36	9.4	5	1.7	34	8.3	9	6.4	33	7.7	26	10.1
Czechoslovakia	21	5.5	21	7.3	30	7.3	8	5.7	30	7.0	6	2.3
Poland	7	1.8	3	1.1	5	1.2	1	0.7	-	-	5	1.9
Yugoslavia	-	-	-	-	-	-	2	1.4	-	-	-	-
China	-	-	5	1.7	-	-	13	9.3	-	-	2	0.8
India	1	0.3	6	2.1	3	0.7	1	0.7	-	-	2	0.8
Ethiopia	10	2.6	-	-	8	2.0	5	3.6	10	2.3	-	-
France	-	-	1	0.3	-	-	1	0.7	-	-	2	0.8
Cuba	-		6	2.1	27	6.6		-	11	2.5	-	-
Total	381	100.0	289	100.0	410	100.0	140	100.0	430	100.0	258	100.0

Source: MOE.

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Table 5.21: NUMBER OF ILLITERATES BY GOVERNORATE, SEX AND TEACHERS, GUIDES AND SUPERVISORS AS OF JULY 1984

Governorate	Illiterates			No. of Cells Teachers	No. of Guides	No. of Platoons Supervisors	Teacher/ Illiterate Ratio
	Male	Female	Total				
Aden	4,526	12,091	16,617	2,403	482	97	7
Percent	12	8	9	12	11	10	-
Lahej	11,073	51,557	62,630	6,000	1,501	303	10
Percent	29	33	32	29	34	32	-
Abyan	5,139	29,225	34,364	4,048	874	178	8
Percent	13	17	18	20	20	19	-
Shabwah	2,330	20,200	22,530	2,025	395	95	11
Percent	6	13	11	10	9	10	-
Hadramawt	6,499	39,646	46,145	4,657	883	212	10
Percent	17	25	24	23	20	22	-
Al-Mahrah	1,430	3,560	4,990	495	101	29	10
Percent	4	4	2	2	2	3	-
Army	6,180	302	6,482	714	143	29	9
Percent	16	-	3	3	3	3	-
Policemen	1,115	-	1,115	114	23	5	10
Percent	3	-	1	1	1	1	-
Total	38,292	156,581	194,873	20,456	4,402	948	10
Percent	100	100	100	100	100	100	

Source: MOE.

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Table 5.22: NUMBER OF ENROLEES, TEACHERS AND CLASSES INVOLVED IN THE ILLITERACY CAMPAIN BY SEX, AND THE RATIOS OF TEACHER/ILLITERATE AND CLASS/ILLITERATE FOR THE YEARS 1973/74 THROUGH 1981/82

Year	Enrollment In Illiteracy Campaign			Teachers In Illiteracy Campaign			Classes of Illeterary Campaign			Teacher/ Illiterate	Class/Illiterate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Total	Male	Female	Total
1973-74	28,148	29,499	57,647	1,936	1,265	3,201	1,002	840	1,842	18	28	35	31
1974-75	16,632	39,565	56,197	1,414	938	2,352	656	1,261	1,917	24	25	31	29
1975-76	26,066	59,605	85,671	3,890	1,373	5,263	1,271	2,414	3,685	16	21	25	23
1976-77	20,443	41,046	61,489	2,162	1,187	3,349	735	1,575	2,310	18	28	26	27
1977-78	9,138	34,897	44,035	2,952	956	3,908	568	1,433	2,001	22	16	24	22
1978-79	7,103	25,616	32,719	2,547	775	3,322	399	1,198	1,597	10	18	21	20
1979-80	3,378	6,436	9,814	447	202	649	78	319	397	15	43	20	25
1980-81	3,826	4,447	8,273	454	246	700	113	215	328	12	34	21	25
1981-82	7,385	15,754	23,139	526	186	712	436	637	1,073	32	17	25	22
Total	122,119	256,865	378,984	16,328	7,128	23,456	5,258	9,892	15,150	16	23	26	25

Source: Pamphlets distributed by the General Directorate of Illiteracy and Adult Education/MOE.

