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CURRENCY EQUIVALENTS

Unit of Currency = Yemeni Rial (YR)

Period Average Exchange Rates (YR per US dollar)

1995	1998	1999	2000	2001	2002
127 1	141.7	159.7	161 7	169 8	178 3

FISCAL YEAR

January 1 – December 31

ACRONYMS AND ABBREVIATIONS

AFPPF	Agriculture and Fisheries Production Promotion Fund
BEEP	Basic Education Expansion Program
CDD	Community-driven development
CPI	Consumer Price Index
CSO	Central Statistical Organization
EMIS	Education Management Information System
EOS	Economies of scale
ESIP	Education Sector Investment Project
FAO	Food and Agricultural Organization of the United Nations
FFYP	First Five Year Plan
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GER	Gross enrolment rate
HBS	Household budget survey
IDA	International Development Association
LDB	Live database
LFS	Labor force survey
LMIS	Labor Market Information System
MDG	Millennium development goal
MENA	Middle East and North Africa
MICS	Maternal and child survey
MOE	Ministry of Education
MOPH	Ministry of Public Health
NA	National accounts
NPS	National poverty survey
p.a.	Per annum
PAEG	Poverty Alleviation and Employment Program
PCE	Per capita expenditure
PER	Public Expenditure Review
PG	Poverty gap
PIMS	Poverty Information and Monitoring System
PPP	Purchasing power parity
PRSP	Poverty Reduction Strategy Paper
PWP	Public Works Project
REFLECT	Regenerated Freirean Literacy Through Empowerment Community Techniques
SFD	Social Fund for Development
SFYP	Second Five Year Plan
SWF	Social Welfare Fund
TFR	Total fertility rate
UCW	Understanding Children's Work (UNICEF/ILO/WB)
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
VT	Vocational training
WDR	World Development Report
WFP	World Food Program
WHO	World Health Organization
YAR	Yemen Arab Republic
YDMCHS	Yemen Demographic and Maternal and Child Health Survey

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REPUBLIC OF YEMEN
POVERTY UPDATE

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EXECUTIVE SUMMARY AND POLICY RECOMMENDATIONS

The Government of Yemen is clearly committed to poverty reduction and has prepared a national poverty reduction strategy (PRSP) that will be presented to the World Bank and IMF Boards in July 2002. This strategy is based on the framework of the Second Five-Year Plan (SFYP 2001-2005) and aims to reach the Millennium Development Goals by 2015. This report is a contribution to such a strategy. It is based mainly on the 1998 Household Budget Survey (HBS) and supplemented by the 1999 National Poverty Phenomenon Survey (NPS). The report analyses the nature and the many dimensions of poverty in Yemen; it discusses the role of past and current public policies on poverty; and it provides recommendations for policy interventions to improve the living standards of the poor. Due to the lack of comparable household survey data, the report does not measure the poverty trend during the 1990s and does not assess the impact of the recent economic performance on poverty.

With 42 percent of the population estimated to be living in poverty, Yemen is among the poorest countries in the world. As a result of recent efforts, social indicators have gradually improved, but they still rank with some Sub-Saharan African and South Asian countries. During the second half of the 1990s, economic growth, mainly driven by the agriculture and oil sectors, has been stronger and significant positive per capita growth, including rapid growth in agriculture was achieved that would have helped to reduce poverty.

Based on the analysis of the household budget survey, the main findings of this report are:

- Poverty is widespread nationally, pervasive in rural areas, and concentrated in 4 governorates.
- Factors that affect the risk of being poor in Yemen are (i) lack of education, (ii) large household size with a large number of children, (iii) geographical location, and (iv). lack of worker remittances from abroad.
- Children and women living in rural areas without access to education and health services rank highest among the vulnerable.
- Public expenditures in social sectors (education and health) are mildly pro-poor, but they do not address the magnitude of rural-urban and gender gaps. Almost all social programs are urban biased and tend to benefit the better-off.
- Benefit-incidence analysis of the safety nets shows that (i) their coverage is extremely limited, (ii) they fail to address short-term downturns and vulnerability for the able-bodied poor, and (iii) they fail to reach the poorest and most needy, especially children.
- Programs under the second phase of the Social Development Fund (SFD) are pro-poor, but the inter-governorate distribution of both Public Work Programs (PWP) and Social Welfare Fund (SWF) allocations show no signs of pro-poor targeting.

To reduce poverty, Yemen faces the difficult challenge of generating sustained broad based growth and ensuring that the benefits of growth are distributed across all income groups, particularly in rural areas. To meet this objective, in the context of declining oil revenues, the Government needs to (i) pursue structural and institutional reforms and introduce changes in the governance structure; (ii) ensure that the pattern of growth for 2001-2005 is pro-poor and does not widen the gap between the poor in urban and rural areas; (iii) improve the effectiveness, provision and targeting of public investment in the social sectors; and (iv) increase public expenditures in the social sectors (particularly health and social safety nets).

POVERTY AND SOCIAL CONDITIONS

The most recent Household Budget Survey, undertaken by the Central Statistical Organisation (CSO), indicates that 42 percent of the population (or 6.9 million people) lived below the poverty line in 1998. An estimated 18 percent of the population (about 3 million people) cannot even afford the cost of the minimum caloric requirement. Moreover, another 25 percent of the population is economically vulnerable and lives in the immediate neighbourhood of the poverty line.

Poverty is largely a rural phenomenon: in 1998 almost half of the population living in rural areas is classified as poor, as compared to less than one-third for urban areas. Although the rural population represents 77 percent of the total population, 83 percent of the poor live in rural areas, a percentage which rises to 87 percent for people living in extreme poverty, *i.e.* for people who have per capita expenditure falling short of the food poverty line.

Although social indicators have improved in recent years, access to social services and the development of human resources continues to be limited. Gender gaps are among the widest in the world, and urban-rural imbalances are considerable. The adult literacy rate is only 44 percent compared to 37 percent in 1995; only 33 percent of rural girls are enrolled in school compared to 73 percent of rural boys and 78 percent of urban girls. About 80 percent of the urban population has access to health care services compared to 25 percent in rural areas. The infant mortality rate decreased from 141 (per 1,000) in 1980 to 82 in 1998, and the under-5 mortality rate decreased from 198 (per 1,000) to 96 in 1998. In contrast, both maternal mortality and child malnutrition rates have increased. Almost half of the children in Yemen are either underweight and/or stunted. Access to basic infrastructure services has improved, but only 33 percent of the rural population has access to safe water compared to 87 percent in urban areas, and only 26 percent of the rural population has access to electricity compared to 93 percent in urban areas.

CHARACTERISTICS OF THE POOR

The distribution of the poor across the governorates of Yemen, suggests marked disparities in poverty rates across the national territory. About half of the poor are concentrated in four governorates: Taiz, Ibb, Sana'a region and Al-Hodeida. The incidence of poverty is lower in the two major urban centers, Sana'a city (23 percent) and Aden (30 percent) and is the lowest in Al-Baidha (15 percent).

In both rural and urban areas, the poor generally lack human capital and live in large households, with many children and few working members. The incidence of poverty among children is 21.1 percent higher than among adults: about 53 percent of the poor are children under 15 years of age and about 46 percent of all children are poor compared to 38 percent of adults. Most poor household heads are men, are employed, work in the agricultural and services sectors and mainly in the private sector. There is a strong correlation between education and poverty: 87 percent of the poor are either illiterate or did not complete primary school, and more than 86 percent of poor households headed by illiterate breadwinners live in rural areas. If illiteracy was eradicated among the breadwinners the incidence of poverty would decrease by 6 percent nationally. However, there are substantial differences between urban and rural areas regardless of income levels: among the non poor only 11 percent have more than a primary education in rural areas compared to 34 percent in urban areas; but among the poor it is about 9 percent in rural areas compared to 17 percent in urban areas. Over half of all children in the 10-14 age group are illiterate, while in some regions (Hajjah, Al-Hodeida) that percentage rises to 72 percent or more. Children that are deprived of even a basic education in childhood have very poor labor market prospects for the future. There is very clear link between household poverty and the poor school achievements of children.

Child labor in Yemen is relatively widespread with very large gender and location differences. Based on the 1998 HBS, about 14 percent of children are working, though there is little difference between the poor

(15 percent) and the non-poor (13 percent). Child labor is mainly a rural phenomenon (16 percent in rural compared to 3 percent in urban areas). Many more girls than boys work. In rural areas, access to school is a key factor influencing whether a child attends school or work, while in urban areas the level of income has a more significant influence. In general, working children are wage earners in urban areas while they work as unpaid household labor in rural areas.

Rural households typically derive income from multiple sources (agricultural own-production, production for market, sale of labor in rural markets, rental of productive assets such as land or capital goods, sale of crafts and other small-scale manufactures, and working in the urban sector). This help them cope with risks. The 1998 HBS data indicates that the relative importance of wage versus self-employment earnings is very different between urban and rural areas. In urban areas wage employment is the main income-earning activity for the poor, while in rural areas income from self-employment activities and wage earning are equally important. Transfers are also a substantial source of livelihood for the poorest Yemenis and their incidence is progressive. According to the 1998 HBS, public and private transfers make up around 8 percent of total expenditures for the average Yemeni household. However, the urban population is clearly favored in terms both of coverage and absolute transfer amounts. One finds little correlation between poverty and unemployment, though underemployment is clearly an important factor affecting poverty in rural areas. Poverty is not affected by the gender of the household head and decreases significantly for households with a self-employed or employer head.

How Did economic development during the 1990s affect the living standards of the poor?

During the first half of the 1990s, Yemen experienced severe economic difficulties arising from a series of shocks which have most probably negatively affected the living standard of the population: the drought in 1990-1991; the Gulf war in 1991; and the civil war in 1994. This was also accompanied by a substantial loss of worker remittances, increasing inflationary pressures, and high external debt. During the second half of the decade, the stabilization program stimulated growth which may have positively affected living standards, specially in rural areas. However, the evidence available does not allow to assess the extent to which the economic trend during the first half of the 1990s was offset by the positive performance of the economy during the second half of the 1990s. Based on actual economic growth rates between 1998 and 2001, it is estimated that poverty incidence has stagnated at around 41 percent. Nevertheless several features of the macroeconomic environment of the 1990s are relevant to poverty.

Was the growth pattern pro-poor? During the first half of the 1990s, GDP growth was mainly driven by capital intensive sectors (oil sector and government services). The performance of the service and agriculture sectors (where most of the poor are employed) was modest during this period and most likely not sufficient to reduce poverty. However, during the second half of the 1990s, the agriculture sector registered impressive growth rates mainly due to good rainfall during 1997-98. Since this sector continues to provide 58 percent of total employment and livelihood to about 77 percent of the population (and 83 percent of the poor), its performance most probably has improved the living standards of the rural population: the rural poor did benefit from economic growth but to an extent insufficient to escape poverty (mainly due to low wages).

Rapid population growth has reduced the impact of macroeconomic and sectoral reform policies. Yemen has one of the fastest growing populations in the world (3.9% p.a. in the 1990s). This rapid growth was due to (i) a significant increase in population size which occurred in 1991 when about 800,000 citizens returned from the GCC countries following the Gulf war; and (ii) high total fertility rate (TFR). As a result , GDP growth in the 1990s translated into only 1.5 percent increase in per capita terms, and the growth of the labor force was one of the highest in the world (4.4 percent p.a. during 1994-99). However, Yemen's population issues are not limited to rapid growth. Since the age distribution of the

population is very young, even with fertility rates declining steadily, the population will continue to increase rapidly, with significant implications for financing and provision of education, health and other social services. .

Growth patterns generated low paying jobs, primarily in agriculture. Poverty in Yemen is closely associated with low wages rather than with unemployment. During the 1990s most of the job creation took place in agriculture (4 percent p.a.) at low wages: monthly wages for unskilled labor in the agricultural sector are 41 percent lower than in manufacturing, 58 percent less than in construction and 67 percent less than the hotel and restaurants sector. Moreover, average wages are not sufficient to enable an average sized household to escape from poverty.

Worker remittances play an important role in poverty. Worker remittances are a substantial source of livelihood for the poorest Yemenis and their incidence is progressive. According to the 1998 HBS, about 8 percent of the population live in households who receive remittances from abroad. Among the poor, 21 percent of them live in households who receive remittances (26 percent in rural and 20 percent in urban) and as a percentage of total income, remittances tend to benefit households in the poorest decile the most. Remittances from relatives abroad are by far the largest source of private transfers in Yemen, particularly for the poor in rural areas: they account for 66 percent of total transfers in the poorest rural households and for 58 percent in the poorest urban households. Although a large drop in remittances occurred after the massive repatriation of Yemeni workers from the Gulf in 1991, these have slowly picked up in recent years.

Public spending in the social sectors has increased in recent years but it is still insufficient and ineffective in lifting people out of poverty. In recent years social expenditures (education, health care, social welfare, housing) substantially increased from 24 percent of total expenditure in 1997 to 34 percent in 2001, and from 8 percent of GDP to 11 percent during the same period. This increase was mainly driven by the increase in education and social welfare budgets. As a result, almost all social indicators improved, except for maternal mortality rates and child malnutrition. Despite these improvements, the development of human resources in Yemen remains limited. Factors that can explain this poor performance are population dispersion, insufficient public funding, and lack of the institutional capacity necessary to efficiently deliver basic services. The benefit-incidence analysis shows that for both education and health sectors, net subsidies are only mildly inequality reducing; the provision of social services is insufficient (particularly health); the returns are poor (in particular for education); most programs are poorly targeted, urban biased and designed to benefit the higher-middle income households; and coverage of the safety net programs is insufficient.

POLICY DIRECTIONS FOR POVERTY REDUCTION

The strategy for reducing poverty in Yemen has four major components: (i) economic growth, especially in the labor intensive sectors; (ii) effective policies to reduce population growth; (iii) improved delivery and expansion of effective basic social services (education, health care, and basic infrastructures such as access to safe water, electricity and roads) to underserved population; and (iv) improved efficiency and coverage of the safety nets programs for preventing the vulnerable from falling into poverty and helping those who are temporarily or permanently unable to take advantage of income earning opportunities. Nongovernmental agencies can also play an important role in poverty strategies but this report focuses on Government interventions.

Sustainable Economic Growth. A primary imperative for any poverty reduction strategy should be employment creation through broad based economic growth and ensuring that the benefits of growth are distributed across all income groups, particularly in rural areas. Over the medium and long runs, this can be achieved through a strategy promoting labor intensive activities in agriculture, and services. The

Second Five-Year Plan (SFYP) does not envisage major structural changes in the sectoral composition of GDP but it puts ambitious targets for the agricultural and services sectors, which exceed the historical growth records throughout the 1990s. As discussed in the World Bank's recent report on "Sources of Growth", there are major concerns that targeted growth rates will not be possible during 2001-2005 unless a set of radical reforms are introduced in the business environment and governance structure, and structural reforms are pursued. Rapid employment-generation will only be possible if agriculture, fishing, tourism and manufacturing lead the way, but these sectors are confronted with major challenges such as low productivity rates, water resource scarcity, and domestic security, which are unlikely to be surmounted in the short term. Based on the economic growth forecasts for 2001-2005, the incidence of poverty is expected to decrease from 42 percent in 1998, to 41 percent in 2001, and to 35.0-35.9 percent in 2005 (depending on the population growth scenario), which corresponds to a reduction of 0.9 percent points per year nationally. However, the pattern of growth for 2001-2005 needs to avoid *(i)* benefiting more-than-proportionally urban areas where only 13 percent of the poor lived, as opposed to rural areas (where 83 percent of the poor are concentrated), *(ii)* benefiting the richest households among the poor, and *(iii)* widening the gap in inequality measures between the poor in urban and rural areas.

Effective demographic policies. Macroeconomic policies are enhanced if accompanied by effective demographic policies. It is important for Yemen to develop and implement a balanced population program (addressing both demand and supply sides). Since more education and better health are important factors that lead to lower fertility rates, the Government should define a program that provides the following interventions: (i) a comprehensive health package including reproductive health program for women and children; (ii) expansion of girls' educational opportunities through increasing access to basic education and improving retention rates ; and (iii) expansion of population advocacy, awarness and information programs to decrease desired family size (family oplanning information and services). To implement effectively this population program, the Government needs to (i) coordinate interministerial activities among implementing agencies to ensure delivery of a comprehensive programs, and (ii) monitor and evaluate results.

Improving the Efficiency, Equity and Quantity of Public Expenditures in Social Sectors. Poor social indicators in Yemen suggest that a sizeable part of the population suffers from a lack of access to basic education, health care services and basic physical infrastructures. Hence, improving provision, equity and delivery of the social services for the poor is essential. However, given the existing weak institutional capacity addressing these issues will not be easy. Additional obstacles are ineffective public administration, limited transparency and accountability and poor service delivery. Achieving progress in these areas will take time, but the Government has recognized that for an effective poverty reduction strategy addressing these issues is importantl.

- ***Education System.*** The 1998 HBS suggests that (i) both family attitudes and supply-side factors are important impediments for rural girls' enrollment; (ii) the existence of a strong positive correlation between poverty and illiteracy; (iii) private spending on education is regressive in rural areas; (iv) distribution of education subsidies does not favor the poorest; and (v) public spending on basic education is pro-poor while higher education spending strongly benefit the rich. Therefore, to increase the educational opportunity and human capital of the poor, the Government needs to (i) promote the education of rural girls at least up to the first six grades through increasing supply-side interventions (building schools, latrines for girls, deployment of female teachers, etc.); (ii) provide incentives for enrollment at the basic education level among poor children in remote areas and among girls through reducing the costs of education for the poor (stipend or scholarships to cover out-of-pocket costs; targeted subsidies to reduce the opportunity costs of a child attending school); and (iii) develop, implement and finance a clear policy framework and strategy for adult illiteracy, particularly for women.

- ***Health Care System.*** According to the 1998 HBS, limited resources combined with poorly targeted public health programs and inefficiently run public hospitals have resulted in (i) low utilization rates; (ii) uneven and inequitable distribution of health facilities across the governorates; (iii) high out-of pocket payments for obtaining health services, especially for the poorest in rural areas, and (iii) mildly progressive distribution of public spending, although limited in absolute term and poorly targeted. In the context of the poverty reduction strategy, reform options should focus on: (i) strengthening maternal and child health programs, especially in rural areas; (ii) expanding basic health coverage to reduce rural-urban and inter-regional inequities; and (iii) increasing the public financial resources for the health sector.

Improving the Targeting and Design of Social Safety Nets. It has been argued that the Social Welfare Fund (SWF) looks after those who are unable to work and look after themselves; the Public Work Program (PWP) provides employment to the able-bodied who can work; while the Social Fund for Development (SFD) provides long term development opportunities for the poor. Yet a review of these and other existing poverty and safety net programs indicate that this is not the case: (i) coverage is extremely limited compared to the needs; (ii) many schemes share similar objectives, methods and benefits delivery and generally aim to make up for the failure of government ministries to deliver social services and basic physical assets; (iii) children, for example, may not be sufficiently well protected from poverty and its lifelong consequences; and (iv) the programs fail to serve an insurance role and address short-term downturns and vulnerability for the able-bodied poor.

- ***Reforming the SWF.*** To reach more of the non able-bodied poor and be more responsive to idiosyncratic shocks, risks and vulnerability, the SWF needs to (i) simplify the beneficiary identification and targeting rules; (ii) establish on the basis of poverty data, transparent indicators that are verified easily; (iii) decentralize beneficiary selection to the governorates (or districts) to speed up the application process; (iv) introduce finer geographical targeting coupled with the status indicators already used; (v) drop income and asset tests; (vi) revise delivery mechanisms for transfers; (vii) set-up local women's council to help identify eligible beneficiaries in targeted communities; (ix) add a school attendance requirement for the school-aged children of recipients as a condition for receiving payments; and (x) allocate more budgetary resources, once the program has been restructured.
- ***Developing a self-targeted workfare programs.*** Rural Yemeni households are subject to multiple risks that affect their ability to escape poverty. Many countries have successfully addressed issues of vulnerability and income variability with self-targeted workfare programs (i.e. low wages). Such a scheme, targeted to the able-bodied poor, can help fulfill an insurance role and address vulnerability. A key player could be the PWP or a new public works program. Either way the scheme would need to increase its self-targeting aspect and be designed to better address vulnerability to seasonal and other income earning and living conditions variability. Geographical targeting should be based on levels of unemployment and underdevelopment. Additional targeting should be on the basis of year round employment variation focusing on the lean periods. Together with successful self-targeting public works can serve a short-term employment and consumption smoothing function. Other programs such as the SFD appear to be going in the right direction with increased focus on better targeting and attempts to reach the most disadvantaged areas. However, the labor intensity of various schemes' small-scale infrastructure projects could be increased.
- ***Increasing children protection.*** A focus that appears to be missing from Yemen's current safety net has to do with protecting children. Other than efforts at improving schooling, particularly for girls, current programs appear to place little emphasis on child nutrition and other conditions that can cause irreversible damage. The WFP's programs provide an exception, and thought could go

into replicating and expanding on some of their health and nutrition and food for education schemes that aim to protect children from the future consequences of current poverty.

- ***Further encouraging the use of household survey poverty data for targeting funding allocations across programs.*** Most of the safety nets schemes are using 1999 NPS data to target their budget allocations and interventions. The SFD also makes good use of census data to target more finely geographically. This should be further encouraged. However, it will be important for the next household budget survey, scheduled for 2003, to focus on collecting the necessary comprehensive information, specially on expenditures for effective targeting, as well as information that allows analysis of program participation and incidence. a robust measure of expenditures so that these poverty numbers can be checked. The programs should then use the updated regional poverty numbers to retarget allocations.
- ***Reviewing the targeting criteria.*** The criteria currently used to target funds geographically appear questionable in some cases. For example, most programs use population density or levels as a criteria, along with poverty rates. It is advisable to make per capita allocations a function of the poverty rate only.
- ***Improving service delivery through greater use of local councils.*** Most safety nets programs are aiming to rely and work much more closely with the councils. This is a promising direction and may lead to more effective service delivery. However, it will be important to monitor these developments and evaluate the role they are playing in reaching the poor.
- ***Advertising the programs.*** Efforts should be made to increase awareness of existing programs. A promising avenue would be to make better use of radio for advertising demand driven programs and the SWF.
- ***Conducting impact evaluations.*** Impact evaluations and cost-effectiveness studies need to be completed before definitive assessment of the existing transfer programs and recommendations for reform can be made with reasonable certainty. The SFD has already taken the lead, and it is hoped that other programs will follow. More emphasis needs also to be placed on understanding the costs and benefits of the transfer programs to poor people.

QUALITY OF DATA FOR MEASURING AND MONITORING POVERTY

In the context of the PRSP and the Millennium Development Goals (MDG), Government needs to strengthen its capacity in poverty analysis and establish a regular monitoring system. This system should be designed to obtain a timely and clear picture of how its economic policies are performing and affecting the level and depth of income and non-income poverty in the country. To allow a more comprehensive analysis of poverty, to assess the poverty trend, and to monitor poverty changes, it is important to guarantee the comparability between the 1998 HBS and the planned 2003 HBS. In particular, to make better-informed policy choices, it is strongly recommended to upgrade the Household Budget Survey in 2003 through the collection of information on (i) socio-economic characteristics of the poor and their living conditions; (ii) sources of household income (including public and private transfers, land tenure and access, crops, access to credit, etc.); (iii) labor market conditions and wages; and (iv) access to social infrastructure (including water, electricity, and roads) and public services (including participation at both community and household level in safety net programs such as SFD, PWP, etc.). The recent CAS rightly is proposing Bank's support to strengthen in-country data collection, analytical capacity for poverty analysis, monitoring and evaluation.

CHAPTER I

WHO ARE THE POOR IN 1998?

Based on the 1998 Yemen household budget survey, about 42 percent of the population live below the poverty line. An estimated 18 percent of the population cannot even afford the cost of the minimum caloric requirement, suggesting that about 3 million people are likely to be undernourished. Simulation analysis shows that a moderate uniform negative shock hitting all households in Yemen would increase the incidence of poverty dramatically, especially in the rural areas. This suggests that a sizeable part of the population is economically vulnerable, i.e., lives near the poverty line. The poverty profile shows that (a) poverty is a rural phenomenon (83 percent of the poor live in rural areas), which mostly affects large households with high dependency ratios; (b) there is a strong correlation between education and poverty: 87 percent of the poor are either illiterate or did not complete primary school; and (c) most of the poor are employed, work in agriculture and services sectors and mainly in the private sector. The regression analysis carried out to identify the determinants of poverty shows that (a) lack of education is the key factor affecting the risk of being poor; (b) households with a larger number of children have a higher probability of being poor in both urban and rural areas; and (c) geographic location has a significant impact on the probability of being poor. The latter result implies that poverty reduction strategies should take into account not only the characteristics of the households but also the characteristics of the areas in which households live.

1. POVERTY ESTIMATES

1.1 In this report, poverty analysis is based on the 1998 Household Budget Survey (HBS), which represents the most complete and recent data source available for Yemen. Earlier poverty estimates were based on the 1992 HBS, as well as on the 1996 Poverty Assessment Report. However, for the reasons discussed in box 1 the latter two documents cannot provide the basis for identifying the trend of poverty in Yemen between 1992 and 1998.[1]

1.2 People are classified as poor if their consumption expenditure falls below a poverty line, which is defined as the value of a commodity basket containing both basic foodstuffs and non-food good s. In this report, poverty lines are made up of two components: *(a)* a food poverty line, setting the cost of a food bundle attaining a food energy requirement equal to 2,200 calories per person per day; and *(b)* an allowance for basic non-food goods.[2] On the basis of the 1998 HBS, the food poverty lines for Yemen are YR 2,101 per person, per month at the national level, YR 2,093 in urban areas, and YR 2,103 in rural areas. Using food poverty lines, 17.6 percent of the population are classified as poor at the national level. The incidence of food poverty is 10 percent in urban areas (corresponding to 0.4 million people), and 20 percent in rural areas (2.5 million people).

