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A SOCIAL AND INSTITUTIONAL PROFILE
OF
THE YEMEN ARAB REPUBLIC

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PART I

EXECUTIVE SUMMARY

Purpose of Profile

The Social and Institutional Profile of Rural Yemen is designed to provide a readily available and easily utilizable source on the social and institutional characteristics of the Yemen Arab Republic that need to be taken into account for successful development planning and project implementation. A wide variety of data, much of this unpublished, has been synthesized for three audiences: (1) USAID/Sanaa as an information base to build on; (2) AID/Washington as an assessment of specific development constraints and potential in the Yemen context; (3) contractors and consultants coming to Yemen, as a comprehensive briefing document. Due to the fragmentary nature of the data and difficulties of social research in rural Yemen, this profile should be seen as a preliminary study in need of future refinement and updating.

Yemen and Its People

The Yemen Arab Republic, which occupies 195,000 square kilometers on the southwestern corner of the Arabian peninsula, is characterized by a variety of environmental zones--from an arid coast to a rugged mountain chain with tropical flora. Yemen has a population of 6-6.5 million, which is growing at about 2.4 percent per year. About 90 percent of the population can be classified as rural, with three-fourths of the people engaged directly in agriculture. Almost one-third of the potential male labor force is working abroad, many in neighboring oil-rich countries.

Four major environmental zones have been distinguished: (1) a coastal plain with little rainfall and extensive contact with East Africa; (2) the Western Highlands with a rugged mountain zone (up to 3,000 meters elevation), steeply sloped terrace agriculture and difficult access; (3) the Central Highlands, with a temperate climate and the largest towns; (4) the Eastern Plateau, which is least inhabited, least productive and least understood. Major ecological trends include rapid reduction in water tables, deforestation, terrace abandonment and increasing rural pollution problems.

Institutions

Before the revolution in 1962, Yemen was an Islamic state run by a religious aristocracy and isolated from the West. Following the economic disruption of the revolution and civil war, there was a national reconciliation in 1970, with the military playing the dominant role. In the past the northern tribes have dominated national politics and the same is still true today. Relations are improving with neighboring People's Democratic Republic of Yemen to the south.

Although the central government has made great progress in the past 12 years, it still does not have the institutional capabilities necessary to implement all the programs it has put down on paper. The Local Development Associations (LDAs) have made substantial contributions to rural infrastructure

development, but initial enthusiasm for the movement is waning. The government is reliant on foreign donors for financial, material and personal resources for almost all of its development programs. Given the lack of effective government outreach in many rural areas, great importance is still attached to traditional institutions of the tribe, religious courts, mosques and post-qat (Catha edulis--a tree whose leaves act as a stimulant) chewing sessions.

Social Milieu

Yemeni society is a mosaic with major regional variations (coastal and highland, north and south, urban and rural) in religious ideology, social identity, tribal influence, male and female roles, levels of education, health and nutrition. Islam is integrated into the total fabric of social interaction. Traditional elites persist in contemporary economic and political arenas. There are a number of low-status service providers, some of which are still treated as pariahs. Due to opportunities for work abroad and the expanding rural economy, the economic and social mobility of low-status groups has improved in recent years. However, it is very difficult to pinpoint specific target groups in a context of rapid change.

Development Ideas

In terms of specific development issues, the government has placed a great emphasis on land and water resources development, particularly along the coastal wadis. Wells have become the most important source of irrigation in the past two decades, but there is extensive over-utilization of aquifers in most regions. There is no land registration and water rights disputes are common, especially along wadis. Allocation of land and water in rural Yemen results from an interplay of formal Islamic law and customary law. There is an urgent need for a national water policy, as well as data on existing water sources and land use practices.

Rural Yemen is an agricultural society with a risk-adverse subsistence orientation. The dominant grains throughout Yemen are sorghum and millet, which are the traditional staples for food and fodder. With improved road networks and the impact of remittance wealth, there has been a stimulus to certain cash crops, particularly qat in the highlands and vegetables in the coastal region. Yemen is becoming more reliant on imported foodstuffs and the highly inflated rural economy discourages food production by small farmers.