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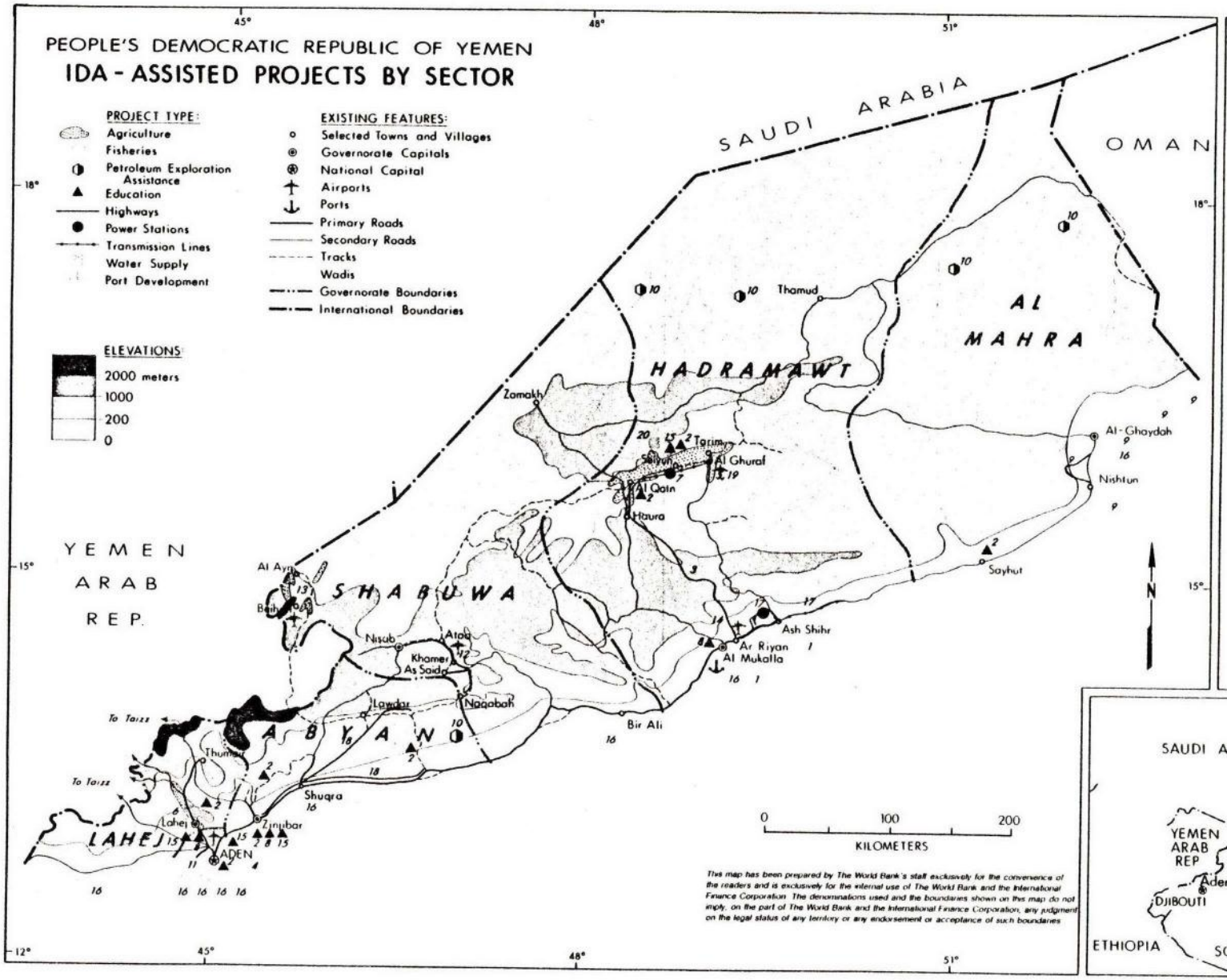
IBRD 17290
JULY 1983

PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN
IDA - ASSISTED PROJECTS BY SECTOR



PROJECT:	FISCAL YEAR APPROVED
⊙ HIGHWAYS I	1971
① FISHERIES I	1973
② EDUCATION I	1975
③ HIGHWAYS II	1975
4 ADEN PORT REHABILITATION	1976
⑤ WADI HADRAMAWT AGRIC. I	1976
6 WADI TUBAN AGRICULTURE	1978
7 WADI HADRAMAWT POWER	1978
⊙ WATER SUPPLY ENGINEERING & TECHNICAL ASSISTANCE	1978
8 EDUCATION II	1979
9 FISHERIES II	1979
10 PETROLEUM DEVELOPMENT ASSISTANCE	1980
11 ADEN WATER SUPPLY	1980
12 HIGHWAYS III	1981
13 WADI BEIHAN AGRICULTURE	1981
14 AL MUKALLA WATER SUPPLY	1981
15 EDUCATION III	1982
16 FISHERIES III	1982
17 POWER II	1982
18 ROADS FLOOD RECONSTRUCTION	1983
19 WADI HADRAMAWT AGRIC. II	1983
• HEALTH DEVELOPMENT	1983
20 SEIYUN WATER SUPPLY	1984

② *Completed projects*

• *Project spread over several or numerous locations*