1.3 Food poverty lines provide a measure of *extreme* poverty, in that individuals are classified as poor if they cannot even afford the cost of the food-energy requirements at given prices. For this reason, food poverty lines usually add an allowance for non-food basic consumption. A *minimum* allowance for non-food spending can be estimated by calculating the average non-food spending of households whose total expenditure equals the food poverty line. The resulting lines are usually referred to as lower poverty lines. Nationally, in 1998 the lower poverty lines for Yemen were YR 3,210 per person per month, YR 3,195 in urban areas, and YR 3,215 in rural areas. Using the lower poverty lines, the incidence of poverty in Yemen were 41.8 percent at the national level, 45.0 percent in rural areas, and 30.8 percent in urban areas (table 1).[3]

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[1] World Bank (1996) *Republic of Yemen - Poverty Assessment*, report no. 15158-YEM.

[2] The methodology used in this report to estimate poverty lines follows Ravallion (1994). See Annex 1 for details.

[3] The poverty lines in table 1 correspond to about 2 PPP US$. Incidence of poverty in Yemen based on 1$ PPP is 10.7% (12.4% in rural areas, 5.2% in urban areas) and based 2$PPP/capita/ day is 47.0% (50.2% rural, 36.4% urban).

Box 1: Issues in comparing poverty measures in Yemen, 1992-1998

The 1996 Poverty Assessment Report estimated poverty measures on the basis of the 1992 HBS. Table B1 summarizes the main results:

Table B1 –Poverty lines and poverty measures in Yemen, 1992

	Urban	Rural	National
Poverty line			
Poverty line (YR/year/capita)			16,488
Poverty Measures (%)			
Headcount index	18.6	19 2	19.1
Poverty gap index	5.1	5.6	5.7
Squared poverty gap index	2 2	2.7	2 6
Absolute magnitudes			
Number of poor people (thousands)	504	2,096	2,600

Source. World Bank (1996).

Poverty estimates shown in Table B1, however, cannot be compared with those obtained in this chapter for a number of methodological differences, which make any comparison between 1992 and 1998 hazardous

- Survey design. According to the documentation available for the 1992 and 1998 HBS, there are significant differences in survey designs. Most notably, *(a)* the 1992 sampling frame was replaced by the 1994 population census frame, *(b)* although a two-stage stratified sample design is common to both 1992 and 1998, the former was defined on 4 strata, 704 clusters, 9,152 households, as compared with the 1998 design which was based on 12 strata, 840 clusters, 15,120 households; and *(c)* recall periods for expenditures differ: for instance, expenditures on food and beverages refer to last week in the 1992 HBS, to last month in the 1998 HBS.
- Sample representativeness. The 1992 HBS dataset lacks expansion factors needed to guarantee that the sample adequately covers the population. Given the high urban bias of the 1992 HBS sample (urban observations represent 72 percent in the 1992 sample, whereas the share of the urban population is estimated at about 20 percent), the lack of weights represents a major obstacle to meaningful poverty comparisons between 1992 and 1998.
- Food bundle. Although the poverty lines in table 1 share the same methodology as the one used in this report, an important difference arises from the definition of the food bundle used to estimate the food poverty lines. The 1996 Report adopted the FAO food balance sheet for the Yemen Arab Republic (YAR), 1984-1986, thereby excluding the People's Democratic Republic of Yemen (PDRY). In contrast, this report uses the new food bundle estimated by Dr. Baki (Sana'a University) and adopted by the CSO.
- Prices *versus* unit values. In order to price the food bundle, the 1996 report used urban prices for a selection of governorates, while rural prices were assumed to be a fixed proportion of urban prices (85 percent) In contrast, in this chapter quality-adjusted unit values were preferred to surveyed prices as they allow to deal with the quality-bias caused by the fact that richer households tend to consume higher quality foodstuffs than poorer households

1.4 An alternative approach to estimate the non-food allowance consists in calculating the average non-food spending among households who actually spend the cost of the minimum food requirements. Adding the estimated allowances to food poverty lines gives the upper poverty lines. In 1998, the upper poverty lines for Yemen were YR 4,720 per person, per month at the national level, YR 4,764 per person, per month in urban areas, and YR 4,707 in rural areas. Based on the upper poverty lines, the incidence of poverty in Yemen reaches 66.9 percent at the national level, 69.6 percent in rural areas, and 57.8 percent in urban areas. To be consistent with the 1996 WB report, this report primarily uses the lower poverty line, which will be referred to as *the poverty line*, provided that no ambiguity arises.[4].

[4] Annex 1 extensively discusses the differences between the new poverty lines used in the report and Government's previous estimates. Poverty estimates based on upper poverty lines are reported in the Statistical Annex.

Table 1 –Poverty lines, incidence, depth and severity of poverty in 1998

	Urban	Rural	National
Poverty line			
Poverty line (YR/month/capita)	3,195	3,215	3,210
Poverty Measures (%)			
Headcount index	30.8	45.0	41.8
Poverty Gap Index	8.2	14.7	13.2
Squared Poverty Gap Index	3.2	6.7	5.8
Absolute magnitudes			
Number of Poor People (thousands)	1,180	5,751	6,931
Total Poverty Gap (current YR, millions)	952	5,718	6,670
Memorandum			
Total population (thousands)[a]	3,834	12,766	16,600
Per capita GDP[a]	n.a.	n.a.	4,324
Per capita private consumption expenditure[a]	n.a.	n.a.	3,201
Survey per capita expenditure[b]	5,396	4,148	4,436

Notes and sources: *(a)* Population, (market price) GDP and private consumption expenditure are from the World Bank databases; *(b)* World Bank staff estimates. Discrepancy between the 1998 HBS mean private consumption per person, per month and the National Accounts (NA) private consumption is discussed in chapter II.

1.5 There is an issue specific to Yemen of how to treat expenditures on qat consumption, which absorb about 11 percent of the average household budget. For consistency sake, this report has included expenditures on qat in both the poverty line and the welfare measure (per capita expenditure). Simulating what would happen if all qat spending was re-allocated to other uses (food, clothing etc.) the incidence of poverty would decrease by 6.2 percentage points at the national level (box 2).

Box 2: Poverty and Qat

Expenditures on qat need special consideration in estimating poverty lines for Yemen . Qat is a leaf that provides a mild stimulant that is chewed in a bundle for a number of hours at a time and is widely consumed in Yemen Qat leaves contain three alcoholides· cathine, cathinine and cathidine as well as sugars, tannins and Vitamin C. The WHO considers Qat to have amphetamine-like properties and categorizes it as a separate drug group in which it is the sole element.

Table B1: Expenditure on qat consumption across PCE deciles

	Expenditure for qat (YR/capita/month)			Budget share for qat (%)		
PCE deciles	urban	Rural	yemen	urban	rural	yemen
1	45	65	63	8.38	8.61	8 60
2	90	109	106	8.79	9.08	9.04
3	148	165	161	10.05	10.00	10.01
4	187	237	227	9.86	11.43	11.13
5	224	272	261	10 13	10 89	10.74
6	307	350	340	11.04	11.40	11.32
7	363	424	409	11.25	11.71	11.60
8	473	475	475	11.91	11.14	11 33
9	639	611	619	12.15	11.10	11.38
10	1247	1083	1146	12.40	11.21	11.66
	354	467	380	10.70	11.10	10.80

Source: World Bank estimates based on the 1998 HBS

Expenditures for qat show a similar pattern in both urban and rural areas: it increases from YR 63 (per capita, per month) for households in the poorest decile to YR 1,146 for the 10% richest households. On average qat absorbs 8.6% of the budget for households in the poorest decile, to be compared with 11.8% for the richest households (table B2) .

In past work on poverty in Yemen, qat has not been deemed a basic need, though expenditure on qat has typically been included in the expenditure aggregate used to measure welfare This practice is inconsistent since qat on the one hand is not considered a basic consumption need, while on the other hand it is included as a l welfare measure. In order to pursue a consitent approach, there are two diffeent alternatives. One approach is to include qat in both the poverty lines and the welfare measure The other is to exclude it from both. In this report we include qat use in poverty lines and welfare measure. .

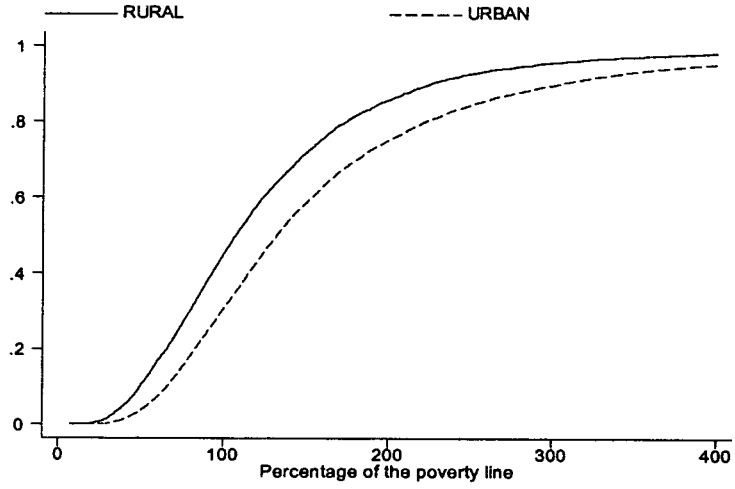
The comparison between the methods (one which excludes qat from both the per capita expenditure (PCE) and the poverty line, and the other which includes qat in PCE but excludes it from the poverty line) allows to estimate the impact of qat on poverty. According to our results, if all qat spending were re-allocated to other expenditure items, the incidence of poverty would decrease by 6.2 percentage points at the national level (Annex 1).

1.6 Measuring the incidence of poverty does not provide information on two other facets of poverty, namely its depth and its severity. As far as the former is concerned, the poverty gap index measures the average distance separating the poor from the poverty line as a proportion of the poverty line, and in this sense it captures the depth of poverty. The estimated 13.2 percent at the national level provides a measure of the ratio of the minimum cost of eliminating poverty with perfect targeting to the maximum cost with no targeting (i.e., every poor person receives a transfer equal to the poverty line. Table 1 also shows the total poverty gap, which gives the amount of money needed to completely eradicate poverty under the assumption of perfect targeting, i.e., each poor person is given exactly the value of his/her income shortfall below the poverty line. In current Rial, the total poverty gap in 1998 amounted to YR 6,670 million. As a fraction of Yemen's GDP in 1998, the total poverty gap amounted to 0.8 percent.[5]

1.7 As far as the severity of poverty is concerned, table 1 shows the estimates of the squared poverty gap index, a measure which takes into account not only the distance separating the poor from the poverty line, but also the degree of inequality among the poor. This is achieved by weighting the poor proportionally to their poverty gaps: larger gaps automatically get higher weight.[6] For this reason, the squared poverty gap index is sensitive to the distribution of income among the poor: by comparing the estimates for rural and urban areas, rural poverty (6.7 percent) appears to be by far more severe than urban poverty (3.2 percent).[7]

1.8 ***Poverty in Yemen predominates in rural areas.*** In 1998, almost half of the population living in rural areas is classified as poor, as compared to less than one-third for urban areas. Although the rural population represents 77 percent of the total population, 83 percent of the poor live in rural areas, a percentage which rises to 87 percent for people living in extreme poverty, i.e., for people who have per capita expenditure falling short of the food poverty line. This result is independent of where the poverty line is drawn. The poverty incidence curves for rural and urban areas show that – irrespective of where the poverty line is drawn – the incidence of poverty is higher in rural areas (figure 1).

Figure 1: Poverty incidence curves for urban and rural areas, 1998.



Source: World Bank estimates based on the 1998 HBS.

[5] Poverty gap provides important information to policy makers because it indicates the potential gains by targeting poverty alleviation programs *vis-à-vis* sharing out transfers to every poor person by an amount equal to the poverty line.

[6] For example, to illustrate, a poor person with a poverty gap of 10% of the poverty line is given a weight of 10%, while a poor person with a poverty gap of 50% is given a weight of 50%.

[7] Poverty severity indicates the distribution of welfare among the poor. Higher poverty severity means that the inequality among the income distribution of the poor is large.

1.9 According to the 1998 data, a sizeable part of the population of Yemen can be defined as economically vulnerable, i.e., susceptible to falling into poverty in the presence of natural, economic and social shocks such as job loss, illness, old age, and drought. Table 2 shows the results of a simulation aimed at measuring the impact on poverty measures of uniform negative shocks hitting every household expenditure.[8] Under the first scenario, a 10 percent reduction in per capita expenditure would increase the number of poor from 6.9 to 8.1 million (i.e., from 42 percent to 49 percent of the population). Under the second scenario, the reduction in per capita expenditure is 30 percent, and 10.9 million people (about two-thirds of the population) would be classified as poor. The estimates also show that irrespective of the size of the shock, urban households are affected much worse than rural households (table 2).[9] This result suggests that with respect to the rural population, in urban areas a larger proportion of the population is bunched around the poverty line, so that for a given decrease in the PCE, the percentage of people falling into poverty is higher in urban than in rural areas.[10]

Table 2 - Economic vulnerability of the poor – Yemen, 1998 (in %)

	Urban	Rural	National
Base case			
Headcount index	30.8	45.0	41.8
Poverty Gap	8.2	14.7	13.2
Mild negative shock			
Headcount index	37.5	52.3	48.9
Poverty Gap	10.8	18.1	16.4
Sizeable negative shock			
Headcount index	55.6	68.8	65.8
Poverty Gap	18.8	27.7	25.6

Notes: The table shows how the incidence and depth of poverty would change if an individual's expenditure is reduced by 10 percent (mild negative shock) or 30 percent (sizeable negative shock), with respect to actual 1998 per capita expenditure.
Source: World Bank estimates based on 1998 HBS.

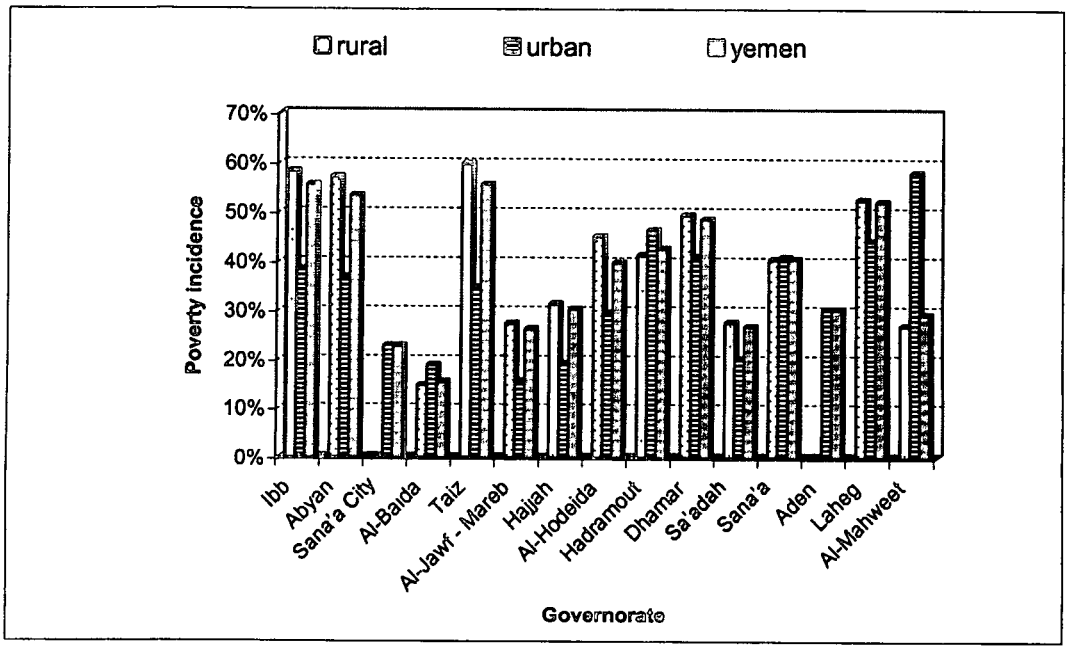
2. REGIONAL POVERTY PROFILE

1.10 Yemen is a rural society: in 1998 about 24.3 percent of the population lived in urban areas. However, according to the PRSP, urbanization is growing at about 7 percent p.a..[11]

1.11 The distribution of the poor across the governorates of Yemen suggests marked disparities in poverty rates across the national territory (figure 2). About half of the poor live in four governorates: Taiz (with 18.7 percent of the total poor), Ibb (16.2 percent), Sana'a region (11.9 percent) and Al-Hodeida (10.2 percent). The number of poor people as a percentage of the governorate population is highest in Taiz (56 percent), Ibb (55 percent), Abyan (53 percent), and Laheg (52 percent), but is also high in Dhamar (49 percent), Hadramout, Al-Mahrah and Shabwah (43 percent). The incidence of poverty is lowest in Al-Baida (15 percent) and Saddah (27 percent), and in the two major urban centers, Sana'a city (23 percent) and Aden (30 percent).

[8] The simulation does not take into account the likelihood of negative shocks, nor the possibility that shocks may affect subgroups of the population rather than the whole population, thereby implying distributional shifts.
[9] Results similar to those shown in table 2 are obtained whether the poverty lines are increased by 10% and 30% with household per capita expenditures held constant.
[10] Note that this result is consistent with the estimates of inequality given in Table 9, according to which urban areas are characterized by higher inequality rates than rural areas.
[11] According to World Bank data, urban population was 22.8% in 1990 and 24.3% in 1998. This shows a slow urbanization rate during the last decade (0.8% per year), obtained by regressing the log of the urban population share on a linear trend. Discrepancy with the PRSP information needs to be examined.

Figure 2 - Poverty incidence by governorate in 1998



Source: World Bank estimates based on the 1998 HBS.

3. Demographic and Socioeconomic Characteristics of the Poor

1.12 The socio-demographic profile of the poor in Yemen fits a pattern common to many developing countries. Poor people in Yemen tend to have (a) above average household size; (b) a large child-to-adult ratio; (c) a high dependency ratio; (d) a breadwinner in middle-age range; (e) a widowed head of household; whereas (f) the gender of the head of household is not a significant determinant of poverty. More specifically, according to the 1998 HBS data:

(a) The incidence of poverty increases sharply with rising household size: among households of one or two people, less than 1 percent are poor, as compared to 50 percent for households of 10 or more people.[12] In 1998, the average size of poor households was 8.2 (9.2 in urban areas, 8.0 in rural areas), compared to the national average of 7.1 (in both urban and rural areas).

(b) Incidence and depth of poverty steadily increase with rising child:adult ratios. Among households having more adults than children about 35 percent are poor, compared to 50 percent for households having a child:adult ratio between 2 and 3, and compared to 66 percent for child:adult ratios greater than 4.

(c) The dependency ratio measures the number of very young (less than age 15) and very old (greater than age 65) per 100 persons who are between the ages 15 and 64, the most economically productive years. The dependency ratio in Yemen is higher in poor households (158) than in better off households (111).

(d) The highest incidence of poverty (42 percent) occurs in households headed by working aged people (between ages 26 and 64). The lowest incidence is found among the youngest breadwinners (less than 25 years old), for which 38 percent of the households are poor, and for the oldest age range (39 percent). Poverty risk is lowest for people living in households headed

[12] This result is not affected qualitatively by making an allowance for economies of scale in household consumption.

by breadwinners aged 25 or less (0.91), followed by households headed by people aged 64 or more (0.94).[13]

(e) In 1998, the poverty incidence was highest for households whose heads were widowed (43 percent), followed by married heads of household (40 percent), and was lowest for divorced heads of household (35 percent). Poverty risk is highest for people living in households headed by widowed person (1.03), lowest for people in households headed by a divorced breadwinner (0.83).

(f) According to the 1998 HBS, the gender of the head of household is not a significant determinant of poverty: 5.4 percent of poor live in female-headed households and 94.6 percent live in male-headed households, a distribution which mirrors the breakdown of households by gender in the population.

(g) Incidence of poverty among children is 21.1 percent higher than among the adults: about 53 percent of the poor are children under 15 years of age and about 46 percent of the total children are poor compared to 38 percent of the total adults.

1.13 By using per capita expenditure as an indicator of well being, no allowance is made for economies of scale (EOS) in the household, nor for differences in needs between household members.[14] While allowing for some degree of economies of scale, large households may have a distinct advantage over smaller ones as they can benefit from sharing commodities or purchasing products in bulk at a discounted rate. Allowing for EOS reduces poverty incidence, depth and severity since EOS corrects, at least partially, the over-estimation of the negative impact on poverty of the large number of children and infants. Thus, measuring the living standard by neglecting EOS leads to overstating the number of large households that are poor. Taking this effect into account would reduce the estimate of poverty incidence in Yemen from 41.8 percent (no EOS) to either 38.8 percent (corresponding to EOS=*0.8*) or 36.8 percent (corresponding to EOS=*0.6*).[15]

4. EDUCATION AND POVERTY

1.14 Education in Yemen has a strong correlation to poverty incidence, depth and severity: the higher the educational attainment of the head of the household, the lower the household risk to be poor. An estimated 87 percent of the poor are either illiterate or did not complete primary school. Figure 3 shows the incidence of poverty by education level of the head of the household together with the contribution to total poverty of each education group. It shows that poverty rates are highest for households headed by illiterate persons (47.3 percent nationally, 48.8 percent in rural areas, 39.9 in urban areas), relatively high and similar among households in which the head can read and write or has attained primary level education (38.6 percent). Poverty rates are lowest for households headed by persons with a post-secondary educational, but strikingly high in absolute terms: 22 percent nationally, 42 percent rural, 11 percent urban. At the national level, households headed by top-educated breadwinners account for 2.2 percent of the observed incidence of poverty as compared to 59 percent for households headed by illiterate persons. More than 86 percent of poor households headed by illiterate breadwinners live in rural areas. A similar pattern which points to a sizeable urban/rural divide is found in terms of both the depth and severity of poverty.

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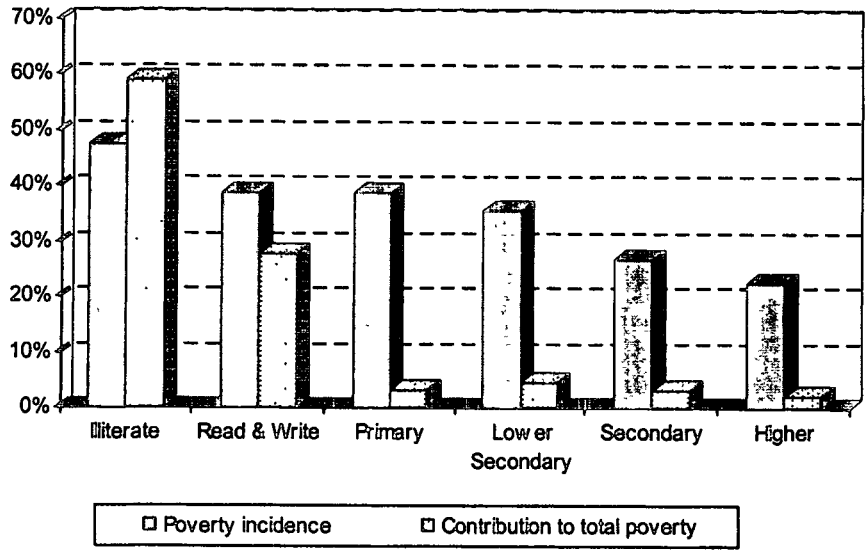
[13] Poverty risk is defined as the ratio between the poverty share (share of the poor belonging to a given subgroup out of total number of the poor) and the population share (share of a given population subgroup out of the total population). A value greater than 1 of the poverty risk indicates that the group is more likely to be poor. For instance, at the national level, 6.6 percent of the poor live in households headed by breadwinners aged 25 or more, compared to 7.2 percent for the whole population: by dividing the former percentage by the latter one obtains a poverty risk of 0.91.

[14] See P. Lanjouw and M. Ravallion (1995), "Poverty and household size," *The Economic Journal*, 105, 1415-34. Note that EOS are independent from the age structure of the household and thus quite distinct from adult equivalency scales which derive from differing needs of different household members. To investigate the effects of equivalence scales on poverty outcomes, it is recommended that Yemen develop a country specific equivalence scale.

[15] See Annex 2 discussing EOS.

Figure 3 - Poverty by education level of the head of household in 1998



Source· World Bank estimates based on the 1998 HBS

1.15 The distribution of the population by educational status of the head of household shows that at the national level 59 percent of the poor live in households headed by illiterate breadwinners, compared to 47 percent for the non poor. The capacity of reading and writing is more widespread among people in non poor households (31.5 percent as opposed to 27.7 percent for poor households.). However, there are substantial differences between urban and rural areas regardless of income level: among the non poor in rural areas, only 11 percent of people have more than a primary education compared to 34 percent in urban areas; and among the poor in rural areas, about 9 percent have more than a primary education, compared to 17 percent in urban areas (table 3).

Table 3 – Educational attainments for the poor and non-poor (%)

	Non poor			Poor		
	rural	urban	Yemen	rural	urban	Yemen
Illiterate	53.0	31.5	47.1	61.5	47.1	59.0
Read and write	32.7	28.3	31.5	27.5	28.3	27.7
Primary education	2.8	5.8	3.6	2.4	7.1	3.2
After primary	0.7	0.5	0.7	0.7	0.8	0.7
Preparatory/basic education	3.7	6.6	4.5	3.2	5.1	3.5
Pre-high school diploma	0.8	1.3	0.9	0.2	1.3	0.4
High School education	4.2	11.7	6.3	2.6	6.3	3.2
Post-high school diploma	0.8	3.1	1.4	0.9	1.1	0.9
Undergraduate and graduate	1.2	11.2	3.9	0.9	2.9	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: The table shows the distribution of the population living in households headed by persons with the educational level indicated in column 1.
Source: World Bank estimates based on 1998 HBS.