The most important factor about rural Yemeni economy is the dearth of unskilled male labor (due to migration for work abroad or occupations in cities) and the relative availability of capital from remittances. Remittances are recorded at about 1 billion dollars per year, but the actual amount is higher. Thus, the official figure for per capita GDP (\$400) is too small. The private sector dominates the Yemeni economy and there are at present expanding job opportunities in Yemeni towns and cities. However, the economy is linked to events outside the country and there is a decline in the remittance flow. The Yemeni economy could not presently absorb all those members of the labor force currently working abroad.

Up until two decades ago, there was virtually no modern health care in rural Yemen and today the situation has not improved much. Basic health

indicators are very poor, especially the high rate of infant mortality (190 per 1,000 live births) and continued poor nutrition of children and adults. Life expectancy at birth is 42 years. Sanitation facilities are virtually non-existent in rural Yemen, but there is an emphasis on personal hygiene in Islam. Less than 10 percent of the population is said to have easy access to potable water. Nationwide only 13 percent of the population over the age of 10 can read and write. Rural Quranic schools are to be replaced by a public school system, but progress has been slow and there is reliance on foreign teachers and curricula.

Constraints and Potential for Development

There are a number of economic realities which affect development planning: vulnerability of the national economy due to dependence on remittances and external donor assistance, continued low productivity, erratic market conditions, highly inflated wages, high capital costs of project implementation and the negative effect of gdp on the economy. On the other hand, there is an active private sector, economic stimulus of improved infrastructure and a preference for certain domestic products. Political and institutional realities that constrain development are: lack of government outreach, government interest in donors to extend its influence, negative perceptions of government institutions in many areas, inadequate personnel and counterparts for rural projects, lack of coordination between government entities, the contradictory nature of LDAs and the tendency for rural development projects to become politicized. Social and cultural realities include: great heterogeneity, the fact that Yemeni communication patterns and customs may differ significantly from those of Western donors and other Arab countries, rapid social and economic change, the contradiction between relative affluence on the one hand and dismal health and educational levels on the other, absence of a clear-cut distinction between "religious" and "secular," and variations in male/female roles. Positive aspects of Yemeni culture for development include the value placed upon rural life and aesthetic creativity.

Recommendations

It is suggested that the ambitions of overall AID policy may not be effective for realities in the Yemeni context. AID should retrench its rural development program in rural Yemen, concentrating on projects in areas within established government control and which produce concrete results, rather than experimental or wide-ranging projects in remote rural areas. AID should continue to emphasize institutional building at the national level and pick up on Yemeni initiatives, rather than attempt to generate broad new projects. Two areas of potential are expanded use of the media for development purposes and stimulation of the private sector to use more appropriate technology in agriculture, sanitation and energy.

It is recommended that AID limit future research efforts to clearly defined priorities. The major need at this time is for a Remittance Impact Analysis covering both macroeconomic data and targeted field study on investment and consumption patterns. There is an urgent need for a study of rural nutrition and food consumption patterns in the light of economic changes in the last decade. Finally, the mission needs to upgrade the resource

potential of its library, particularly with new social science literature relevant to the Yemeni development context.