5. CHILD LABOR

1.16 At the national level, the 1998 HBS suggests that 27.5 percent of children in the 10 to 14 age group are illiterate, while in some regions that percentage may rise to 45-50 percent (Al-Mahweet, Hajjah). These children deprived of even a basic education in childhood have very poor labor market

prospects for the future. There is very clear link between the poverty of a family and the poor school participation and achievements of its children. Most of the adolescents who leave school to seek employment before or just after completing the primary level are from poor families. According to the 1998 HBS, about 97 percent of all children aged between 10 and 14 did not complete even primary education and 31 percent are no longer in school (box 3).

Table 4: Child work and enrollment for poor and non-poor (in %)

	1998					
	Urban		Rural		National	
	Poor	Non-poor	Poor	Non-Poor	Poor	Non-poor
School only	81.9	90.7	54.0	56.5	59.2	65.7
Work only	2.2	0.8	12.3	11.0	10.4	8.3
Work and school	1.1	1.4	5.6	5.5	4.8	4.4
Neither school nor work	14.8	7.1	28.1	27.0	25.6	21.6

Note: The 1998 HBS provides information for the 10 to 14 age group. Information for the 5 to 9 group age is not available.
Source: UCW team estimates based on 1998 HBS.

Box 3: Working Children

Child labor in Yemen is relatively widespread with very large gender and location differences. Based on 1998 HBS, about 14 percent of children in the 10 to 14 age group were working (about 340,000 children), and among them 37 per cent combined work and school (113,000 children). While according to 1999 NPS, 12 percent of children in the age 6-14 are working (about 700,000 children). For poor households, in 1998, 15 percent of children were working compared to 13 percent for the non-poor. The number of children out of school was, however, substantially larger than the number of the children reported working. For both poor and non-poor households, almost a quarter of the children in the 10 to 14 age group were neither working nor attending school (580,000 children). These children, who were mainly concentrated in poor urban households and rural households regardless of their income level, were not economically active, but may have been performing household chores on a full time basis. For instance, the 1998 HBS shows the majority of girls aged 10 to 14 who were out of school (72 percent) were homemakers.

In poor urban households, 82 percent of children were attending school, and 3 percent were working. While in rural poor households, only 54 percent attended school and 18 percent were working (table 4). In urban areas, a larger share of children were idle in poor households compared to non-poor households while in rural areas there were no major differences in the share of idle children in both poor and non-poor household. Children may have been lying idle for lack of opportunities both in education and work. This group of children needs special attention, not only because of their number, but because they are more at risk of shifting to full time work. On the other hand, they are also more prone to enroll in school, particularly in rural areas, if the adequate policy is put in place.

Child labor is mainly a rural phenomenon and gender gaps are substantial: in 1998, 16 percent of children work in rural areas, as opposed to 2.6 percent in urban areas. Moreover, school attendance of girls is less than half of the attendance of boys in rural areas: 51 percent of girls in rural areas are out of school as opposed to 15 percent in urban areas. Due to low school attendance of girls in rural areas, gender differences are very large and girls represent the largest number of children that are working. In both urban and rural areas, not only is the enrollment rate of boys almost double that of girls, but boys are also more likely to attend school if working. At the national level, over 40 percent of girls in the 10 to 14 age group are neither attending school nor working (compared to 6 percent for boys): in 1998, 640,000 girls were reported out of school as opposed to 170,000 boys. There is a close link between the household income level and child labor in urban areas: the share of working children in urban areas is twice as large in poor households compared to the non-poor; while in rural areas, since social services deprivation is felt by everyone, the share of working children is almost the same in both poor and non-poor households. For both poor and non-poor households, most of the working children in urban areas are wage earners (55 percent) or self-employed (28 percent), while in rural areas they are mainly occupied in their own household contributing to the family farm (83 percent).

The 1999 NPS, which has information on children in the age of 6-14, confirms the same results: girl are more likely to work and less likely to attend school than boys. The percentage of working children is far higher in the rural areas. Children that combine school and work have only marginally shorter working hours with respect to those working full time. The vast majority of rural children works in the family farm or business, but in the urban area the incidence of work outside the family is larger (32 percent). Boys mainly work for a wage while most of the girls are not wage-earners. Based on preliminary regression analysis of the 1999 NPS, the availability of infrastructure and particularly distance to potable water and school are major factors influencing household decision for sending their children to work.

Source. Preliminary UCW work on 1998 HBS and 1999 NPS.

1.17 Characteristics of child labor in Yemen are: (a) mainly a rural phenomenon with substantial gender gaps; (b) in rural areas level of income does not influence the decision of sending a child to work or to be "idle," while in urban areas the level of income does matter and has significant influence on the decision to be "idle;" (c) access to basic infrastructure and to school, particularly in rural areas, does influence the choices of the household for sending a child to school rather than work; and (d) links between poverty and child labor are more relevant in urban areas because most of the working children in urban areas are wage earners, while in rural areas they are working in the household without being paid. Based on experiences in other countries comparable to Yemen, the most effective policy for reducing child labor is increasing access to school in rural areas and improving rural basic infrastructures to increase female school attendance.

6. Employment Characteristics of the Poor

1.18 The 1998 HBS data show that poverty is affected by both labor market status (the occupational status of the head of household, such as employment, unemployment or inactive status) and the sector of employment of the head of household. At the national level, 84 percent of the poor live in households headed by employed persons, 2.5 percent by unemployed, and 13.5 percent by inactive breadwinners (i.e.,

housewife, student, handicapped, etc). This pattern does not change significantly in urban and rural areas: in rural areas, 85.3 percent of the poor are active, 2.3 percent are unemployed, 12.4 percent are inactive; and in urban areas, 77.6 percent of the poor are active, 3.5 percent are unemployed, 18.9 percent are inactive (table 5).

1.19 The number of income earners per household is low in Yemen: in the average household of 7.09 people, only 1.84 are employed. Reliance on a sole earner for each household means high exposure to risks of illness or loss of employment: there are approximately 1 million single-earner households (corresponding to more than 6 million individuals), while 0.2 million households do not have any member classified as actively employed. The latter estimate corresponds to 1 million people who are likely to be chronically poor, i.e., likely to be trapped below the poverty line for long periods of time (table 7).

Table 5: Poverty profile by labor market status of the household head

Employment status of household head	% Population			% Poor population			Poverty incidence (%)		
	Urban	Rural	Yemen	Urban	Rural	Yemen	Urban	Rural	Yemen
Employed									
Wage earner	48.4	27.9	32 7	50.9	34.5	37.3	32.4	55.6	47.6
Self employed	27.9	54.0	48.0	24 6	48.3	44.3	27.1	40.3	38.5
Employer	3.8	2.5	2.8	2.0	1.6	1.7	16.7	29.5	25.5
Other	0.1	0.8	0.6	0.1	0.9	0.7	25 6	50.1	49.0
Not employed									
Unemployed	2.9	2.4	2.6	3.5	2.3	2.5	37.4	41.3	40.3
Homemaker/Student	5.5	3.9	4.3	5.0	4.3	4.4	28.1	49.7	43.3
Rentier	7.1	3.6	4.4	7.7	3.1	3.8	33.5	38.7	36.7
Disabled	4.4	4.9	4.7	6.2	5.1	5.3	43.6	47.3	46.5
Total	100.0	100.0	100.0	100.0	100 0	100.0	30.8	45.0	41.8

Source : World Bank estimates based on the 1998 HBS.

1.20 The distribution of the poor by sector of activity of the head of household (table 6) shows that, at the national level, most of the poor work in the agriculture sector (47.3 percent), followed by services (35.9 percent) and industry (16.8 percent). When compared to the overall distribution in the population, the poor are over-represented in industry and agriculture. In contrast, they tend to be under-represented in the service sector. More specifically, in urban areas 39 percent of the poor's breadwinners work in the merchandise service sector (57 percent self-employed and 35 percent wage-earners), 24 percent in public administration (98 percent wage-earners and 0.3 percent self-employed) and 21 percent in industry. In rural areas 55 percent of the poor's breadwinners work in the agricultural sector (74 percent self-employed and 22 percent wage-earners), 29 percent in services (79 percent self-employed and 17 percent wage-earners) and 16 percent in industry. Among poor households (for which the breadwinner's sector of activity is reported), 84 percent are in the private sector and 15 percent in the public sector.

Table 6: Poverty profile by sector of activity of the household head

Activity sector	Population (%)	Poor population (%)	Headcount index (%)	PG (%)	PG2 (%)
Agriculture/forestry/fishery	45.3	47.3	43.5	13.8	6.1
Industry, manufacturing	5.3	5.7	45.2	13.7	5.7
Industry, construction	7.2	9.4	54.6	20.5	10.2
Industry, other	1.5	1.7	47.5	13.5	5.4
Services, merchandise	23.1	19.9	36.0	10.8	4.6
Services, public administration	12.4	11.1	37.4	11.4	4.9
Services, other	5.3	4.8	38.0	10.4	3.9
Total	100.0	100.0			

Source: World Bank estimates based on the 1998 HBS. Note: in the 1998 HBS, the activity sector is not reported for about 14 percent of the head of the households. The results in table 4 have been based on the information available, which correspond to assuming that missing values are evenly distributed across the activity sectors.

1.21 According to CSO estimates based on the 1998 HBS, unemployment in Yemen is mainly an urban phenomenon: urban unemployment is 13.4 percent as compared to 6.3 percent in rural areas. At the national level, removing poverty among the unemployed would reduce the overall poverty incidence by 2.5 percent (3.5 percent in urban areas, 2.2 percent in rural areas).

Table 7 - Summary characteristics of the poor in 1998

NUMBER OF POOR		
Poor:	6.9 million people	
LOCATION		
Rural areas:	83% of all poor	(73% non poor)
Urban areas:	17% of all poor	(27% non poor)
SOCIO-DEMOGRAPHIC CHARACTERISTICS		
Large households	8.2 individuals	(6.5 non poor)
High child:adult ratios	1.4 per household	(1.0 non poor)
High dependency ratios	1.6 per household	(1.1 non poor)
Lack of schooling	87% of the poor are either illiterate or did not complete primary school	(79% non poor)
HEAD OF HOUSEHOLD OCCUPATIONAL STATUS		
Employed	84% of the poor live in households headed by employed persons (84% non poor)	
Urban:	13%	(66% wage-earners, 32% self-employed).
Rural:	71%	(57% self-employed, 40% wage-earners).
Unemployed	2.5% of the poor live in households headed by unemployed persons (2.6% non poor)	
Urban:	1.9%	
Rural:	0.6%	
Inactive	13.5% of the poor live in households headed by inactive persons (13.2% non poor)	
Urban:	3.1%	
Rural:	10.4%	
Sector of activity	47.3% of the poor live in households headed by persons working in agriculture (43.8% non poor)	
Urban:	73% services, 21% industry	
Rural:	55% agriculture, 29% services	

Source: World Bank estimates based on 1998 HBS.

7. SOURCES OF INCOME

1.22 Diversification of income sources is an efficient way to cope with poverty risk. Typically, rural households derive their income from multiple sources within the rural economy (agricultural production for own use, production for market, sale of labor in rural markets, rental of productive assets such as land or capital goods, sale of crafts and other small-scale manufactures) and from the urban economy as well (table 8).

Table 8 - Income sources (%) by national deciles

	Urban					Rural					Yemen				
Decile	Employ-ment	Self-employ-ment	Capital income	Transfers	Other	Employ-ment	Self-employ-ment	Capital income	Transfers	Other	Employ-ment	Self-employ-ment	Capital income	Transfers	Other
1	54.2	19.5	14.7	8.6	3.1	35.4	33.5	2.9	8.6	19.6	37.5	31.9	4.2	8.6	17.8
2	49.2	23.3	16.0	8.7	2.8	31.9	38.2	3.1	8.2	18.6	34.7	35.8	5.2	8.3	16.0
3	47.9	24.6	15.1	9.1	3.3	29.4	38.8	3.3	7.3	21.3	33.2	35.9	5.7	7.6	17.5
4	47.3	26.4	15.7	7.3	3.3	23.7	42.3	2.5	8.1	23.5	28.6	39.0	5.2	7.9	19.3
5	45.7	27.7	15.2	8.7	2.8	22.9	43.6	2.3	6.3	24 9	27.9	40.1	5.1	6.8	20.1
6	42.0	29.9	16.1	9.2	2.8	19.0	44.4	2.9	8.5	25.2	24.4	41.0	6.0	8.6	19.9
7	41.7	30.2	14.9	9.3	3.8	21.0	43.4	2.8	7.4	25.4	26.2	40.1	5.8	7.9	20.0
8	42.4	28.9	15.0	9.4	4.3	18.0	46.8	2.5	8.5	24.2	24.2	42.3	5.7	8.7	19.2
9	39.9	31.4	14.9	9.7	4.1	15.9	46.6	2.5	8.4	26.6	22.6	42.4	5.9	8.8	20.3
10	37.3	32.5	13.5	10.6	6.1	14.0	49.0	2.9	9.1	24.9	23 0	42.6	7.0	9.7	17 6
Tot	43.4	28.5	15.0	9.2	3.9	23.7	42.3	2.8	8.0	23.3	28.2	39.1	5.6	8.3	18.8

Source : World Bank staff estimates.

Note: the table shows the composition of per capita income by national deciles ranking per capita expenditures. The table shows the share of total per capita incomes accounted by the following specific income sources: (a) wage earnings from a primary or secondary occupation; (b) earnings from self-employment; (c) capital income, such as deposit interests, rents, income from sharing and partnerships, etc.; (d) income from transfers (remittances, zakat, income from retirement etc.); and (e) other sources of income (including incomes from inheritance, dowries etc.).

1.23 According to the 1998 HBS, earnings from self-employment represent 39.1 percent of total income nationally, as compared to 28.2 percent for wage earnings, and 8.3 percent for income from transfers. The relative importance of wage earnings versus earnings from self-employment is very different between urban and rural areas: in urban areas wage earnings accounts for 43.4 percent and earnings from self-employment for 28.5 percent, while in rural areas the larger share of total income originates from self-employment activities (42.3 percent), and wage earnings account for 23.7 percent. In urban areas capital income has a 15 percent share of total income, which is five times as much as the share shown by households in rural areas. Income from transfers represents 9.2 percent of total income in urban areas, to be compared with 8 percent for rural areas (table 8).

1.24 The composition of total income changes significantly across per capita expenditure (PCE) deciles. The share of wage earnings decreases from 37.5 percent (poorest decile) to 23.0 percent (richest decile). For rural households in the top decile, wage earnings account for only 14 percent, as compared to 37 percent for urban households in the same decile. The share of income from self-employment increases from 32 percent (first decile) to 43 percent (last decile) nationally. In contrast, capital income accounts for a share of total income which shows little tendency to vary across deciles, especially in rural areas. The share of income from transfers tends to increase mildly in urban areas (from 8.6 percent for households in the poorest decile to 10.6 percent for the richest households), while it hardly varies in rural areas.

8. INEQUALITY

1.25 Two common ways of measuring inequality are: (a) the distribution of total expenditure shares across population shares ranked by per capita expenditure; and (b) the Gini coefficient. According to the 1998 HBS, the richest 50 percent of the population makes 73 percent of the total expenditure at the national level, while the top 10 percent accounts for more than 25 percent of the total expenditure on consumption. More than 20 percent of total expenditure accrues to the richest 6 percent of the population (table 9). The decomposition of the aggregate inequality by urban/rural areas shows that only 3 percent of the observed inequality is due to differences between the mean expenditures between urban and rural areas: 97 percent of the observed inequality at the national level would disappear if, *ceteris paribus,* the disparities within each area would be eliminated.

1.26 Although a previous poverty report for Yemen estimated the extent of inequality on the basis of the 1992 HBS, no comparison can be carried out to identify the tendency of inequality during the 1990s. The major reason that prevents any meaningful comparison is due to the fact that the 1992 sample is unweighted, and severely biased in its coverage of the population.

Table 9 - Cumulative distribution of per capita expenditures in urban and rural areas by decile (%)

Decile	Urban	Rural	National
1	3.07	3.00	2.95
2	7.44	7.44	7.34
3	12.80	13 04	12.82
4	19.06	19.70	19.36
5	26.31	27.46	26.93
6	34.70	36.38	35.65
7	44.56	46 74	45.86
8	56.44	59.01	57.96
9	71.81	74.34	73.24
10	100 00	100.00	100.00
Mean expenditure(DH/person/year)	4,148	5,396	4,436
Gini coefficient	35.7 (0 40)	33.3 (0.43)	34.4 (0.32)

Notes: Deciles refer to households' per capita expenditure. Bootstrap standard errors in parentheses.
Source : World Bank staff estimates based on the 1998 HBS.

9. Explaining Poverty

1.27 The main limit of a poverty profile such as the one summarized in table 7 is that while it gives information on who the poor are, it cannot be used to identify the determinants of poverty and, therefore, cannot address policy analysis. The fact that a group of households, e.g., rural wage earners, is poor, may be due to one or more characteristics of the group, such as their education level and/or their demographic structure. If this is the case, then the policy implication is to improve education levels and/or affect fertility decisions, rather than promote services related to rural laborers. In order to sort out the determinants of poverty one can rely on regression analysis, which is the focus of this section.

1.28 In order to assess the impact of various household characteristics on the likelihood of being poor and to identify factors affecting poverty, a linear regression analysis has been carried out separately for urban and rural areas (table 10). The dependent variable is the logarithm of per capita expenditure divided by the poverty line, so that a value close to one indicates that the household is in the immediate neighborhood of the poverty line.[16] Besides a constant term, the regressions include the following covariates: (a) geographic location as defined by Yemen's governorates (this results in 15 dummies, Ibb being the omitted reference governorate[17]); (b) demographic variables (household size, number of infants and children, age and gender of the breadwinner, whether s/he is widowed or not); and (c) socio-economic variables (educational status of the head of household, whether the spouse is illiterate, employment status of the head of household, whether s/he is employed in the private sector, and whether the household receives remittances). The results shown in table 8 can be summarized as follows:

- Larger households tend to have a lower level PCE, and thereby a higher tendency to fall into poverty.

[16] Following the argument in Ravallion (1996) we estimated a linear regression model rather than a binary response model such as a probit or a logit. In the former the log of the so-called welfare ratio (PCE divided by the poverty line) is regressed on a vector of observed household characteristics, so that the estimated coefficients cannot be interpreted as the marginal effect of a given household characteristic on the probability of being poor. However, using the distribution of the errors the latter can be retrieved from the former. For this reason, we can use the expression 'probability of being poor' in our comment to the results of table 8 (see text) without abusing terminology. To avoid confusion, however, it is worth stressing that the estimated coefficients in table 8 do not represent a measure of the effects of the regressions on the probability of being poor.

[17] Because of small sample size problems, the governorates of Al-Jawf and Mareb were aggregated, as well as were Hadramout, Al-Mahrah and Shabwah.

- Households with a larger number of infants and children have a higher probability of being poor. This is indicated in the table by the negative coefficients in the regressions for these variables (the negative impact on the PCE is decreasing as the squared variables have a positive sign). This result holds true in both urban and rural areas, however, urban households seem to better manage the decrease in PCE caused by additional infants.
- Poverty status is not affected by the gender of the breadwinner. It decreases with the age of the head of household, and increases for households with a widowed head. The table shows that households headed by older persons are less likely to be poor. This result is stronger in urban areas than in rural areas: in the former a household with a head aged more than 64 years has more than twice the expected level of PCE of a household headed by very young persons (less than 25 years old being the reference household).
- Returns from education are substantial. A literate breadwinner (able to read and write) brings in a 16.5 percent (urban) to 18.4 percent (rural) gain with respect to an illiterate breadwinner. If illiteracy were eradicated among the breadwinners, the incidence of poverty would decrease by 5.8 percent nationally (6.4 percent in rural areas, 3.7 percent in urban areas).[18] Completing secondary school brings in a 25 percent (rural) to 42 percent (urban) gain. There are large differences in the gains for the household heads in urban and rural areas, probably as a consequence of the fact that in urban areas there are likely more employment opportunities for qualified workers. The gains from a literate spouse versus an illiterate spouse are also not negligible (12 percent in rural areas, 6 percent in urban areas), even if they are smaller than those observed for the breadwinner.
- The employment status of the head of household has a large impact on poverty risk. The regressions suggest that the probability of being poor decreases significantly for households headed by either a self-employed or an employer. More surprisingly, the impact of unemployment on the probability of being poor is not significant, neither in urban nor in rural areas. As far as the rural areas are concerned, it is likely that people cannot afford to be unemployed, underemployment being the relevant problem. In contrast, in urban areas, the few households with an unemployed head could simply afford not to be working. Further analysis is needed to understand this issue.[19]
- In urban areas there is no systematic gain from being employed in the private sector. In contrast, in rural areas households headed by persons working in the private sector have a higher likelihood of being poor compared to those employed in the public sector.
- Remittances help escape poverty.
- Geographic location significantly affects the risk of being poor. Table 8 shows that substantial differences in the PCE remain between governorates even after controlling for a wide selection of household characteristics. The impact of geographic location is measured by the coefficients of the dummy variables for all governorates except Ibb, which is the reference governorate. In Table 8, the coefficient 0.162 for urban areas in Sana'a city means that in 1998, an urban household in Sana'a city had an expected PCE 16.2 percent above an otherwise similar urban household in Ibb. In general, a positive coefficient measures how much higher the expected PCE is for a given governorate relative to Ibb's average PCE. With a few exceptions, most coefficients are statistically significant, meaning that poverty reduction strategies should take into account not only the characteristics of the households but also the characteristics of the areas in which households live. This result advocates poor area policies such as investments in infrastructure.

[18] This is the result of a simulation where, *ceteris paribus*, the PCE of households headed by illiterate persons have been increased by 16.5% if living in urban areas, and 18.4% if in rural areas.

[19] Another reason for the lack of significant coefficients for the unemployed could be due to small sample problems: the 1998 HBS surveyed very few households headed by unemployed persons.

Table 8: Determinants of poverty – Yemen 1998
(Dependent variable: log of per capita expenditure divided by the poverty line)

	Urban		Rural	
	Coefficient	t-statistic	Coefficient	t-statistic
Household size	-0.036	-9.04	-0.011	-1.47
Number of infants (0-4)	-0.047	-3.34	-0.082	-5.44
Number of infants squared	0.011	3.30	0.009	2.72
Number of children (5-14)	-0.113	-8.29	-0.104	-6.40
Number of children squared	0.009	4.44	0.006	2.72
Male head	-0.046	-1.14	0.047	0.94
Head aged 26-40	0.090	2.96	0.075	2.42
Head aged 41-50	0.152	4.69	0.103	2.90
Head aged 51-64	0.184	5.22	0.089	2.30
Head aged more than 64	0.210	5.29	0.142	3.08
Widowed head	-0.092	-2.70	-0.100	-1.83
Head can read and write	0.153	8.52	0.169	7.78
Head with primary	0.109	3.76	0.106	2.09
Head with lower secondary	0.223	8.56	0.258	5.77
Head with secondary	0.348	13.54	0.223	4.72
Head with higher	0.508	18.62	0.258	4.21
Literate spouse	0.058	3.06	0.114	2.98
Head self-employed	0.231	12.19	0.231	9.53
Head employer	0.546	12.81	0.447	7.53
Head employed, other	0.161	1.22	0.170	2.50
Head unemployed	-0.031	-0.75	-0.003	-0.04
Head homemaker/student	0.170	3.90	0.080	1.47
Head rentier	0.081	2.46	0.153	2.15
Head disabled	-0.046	-1.13	-0.002	-0.03
Head employed in private sector	-0.006	-0.33	-0.130	-3.8
Household receives remittances	0.140	8.57	0.154	6.44
Abyan	-0.107	-2.33	0.051	1.00
Sana'a City	0.162	4.94	–	–
Al-Baida	0.270	5.33	0.727	13.70
Taiz	0.011	0.31	-0.040	-1.09
Al-Jawf – Mareb	0.242	4.31	0.560	6.58
Aja	0.288	6.68	0.457	10.87
Al-Hodeida	0.043	1.35	0.246	6.61
Hadramout - Al-Mahrah - Shabwah	-0.173	-4.26	0.280	6.61
Dhamar	-0.115	-2.61	0.151	3.77
Sa'adah	0.128	2.96	0.491	10.57
Sana'a	-0.085	-1.84	0.336	8.90
Aden	-0.056	-1.65	–	–
Laheg	-0.263	-6.02	0.083	1.91
Al-Mahweet	-0.301	-3.40	0.451	8.20
Intercept	0.446	7.41	-0.026	-0.35
Number of observations		8,626		5,015
Adjusted R-squared		0.29		0.25

Note: The column "Coefficient" reports the estimated coefficient for the variables listed in column 1, while the "t-statistic" column shows the value of the statistic used to test the null hypothesis that the estimated coefficient is significantly different from zero. If the absolute value of the t-statistic exceeds a value of approximately two, then it is customary to say that the estimated coefficient is significantly different from zero at the 0.05 level of significance.
Source: World Bank staff estimates based on the HBS 1998.

10. QUALITY OF DATA FOR MEASURING AND MONITORING POVERTY

1.29 The Central Statistical Organization has conducted three households surveys in 1992, 1998 and 1999.[20] However since the surveys are not fully comparable, it is not possible to estimate the exact difference in poverty/inequality rates between the survey years.

1.30 The purpose of the 1999 NPS was primarily to provide detailed information on access to services and other aspects of non-income living standards at a regionally disaggregated level. Since the 1999 NPS is not suitable for measuring income poverty due to unreliable data on household expenditures, the 1998 HBS is possibly the first "adequate" survey for Yemen to estimate poverty and for establishing the baseline for measuring income poverty. For this reason, it is important to guarantee the comparability between the 1998 HBS and the planned 2003 HBS, in that this would allow the assessment of the poverty trend, together with a deeper analysis of the determinants of poverty.

1.31 Although the 1998 HBS provides good quality data on consumption and expenditure patterns, better data on social and labor market conditions are needed. This report notes many important questions that can only be answered with better data on sources of income and on access to social services and their effectiveness. In particular, in order to make better-informed policy choices, it is strongly recommended to upgrade the HBS in 2003 through the collection of information on (a) economic characteristics of the poor and their living conditions; (b) sources of household income (including public and private transfers, information on land tenure, land access, crops, access to credit); (c) labor market conditions and wages; and (d) access to social and physical infrastructure (including water, electricity, roads) and efficiency of public services, including safety net programs (e.g., social fund programs, public works, etc.).

1.32 In the context of the PRSP and the Millenium Development Goals (MDG), the Government needs to establish a regular monitoring system designed to obtain a timely and clear picture of how its economic policies are performing and affecting the level and depth of income and non-income poverty in the country. To allow a more comprehensive analysis of poverty and monitoring, Annex 4 provides some suggestions for improving the quality of the 2003 HBS.

[20] Note also that the 1992 original datasets were lost and therefore not available (oral communication by the CSO, Sana'a, January 2002).

CHAPTER II

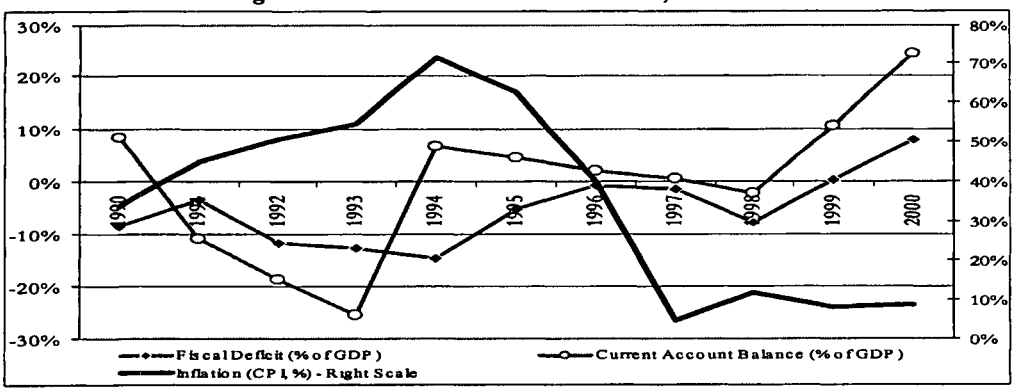
HOW CAN THE POOR BE SUPPORTED THROUGH MACRO-POLICIES?

During the first half of the 1990s, Yemen experienced severe economic difficulties arising from a series of shocks which no doubt negatively affected the living standards of the population. During the second half of the decade, the stabilization program stimulated growth which may have positively affected living standards. However, there are no grounds to confirm that the economic trend during the first half of the 1990s was offset by the positive performance of the economy during the second half of the 1990s and that living standards have improved. Several features of the economy during the 1990s are relevant to poverty: (a) the impact of macroeconomic and sectoral policies was greatly reduced due to the high population growth rate; (b) growth patterns generated mainly low paying jobs, particularly in agriculture; (c) increases in employment were insufficient to absorb the labor force, (d) declines in worker remittances in the early 1990s may have played a significant role in poverty; (e) high population growth has increased pressures on financing and provision of education, health and other social services; and (f) although the Government has increased public spending in social sectors, but it is still insufficient and ineffective in lifting people out of poverty. Yemen faces the difficult challenge of generating sustained broad-based growth and ensuring that the benefits of growth are distributed across all income groups, as well as increasing spending in the social sectors, fostering progressive policies to reduce inequality and improving population management policies. However, to meet the medium-term growth targets, the Government needs to improve effectiveness and provision of public investment in social sectors.

1. YEMEN STABILIZATION AND ECONOMIC REFORMS EXPERIENCE

2.1 Following the unification of the two Yemeni Republics in 1990, the country witnessed three major shocks: the drought in 1990-1991; the Gulf war in 1991; and the civil war in 1994. As a result, economic growth was lower than population growth; financial imbalances increased (current account deficit averaged 17 percent of GDP); worker remittances decreased substantially due to repatriation of 800,000 people; the inflation rate reached 71 percent; and external debt mounted. As a result of depreciation of the parallel market exchange rate in 1992-94, GNP per capita dropped substantially in dollar terms from US$701 in 1990 to US$318 in 1995. However, this trend is not observed in terms of local currency and does not necessarily imply a deterioration of living standards.

Figure 4 - Yemen's stabilization record, 1990-2000



2.2 After achieving political stability, the Government embarked on a macroeconomic stabilization and structural reform program in early 1995, with the assistance of the World Bank and the IMF. The main objective of the program was to stabilize the economy and stimulate sustainable growth through implementing a series of structural reforms in trade policy, public sector management and fiscal policy (figure 4). The program also aimed to enhance the foundations of a market-based and private sector led economy. Interest rates were liberalized and monetary policy was tightened. In 1996, the Government adopted a free exchange rate for both its current and capital account transactions. The impact of these

measures on the balance of payments has been favorable. The current account recorded a surplus throughout 1996 to 2001 (with the exception of 1998) and the surplus peaked at about 20 percent of GDP in 2000. Since 1996, a number of structural reforms have also been implemented. Trade reforms were initiated to create a transparent trade regime with uniform and substantially reduced protection for domestic industry in order to improve its efficiency and to realize export potentials. Subsidies were gradually reduced[21] and civil servants' wages were rationalized. Investment regulations were also streamlined and a privatization program for public enterprises and banks was initiated. Furthermore, the period 1995 to 1997 witnessed significant reduction in external debt as a result of Paris Club rescheduling; inflation rates continued to decline and reached a single digit in 1997 reflecting success in reducing the fiscal deficit (averaging 2.5 percent of GDP), which allowed for tight monetary growth.

2. ECONOMIC GROWTH TRENDS

2.3 Despite severe shocks during the first half of the 1990s, GDP growth was impressive relative to regional standards during the 1990s. During the pre-reform period (1991-95), real GDP growth averaged over five percent, mainly due to high growth in capital intensive sectors (the oil sector and in government services). Since most of the poor work in services and agriculture sectors, the performance of these sectors during 1991-95 was modest and most likely not sufficient to reduce poverty. But during the post-reform period (1996-2001), economic growth was driven mainly by the increase in agriculture value added, due to good rainfall years of 1997 and 1998, and the oil sector (table 11). Most probably, the economic performance during the second half of 1990s has positively affected the living standard of the population, particularly in rural areas.

Table 11: Yemen' selected economic indicators in the 1990s

	1991-95	1996-2001
Real GDP growth	**5.4%**	**4.9%**
Agriculture	3 5%	5.0%
Industry, of which:	6.6%	5.5%
Oil	7.4%	6.4%
Manufacturing	6.1%	2.2%
Services	5.7%	4.4%
Government Services	15.8%	5.0%
Non-Government Services	-0 7%	3.8%
Real non-agricultural GDP growth	6.0%	4.8%
Real non-oil GDP growth	5.2%	4.6%
Real non-agriculture and non-oil GDP growth	5.7%	4.5%
Real non-agr., non-oil and non-government services GDP growth	1.3%	4.1%
Investment/GDP	**20.4%**	**23.3%**
Real growth in exports	15.6%	15.0%
Urban labor force growth	4.3% during 1994-1999	
Unemployment	11.5 during 1996-2001	

Source: WB database.

2.4 Oil production has been an important development in Yemen's GDP growth over the last decade and its importance in national production increased in the second half of the 1990s (from one quarter of GDP during 1995-2000 to one third of GDP in 2000). Non-oil GDP, which reflects a narrow base for economic growth, also grew at relatively high rates, but below GDP growth. As a result of government policies in the agriculture sector, domestic production was stimulated and annual agriculture growth rose to 5.0 percent in 1996-2001, compared to 3.5 percent during 1991-95 (table 11).

[21] Subsidy programs included: (a) subsidies on basic food commodities (e.g., wheat, flour, rice, milk, sugar, and medicine); (b) subsidies on basic utilities including electricity and water; and (c) subsidies on petroleum products including LPG, gasoline, diesel and fuel (Mazut).

2.5 There has not been much change in the relative importance of economic sectors in total output in the 1990s.[22] Services remained by far the largest contributor to GDP; representing 55 percent of GDP during the first half and 45 percent during the second half of the 1990s. Despite its dominance in total output, the growth rate of the services value-added lagged behind agriculture and industrial sectors and its contribution to GDP has remained unchanged (2.4 percent points). The contribution of agriculture to GDP was also low (1.1 percentage points) in the 1990s due to increases in the share of oil industry and government services (mainly wages). The share of the agriculture sector has substantially decreased from 24 percent of GDP in 1990 to 19 percent in 1995 and 15 percent in 2001. Overall, the share of agriculture value-added in Yemen's GDP averaged 19.5 percent during 1990-2000, which is slightly lower than the corresponding share of low-income countries in the 1990s (27 percent) but is much higher than the average for the MENA water-constrained region (13.5 percent). The share of the industrial sector in Yemen in the 1990s (33 percent of GDP) lagged behind the averages for low-income countries, Sub-Saharan Africa and the MENA region.

2.6 While overall GDP growth in the 1990s has been high, it translated into only a 1.5 percent increase in GDP per capita due to the high population growth rate (3.9 percent during 1990-2000). This modest increase in GDP per capita is also reflected in the trend of private consumption per capita. Real private consumption per capita virtually stagnated throughout the 1990s. It was YR 8,635 in 1991, increased modestly in the early 1990s, and reaching YR 9,841 in 1995. With significant fluctuations in the second half of the1990s, real private consumption peaked in 1998 at YR 10,042, but ended the decade at almost the same level as in 1991 (YR 8,232 in 2001).[23] Although the stagnation of private consumption per capita in the 1990s indicates that there has not been much improvement in the poverty levels in Yemen over the last decade, between the two household budget surveys years (1992-1998), private consumption per capita increased by over 3 percent p.a..[24] . However, due to a major discrepancy between the estimates of private consumption from national accounts and the household expenditures from the 1998 HBS, reliability of the national accounts data needs to be treated with caution. According to the national accounts, monthly private consumption per capita was about YR 3,201 in 1998, while the HBS indicates a monthly private consumption of YR 4,436. Moreover, based on the 1998 HBS, the GDP figures seem to be underestimated.

3. THE RURAL SECTOR AND AGRICULTURAL POLICIES

2.7 In Yemen, about 77 percent of the population and about 83 percent of the poor are located in rural areas and earn their living mainly from small agriculture and off-farm activities. Moreover, the agricultural sector provides 58 percent of total employment and livelihoods. It also contributes to about a third of total non-oil merchandize exports. The importance of the sector also stems from the fact that it utilizes between 90 percent and 93 percent of total water resources in Yemen. The continuing discrepancy between the low contribution of agriculture to GDP and the percentage of those employed in the sector, reflects seasonal employment, underemployment and the low productivity of workers and of the factors of production; thus resulting in low incomes and poor standards of living for those relying on the sector. Moreover, due to lack of income diversification in the economy, the rural sector is vulnerable to shortfalls in rainfall and subject to extreme income fluctuations. This can have a strong impact on GDP. The lack of income source diversification is even more problematic in the context of a rapidly growing labor force.

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[22] See "The Republic of Yemen: Economic growth: Sources, constraints and potentials," World Bank, May 2002.

[23] Private consumption levels have declined during 1998-2001, while there have not been significant changes in public consumption per capita during 1998-2001. More detailed investigation is needed to understand the reasons explaining the deterioration of private consumption during 1998-2001.. Annex A describes the National Accounts data.

[24] Private consumption per capita (at constant 1990 prices) was YR 8,562 in 1992 and YR 10,042 in 1998 (from the HBS for those two years).

2.8 Growth in agricultural output during the second half of the 1990s implies that the living standards of the rural population have improved. The structure of agricultural production seems to benefit the landowners and the better off, but also the small farmers. More than 93 percent of agricultural output is derived from the farming, forestry and livestock sub-sectors (of which about one-third is from qat production) and the remaining from fisheries. Farming and fishing activities are largely market-oriented, with production privately undertaken by farmers, though encouraged by the Government and cooperatives through the provision of subsidized inputs. As a whole, the agricultural sector has been dynamic. All activities (excluding qat production) showed impressive growth rates particularly during 1996-2000 and agriculture has contributed to GDP growth more than its relative share in GDP (table 12). The performance of the sector during the second half of the 1990s, though below the targeted growth rate of the FFYP, was assisted by the gradual removal of bans and controls, price liberalization, privatization of some agricultural units and improvements in storage and transportation facilities.

Table 12: Agricultural value-added, 1990-2005

	Share of GDP (%)				Average Annual Growth Rate (%)			
			End-FFYP	Target End-SFYP	Actual	Target FFYP	Actual FFYP	Target SFYP
	1990	1995	2000	2005	1990-1995	1996-2000	1996-2000	2001-2005
Farming, livestock & forestry (incl. qat)	23.6	17.7	14.2	14.5	3.0	7.0	5.4	6.1
Qat	*8.5*	*5.4*	*4.2*	..	*2.4*	..	*2 3*	..
Farming, livestock & forestry (excl. qat)	*15 1*	*12.3*	*10.0*	..	*3.4*	..	*6.9*	..
Fisheries	0.6	1.7	1.1	1.6	-1.6	7.0	12.3	13.0
Total Agricultural Value-Added	**24.2**	**19.4**	**15.3**	**16.1**	**2.9**	**7.0**	**5.5**	**6.7**

Sources: CSO for 1990-2000, FFYP for targets during 1996-2000, and the SFYP for 2001-2005.

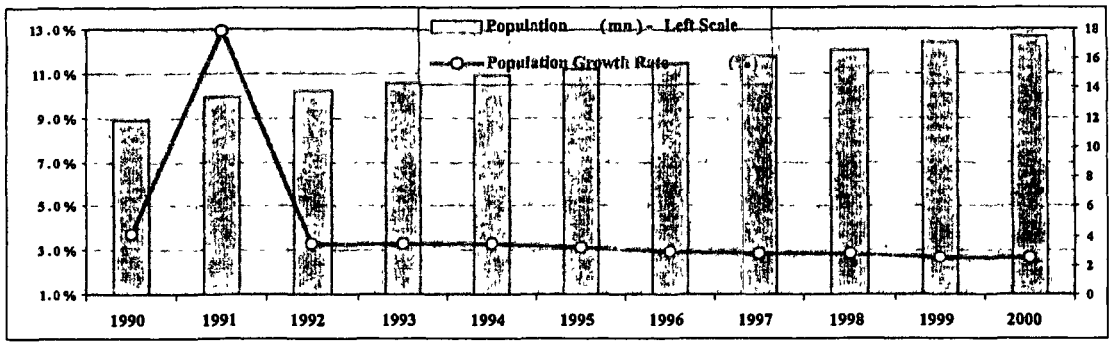
2.9 Since good performance of the agriculture sector is the key determinant of the living standards of rural households, and is potentially one of the most important factor in the poverty reduction strategy for Yemen, the Government's Second Five-Year Plan (2001-2005 SFYP) has set ambitious growth targets (average annual growth rate of 6.7 percent). The main policy objectives are to (a) reach higher levels of food security and agricultural exports mainly through productivity increases; and (b) increase the income of farmers to improve living standards, reduce poverty and underemployment in the sector. However, to reach these growth targets, the Government needs to introduce structural reforms for addressing the following issues : (a) under-pricing of water and the rapid depletion of aquifers (also due to subsidies in diesel prices and electricity tariffs); and (b) poor infrastructure resulting in low productivity in the sector.

4. POPULATION, EMPLOYMENT AND WAGES

Population Growth Rate

2.10 The population growth rate in Yemen is one of the highest in the world. Rapid population growth is a severe problem in Yemen and has major implications in terms of socio-economic development and poverty (figure 5).

Figure 5: Population growth rates in Yemen 1990-2000



Source: World Bank estimates.

2.11 There are major concerns with respect to the reliability of population statistics and sizeable discrepancies exist between CSO and World Bank estimates. According to CSO estimates, the population growth rate averaged 3.9 percent in the 1990s. A significant increase in population size occurred in 1991 following the Gulf War when about 800,000 citizens returned from the Gulf Cooperation Council (GCC) countries to Yemen. The Government estimates population growth rates at about 3.7 percent in the late 1990s and is striving to reduce it to 3 percent by the end of the SFYP in 2005. However, according to World Bank figures, between 1991 and 1994, the population growth rate was 3.3 percent, declining to 3.1 percent in 1995, 2.9 percent during 1996-1997 and further to about 2.7 percent during 1997-2000 (figure 3). The discrepancy in the estimates is mainly due to the use of a fixed total fertility rate (TFR) of 7.6 in government estimates while the World Bank uses a smaller (6.7 in 1997) and declining TFR based on the Household Demographic Survey of1997. At the request of the Government, these discrepancies are expected to be discussed and reviewed in more details by the World Bank team.

2.12 Yemen's population issues are not limited to rapid growth. Since the population composition is very "young", even with fertility declining steadily, the population will continue to increase rapidly (particularly due to declining child mortality). It is estimated that the population will double in Yemen by 2025 even if a highly effective population policy is used. Rapid population growth has significant implications on (i) increasing labor supply, and since almost half of the population in Yemen are under 15, this puts stronger pressures for employment opportunities; and (ii) reducing impact of macroeconomic and sectoral policies (pressure on financing and provision of education, health and other social services). While high fertility has implications at the household level: it reduces the chances for the poor to escape poverty. High fertility rates will have negative welfare implications through increased infant and maternal mortality rates, and shorter life expectancies. More specifically, the poor, because of their high fertility and mortality rates, will suffer disproportionately. Fast population growth exacerbates poverty by slowing economic growth and therefore makes poverty reduction more difficult and less likely; and

Labor Force, Employment and Wages

2.13 Comprehensive data relating to trends in the growth of the labor force, employment and wages in Yemen are lacking and the available information should be treated with caution.[25]

2.14 ***Fast labor force growth and high participation rates.*** As a result of high population growth rates, Yemen has one of the highest growth rates of labor forces in the world (4.4 percent p.a. during

[25] There are three sources of information on labor statistics: (a) the 1994 Census Report which does not provide information on wages; (b) the 1998 Public Employees Survey which excludes non-public sector employment; and (c) the 1999 Labor Force Survey.

1994-99). Rapid population growth rates, combined with growth in labor force participation rates (particularly in female participation), indicate that Yemen will continue to experience severe supply side pressures in the labor market for the foreseeable future.[26]

Table 13: Participation and unemployment rates in 1999

	Participation Rates			Unemployment rates		
	Male	Female	Total	Male	Female	Total
Urban	67.9	11.4	40.0	13.6	29.5	15.8
Rural	70.7	25.9	48.3	12.1	4.4	10.0
Total	69.9	21.8	45.9	12.5	8.2	11.5

Source: 1999 Labor Force Survey.

2.15 Based on the 1999 Labor Force Survey, more than three-quarters of the labor force are males and about three-quarters live in the rural sector. The participation rate (45.9 percent) is relatively high compared to other countries in the region primarily due to the high participation among women in rural areas[27] (table 13). As discussed in the previous chapter, labor force participation rates by age groups differ among poor and non-poor during their youth and when they are older. Poor men and women join the labor force sooner than non-poor, who instead remain in school to obtain better qualifications; they also have higher participation rates in later years (50 years and above) which most likely is a reflection of their need for income.

2.16 ***Characteristics of employment.*** During the 1990s, employment grew on average by 3.5 percent p.a., well below labor force and GDP growth rates. Thus unemployment averaged 11.5 percent (table 3). On average, unemployment is low compared to the average in the region, and it is mainly an urban phenomenon, confirming the lack of correlation with poverty. Unemployment is the highest among urban females. Although most of the unemployed are first-time job seekers and there is no clear correlation between poverty and unemployment (as discussed in Chapter I), the substantial increase in the percentage of unemployed who were previously employed (from 30 percent to 63 percent between 1994 and 1999) is of great concern from a poverty perspective.

2.17 Most employment takes place in the agriculture sector (53 percent in 1999), while the industrial sector absorbs about 10 percent of employment and the rest are employed in the services sector. Rates of job creation during 1994-1999 were also higher in the agricultural sector (4.2 percent) in comparison with only 2.8 percent in both the industrial and services sector. About 42 percent of the employed are wage earners, 31 percent are self-employed and 25 percent work for their families without a wage; 81 percent of the employed work in the private sector, followed by the government sector (17 percent) and public, cooperative and mixed sectors (2 percent). Most of the employed are unskilled with no education: about 48 percent are illiterate, 24 percent could only read and write, and only 16 percent hold secondary school certificates or higher degrees. Most workers are fully employed (82 percent have full-time jobs), while 8 percent have seasonal jobs and about 10 percent work only in causal and temporary jobs.

2.18 A significant portion of total employment also takes place in the public sector. The civil service alone doubled in size during the 1990s, with most of the increase taking place in 1990-1995. After unification, the number of civil servants increased from 168,000 in 1990 to 322,000 in 1995. In aggregate, public sector employment accounts for 4 percent of the population, 17 percent of the total labor force and 19 percent of total employment. There are currently more than 360,000 civil servants (of

[26] Participation rate is calculated as the ratio of total active population to the total population above 15 years of age.

[27] Participation rates for women may be underestimated since the 1999 Labor Force Survey does not include among active population women who are occupied all day with housework or field work.

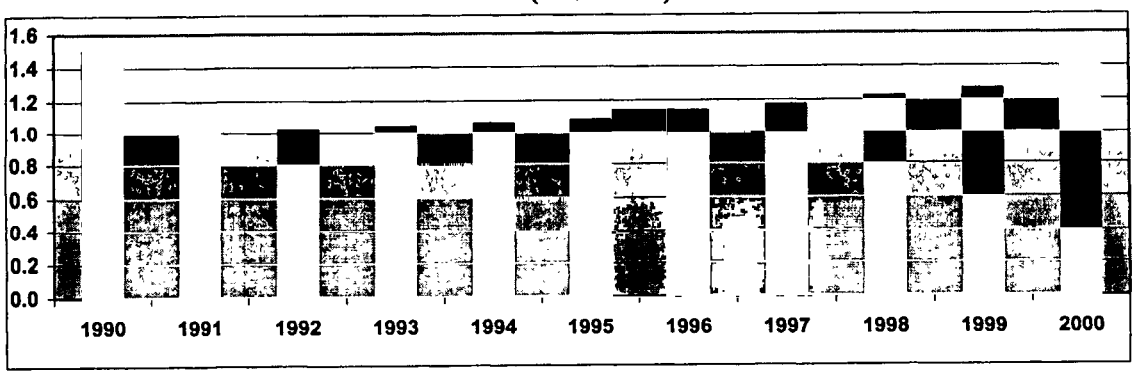
which, about two-thirds are in the education sector and 10 percent in the health sector).[28] However, the civil service is faced with poor capacity and a severe shortage in qualified personnel: only 16 percent of the employees have university degrees and only 26 percent have any educational qualifications. In 2000, the Government initiated a civil service reform program that aims to reduce the civil service through retrenchment and retirement to allow higher pay increases for the remaining civil servants. However, progress has been slow in reducing civil servants or controlling the wage bill.[29]

2.19 ***Low Wages.*** Low wages in the agricultural sector are a main factor contributing to the large share of poverty in rural areas. Monthly wages for unskilled labor in the agriculture sector are 41 percent lower than in the manufacturing sector, 58 percent less than in construction and 67 percent less than in hotel and restaurant services. [30] In addition to low productivity, a factor which may explain the low wages in agriculture is the high proportion of female employment, which tends to have lower wages than for male counterparts(YR 13,206 for males and YR 10,364 for females).

2.20 As in many other poor countries, poverty in Yemen is closely associated with low wages rather than with unemployment. According to the 1999 survey, the average monthly wage was YR 12,974 (YR 13,182 in urban areas and YR 12,848 in rural areas). Assuming an average household size of 7.1 people (1998 HBS) and the fact that only 1.8 family members work on average, household monthly income was about YR 23,872 in 1999 and household income per capita was YR 3,367, slightly below the poverty line.[31]

2.21 There is no evidence available on trends in wages. Information on wage trends for the civil services indicate a substantial decline during the 1990s, mainly due to high inflation rates. By 1992, the average real wage in the civil service was only 53 percent of the 1990 real wage level, and by 1998, it was only 23 percent of the 1990 level. However, since 1996, civil service wages have somewhat kept pace with inflation.

Figure 6: Workers Remittances, 1990-2000
(US$ Billion)



Source: World Bank, LDB.

[28] In addition, public enterprise employment stands at about 84,000 and military and security sector employment is about 240,000.
[29] With World Bank support, the Government aims to restructure public administration and introduce new grade structure, and qualifications. Some progress has been made, but the Civil Service Fund which was established for transferring staffs from payroll is not yet operational.
[30] According to the 1999 Labor Force Surveys, the average estimated civil service wage was YR 18,685 per month and the average private sector wage (including agriculture) was YR 12,974 per month.
[31] Inflating the 1998 poverty line (YR 3,210) by the CPI, the 1999 poverty line is estimated at YR3,466.

5. WORKERS' REMITTANCES AND THE POOR

2.22 Given the large number of Yemenis working abroad, workers' remittances constitute an important source of income for many families. The return of workers from the Gulf in 1990 resulted in more than a 33 percent decline in workers remittances in 1991, in dollar terms. During 1992-2000, workers' remittances increased only gradually, averaging 3.8 percent per annum. Remittances in 2000 were still below the level experienced in 1990 (figure 6).

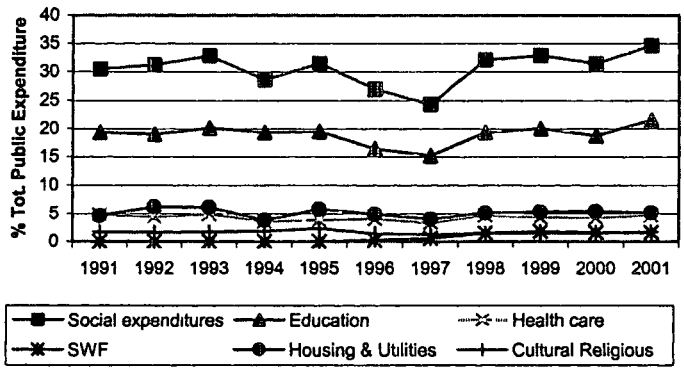
2.23 Since remittances from relatives abroad are the largest source of private transfers in Yemen, the decline in workers' remittances may have led numerous households to fall into poverty . An analysis of the incidence of worker remittances is found in detail in Chapter III as part of the discussion of social safety net programs.

6. PUBLIC EXPENDITURES IN THE SOCIAL SECTORS

2.24 Public expenditure choices have a direct impact on household living standards and they play an indirect role in poverty reduction. The level and composition of public investment and public recurrent spending are important determinants of the quantity and the quality of the social and economic infrastructure. In turn, this social infrastructure affects the standard of living of the poor as well as their ability to overcome some of the consequences of poverty, such as obstacles to developing human capital.

2.25 During 1996-2001, government spending averaged about 32 percent of GDP, compared to 28 percent during the first half of the 1990s. More than 80 percent of total budget expenditure was allocated to current spending with wages and salaries absorbing more than 41 percent of total spending. It, nonetheless, has declined since 1997 and currently constitutes about one-third of total spending.

Figure 7 - Public expenditures in social sectors
(% total expenditures)



2.26 In the past six years, the Government of Yemen has been paying greater attention to social sectors in order to improve the social conditions of the population. Based on a broad definition, total public spending in the social sectors (including subsidies, education, health, social welfare, housing and utilities, and cultural and religious services) increased from 41 percent of total spending and 11 percent of GDP in 1991-95 to 50 percent of total spending and 17 percent of GDP in 1996-2001. However, since subsidies are not targeted and are not pro-poor, this gives a misleading picture. A more strict definition of the social sectors (excluding subsidies) shows that government expenditures in the social sectors have averaged at about 30 percent of the total public expenditure and 10 percent of GDP during the last six years. In recent years, however, social expenditures have substantially increased from 24 percent of total

expenditure in 1997 to 34 percent in 2001, and from 8 percent of GDP to 11 percent during the same period. In real terms, public expenditures in the social sectors have increased faster than total expenditures during the second half of the 1990s: despite fast population growth, the real per capita expenditures in social sector have increased by 13 percent p.a. during 1996-2001, compared to 6 percent p.a. for the total expenditures (figure 7).

2.27 Although public spending in all social sectors has increased during 1996-2001, the level remains low in comparison to other countries in the region. Education spending in Yemen has risen largely on account of rising employment opportunities for teachers and increasing wages. Although Yemen's spending on education seems adequate, most spending is allocated to recurrent expenditures while investment expenditures are declining. Health spending remains exceptionally low (4.1 percent of total public expenditures).

2.28 Since the Government has increased its efforts to mitigate the short-term impact of subsidy reductions on the poor, expenditures in targeted programs (Social Welfare Fund) registered the highest increase since 1997. In the context of the stabilization program, food subsidies were entirely phased out in 1999 and subsidies for diesel and public utilities were reduced. However, since subsidies were not targeted and not particularly pro-poor, they were an inefficient way of helping the poor. Based on preliminary analysis, it was estimated that only 30 percent of the food subsidies reached consumers, the rest was used by exporters, distributors and smugglers to neighboring countries. The poorest groups of the population also benefited very little from subsidies because they spent disproportionately less on wheat and wheat flour than high-income groups.[32] To reduce any transitory negative effects when reducing subsidies, the Government expanded the Social Welfare Fund, and a number of donor supported initiatives such as the Public Works Project and the Social Fund for Development were introduced. However, given the extent of poverty in Yemen, public expenditures in targeted programs remain low in comparison to other countries in the region.

2.29 In addition to a low level of public spending in social sectors, returns on existing programs are poor, particularly in education, and health services delivery is insufficient, suggesting that efficiency has been low. Increasing budgetary resources towards the social sectors could be achieved through a reallocation of public spending. In addition, the Government could reduce diversion of budgetary funds towards wage expenses: currently over 30 percent of the Government's budget is spent on salaries for civil servants. In addition, the Government hires an average of 10,000 new civil servants each year. However, addressing these issues will not be easy. Yemen faces major obstacles resulting from an exceptionally weak institutional capacity. This problem is compounded by a predominantly tribal structure that complicates consensus building. There are also governance issues related to corruption, ineffective public administration and poor service delivery. Achieving progress in these areas will take time, but the Government has recognized the need to address these issues for developing an effective poverty reduction strategy.

2.30 Of course, public spending on social services will improve the social conditions of the poor provided that it actually reaches the poor. The allocation and the distribution of selected government key social expenditures (education, health, social safety net programs), which account for over 80 percent of social expenditures, and their effectiveness in addressing the special needs of the poor, are discussed in Chapter III.

[32] See "Yemen: Poverty Assessment," World Bank (1996).

7. POLICY IMPLICATIONS

Impact of Sustainable Economic Growth

2.31 The SFYP does not envisage major structural changes in the sectoral composition of GDP, but it sets ambitious targets for agricultural and services sectors, which exceeded historical growth patterns throughout the 1990s. Moreover, the SFYP projects raising the contribution of non-oil sectors into the GDP from 71 percent in 2000 to 75 percent by the end of the plan. This is expected to take place as a result of an 8.0 percent average annual targeted growth rate of the non-oil sectors while real oil value-added is expected to stagnate over the plan period (table 14).

Table 14 - Yemen GDP by sector, 1990-2005

	Share of GDP (%)				Average Annual Growth Rate (%)			
			End-FFYP	Target End-SFYP	Actual	Target FFYP	Actual FFYP	Target SFYP
	1990	1995	2000	2005	1990-1995	1996-2000	1996-2000	2001-2005
Agriculture, value-added	24.2	19.4	15.3	16.1	2.9	7.0	5.5	6.7
Industry, value-added	26.8	32.2	46.2	40.9	5.5	4.0	6.5	3.0
Services, value added	47.9	48.3	38.5	43.1	4.8	8.7	5.3	8.0
Non-Oil GDP	86.6	86.5	70.9	74.3	4.2	8.4	5.1	8.0
Total GDP	**100.0**	**100.0**	**100.0**	**100.0**	**4.5**	**7.2**	**5.5**	**5.6**

Sources: CSO for 1990-2000, FFYP for targets over 1996-2000, and the SFYP for 2001-2005.

2.32 The attainment of the Government's growth targets will be very challenging and will require extremely aggressive changes in the business environment and governance structure, enhancement to domestic security, maintenance of macroeconomic stability, pursuit of structural reforms to raise productivity, and addressing a number of constraints in the various economic sectors. Without addressing these obstacles, the medium and long-term growth targets are unlikely to be met. Moreover, rapid employment generation will only be possible if agriculture, fishing, tourism and manufacturing lead the way, but these sectors are confronted with significant challenges.[33] Since over 80 percent of the poor are located in rural areas a sectoral biased growth toward the rural population would have a high impact on poverty and further investigation for a pro-poor growth strategy is needed.

2.33 Given the correlation between economic growth and poverty reduction, per capita economic growth would have an impact on poverty reduction. Based on government projections of the sectoral value-added for 2001-2005, a set of simulations is used to show the impact of growth forecasts on poverty.[34] The simulations for assessing the impact of growth on poverty were carried out under two population growth scenarios: (a) World Bank projections assuming a population growth rate of 2.7 percent p.a between 1999 and 2005, and (b) Government projections assuming a population growth rate declining from 3.6 percent in 1999 to 3.0 percent in 2005..

[33] See "The Republic of Yemen: Economic growth: Sources, constraints and potentials," WB, May 2002.
[34] See Annex 5 for more detail on Poverty Incidence Forecasts.

Table 15 – Impact of growth on poverty (% changes)

	1998-2001			1998-2005		
	Urban	Rural	Yemen	Urban	Rural	Yemen
WB scenario						
Headcount ratio	-8.3	-3.5	-4.5	-28.2	-18.7	-20.5
PG	-10.3	-4.8	-5.6	-34.1	-23.4	-25.0
PG2	-13.7	-6.3	-5.7	-39.4	-27.0	-27.4
Government scenario						
Headcount ratio	-3.9	0.0	-0.7	-20.8	-12 7	-14.1
PG	-3.7	0.0	-0.8	-25.6	-16.3	-17 4
PG2	-6.3	-1 5	0.0	-31.3	-19.4	-19.0

Source· WB staff estimates.

2.34 According to the government scenario, poverty measures do not show major changes between the years 1998 and 2001: in 2001 poverty incidence has stagnated at around 41 percent. In contrast, according to the World Bank scenario, poverty measures have improved significantly during the same years (at the national level, the poverty incidence has decreased from 41.8 percent in 1998 to 39.9 percent in 2001, from 30.8% to 28.2% in urban areas, and from 45% to 43.4% in rural areas). Between 1998 and 2005, poverty incidence is estimated to decrease from 41.8 percent in 1998 to 33-36 percent in 2005 (depending on the population growth scenario), which corresponds to an average reduction of about 1 percent points per year. These results suggest that the positive effects of economic growth on poverty measures are likely to be partially offset by high population growth rates. This indicates the need to consider policies aimed at affecting fertility decisions in order to control the population dynamics (table 15).

2.35 However, based on SFYP, the pattern of growth for 2001-2005 (a) will benefit more-than-proportionally urban areas where only 13 percent of the poor lived in 1998, as opposed to rural areas (where 83 percent of the poor were concentrated); (b) will benefit the relatively less; and (c) will widen the gap in inequality measures between the poor in urban and rural areas (Annex 5). The Government needs to investigate in detail how to reach a more pro-poor growth policy.

Pro-poor Public Expenditures: Improving efficiency and relevance of social policies

2.36 Rapid and sustained economic growth is a necessary but not a sufficient condition for poverty reduction in Yemen. In parallel, since Yemen is spending much less in the social sectors compared to other countries in the region, there is an urgent need to increase budgetary allocations to the social sectors (health, education and social welfare funds). In addition to more resources, efficiency and quality of established social development mechanisms need to be improved in order to provide a coherent social strategy that addresses the needs of the poor and to have better outcomes from budgetary allocations. While in the education and health sectors most of the budgetary allocations are currently absorbed by wages and salaries, more needs to be allocated for investment and operations and maintenance. In addition, the Government needs to improve deployment and attendance of civil servants in social sectors (particularly for teachers, school managers, etc.) in poor areas.[35] In particular, social policies need to insure that inequality and disparities among regions are reduced. In the short term, poverty reduction measures will only bear fruit if resources are managed more efficiently and redirected to priority social sectors. Although social indicators have improved, returns on spending in the social sectors have been low, and there is room for improvement. In the longer term, primary health and basic education are the

[35] See "Public Expenditure Review," World Bank (2002).

priorities for Yemen in its attempts to reduce poverty, improve human capital and reduce regional and gender gaps in access to social services because all of these are essential to achieving sustainable growth. Besides improving quality and increasing returns in the priority social sectors, the Government needs to increase spending in the social sectors and ensure that various social safety net measures are efficiently functioning and are in place for preventing the vulnerable from falling into poverty and for helping those segments of the population that are temporarily or permanently unable to take advantage of income earning opportunities. Detailed recommendations on improving the efficiency and quality of the priority social sectors are provided in Chapter III.

2.37 *Policies for Reduction of Population Growth.* The Government recognizes the rapid population growth rate as a major challenge in the SFYP and the PRSP, and plans to reduce it by 0.5 percentage points in the coming five years. Since most of the poor live in rural areas, and because there is little or no unused arable land for increasing production by extending cultivation, reducing rural poverty and urbanization will depend in part on reducing population growth. Particularly reducing fertility would have positive welfare implications and would significantly benefit the poor, because of their higher fertility and mortality rates. However, despite population programs remaining a high priority, it is not clear how the Government expects to reach its population objectives during the SFYP and no specific targets have been set in terms of reducting the TFR and raising the contraceptive prevalence rate. The Government needs to carefully review its population growth rates and set specific targets and means (including financial resources) to reach them. According to earlier World Bank work, to accelerate the demographic transition while improving the population management policies, the following measures should be considered (a) delivering a comprehensive health package including reproductive health for women and children; (b) expanding girls' educational opportunities using a community-based approach; and (c) strengthening social programs to complement the first two measures(such as expansion of population advocacy, awarness and information programs to decrease desired family size).[36] To reach these objectives, the Government needs to (a) define a clear population policy; (b) coordinate inter-ministerial activities among implementing agencies (Ministry of Public Health, Ministry of Education and Ministry of Social Affairs); and (c) monitor and evaluate the results.

[36] See "Enhancing Policy Options: A population Sector Study," World Bank, #16322-YEM; 1997.

CHAPTER III

SOCIAL SECTORS AND THE POOR

Since 1997, Government spending in the social sectors has increased and various donor initiatives have been introduced in social programs. As a result, almost all social indicators improved, except maternal mortality rate and child malnutrition. Despite these improvements, the development of human resources in Yemen remains limited. Mortality rates are high, life expectancy is low and child malnutrition exceeded the average rates in the least-developed countries worldwide and its increase is of great concern in terms of chronic poverty. Literacy and enrollment rates continue to be low, particularly in rural areas and among females, when compared to other low-income countries. Factors that can explain this poor performance are population dispersion, insufficient public funding, and lack of the institutional capacity necessary to efficiently deliver basic services. There is little redistribution and almost all social programs are urban biased and mainly benefit the better-off. In the context of the Millennium Development Goals, the Government needs to(i) reallocate public expenditures towards services and programs benefiting the poor, mainly rural population;(ii) increase budgetary resources towards the social sectors;(iii) improve the targeting of social safety net measures, increase mechanisms to deal with risk and vulnerability and short-term difficulties; and (iv) closely monitor the impact of the programs on poverty.

Table 16: Selected social indicators – Yemen 1998 and 1999

	Urban	Rural	Yemen
Household size	**7.08** *9.17*	**7.11** *8.05*	**7.09** *8.22*
Active persons per household	**1.46** *1.53*	**1.77** *1 82*	**1.70** *1.77*
Activity rate, those aged 15 or more (%)	**36.8** *32 2*	**49.9** *49.0*	**46.2** *45 9*
Dependency ratio	**1.10** *1 39*	**1.34** *1.61*	**1.28** *1.58*
Illiteracy rates, those aged 10 or more (%)	**27.5** *30 2*	**56.6** *57.2*	**49.5** *52.2*
Female illiteracy rate, aged 10 or more (%)	**40.3** *41.9*	**80.6** *80.1*	**70.8** *72.9*
Net enrollment rate – basic education (%)	**80.5** *75.0*	**53.9** *52.8*	**59.8** *56 5*
Female net enrollment rate – basic education (%)	**76.9** *70 7*	**33.2** *33.4*	**43.1** *39 8*
Women who had a prenatal visit (%)	**52.0** -	**18.8** -	**26.0** -
Children delivered at home (%)	**47.8** -	**60.0** -	**57.3** -
Population living in huts (%)	**4.8** *9 1*	**8.2** *6.0*	**7.4** *6.5*
Population with potable water (%)	**87.0** *89.8*	**32.9** *31.7*	**45.4** *41.6*
Population with electricity (%)	**92.8** *88 8*	**25.7** *20.0*	**41.2** *31.7*

Note: In each cell, figures in bold refer to the whole population while figures in italic refer to the poor.
Source : World Bank estimates based the on 1998 HBS and the 1999 NPS.

3.1 In order to provide a comprehensive poverty update for Yemen, this report recognizes that poverty is a multifaceted phenomenon which is affected by the interplay of economic, political and social forces. While Chapter I dealt with income measures of poverty, this chapter focuses on non-income measures of poverty, and access to social services, along the lines suggested by the World Development Reports of 2001 and 2002.[37] This chapter assesses the coverage and targeting of selected social expenditures (education, health, and safety nets). In addition to the administrative data, the incidence analysis in this chapter is mainly based on the 1998 HBS and supplemented by the 1999 NPS.

1. ACCESS TO SOCIAL SERVICES

3.2 During the 1990s, all social indicators improved. However, due to different sources of information, there may be some discrepancy between the social indicators used in the report and the Government data. Despite this improvement , the development of human resources continues to be limited and urban-rural imbalances are still substantial and reaching the MDGs will be a huge task for Yemen.

3.3 During 1995-2000, enrollments increased at all levels. However, access to education is still low, and gaps between rural and urban areas and boys and girls are substantial. Literacy rates increased from 37.3 percent to 43.8 percent for adults and from 60.4 percent to 65.2 percent for young adults (ages 15-24), but are still low as compared to the average of low-income countries worldwide. Only 33 percent of rural girls aged 6-14 were in school as compared to 78 percent of urban girls and 73 percent of rural boys.

Table 17 : Malnutrition in Yemen, 1992 - 1997

Indicator	YDMCHS 1992	MICS 1996	YDMCHS 1997
Weight for age (underweight)	30%	37.6%	46.1%
Height for age (stunting)	44.1%	44.7%	51.7%
Weight for height (wasting)	12.7%	15.7%	12.9%

Source. 1992 & 1997 Yemen Demographic and Maternal and Child Health Survey (YDMCHS); and 1996 Maternal and Child Survey (MICS).

3.4 In parallel to improvement in education indicators, the health status of the Yemeni population also improved during the last decade. In 1998, life expectancy at birth was 55 for males and 56 for females. The infant mortality rate decreased from 141 (per 1,000) in 1980 to 82 in 1998, and the under-5 mortality rate decreased from 198 (per 1,000) in 1980 to 96 in 1998. However, the infant mortality rate and maternal mortality ratio continue to be among the highest in the world and gaps between urban and rural areas are substantial. Although infant and child mortality rates remain high in Yemen, changes over time demonstrate a clear downward trend. Access to maternal health care is quite difficult and, together with the high fertility rate (7.9 in 1980 compared to 6.3 in 1998), contributes to high maternal mortality and morbidity: maternal mortality has increased from 350 per 100,000 births in mid-1990s to 850 per 100,000 live births in 1999. Child malnutrition has also increased in the 1990s and its incidence (46 percent) far exceeded MENA averages (15 percent) and even exceeded the average rates in the least-developed countries worldwide. Only two countries (India and Bangladesh) have a higher rate of wasting, only nine countries have a higher rate of underweight, and only thirteen countries have a higher rate of stunting. Almost half of the children in Yemen are either underweight and/or stunted and the trend is showing a deteriorating condition especially with age progress (table 17). Children living in rural areas suffer malnutrition more severely than children living in urban areas. The main causes of malnutrition are

[37] See World Bank (2001), *World Development Report: Attacking Poverty*, CUP, and World Bank (2002), *World Development Report· Building Institutions for markets*, CUP.

inadequate dietary intake, diarreheal diseases, acute respiratory tract infections, vaccine preventable diseases, and malaria.[38]

3.5 Housing conditions and access to basic infrastructure services such as electricity and potable water have also improved both in urban and rural areas but disparities among regions are still prevalent. On average, about 40 percent of the population have access to safe water and about 45 percent have access to electricity, however, urban/rural gaps are substantial. According to HBS data, in 1998 about 87 percent of the urban and 33 percent of the rural population have access to piped water, and about 93 percent of the urban and 26 percent of the rural population had electricity as their main source of lighting.

3.6 The World Development Report 2002 focuses on the importance of developing institutions for supporting markets as a means of improving opportunities for the poor. In this perspective, it is worth noting that according to the 1998 HBS, about one-third of the rural population lives in villages/areas not endowed with markets or shops. In urban areas, about 96 percent of the population can reach the nearest market/shop in 5 to 15 minutes, compared with 65 percent of the rural population. About 20 percent of individuals in rural areas need more than 30 minutes to reach the nearest market, and 8 percent need more than one hour.

3.7 The lack of roads present a serious obstacle to accessing markets, as well as to increasing market integration and improving living standards in the regions and governorates, especially remote and distant areas. In urban areas, about 84 percent of the population has access to paved roads, as compared to only 6 percent in rural areas. In the latter, 43 percent of the population can access dirt roads, while 48 percent can access only rugged dirt roads. A far from negligible 2 percent of the rural population lives in areas which completely lack roads. The time needed to reach the nearest road on foot is less than 5 minutes for 30 percent of the rural population, between 15 and 30 minutes for 54 percent of the population, and between 30-60 minutes for 4 percent.

2. EDUCATION SECTOR

3.8 Since the country's unification in 1990, and following the 1994 Education Law, the formal unified education system in Yemen consists of 9 years of compulsory basic education, 3 years of secondary education, and 2 to 6 years of higher education (Annex 7). Vocational and technical (VT) training is available after basic and secondary education. Provision of pre-primary education is very limited. Informal education and training is also available at literacy centers[39] and Koran schools. In 1999/2000, the Yemeni education system enrolled about 42 percent of the population aged 6 to –24 (3.8 million students). Among the total students, more than 80 percent are enrolled in basic education, about 10 percent in secondary, 4 percent in university, and less than 1 percent in VT training. Most students are enrolled in public institutions. Private provision is gradually expanding, but still limited (1 percent in basic and secondary education and 8 percent in university education).

Progress in Access to Education and Literacy is insufficient.

3.9 Between 1995 and 2000, enrollments increased by 30 percent in basic and 50 percent in secondary education, while higher education enrollments almost doubled. However, coverage is still low, and there are considerable differences in access to education services among boys and girls, between urban and rural areas and among regions. Gender gaps are substantial: the gross enrollment rate (GER) in

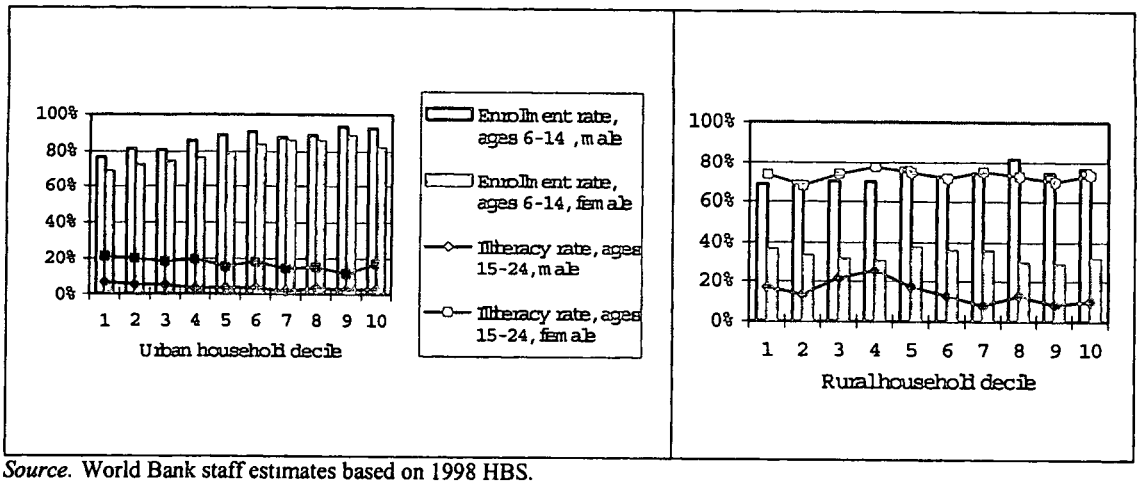
[38] See World Bank (2001), "Republic of Yemen: Strengthening, Integrating, and Sustaining the Expanded Program on Immunization and Public Health Programs."

[39] Literacy programs consist of two kinds: a 2-year basic level program for a certification equivalent to completion of the first four years of basic education ,and a 1-year follow-up level program for a certification equivalent to the first 6 years of basic education.

basic education is 49 percent for girls compared to 90 percent for boys. In 1998, the GER was also substantially lower in rural areas (64 percent compared to 95 percent in urban areas).[40] The youth illiteracy rate was also extremely high for rural females (73 percent), compared to urban females (18 percent) and rural males (15 percent) (figure 8).

3.10 Although children from better-off families tend to have greater access to school, particularly in urban areas and for secondary education, the gap between the poor and the rich is not as large for basic school-aged children. Based on 1998 HBS, 56 percent of children aged 6 to 14 in the poorest decile were enrolled in school compared to 67 percent of children in the richest decile. In urban areas, the gender gap within a decile is not very large and the richer girls have better access than poor boys. However, in rural areas the gender gap is serious at all levels of education regardless of family welfare: the enrollment rate for girls in the richest 10 percent of households (31 percent) is much lower than the rate for the poorest boys (67 percent); and the youth illiteracy rate is very high among rural females at all levels of income (figure 8). The 1999 NPS shows a large regional gap among Governorates: girls' enrollment rates range from 17 percent in Sa'adah to 84 percent in Aden.

Figure 8 - Enrollment & illiteracy rate, in urban and rural areas by decile, 1998



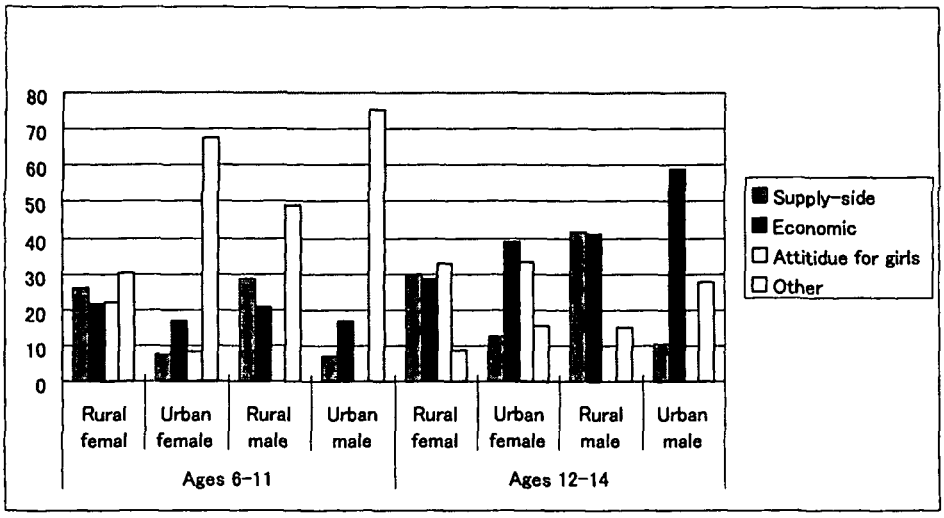
Source. World Bank staff estimates based on 1998 HBS.

3.11 According to the 1998 HBS and 1999 NPS, education services do not reach a large number of children, especially rural girls, regardless of family welfare.[41] The results of the 1999 NPS suggest that the main impediments to low enrollment for rural girls are: poverty, lack of physical access to school (particularly long walking distances to school) and family attitudes towards girls' schooling. Even for younger girls (aged 6 to 11), the family's attitude was an important constraint, especially in rural areas: while 22 percent of rural girls who have never been in school reported the main reason as being the family's attitude, 8 percent of their urban counterparts provided the same reason. Other factors affecting low school attendance of rural girls are (a) late age starting school (while a large number of out-of-school boys and urban girls get enrolled later, most out-of-school rural girls don't get enrolled); (b) high dropout rates (13 percent for rural girls compared to 6 percent for basic school-aged children); and (c) lack of sufficient single-sex schools in rural areas: more than 90 percent of urban students were in single-sex schools compared to 35 percent of rural students in 1998 (figure 9).

[40] The analysis of NPS-99 also shows a similarly large gender and urban-rural gap in enrollment rates, but overall the enrollment rates are lower than the results of HBS-98.

[41] Since expenditures are not adequately measured in the 1999 NPS, the survey data do not allow the analysis by decile.

Figure 9 - Reasons for never enrolling in school (%)



Source: World Bank staff estimates based on 1999 NPS.

Budgetary Cost

3.12 Public spending in the education sector is high compared with most Arab countries and other lower-income countries. It has increased from 5.1 percent of GDP in 1996 to 6.1 percent in 2000, mainly due to a rising wage bill. However, despite high illiteracy rates, public spending on literacy programs is marginal.[42] A functional analysis of public spending in education shows that the wage bill and recurrent expenditures account for over 86 percent of the total education budget. In the late 1990s, the government allocated about 85 percent (on average) of total education expenditures to the Ministry of Education (MOE), 13 percent to universities, and the remaining to VT and research activities. However, sub-sectoral allocations show a worrisome pattern in investment expenditures: the share of MOE in investment expenditures declined while the share of higher education and VT increased from 34 percent in 1996 to 46 percent in 2000. This sub-sectoral allocation pattern does not adequately take into consideration the implications for future current expenditures or the need for provision of basic education services to millions of children.

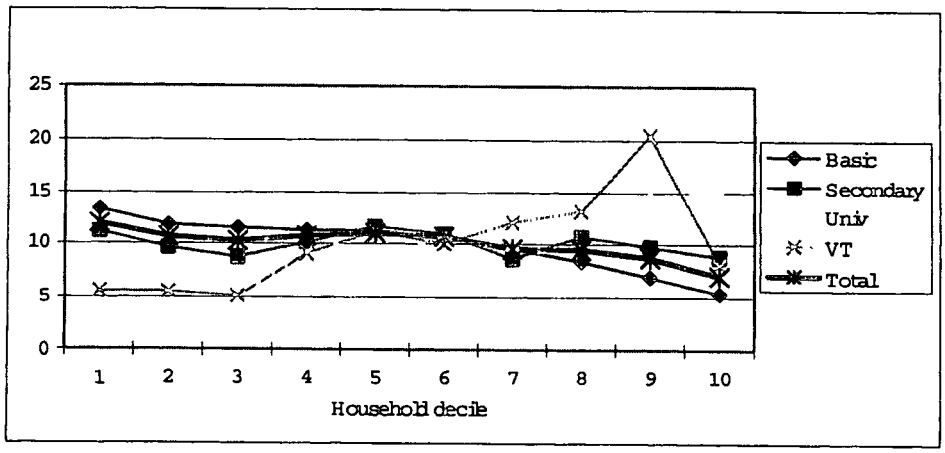
3.13 A review of unit costs (recurrent spending per student) as a share of GDP per capita implies that Yemen allocates a fair level of its public budget to students in basic and secondary education as compared to other low- or lower-middle income countries: 21 percent of GDP per capita is spent on basic education and 32 percent in secondary education. Although spending increases with the level of education, the differences are not very great. In 1998, the recurrent spending per student enrolled in higher education was about four times as much as the cost at the basic level, and VT costs about 6 times greater. However, there is great regional variation in the recurrent spending per student.

[42] There is no officially recruited teacher only for literacy education. Most are teachers from basic and secondary schools, with a monthly allowance of YR 1050 for 40 teaching hours (2 hours per day) or voluntary teachers.

Distribution of education subsidies

3.14 Distribution of public spending on education across household deciles suggests that public spending on education as a whole *favors the poorest households*. The poorest 10 percent of households gained 12 percent of the total public education subsidies, while the richest 10 percent of households gained 7 percent of the subsidies. However the degree of equity in the benefit-incidence differs by level of education. While public spending on basic education favors the poor, spending on universities and VT strongly favors the rich. The poorest 10 percent of households received 13.3 percent of the spending on basic education, while the richest received 5.3 percent. The pattern is the opposite in university spending: the poorest decile benefited with 6.5 percent as opposed to the richest decile which gained 15.1 percent. However spending on secondary education does not show a clear pattern (figure 10).

Figure 10 – Benefit-incidence of education subsidies (%), 1998



3.15 When benefit-incidence is assessed in relation to the distribution of household expenditures, public education subsidies are more equitably distributed than household expenditures regardless of the level of education. Even the share of the poorest decile in public higher education subsidies (6.5 percent) is larger than the share in total household expenditures (3.9 percent). In per capita terms, for a household in the poorest decile, the education subsidy corresponds to 17.8 percent of the mean per capita yearly household expenditure, compared to 1.6 percent for the richest decile.

3.16 Benefit-incidence analysis across households may lead to an overestimation of the incidence for the poor as poor households tend to have more school-aged children. As expected, on the contrary to the distribution across households, the distribution of education subsidies across individual deciles does not favor the poorest. According to 1998 HBS, the poorest decile gains 9.7 percent of the total education spending while the richest gains 10.8 percent. The distribution pattern is not pro-poor, but modestly pro-rich as each decile receives around 10 percent, slightly favoring the rich deciles. The analysis disaggregated for urban and rural areas shows that public subsidies are more reaching to the poor in rural areas: the poorest decile receives 10.5 percent of the total subsidies in rural areas, but 9.0 percent in urban areas.

Education costs and their impact on the poor

3.17 While public education is free of tuition fees at all levels in Yemen, students still pay community contribution fees, school activity fees, examination fees, and university registration fees. In the NPS-99, households responded with "difficulty in paying school expenses" as one of the main reasons for leaving school or not sending children to school. The1998 HBS shows that the cost of sending children to school is not negligible in urban areas and particularly for the poor: urban households spend 3.7 times as much as rural households for sending their children to school. In urban areas, private spending on education is progressive in relation to household expenditures while in rural areas it is regressive. In urban areas, the yearly household expenditure on education for the richest household is 1.5 percent of total expenditures, while for the poorest it is 1.3 percent. The rural poorest decile spends 0.8 percent of total expenditures on education while the rural richest decile spends 0.2 percent.

3.18 The differences between urban-rural and poor-rich households are related to: (i) their use of private schools, lessons and university; (ii) per student household education expenditure; and (iii) the number of school-aged children and the students per household. On average, the urban better off spend nearly 40 percent of their education expenditures on private schools and lessons while their rural counterparts spend only 6 percent. For the poorest household this spending is about 1 percent in both urban and rural areas. Among households with at least one student, the better off spend more per student than the poor in both urban and rural areas but the magnitude of the difference is greater in urban areas. This explains partly why the urban rich households, on average, spend more than the poor despite their lower shares in school-aged children and students. On the contrary, as the difference in per student spending between rural poorest and richest households is relatively small and the poorest have more children and students per household (i.e., enrollment rate is not much different), the pattern of private spending across decile become relatively regressive in rural areas. As compared with the urban poorest, the rural poorest tend to spend less per student (on notebooks and pens) and have fewer children in school.

Recent government programs and policies to increase enrollment

3.19 To reduce illiteracy and promote schooling, the Government, with the help of donors and international organizations, has introduced a set of programs or measures to encourage enrollments during the last few years. These measures include: (a) informal education programs targeted to boys through mosques and military camps; (b) reductions in the direct costs of schooling for poor girls through the exemption of community participation fees; (c) incentive programs for sending girls to school such as provision of free learning kits (from UNICEF and IDA) and food (from WFP) (SFD pilot programs in five sub-districts - Uzra); (d) increasing availability of teachers for girls and children in remote rural areas through additional allowances and hiring of teachers (mainly female teachers); and (e) introduction of education programs to children with special needs (orphans and nomads). However, it is not clear to what extent these programs have contributed to rural enrollment increases.

3.20 In addition, since the late 1990s, the MOE has begun to introduce policy measures to expand access for girls and rural children such as: (a) increasing the efficiency of school construction to build more classrooms at lower cost at the most underserved sites in a shorter period, and therefore, enrolling more girls; (b) basing school location decisions on school mapping tools and on consultations with the communities; (c) placing small schools (e.g., 3-classroom schools) closer to girls' homes; (d) obtaining the community's commitment to enrolling girls as a prerequisite for school construction in the community area; (e) adopting measures to encourage parents to keep their daughters in basic education (i.e., separate

classrooms and/or secondary schools for girls); (f) selecting priority underserved-areas on the basis of girls' enrollment rates and female illiteracy rates. [43]

3.21 ***Reform options to increase the educational opportunity and human capital of the poor.*** A number of policy frameworks support the objective of increasing educational opportunities and human capital for the poor in Yemen: (a) the MDG to achieve universal primary education and ensure that boys and girls alike complete primary schooling; (b) Education for All Dakar goals, including to ensure that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education and to achieve a 50 percent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults; (c) Yemen's Strategic Vision 2025: to eliminate illiteracy and increase girls' enrollment rates in basic education up to 95 percent by 2025; and (d) the proposed National Strategy on Basic Education. To achieve these objectives and implement policy frameworks, a number of policy options are proposed below.

3.22 ***Increasing female enrollments in basic education.*** MOE is currently preparing a long-term strategy for "basic education 2015, with increased collaboration between central and local administrations and with civil society. It should ensure that, in the context of the medium-term objectives, the highest priority in the short"term is emphasizing the education of rural girls, at least up to the basic literacy level or completion of the first six grades. The analysis of 1999 NPS shows that not only family attitudes but also supply-side factors were important impediments for rural girls' enrollment. This suggests, therefore, that the government needs to continue emphasizing supply-side interventions (building schools or smaller satellite schools near by, latrines for girls, efficient and equitable deployment of teachers, especially female teachers, etc.) as well as demand-side interventions that change parents' attitudes towards the benefits of girls education. Furthermore, research in many countries shows that the quality and relevance of education is an important factor in girls' enrollment and retention rates. Therefore, it is important to improve the quality and relevance of education through teacher training, curriculum improvements, provision of appropriate textbooks and instructional materials, removal of gender bias in the textbooks, gender sensitization of teachers, and increasing the proportion of female teachers and administrators.

3.23 ***Addressing the costs of education for the poor.*** The Government could make special efforts to provide incentives for enrollment at the basic education level among poor children in remote areas and among girls. Several options could be considered (a) offering stipends or scholarships to cover all out-of-pocket costs associated with attending primary school (such as books, writing materials); (b) offering subsidies that reflect the opportunity costs of a child attending school for the year; and (c) offering integrated child development programs targeting poor urban and rural areas. Producing detailed estimates of the cost, geographical targeting and feasibility of introducing stipends and subsidies would require further analysis and various options should be explored. Moreover, to prevent any such program from becoming an entitlement, programs need to be carefully designed.

3.24 ***Reducing adult illiteracy, particularly among women.*** The household survey data confirm the strong correlation between poverty and illiteracy. International studies show positive linkages between literacy and health such as disease prevention, children's and family's health and nutrition. There is also a positive correlation between literacy and livelihood; literacy enables people to work more productively, become more self confident, more involved in group decision-making, use more credit facilities, and be more proactive in marketing their products. In addition, literacy has intergenerational effects; to support their children's education is often a reason given by many adults to join literacy programs, and literate parents are more likely to send their children to school than illiterate parents. To achieve the targets

[43]MOE has started strengthening the capacity for implementing new procedures on targeted site selections under the Basic Education Expansion Project (BEEP) and through learning experiences under other agencies, mainly Social Funds for Development (SDF).

established in the MDGs (100 percent literacy rate of 15 to 24 year olds by 2015), the Government needs to develop its policy framework and strategies to address the issue. The government needs to define its roles in functional literacy programs: setting policy framework; planning; basic program design; contracting out the service delivery to local organizations such as local governments, NGOs; quality monitoring; advocacy, etc. Experiences in other countries, such as REFLECT (Regenerated Freirean Literacy Through Empowering Community Techniques), Senegal's pilot female literacy project, Bangladesh BRAC's adult functional literacy programs, and Morocco's "100 Hands" NGO delivered program, provide useful examples of good practice in this area.

3.25 ***Improving the informational base for monitoring education indicators and its use for decision making:*** As has been mentioned in earlier Bank reports, the education sector continues to have a weak data and information system. This is largely due to the weak implementation capacity for data collection from schools and educational administrations and the weak information linkages within and between administrations. Even preparation of a simple education indicator is a difficult task due to inconsistencies in data across studies and a weak database on the school-aged population. In the context of the Education Management Information System (EMIS), the MOE has made some efforts to improve its information base. However, taking into consideration various difficulties that the development of the information system has already faced, the MOE needs to establish a clear action plan and to advance to the next steps. Furthermore, data collection should not be viewed as an objective in itself, but the use of data for decision making and policy formulation is equally, if not more, important. Use of data for decision making should be promoted not only at the central MOE level, but also at the governorate and district levels. To this end, EMIS should be designed in a simple and user-friendly manner. Findings of the ongoing review under the Education Sector Investment Project (ESIP) should provide useful reform measures. Since the education sector, especially basic education, is one of the themes of the country's Poverty Reduction Strategy Paper (PRSP), a set of indicators needs to be identified for monitoring progress towards improving educational opportunities for the poor and underserved populations. Annex 7 provides a set of indicators that the Government may want to consider as key monitoring indicators and supplementary indicators for Yemen's PRSP.

3.26 ***Improving the coordination and synergies of interventions in education.*** Given the growing external funds to basic education, MOE's coordination functions should be strengthened in order to improve the effectiveness of development funds. In particular, the government should further improve coordination and efficiency in the preparation and management of construction programs funded by MOE, various agencies, donors, and communities. In addition, "soft" interventions such as teacher training, educational materials development, food for education, school health by various donors and "hard" interventions of construction need to be coordinated in their content and regional coverage to enable appropriate synergies.

3. HEALTH CARE SYSTEM

3.27 The Government – largely through the Ministry of Public Health (MOPH) – is responsible for the overall health sector in Yemen, including financing, planning, regulation, management, and provision of health services at all levels (specialized hospitals, district and rural hospitals, governorate hospitals, health centers and primary health care units). In principle, all Yemenis are eligible to receive health care in MOPH facilities (health centers, dispensaries, and public hospitals), either free of charge, if indigent, or by paying subsidized user charges for the better-off collected at the facility level. Yemen does not have a compulsory health insurance system. There is evidence, however, of the expanding role of the private sector and NGOs in the delivery of health services.

3.28 The MOPH is the second largest public employer with more than 30,000 employees. Currently, 58 percent of total public sector health expenditure is allocated to wages and salaries (compared to 66 percent in 1992). The inequitable allocation of resources across governorates and services reflects the

lack of strategic planning and the inefficient use of resources and is among the consequences of a weak management system.[44]

3.29 Given that the organizational structure of the public health care system has not been updated in two decades, the MOPH has launched a comprehensive sector reform initiative aimed at improving equity, quality, efficiency, effectiveness, accessibility, and the long-term sustainability of health services. The Government acknowledges the constraints people face in affording and accessing care as well as its own budgetary limitations. The reform is to be undertaken in the context of the Government's broader reform strategy, which supports public expenditure rationalization and restructuring, management decentralization, and civil service reform.

Access to Health Care

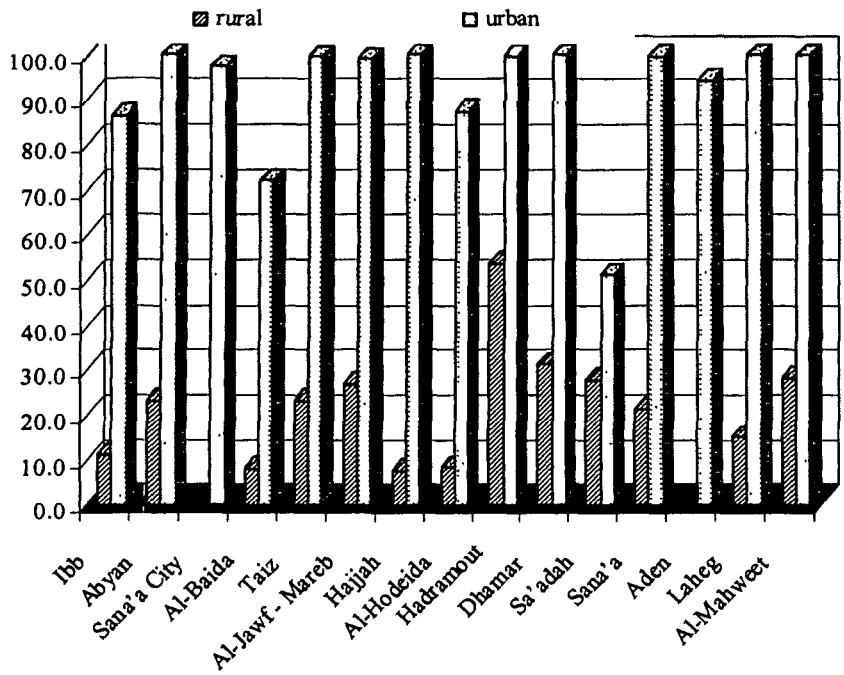
3.30 The 1998 HBS indicates that health facilities are distributed unevenly across the territory. Nationally, about 38 percent of the population live in an area where at least one health facility is located and is in use (figure 11).[45] However, the national figure masks enormous disparities both across governorates and between urban and rural areas. On average, about 94 percent of the urban population live in villages/areas endowed with an active health facility, compared with 21 percent in rural areas.[46] Health facilities also tend to be concentrated where the non-poor live (41 percent of the non-poor reside in areas endowed with a health unit, compared with 33 percent of the poor).

[44] See "Yemen: Public Expenditure Review in Support of the Five Year Plan," World Bank, April 2001.

[45] The 1998 HBS questionnaire provides little information on health facilities and health care services demand (see Section 2 "Local Society Services" section). The data referring to "Local Society Services" have not been used by the CSO as they were never "cleaned". The results provided in this paragraph – based on Section 2C, must therefore be treated with caution. It should also be noted that the 1998 HBS does not provide information on access to health facilities by type, *i.e.*, whether households seek treatment from hospital or basic dispensaries. The available data only allow an estimation of the distribution of health facilities located in the same village or area where households reside. However, at the time of writing, the documentation available did not allow for the estimation of the distribution of the health facilities by type across the population.

[46] According to the 1998 HBS questionnaire, "area is defined as a small town or a group of close together streets in a large town."

Figure 11: Population residing in areas endowed with health facilities, by governorate –1998



Notes: "Area" is defined as a small town or a group of close together streets in a large town.
Source : World Bank estimates based on the 1998 HBS.

3.31 The 1998 HBS data indicate that access to health services varies by household living standards. In 1998, 38.8 percent of the poor who were ill during the month preceding the interview sought treatment, compared with 41.1 percent for the non-poor.[47] Overall, the tendency to seek medical care increases with household per capita expenditure: among individuals who consulted health facilities (both public and private) the percentage of individuals who sought treatment increases from 22.4 percent in the poorest quintile to 31.1 percent in the richest quintile, nationally (table 18). Thus, less than one-third (one-fifth in rural areas) of the surveyed individuals who reported an illness within the period of reference sought treatment from health facilities.

3.32 In rural areas, there is some evidence of self-selection in respect to access to health facilities by type for individuals ranked in bottom and top per capita expenditure quintiles (table 2). The better-off clearly opt for health facilities located outside the village of residence: they tend to consult structures located in the adjacent city (46 percent) or governorate center health facilities (13 percent). In contrast, the poor show less mobility: 36.5 percent of those living in the poorest quintile received treatment at home (compared to 21 percent for the better-off). In urban areas, the discrepancy between the pattern for the poor and the better-off is less pronounced.

[47] These percentages include treatments received at home or through herbal medicine.

Table 18: Access to health facilities by region and household consumption expenditure quintile for 1998[1/]

	Urban		Rural		Yemen	
	Quintile I	*Quintile V*	*Quintile I*	*Quintile V*	*Quintile I*	*Quintile V*
% who reported being ill & consulted health facilities [2/]	30 4	32.5	21.5	30.5	22.4	31.1
Type of facility visited:						
- (%) Village health facility	45.4	51.6	9.3	11.9	13.6	23.4
- (%) Adjacent city health facility	7.4	4.1	35.7	45.6	32.3	33.5
- (%) Governorate centre health facil.	17.7	16.9	11.7	13.1	12.4	14.2
- (%) Outside governorate	3.1	3.8	3.0	5.0	3.0	4.7
- (%) Outside Yemen	0.0	1.4	0.7	1.9	0.6	1.8
- (%) Home	24.9	21.1	36.5	21.2	35.1	21.1
- (%) Herbal medicine	1.5	1.1	3.2	1.4	3.0	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: 1/ Quintiles refer to total individuals classified by household consumption expenditure per capita.
2/ Refers to percentage of people reporting an illness in the preceding month of the survey.
Source: World Bank estimates based on the 1998 HBS.

3.33 The travel time in seeking medical care may represent a serious obstacle to accessing medical care, especially for households in Yemen's rural areas. According to the 1998 HBS, 27 percent of the rural population need between 30 and 60 minutes to reach the nearest health facility (11 percent for urban), 16 percent more than one hour (1 percent for urban). Road density, estimated at about 11 km for every 1,000 km^2 of land area, clearly shows the low coverage rates. These are also reflected in the low percentage of families— not exceeding 25.4 percent throughout the country—with access to paved roads. The 1999 NPS shows that 81.4 percent of families live near a paved road in urban areas, whereas a maximum of 7.5 percent do so in rural areas.

3.34 The 1999 NPS shows that public hospitals supplied 35.8 percent of all treatments which took place during the survey reference period (table 19). The reason for hospitals being relatively popular is that they are usually guaranteed to have at least one physician, as well as diagnostic services, whereas health centers are often deficient in these services. Private clinics, dentists and private physicians accounted for 21 percent of treatments, while private hospitals accounted for 10 percent. As noted in Chapter I, the 1999 NPS data could not be used to identify the poverty status of the surveyed individuals, with the consequence that we could not identify the type of treatment received by the poor versus the non-poor. Subject to caveats, the analysis by household per capita expenditure national deciles shows the following points:

(a) Public hospitals. In rural areas access to public hospitals is rather stable across deciles: on average 35 percent of the rural population benefits from public hospitals (33.5 percent for the poorest 20 percent, 36.8 percent for the richest 20 percent). In urban areas, access to public hospitals shows a clear-cut decrease from the poorest decile (48 percent) to the richest (29 percent).

(b) Private clinics/physicians/dentists. In rural areas about one individual out of five received treatment from a private clinic/physician/dentist, irrespective of their living standards. In contrast, the percentages in urban areas are 19 percent for the poorest and 30 percent for the richest.

(c) Private hospitals. Utilization rates of private hospitals show a similar pattern in both urban and rural areas: the data reveal that private hospitals are consulted by about 5 percent of individuals in the poorest decile, compared to about 15 to 17 percent in the richest decile.

(d) Main medical center in the city. About 10 percent among the urban poor in the lowest decile received treatment from main medical centers located in cities, compared to 1 percent in the richest decile.

Table 19 - Access to health services by region – Yemen 1999

	Urban	Rural	Yemen
Type of treatment received at:			
- (%) Traditional healer	1.0	2.7	2.2
- (%) Main medical center in the city	4.4	7.5	6.6
- (%) Medical care center/unit	3.7	9.3	7.6
- (%) Private hospital	10.8	9.6	9.9
- (%) Private clinic/physician/dentist	26.1	18.5	20.8
- (%) Public hospital	38.1	34.8	35.8
- (%) Other	15.9	17.7	17.2
Total	100.0	100.0	100.0

Source : World Bank estimates based on the 1999 NPS.

Budgetary costs

3.35 Total health spending is estimated at 5.6 percent of GDP in 1998 when total public spending was estimated at 1.9 percent (excluding all foreign assistance)[48] and private spending at 3.3 percent of GDP, making Yemen among the countries with the highest share of private out-of-pocket expenditures on health in the region. Total per capita health spending amounts to about US$20.[49] During the period 1995-1998 public expenditure on health increased from 0.9 percent of GDP to about 1.5-2.2 percent, and from 3.6 percent to 4.1 percent of total government spending. However, both shares are among the lowest in the Middle East region. Countries with comparable income allocate between 5 and 10 percent of total public spending on health. MOPH makes up about 86 percent of the total public sector health budget. Public resources are concentrated on tertiary level hospitals, urban areas, and the central Ministry, leaving relatively little resources for operating first referral hospitals and primary care services, especially in rural areas, and little to be managed by governorate and district levels. Moreover, there is a wide differential in per capita health spending by governorate.[50]

[48] If foreign technical assistance to public sector is included, total public health expenditure rises to around 2.2 percent of GDP.
[49] National Health Accounts report (2000).
[50] See World Bank, *Health Sector Strategy Note*, Draft Report, November 2000.

Health care service costs

3.36 The 1998 HBS shows that household per capita expenditures on health vary with overall living standards, ranging from about 0.6 percent as a share of total household budget for the poorest decile to 4.1 percent for the richest (table 20). On average, the yearly per capita expenditure on health for urban households (YR 1,730) is 20 percent higher than for rural households (YR 1,447). However, the cost of health care is more for the rural than for the urban population: the rural:urban ratio of per capita expenditures on health decreases from 2:1 for the first decile to 36 percent for the median household, and 5 percent for the richest decile.

3.37 The 1998 HBS data show that out-of-pocket payments for health services are far from being negligible. Overall, in both urban and rural areas, households in the poorest deciles allocate a lower share (1.2 percent) of their expenditure to health than those in the richest deciles (3.7 percent). At the national level, the household budget share allocated to health services is 1.8 percent for the poor (corresponding to YR 481 per capita per year), compared to 2.7 percent for the non-poor (YR 2,251). In urban areas, the budget shares on health for the poor and the better-off are 2.3 percent and 1.5 percent, respectively, compared to 2.9 percent and 1.8 percent in rural areas.

Table 20 – Household expenditures on health care services - Yemen 1998

Expenditure decile	Rural	Urban	National	Rural	Urban	National
	Per capita expenditure (YR/year)			Budget shares (%)		
1	208	101	196	1.29	0.61	1.22
2	464	380	450	2.00	1.63	1.94
3	620	460	587	2.13	1.59	2.02
4	683	543	654	1.95	1.56	1.87
5	957	704	902	2.36	1.74	2.22
6	1159	831	1082	2.49	1.78	2.32
7	1322	963	1232	2.44	1.78	2.27
8	1486	1515	1494	2.29	2.34	2.3
9	2986	1979	2707	3.68	2.44	3.34
10	5932	5678	5834	4.06	3.15	3.71
Total	1447	1730	1513	2.4	2.04	2.32

Note: Expenditure groups are deciles ranking households by total expenditure per capita. The table reports the expenditure on health care services, and budget shares. *Source*: World Bank staff estimates based on 1998 HBS data.

3.38 The pattern of expenditure on health services is similar for urban and rural households. About 70 to 75 percent of total expenditure on health services is for drugs and medical preparations, with the exception of individuals in the richest quintile for whom this percentage is sensibly lower, i.e., 55 percent in rural areas and 41 percent in urban. Medical services account for 13 percent of the total household budget, with no major differences across quintiles. The better-off tend to spend a higher share on surgical operations (5 to 8 percent versus 3 to 5 percent for thos worse off) and hospitalization, especially in urban areas (8 percent against 2 percent).

3.39 The per capita expenditure of the poor on health care services is, on average, about one-fifth of the expenditure of the non-poor (table 21). Drugs and medical preparations absorb 73.3 percent of total expenditures on health care for the poor, compared to 58 percent for the non-poor (74 percent against 49 percent in urban areas and 73 percent against 61 percent in rural areas). Practically no treatment from abroad is sought by the poor, while the non-poor spend about 10 percent of their total expenditure for treatment outside Yemen.

Distribution of Health Subsidies

3.40 The measurement of the benefits from publicly provided goods and services is a difficult exercise on both theoretical and empirical grounds. Yet, the benefit-incidence analysis has become a popular tool to investigate how government unit subsidies for health facilities are attributed to households taking into account their rates of use of these facilities. This section presents the results of the benefit incidence analysis for Yemen using the 1998 HBS.

Table 21 – Composition of expenditures on health services by poverty status, 1998

	non-poor			Poor		
	Rural	**Urban**	**Yemen**	**rural**	**urban**	**Yemen**
Medical apparatus	0.5	1.9	0.9	0.4	0.6	0.4
Surgical operations	4.0	7.0	4.8	1.5	5.2	2.1
Hospitalization	2.4	6.5	3.6	2.4	1.7	2.3
Midwifery	0.6	1.7	0.9	0.1	1.2	0.2
Treatments abroad	7.2	17.6	10.1	0.9	0.1	0.8
Drugs and medical prep.	61.0	49.0	57.6	73.2	74.4	73.3
Medical equipment	6.0	2.5	5.0	6.0	4.2	5.7
Doctor's visits	15.0	11.9	14.2	10.7	10.5	10.6
Medical services	2.0	1.1	1.8	2.2	0.9	2.0
Other	1.3	0.8	1.1	2.8	1.3	2.5
	100.0	100.0	100.0	100.0	100.0	100.0
PCE on health care services (YR/capita/year)	2,231	2,309	2,252	492	428	481

3.41 The 1998 HBS data were used to quantify the use of public health facilities.[51] The measurement of the utilization rates for medical services was based on health care consultations reported by individuals who experienced illness during the month preceding the interview. In 1998, the number of visits increased with per capita expenditure quintiles (table 22): about 1.8 percent of individuals in the poorest quintile reported an illness and received treatment from health facilities, compared to 3.1 percent in the richest quintile. The HBS was also used to estimate household expenditures incurred by these consultations.[52] By subtracting the total fees paid by the households from the MOPH expenditures, an estimate for net unit subsidies is obtained, i.e., the expenditure net of cost recovery per visit by the government.[53] In 1998, the net subsidy was YR 6,956 per visit.

3.42 Absolute subsidy levels tend to increase with per capita expenditure (from YR 128 for the poorest quintile to YR 213 for the richest quintile) but tend to decline as a proportion of mean per capita expenditure (from 7.8 percent to 2.2 percent) (table 22). Hence, the overall subsidy is found to be mildly progressive in that the subsidy as a percentage of household per capita expenditure tends to be higher for the poor.

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[51] The 1998 HBS data do not allow the analysis to be carried out separately by primary health care services (health centers and dispensaries), outpatient (external services of public hospital) and inpatient (hospitalization). Nor does the MOPH budget provide a reclassification of total expenditures by the above categories.

[52] The following expenditures collected by the 1998 HBS were included (a) cost of surgical operations, (b) stay in hospital expenses, (c) costs and fees of midwifery and nursing, (d) other expenses on health care, (e) doctor's inspections, and (f) medical services (inoculations, circumcision)

[53] In estimating unit costs, this section used "recurrent" costs, which do not account for capital costs. See van de Walle, Dominique (1995) "The Distribution of Subsidies through Public Health Services in Indonesia, 1978-87", in van de Walle D. and K. Nead (eds.), *Public Spending and the Poor. Theory and Evidence*, Johns Hopkins University Press.

Table 22 - Benefit incidence of public spending on health by PCE quintiles, 1998

Quintile	Visits	Visits (%)	Net subsidy per capita	Share of total subsidies (%)	Share of total expenditure (%)	Inequality ratio
1 (poorest)	57,624	1.84	128	15.5	7.3	2.12
2	70,129	2.24	156	18.9	12.0	1.57
3	67,377	2.15	150	18.2	16.3	1.12
4	79,689	2.54	177	21.5	22.3	0.96
5 (richest)	95,946	3.07	213	25.9	42.0	0.62
All	370,765	2.37	165	100.0	100.0	1.00

Source: World Bank staff estimates based on 1998 HBS data.

3.43 The results of inequality-reducing health subsidies is also supported by the profile of the so-called inequality ratios across per capita expenditure quintiles. The inequality ratio is defined as the ratio between the percentage of per capita subsidies accruing to the individuals in a given quintile and the quintile's share of total expenditures. Thus, inequality ratios greater than one denote pro-poor public spending, while ratios less than one denote spending in favor of the better-off. According to the 1998 HBS, households in the fifth quintile receive a proportionally larger share of public expenditure for health care than the poor (25.9 percent against 15.5 percent) (table 22). However, inequality ratios monotonically decrease from the poorest to the richest quintile (from 2.12 to 0.62). This pattern shows that public spending for medical care goods and services benefits the poor relatively more than the better-off.

Table 23 - Benefit incidence of public spending on health by governorate, 1998

Quintile	Visits	Visits (%)	Net subsidy per capita	Share of total subsidies (%)	Poverty incidence	Inequality ratio
Taiz	68,939	3.13	218	19%	55.6%	1.59
Ibb	48,706	2.55	178	13%	55.5%	1.31
Abyan	3,962	0.92	64	1%	53.4%	0.58
Laheg	16,023	2.52	175	4%	52 1%	1.27
Dhamar	17,621	1.68	117	5%	48.5%	0.75
Hadramout	17,230	1.37	96	5%	42.6%	0.58
Sana'a	30,133	1.56	109	8%	40.5%	0.64
Al-Hodeida	73,839	4.43	308	20%	39.8%	2.05
Aja	19,022	1.40	97	5%	30.3%	0.53
Aden	11,591	2.71	188	3%	30.2%	0.96
Al-Mahweet	10,514	2.90	202	3%	29.2%	1.11
Sa'adah	13,285	2.43	169	4%	26.8%	0.91
Al-Jawf - Mareb	7,289	1.79	125	2%	26.3%	0.75
Sana'a City	18,081	1.78	124	5%	22.9%	0.50
Al-Baida	14,531	3.13	218	4%	15.4%	0.87
All	370,766	2.37	165	100%	41.80%	1.00

Source: World Bank staff estimates based on 1998 HBS data.

3.44 As far as the benefit incidence analysis is concerned, among the poorest governorates, health subsidies tend to be progressive (this is the case for Taiz, Ibb and Laheg) (table 9).[54] In contrast, there are a number of regions with inequality ratios less than one, i.e., regions where overall subsidies are regressive (inequality increasing): such is the case for Abyan, Dhamar, Hadramout, and Sana'a region. It is worth noting that in Sana'a city there is strong evidence that the benefits from health care subsidies accrue proportionally more to the better-off than to the poor, as opposed to Aden, where health subsidies are almost distributionally neutral.

3.45 Overall, the distribution of net subsidies by governorate suggests that public health care expenditures are not well targeted: some governorates appropriate more on a per capita basis, others much less (table 23). Among the former, Al-Hodeida shows the highest net subsidies – per capita expenditure ratio (7.6 percent), followed by Taiz (5.9 percent), Ibb (4.9 percent), Laheg (4.7 percent) and Al-Mahweet (4.1 percent). Among the latter Sana'a city (1.8 percent), Hajjah (2.0 percent), Abyan (2.1 percent) and Hadramout (2.2 percent).

Options for Reforms

3.46 The 1998 HBS data indicate that limited resources combined with poorly targeted public health programs and inefficiently run public hospitals have resulted in (a) health facilities distributed unevenly across the territory; (b) less than one-third (one-fifth in rural areas) of the surveyed individuals seek medical care from health facilities; (c) out-of-pocket payments for health services besides being far from negligible tend to be higher for the poorest, especially rural; and (d) overall government spending on health care is mildly progressive, although limited in absolute magnitude and poorly targeted.

3.47 The low level of utilization of public services and the poor health status of the population indicate the need to increase both the access and the quality of services. Since health conditions are generally low for both the poor and non-poor, the Government will need to improve health services for the whole population. Given Yemen's stage of health transition, some progress may be achieved in reducing maternal and child mortality through strengthening its public health programs. However, based on other sector work,[55] to upgrade health service coverage and improve access and quality of health care for all income groups, reforms should focus on adopting strategies that would integrate and sustain public health programs thus improving efficiency, equity, and financial viability in the long run. In the context of the poverty alleviation strategy, the following measures are crucial and should be considered.

3.48 ***Reducing infant and maternal mortality rates.*** This would require strengthening maternal and child health programs, especially in rural areas. Particularly increase in maternal mortality and child malnutrition require some policy/program options. These issues will also need to be linked to improvements in health education, female literacy, gender issues regarding health personnel, and education particularly for women in rural areas. Measures to be considered are: (a) development of integrated maternal and child health services; (b) increasing community based interventions to increase linkages between health facilities and communities (i.e., programs of maternal health); (c) strengthening the district health system, particularly district hospital; (d) development of health education among parents to better take care of their children; and (e) introducing on a pilot basis mobile teams and mobile clinics to compensate for the lack of facilities and/or immunization services in remote areas.

3.49 ***Improving equity and expanding basic health coverage.*** This could be achieved through redirecting health care resources towards primary health care, emphasizing cost-effective interventions

[54] Governorates are listed from poorest to richest, having used the headcount index as the ranking variable in table 22 shows the results of the benefit incidence analysis.
[55] See PER and other World Bank sector works (2000, 2001).

and strengthening partnerships with the private sector, non-governmental organizations and local communities and authorities. The strategic objective would be to (a) improve quality and access to health services for the population in both urban and rural areas, (b) improve efficiency in using the available resources, particularly by reforming the MOPH functions and systems and restructuring its service delivery to focus on basic health services; (c) reduce rural-urban and inter-regional inequities in access to health care services; (d) improve equity in allocating resources through master plans including population based health needs and risk pooling of the financial burden particularly for the poor; and (e) adopt a strategy for community-driven development (CDD) of health services, and closely increase collaboration with the Social Fund for Development to implement CDD health interventions aimed at improving the health status of the population in underserved areas.

3.50 ***Increasing the public financial resources for the health sector.*** Although donor investments in health projects have helped to increase access to health care services in poor areas, they are still insufficient given rural disparities. To improve quality and equity, and increase access to health services, the efficiency of public and private spending must increase. To achieve this, the Government needs to (a) increase resources for the health sector from 4.3 percent to 6 percent of total government budget by 2005, as public health spending is below the level in other comparable income countries; (b) shift allocation of public resources from the tertiary hospital sector to the first referral hospital care and basic health services including public health programs; and (c) shift allocation of public resources from urban to rural and under-served areas through equitable per capita allocation of the MOPH budget across different governorates, and increase the per capita budget allocation above the governorate average for the most disadvantaged governorates.

3.51 ***Strengthening planning and coordination among Government agencies and Development Partners.*** Given the nature of public health programs that require the involvement of sectors other than health, and given the level of support provided by development partners in Yemen, there is a great need for effective inter-sectoral and donor coordination. To reach the development goals in terms of improving the health status of the population, the Government needs to : (a) develop realistic five-year and annual health development plans in terms of targets and required resources with clear priorities, including a coherent strategy for public health programs; and (b) increase coordination with relevant public institutions and development partners to ensure that funds are efficiently and effectively allocated, health needs are adequately addressed, and programs complement each other.

4. SAFETY NETS AND POVERTY PROGRAMS

3.52 Various private and public transfers are available to households in Yemen (table 24).

A. Poverty and Private and Public Transfers[56]

3.53 Transfers are clearly a quite substantial source of livelihood for the poorest Yemenis and their incidence is progressive (table 25). According to the 1998 HBS, public and private transfers (including those transfers that can be identified in the survey—namely zakat, retirement and pensions, local and foreign remittances and payments from other government organizations), make up around 8 percent of total expenditures for the average Yemeni household.

3.54 Public transfers, which are detailed below, come from both government programs and from donor-initiated and financed projects. The only government transfers that can be specifically identified in the HBS are from pension and retirement accounts. They account for 10 percent percent of total transfers on average. Unfortunately transfers from other government organizations are recorded in the same

[56] See detailed analysis in Annex 8 on Social Safety Net Programs in Yemen.

category as local remittances. Government transfers are small and thus account for a maximum of 41 percent (if no local remittances exist) and a minimum of 10 percent of total transfers (no transfers from 'other government' organizations).

3.55 Overall total net transfers are rather well targeted to the very poorest households. They account for 38 percent of total expenditures for those in the poorest pre-transfer decile nationally; this rises to 56 percent for those in urban areas and drops slightly to 35 percent for those in rural areas. Mean transfers equal 10 percent of the lower poverty line nationally, ranging from 9percent in rural areas to13 percent in urban areas. But for the poorest decile, these transfers respectively equal 45, 38 and 86 percent of the value of poverty lines. Nationally, 33 percent of the population received transfers that ranged from less than one-third of the rural population to almost half of the urban population. Coverage is highest in the poorest decile at 57 and 80 percent of the rural and urban populations, respectively when deciles are defined based on pre-transfer expenditures.

3.56 The urban population is clearly favored in terms both of coverage and absolute transfer amounts. There is a significant difference between urban and rural areas in the incidence of Zakat transfers that favors the urban population with 27 percent receiving them versus 8 percent in rural areas. Retirement and pension transfers also account for a much larger percent of total transfers in urban areas at a mean of 16 percent: while 8 percent of the urban population lives in households that receive income from this source, only 2 percent of the rural population benefit from them.

3.57 Remittances from relatives abroad are by far the largest source of private transfers in Yemen. Although a large drop in remittances occurred after the massive repatriation of Yemeni workers from the Gulf in 1991, these have slowly picked up once again. Inter-household transfers from relatives and friends are also significant.

Table 24 - Poverty and safety net programs in Yemen

Public sector	Intended beneficiaries	Form of benefit	Poverty targeting
Diesel subsidies	Not clear	Diesel fuel consumption subsidy	No
Social Welfare Fund	The poor and unable to work w/out income sources and their dependents.	Cash transfers	Geographical; means-test + status indicator
War Veterans Fund	1962 war veterans.	Cash transfers	No
Tribal Authorities Fund	Tribal groups	Cash transfers	n.a.
Agriculture and Fisheries Production Promotion Fund	Poor farmers, pastoralists, and fishermen.	Agriculture production promotion; lower input prices, employment creation.	Geographical
Social Fund for Development	Poor communities; girls and women; vulnerable & disadvantaged women and children	Community development; facilities/infrastructure assets; social services; credit, capacity building/ training.	Geographical
Public Works Project	Poor communities; the unemployed; girls and women.	Employment; facilities /infrastructure assets	Geographical; work requirement
World Food Program	Girls and women	Food transfers; training, credit, income generation, infrastructure assets.	Geographical; clinic/school attendance or work requirement
Poverty Alleviation Program	Women; poor communities.	Credit, training, enterprise promotion; community development.	Geographical
Southern Governorates Project	Rural poor in Southern governorates	Community development; agriculture infra assets.	Geographical
Pension schemes	Retired contributors and employees of army, police and government.	Cash payments	No
Private sector			
○ Remittances from relatives working abroad ○ Remittances from relatives in Yemen (transfers to dependents) ○ Religious charity donations (Zakat & Sataqa) ○ Other traditional community and kinship-based systems and organizations ○ National non-governmental charitable associations			

Note: Need to obtain from Government cost of each program (and share of budget).

Table 25 - Public and private transfers as a share of household expenditures

Net national population deciles	Transfers as a percentage of total household expenditures		
	Rural	**Urban**	**National**
1	35.1	56.0	38.1
2	8.3	12.9	9.0
3	5.8	8.8	6.4
4	4.4	7.8	5.1
5	4.0	5.2	4.3
6	2.2	4.7	2.8
7	3.2	4.6	3.5
8	2.2	4.2	2.7
9	2.0	4.2	2.6
10	1.6	2.7	2.0
total	7.3	8.7	7.7

Source: 1998 HBS.
Note: Transfers include income from Zakat, retirement and pensions, local and foreign remittances and payments from government organizations.

B. Government Safety Net Programs[57]

1. The Social Welfare Fund (SWF): [58]

3.58 The SWF is the government's main targeted social assistance program. It was conceived in 1996 as a way to compensate the poor for the removal of subsidies. Under the SWF, cash transfers of YR 1000 per beneficiary, plus 200 for each additional dependent up to a maximum of YR 2000 per household, per month are available to 15 different target groups. The payments are made every three months, so that a household receives a maximum of YR 24,000 a year. For a family of six this translates to about YR 333 per person, per month or only about 10 percent of the 1998 national poverty line. Over YR 8 billion were spent in 2001 to the benefit of 450,000 households.

3.59 *Targeting and target groups:* There is a first stage of geographic targeting. The SWF's Board of Directors decide how many cases they can afford each year and allocate case shares to each governorate based on the incidence of poverty, the share of the country's population and the cases of pre-SWF assistance.[59] The governorates then distribute the cases to the districts on the basis of lists of the eligible. These allocations are likely to be influenced by political considerations.

3.60 Given the geographical coverage, the program targets orphans, widows and divorced women with and without children, single women, the fully and partially, permanently or temporarily disabled, the poor, the elderly, and families with a missing, jailed or recently discharged from jail head of household. In addition, recipients must also be deemed to be without income or income earning potential. The law also provides for lump-sum assistance to households who experience personal

[57] The Government's key social assistance programs are the SWF, the Agricultural and Fisheries Production Promotion Fund and the subsidy on diesel. A few other small programs, such as the Martyr's Welfare Fund (also known as the War Veteran's Fund) and the Tribal Authorities Fund, are not discussed here due to difficulties in getting information.
[58] See Annex 8 for more details.
[59] The SWF replaced a smaller social assistance scheme run by the Ministry of Insurance and Social Affairs

emergencies or are affected by covariate disasters. In 2000, the largest number of direct beneficiaries were either the poor, or widows with children. This was the case in all governorates.

3.61 Table 26 gives a rough estimate of the target population and matches this up with current participation data from the NPS.[60] It shows that 4.2 percent of the target group, or 0.9 percent of the population, received SWF transfers. Fifty seven percent of those who received transfers were not in the target group. Of those, 41 percent were non-poor and 16 percent were poor. Table 26 strongly suggests that the complicated targeting mechanisms used by the SWF are not working particularly well.

3.62 *Procedures for identification and selection of beneficiaries are complex and burdensome.* To receive transfers, potential beneficiaries must fill out applications and provide proof of status and lack of income or earning potential in the form of documentation and various certificates. Typically, they must come to branch offices to submit their applications. This procedure clearly penalizes the illiterate, elderly, disabled and remote. The SWF relies primarily on eligible beneficiaries knowing about the program and applying for it. Yet the NPS indicates that only 31 percent of the population had heard about it in 1999. And this number may overstate the number who understand the eligibility criteria and whether they can apply. Certificates can also be hard to come by and applications difficult to complete. In principle, efforts are made to search out the eligible population. Social workers from the local offices verify applications and help identify potential beneficiaries and fill claims. Local NGOs, councils and Sheiks may also be active in identifying candidates, drawing up lists and informing those in their communities about the program. Even with these additional efforts, it is not clear that those in isolated rural areas, and arguably the most vulnerable, are being adequately reached. Local offices do not have the capacity for exhaustive outreach. Reliance on local Sheiks brings about its own worries including the possibility of capture by friends and clients.

Table 26: Estimated SWF target population and coverage in 1999 (percent)

	Target	Non-Targeted		
		Poor	Others	
SWF yes	0.88	0.33	0.84	2.05
SWF no	20.04	18.76	59.15	97.95
Total	20.91	19.10	59.99	100.00

Source: NPS 1999

3.63 At any rate, the budget is generally too low to cover all of the potentially eligible. Long delays in dealing with applications are common and caused by a lack of personnel and funding together with a burdensome application and substantiation process. All requests must be checked by local office staff before being forwarded for a second check by the governorate and then on to Sana'a for final confirmation or rejection. In 1998, the time between a governorate's approval and a beneficiary's first payment took between 6 and 12 months. In principle, local staff are required to conduct follow-ups every 3 months, as well as yearly. It is not known how rigorously this is carried out.

3.64 *Delivery mechanisms are still inadequate.* Once an application is approved, there is still the issue of getting payments to beneficiaries. Payments are in the form of checks four times a year that can be cashed by local cashiers at the local offices or at post offices. The SWF recently started to rely on agents of the MOF as local cashiers in residence in every district who directly pay the beneficiaries. This appears to have improved the payment system. The SWF is also increasingly relying on mail

[60] These are rough estimates since we can not exactly identify all members of the target groups and can only approximate the way in which the income and asset tests are applied. We define the target group as the population who are very poor (as identified by being in the bottom per capita expenditures decile defined net of SWF payments) and the population living in households with a severely disabled adult, an elderly man or woman, headed by a widowed, divorced or never married woman and who are poor (as defined as being below the poverty line).

delivery of transfers. But, the NPS indicates that only 18 percent of Yemenis (5 percent in rural and 56 percent in urban areas) live in an area with a post office. Access to banks is even lower: only 3 percent of Yemen's rural population live in an area serviced by a bank. This makes one quite pessimistic about using post offices or Bank branches to speed up and facilitate delivery of SWF payments.

3.65 *Administrative costs are likely to be high.* SWF staff state that operational costs are low at 4 percent of total costs. Others have estimated the administrative costs to be closer to 13 percent, which seems more plausible, but still on the low side. Firstly, the SWF's figure consists solely of the amount it spends and does not include the costs faced by the post offices and the MOF. Secondly, given the complex identification and substantiation process one would expect the administrative cost per applicant to be quite high relative to the benefits. In 1997, the direct costs of identifying and monitoring a beneficiary in rural areas were calculated to be as high as YR 1,400 for the first year and YR 600 in follow-up years. The process remains complex and time consuming, so that costs are unlikely to have declined that much.

3.66 *Incidence of payments:* Table 27 provides a picture of the distribution of SWF payments and of participation across deciles defined net of SWF payments. Coverage and amounts received are negligible. The average per capita amount received is worth less than 0.3 percent of the national poverty line at YR 105 annually and only 2 percent of the population lived in households who received payments from the SWF in 1999. There is a concentration of payments and recipients in the poorest population decile, however, there are beneficiary households in every decile. The average amount received in the bottom decile is equal to only 1.2 percent of the poverty line, and only 5 percent of the poorest ten percent of the population live in households that received SWF benefits. Again, there is an advantage to being in an urban area where per capita payments for the poorest decile are nearly three times higher and 9 percent of the population received transfer payments compared to 4 percent in rural areas.

Table 27 - Incidence of SWF payments in 1999
(YR per year per capita and % of population)

1999 net nat'l deciles	Mean per capita SWF transfers			% of population in households receiving SWF		
	Rural	Urban	National	Rural	Urban	National
1	340	930	449	4.2	8.9	5.1
2	78	143	92	2.2	3.8	2 6
3	68	61	66	2.1	2 3	2.1
4	128	71	114	2.2	2.2	2.2
5	41	82	51	1.6	1.9	1.6
6	46	57	49	1.5	2.3	1.7
7	53	54	53	1.3	1.7	1.4
8	34	37	35	1.4	1.1	1.3
9	52	37	47	1.3	1.2	1.2
10	115	46	89	1.3	0 8	1.1
total	98	124	105	1.9	2.3	2.0

Source. 1999 NPS. Note: Deciles are defined based on per capita household expenditures net of SWF payments.

3.67 Some payments clearly reach the poorest, particularly in urban areas. One conclusion could be to simply spend more on the SWF. Yet, a ten fold expansion of SWF amounts received by current beneficiaries would reduce the poverty rate by 0.7 of a percentage point only. This is due both to the low level of payments and the leakage. Of course, such a policy would also need to be financed. Zero cost is assumed above, as might be the case if the expansion were externally financed or entirely financed by the non-poor. But under internally financed scenarios, such as financing from a tax which is proportional to income, would result in a slightly reduced impact on poverty of 0.6 of a percentage point. If the cost were borne equally by everyone instead, there would be no change in the poverty rate.

It is clear that much more would need to be spent on the SWF to lift those who currently receive it out of poverty.

3.68 *The administration of the SWF follows a protracted and cumbersome process and needs to be reformed.* There are a number of reasons militating against the current heavy administrative side of identifying beneficiaries in a poor and rugged country like Yemen. The procedures place a heavy burden on the target groups who may be disqualified simply because they can not get the right certificates together, live too far away or have not heard about the program. And as is apparent from table 27, the process does not prevent errors of inclusion. The SWF is an ineffective instrument for dealing with shocks since its response rate is much too sluggish. In addition, reliance on local Sheiks may lead to program capture and other problems, such as reinforcing the concentration of power and the Sheiks' local control. There is already some evidence of this. It would be better to rely on a countervailing institution instead. Another issue concerns the administrative costs involved in the identification and selection of beneficiaries. This cost appears to be large relative to the benefits.

3.69 Serious thought should go into how beneficiary selection and final approval could be decentralized to the governorates or even to the district level. This would speed up the application process. The SWF should also consider simplifying its targeting rules. There could be much finer geographical targeting coupled with the status indicators already used. The income and asset tests could be dropped. These are easy to manipulate, hard to ascertain and highly variant over time, and at any rate, anyone who truly passed them would be barely surviving.

2. Diesel Subsidies

3.70 Diesel is the only consumer good that continues to be significantly subsidized. It appears to be used primarily to run irrigation pumps, electricity generators and fishing boats.

3.71 Unfortunately, none of the household surveys identify diesel consumption or the ownership or productive use of irrigation pumps and fishing boats. Yet, using the 1999 NPS to examine consumption indirectly, data suggest that the poor probably consume far less diesel than wealthier households. In 1999, only 4 percent of the rural population in the poorest decile lived in families whose land is mostly irrigated and is irrigated through an artesian well, compared to 20 percent of those in the top decile. In addition, only 2 percent of the rural poorest own a generator versus 11 percent in the top decile. This evidence is not conclusive, but it does suggest that the direct beneficiaries of the diesel subsidy are mainly not the poor. Poor people will no doubt benefit indirectly from the subsidy, though they and other poor people would also benefit (directly and indirectly) from the extra public spending on (inter alia) schools and health clinics that eliminating the diesel subsidy could finance.

3. The Agriculture and Fisheries Production Promotion Fund (AFPPF)

3.72 The AFPPF was launched in 1995 in light of an eventual phasing out of the diesel subsidy to protect the poorest population groups in rural and coastal areas who, both as consumers and producers, are highly dependent on agriculture and fisheries. The Fund aims to promote agriculture, livestock and fisheries production through a wide range of activities (e.g., agricultural inputs and equipment subsidies, water projects, and production marketing schemes). The AFPPF's yearly budget is about 2 percent of total social spending. The Fund's role is essentially to appraise, approve and finance projects that are formulated by others (i.e., agricultural cooperatives, the Agriculture Cooperative Union, the private sector or the local Ministry of Agriculture offices).

3.73 A 1999 evaluation found that the AFPPF did not meet its objectives in part due to design deficiencies that prevented efficient implementation.[61] Much of the money was found to have gone to parastatals and government who probably have access to other forms of credit, and to building large dams. Projects were found to be badly designed and formulated. Unfortunately, data on participation or a more recent evaluation are not available.

3.74 According to Fund's leaders, however, the program has become more geared to tackling poverty over time. All current activities are seen to indirectly benefit the poor through employment creation and other benefits, such as increasing the number of crop cycles and the availability of water. Some of the smaller programs are also geared to directly generating income for the poor. One of the objectives of the AFPPF is clearly to make non-collateral based credit more easily available to poor small farmers. A program like AFPPF needs to ensure that it does not squander its resources on those who already have access to other sources of credit while missing those who do not and could make productive use of credit. Experience in other countries shows that rich farmers are very adept at cornering the benefits from schemes like the AFPPF and at failing to repay outstanding loans. To make a judgment about this program, more needs to be known about the direct participants in AFPPF, the costs and benefits and its longer term impact on poverty.

C. Donor Assisted Programs

1. The Social Fund for Development (SFD)[62]:

3.75 Established in 1997 as a World Bank financed autonomous entity, the SFD was conceived as a demand-driven mechanism aimed at raising living standards and promoting income earning opportunities for the poor. To meet these objectives it has emphasized community development, capacity building and micro-finance programs in poor areas.

3.76 As of May 2001, the SFD had provided US$90.3 million to 1,465 projects which it is estimated have benefited 3.4 million Yemenis. By far, the most common projects are in the education and water sectors. On the employment creation side, 9,343 permanent jobs and 3,027,097 person-days of temporary work were expected to be created from 1997 through 2000. Of those, only 19 percent of the permanent jobs were expected to be filled by women, and even fewer at 0.3 percent of the temporary work days. The SFD is now in its second phase. Over time, it has capitalized on early experience and altered its activities in various ways. The second project scaled up assistance to the particularly vulnerable and disadvantaged—notably destitute women, abandoned children and the handicapped. This component promotes informal education and training, support to rehabilitation centers, orphanages and other centers that cater to these groups, child care and literacy training for female prisoners and so on. The SDF has also attempted to correct for weaknesses in the demand-driven concept of project identification by taking a more active role in targeting marginal groups and the poorest communities who are less well organized or inadequately represented by intermediaries. Central among these supply-driven special programs are basic education for girls, water harvesting, and integrated development schemes. Sub-districts with the most dismal indicators are identified first. Further targeting is achieved based on village level indicators and probability of an intervention's success.

3.77 From the start the SFD has aimed to reach poor communities though targeting. Under the first project , resources were allocated across governorates based on a formula combining an index of unmet basic needs constructed with data from the 1994 census (with 0.25 weight) and population density (with

[61] The Fund's administration and operation has been reviewed in El-Gammal et al. 1999.
[62] This section draws heavily from World Bank (1997) and (2000).

0.75 weight). That has been altered in the second project phase: 30 percent of total resources now go to the supply driven special programs and to target socially marginalized groups. The remaining 70 percent are allocated to governorates and districts using an index constructed from data on access to basic needs from the 1994 census and data on income poverty from the 1999 NPS, with equal weight. Past evaluations show that the SFD delivers these services much more cost-effectively than the Government or other donor assisted projects. Due to its great success at delivery, the SFD is often considered the only institution that can address problems and support activities that have otherwise fallen through the cracks in Yemen. The SFD increasingly addresses diverse needs and activities including capacity building, helping with the data information system at the SWF, helping the Government develop a national social protection strategy, the new social protection component and the special supply-driven interventions. However, it is not yet clear that this is the most appropriate direction for the SDF to take, for fear of diluting its effectiveness and impact.

3.78 The SDF claims to use labor-intensive techniques for its small-projects building component. However, this appears to have relatively little emphasis. It seems that there is scope for reinforcing the labor intensity of the projects thereby creating employment for the unemployed rural poor and buttressing its ability to provide short-term assistance.

3.79 According to the 1999 NPS, many households have not heard of the SFD. Only 9 percent of the rural population lives in households where a member knowsabout the SFD and 13 percent in urban areas. This suggests the need for renewed information campaigns and provides support for the emphasis that the SFD now places on non-demand driven special programs targeted to particularly marginalized communities.

2. Public Works Project (PWP)

3.80 The Public Works Project was established in June 1996 with World Bank funding. It mainly targets the rural areas and aims to create jobs, provide the poor with small development projects, enhance community participation and develop local contracting firms. The demand-driven projects are mainly focused on small scale infrastructure projects such as education (54 percent of the projects) and health facilities (18 percent) (mostly rehabilitation or extension of existing facilities), water supply or collection (11 percent), sanitation, road rehabilitation (9 percent), vocational training and social security.

3.81 In the second phase, education continues to be the most popular intervention with water overtaking health in second place. Throughout, this stage, the works have focused attention on women and children with their highest priority being girls' schooling and reducing the heavy water collection burden shouldered by women in Yemen. Funds are allocated across governorates according to a formula which distributes 50 percent according to population, 30 percent according to the poverty headcount (using the 1999 NPS) and the remaining 20 percent according to remoteness. This reflects a change from the first phase allocation which was made by the steering committee based on population and remoteness only.

3.82 Creation of jobs is stated to be the project's main objective, to be achieved through provision of labor-intensive basic infrastructure, which links to the second objective of improving basic services especially to women and children. The project's mandate is to ensure a minimum of 30 percent labor content in all its sub-projects. However, unemployment does not appear to be considered in the targeting of resources or the selection of projects. Moreover, 20 percent of the cost of each sub-project actually goes to skilled labor brought in by contractors from outside the communities and districts. As of January 2002, over 2.2 million person-days have been created, of which 60 percent were unskilled labor days. The Bank's annual review for 2000 argues for reducing the focus on employment

generation even further because this focus prevents financing equipment and hardware and forces a rejection of many water projects where investment costs are too high. (According to the authorities, the PWP addresses this need through coordination with other agencies whose mandates allow for providing capital intensive techniques.) The review essentially argues that providing access to water will improve living conditions (through effects on consumption, production, and time savings) more so than will employment generation, and similar arguments are made for spending project money on furnishing schools. However, this puts no weight on the potentially important role of the PWP as a short-term safety-net for the poor. Frequently, highly capital intensive techniques are no more efficient in a low wage economy with abundant labor but they are chosen for other reasons.

3. Poverty Alleviation and Employment Program (PAEG)

3.83 The UNDP's PAEG program is an ambitious and complex program that has been under implementation since 1998. The main objective of the program is to improve poverty monitoring, targeting and policy impact assessment, through setting up data information systems (including the Poverty Information and Monitoring System (PIMS) and the Labor Market Information System (LIMS)), which resulted in the 1999 NPS and the Labor Force Survey (LFS). The PAEG also includes the creation of a National Committee for Social Safety Net (NCSSN) that would have responsibility for the major poverty alleviation programs in Yemen, but which is not yet operational.

3.84 Three sub-projects that are more directly aimed at directly reaching the poor have been implemented:

- *The National Program for Productive Families (NPPF)* intends to increase the employment and income earning potential of poor families, and in particular, deprived women, through vocational training and skills development. No follow-up system has been created for measuring the impact on graduates.
- *The Micro-Start program* aims to develop micro-finance schemes and targets mainly women. Small loans are granted through NGOs to individuals with prior experience in the area of investment, a good reputation and a guarantee. The focus has been on the sustainability of the revolving fund rather than on small enterprise and livelihood development and sustainability per se. Repayment rates are good. Beneficiaries appear to be poor, but not the poorest.
- *The Regional Development initiative* is a community-based development scheme designed to empower local communities to develop and help themselves. Five pilot schemes have been implemented around the country.

4. The World Food Program (WFP)[63]

3.85 The World Food Program has long been active in promoting food security in Yemen. In its latest program (2002-2006), it concentrates special attention on women and girls as development change agents and carefully targets interventions geographically to focus only on the most vulnerable and food insecure districts; prioritization among these is achieved according to local needs and practical matters such as accessibility, security situation, and the presence of complementary activities by other organizations.

3.86 The new program has three components which directly benefit about 260,000 people, these include: (a) Nutrition support to malnourished women and children through attendance to health clinics;

[63] There may be a few other social safety net programs that have the same objectives than the WFP, but due to lack of information, they are not discussed in this report.

(b) access to primary education for girls through a food-for-education type scheme; and (c) economic empowerment of women by using food transfers as incentives for women to participate in skills training, credit and income-generating activities.

3.87 WFP's program of interventions are targeted to disadvantaged districts only and based on self-targeting mechanisms. In principle, this is a well conceived program and other programs could learn from it. The focus on nutrition and children is important, given the very high, and possibly rising, rates of child malnutrition in Yemen. However, there is still a need to evaluate its cost-effectiveness and impacts on living standards.

D. An Assessment of Regional Targeting Performance

3.88 As we have seen, many poverty schemes use geographical targeting to allocate budgets across governorates based on poverty and other criteria. Given recent efforts to better target poorer regions, it is of interest to examine the performance of this targeting. By regressing program allocations across governorates on the governorate poverty measure (given by the percent of poor households from the 1999 NPS) the 'targeting differential'— interpretable as the mean difference in spending between the poor and non-poor— is estimated.[64] This provides a measure of how well program allocations match the governorate poverty map.

3.89 Table 28 gives the mean estimated amounts going to poor and non-poor households across governorates and the targeting differential for a number of different programs. The SFD's first phase allocations across governorates were not pro-poor. The targeting differential is not significantly different from zero. Yet, the second phase targeting turns this around completely. Poor households now benefit by about US$90 which is $62 more than the non-poor get on average. The SFD's increased efforts at better geographical targeting have demonstrably paid off.

Table 28: Program performance in targeting the poor across governorates

	Actual mean per househol allocation	Estimated mean amount going to poor	Estimated mean amount going to non-poor	Estimated targeting differential
SFD phase I ($US/per household)	32.7	-66.8	81.2	-148.0
		(1.0)	(2.2)	(1.4)
SFD phase II ($US/per household)	47.9	90.2	28.2	62.0
		(6.1)	(3.6)	(2.8)
PWP phase I ($US/per household)	12.9	-19.8	28.2	-48.0
		(0.8)	(2.0)	(1.2)
PWP phase II ($US/per household)	33.8	-62.8	79.1	-141.9
		(0.6)	(1.4)	(0.9)
SWF (YR/per household/yr)	5060.9	-8831.4	11566.9	-20398.3
		(0.8)	(1.8)	(1.2)

Note: T-ratios in parentheses are based on standard errors corrected for heteroskedasticity. The targeting differential is the difference between the per household amounts going to the poor minus that going to the non-poor. When an amount is not significantly different from zero, it is set to zero when calculating the targeting differential.
Source: World Bank staff estimates.

3.90 For both phases of the PWP, one can not reject the null hypothesis that the amounts going to the poor and the non-poor are the same; equally well, one can not reject the null that the poor got

[64] See Ravallion, 2000.

nothing. These results suggest that the program allocations across governorates are biased against the poor. No improvement is discernible in the second phase of the program after its targeting criteria were revised. The inter-governorate distribution of SWF allocations shows no signs of pro-poor targeting. Again the amount going to the poor is not significantly different from zero.

3.91 These results concern allocations across governorates and the extent of pro-poor geographical targeting. However, they say nothing about how the money was spent within each governorate. It is certainly possible that the programs are reaching the poor in richer governorates.

E. Options for Reforms

3.92 It has been argued that the SWF looks after those who are unable to work and take care of themselves, the PWP provides employment to the able-bodied who can work, while the SFD provides long-term development opportunities for the poor and that together these make for a complete safety net program in Yemen (World Bank 2000b). Yet a review of these programs indicates that this is not the reality even when they are coupled with other existing poverty and safety net schemes.

- Coverage of these programs is extremely limited compared to needs and is far from being able to work to meet these different needs in the same areas. Even if the programs vastly increased their coverage, they would still not combine to fulfill these aims.
- Many of the programs are indistinguishable in their objectives, format, methods and benefits delivery. With the exception of the SWF, practically all the interventions resemble demand-driven social fund type programs where, to varying degrees, the operative emphasis is on "providing long-term opportunities for the poor."
- These programs make up for the social services and physical assets that various government ministries are failing to deliver. They have a common focus on women and children, women's education, community development, building small infrastructure projects and bringing services to communities. Such programs are clearly necessary and many appear to be working well, however, many of the benefits are likely to be longer term. Together the schemes do not fulfill an insurance or traditional safety net role that helps prevent destitution and asset depletion by helping people through shocks and short-term difficulties. They may well also fail to reach the poorest and most needy. Children, for example, may not be sufficiently well protected from poverty and its lifelong consequences. This is a clear deficiency of Yemen's current safety net.
- In theory, the SWF attempts to provide protection to the most needy among those who are unable to work, yet the only program that can address shocks and prevent permanent destitution is administratively cumbersome, slow to respond and of extremely limited coverage. In addition, current SWF targeting efficiency and poverty impact are questionable.

3.93 To improve coverage and efficiency of the safety net programs, the following measures could be considered:

3.94 **Reform the SWF.** The SWF could be reformed (with the appropriate design changes) to better reach more of the unable-bodied poor and to be more responsive to idiosyncratic shocks and vulnerability issues. This requires that, together with more stringent geographical targeting to designated poor areas, the identification and targeting of participants be simplified and broadened. The current effort at fine targeting with both income and asset tests is of doubtful value and much too burdensome administratively. The SWF could:

- *Introduce finer geographical targeting* coupled with the status indicators already used;
- *Establish targeting indicators* on the basis of poverty data that are more easily verified and transparent as well as difficult to manipulate;

- *Drop the income and asset tests* because they are easy to manipulate, hard to ascertain and highly variant over time, and at any rate, anyone who truly passed them would be barely surviving;
- *Decentralize beneficiary selection and final approval* to the governorates or even to the district level to speed up the application process;
- *Review mechanisms to deliver transfers*. Since most of the poor are located in remote areas and have no access to post offices or Bank branches, other mechanisms need to be considered (i.e., working through schools);
- *Set-up local women's councils in the targeted communities.* Since many correlates of poverty will be public knowledge in the communities, a local women's councils could better tap into this knowledge and avoid relying solely on Sheiks. This council could be responsible for identifying those who are eligible based on a set of criteria, including ones that identify those who may not normally be poor but are hit by some temporarily or permanently debilitating shock. The fact that women figure so highly in the groups of the disadvantaged that are unable to work provides an important rationale for relying on them. These women are also likely to have intimate knowledge about the living standards of community members. The women's council's recommendations would go to the local council or district office where final decisions on beneficiaries would be made. Following a first stage of fine geographical targeting, more decentralization of this sort for the next stages would be highly desirable and reduce the response time needed to reach beneficiaries.
- *Add a school attendance requirement for school-aged children of recipients as a condition for receiving payments.* Obviously, this can and should only be enforced if a school is accessible. The women's council should be required to consult closely with teachers to ensure that children of beneficiaries are attending school. If not, payments should be cut off.
- *Obtain more budgetary resources.* With some redesigning the SWF could perform an extremely valuable role in Yemen's safety net, but the targeted amounts are currently far too small to make much difference to the most needy.

3.95 **Develop self-targeted workfare programs.** Consideration needs to go into how other instruments can be better developed to serve an insurance role and address vulnerability for the able-bodied poor. Yemen has considerable permanent and seasonal unemployment. Agriculture, from which most of the population derives its livelihood, is subject to harsh environmental conditions, precarious access to water and considerable variability. This is an environment in which households are subject to multiple risks that will affect their ability to escape poverty. Many countries have successfully addressed issues of vulnerability and income variability with self-targeted workfare programs. A key player could be the PWP or a new public works program. Either way the scheme would need to increase its self-targeting aspect and be designed to better address vulnerability to seasonal and other income earning and living conditions variability. Again, geographical areas should be targeted based on levels of unemployment and underdevelopment, as well as targeting on the basis of year-round employment variation focusing on the lean periods. It is important to recognize (as does the current PWP) that private assets are important for employment and well-being. However, public works can also better serve the short-term employment and consumption smoothing function. The program must be willing to make certain tradeoffs, for example, by building assets that are not as good or as sustainable as they might be if less of the project funds went to employment generation. Other programs, such as the SFD, appear to be going in the right direction with an increased focus on better targeting and attempts to reach the most disadvantaged areas. However, it could do more to increase the labor intensity of its small-scale infrastructure projects.

3.96 **Review targeting criteria.** As shown above, current targeting performance is weak and can be vastly improved. Indeed, the criteria currently used to target funds geographically appear questionable

in some cases. For example, most programs use population density or levels as a criteria, along with poverty rates. This makes little sense since the population weight may simply cancel out the weight given to poverty. It would be better to make per capita allocations a function of the poverty rate only. In addition, there may be a "fixed cost" argument for allocating more to certain regions where, due to difficult terrain, remoteness and so on, interventions simply cost more. The solution would be to make the total allocation proportional to the total number of poor as long as that allocation does not fall below some amount which represents the fixed cost. This would also eliminate the need to use "remoteness" as a targeting criteria.

3.97 **Encourage the use of household survey poverty data for targeting funding allocations across programs.** Most programs use survey data for targeting budget allocations geographically. The SFD also makes good use of census data to target more finely across regions. Although the exact targeting criteria need to be revised, such use of survey data should be further encouraged. It will be important for the next household survey to focus on collecting a robust measure of expenditures so that these poverty numbers can be checked. The programs should then use the updated regional poverty numbers (adjusted for inflation) to retarget allocations. It will be extremely important to ensure that the next household survey collects the necessary comprehensive information on expenditures and data for effective targeting, as well as information that allows analysis of program participation and incidence.

3.98 **Improve service delivery through greater use of local councils.** There is clearly poor representation at local level. One recent important change in Yemen is the election of local councils. Many of the programs discussed above aim to rely and work much more closely with local councils. This is a promising direction, however, it will be important to monitor these developments and evaluate their role in reaching the poor and additional potential for using them or regulating them. Recent moves towards greater decentralization and local council elections may lead to more effective service delivery, but also more local capture.

3.99 **Advertise the programs.** Another promising avenue would be to make better use of radio for advertising demand driven programs and the SWF. A relatively large percentage of the rural population (51 percent) has access to a radio according to the NPS, though only 31 percent of those in the lowest decile. There are also pronounced variance across states with 71 percent of Hadramout's rural population having a radio compared to only 31 percent of Al-Hodeidah. Televisions are much less common.

3.100 **Conduct impact evaluations.** Many more impact evaluations and cost-effectiveness studies need to be completed before definitive assessment of the existing transfer programs and recommendations for reform can be made with reasonable certainty. The SFD has already taken the lead, and it is hoped that other programs will follow. Much more emphasis needs to be placed on understanding the costs and benefits of the transfer programs to poor people.

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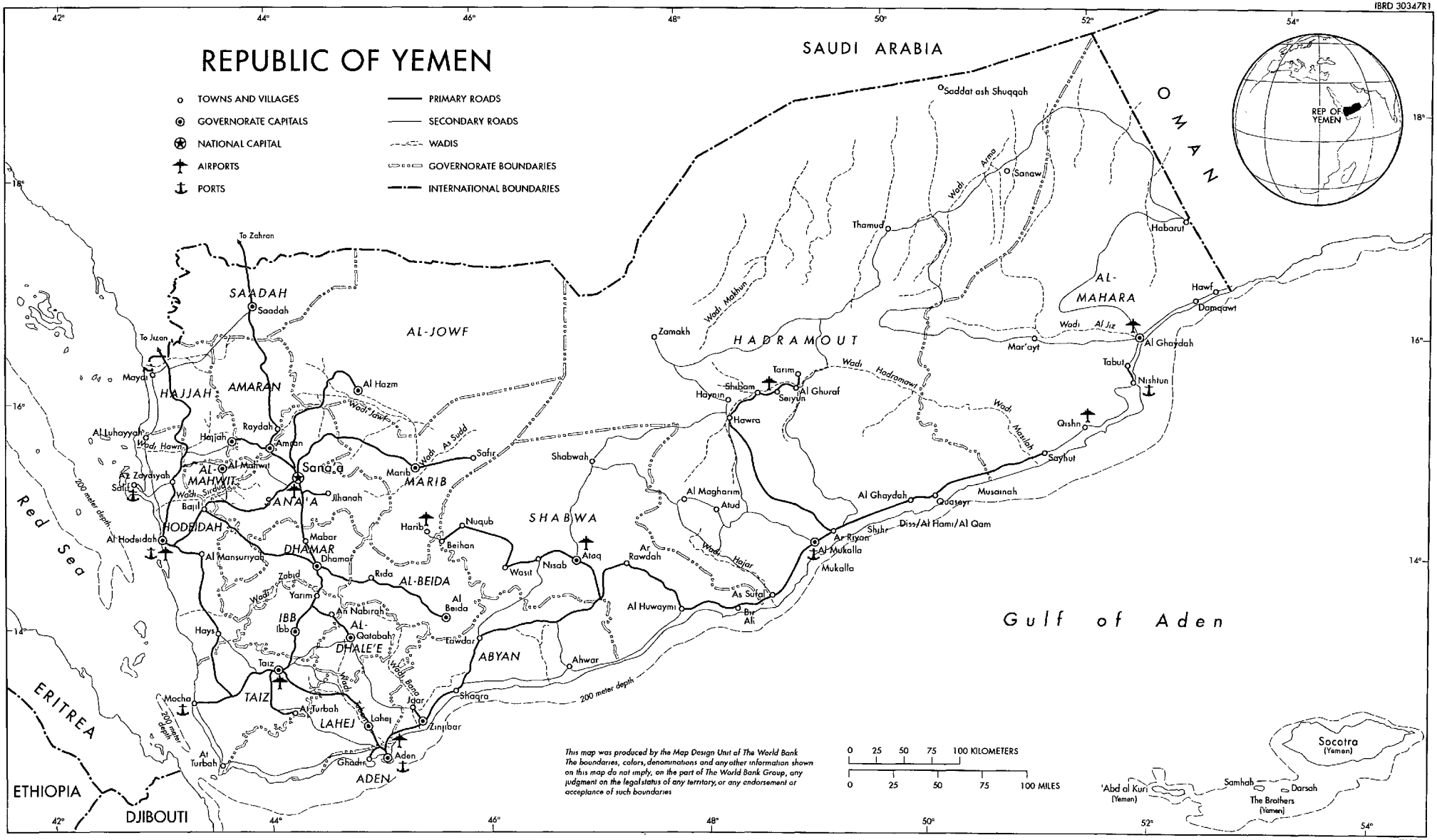
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