PART II

OVERVIEW OF RURAL YEMEN

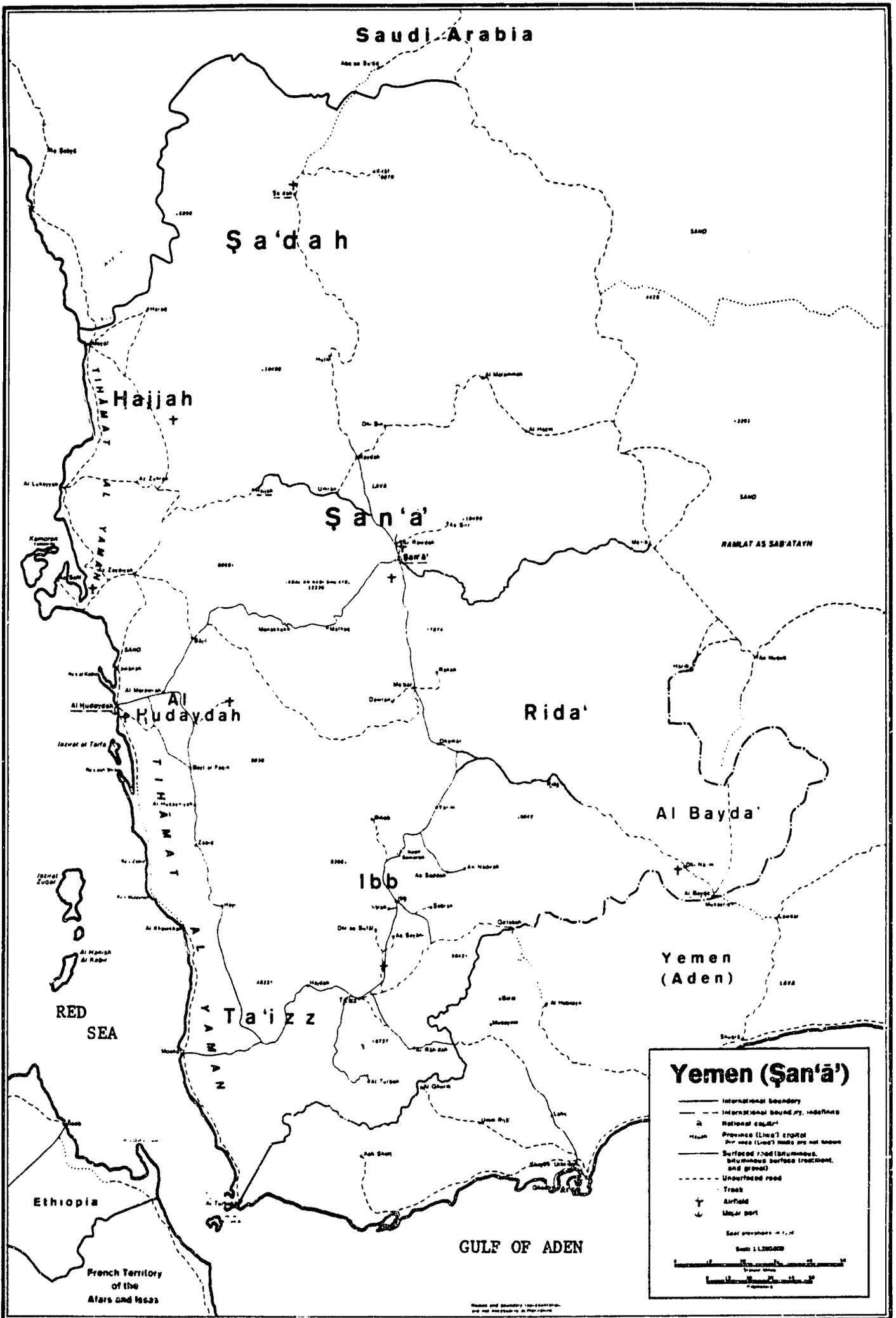
The Yemen Arab Republic (herein referred to as Yemen) is a rugged mountainous country on the southwestern corner of the Arabian peninsula. It is bordered by Saudi Arabia on the north and northeast and by the People's Democratic Republic of Yemen (PDRY) on the south and southeast. To the west is the Red Sea. Yemen occupies an area of about 195,000 square kilometers, roughly equivalent to the state of South Dakota in the United States or the country of Greece. An overwhelming number of the population live in rural areas and practice agriculture, still predominantly subsistence-oriented. Yemen has a history that extends back to several ancient South Arabian civilizations, but since at least the tenth century A.D. it has been an Islamic state. A modern government has been in peacetime control of large portions of the country only since 1970 and is just beginning to gain administrative capability to absorb development programs.

As will be documented in this part of the profile, there is considerable variability in terms of the environment, institutional context and society of rural Yemen. Much of the present knowledge is superficial and based on a few, limited studies in select areas of the country. This part of the profile provides an overview of rural Yemen, although observations are made about interaction with the newly emerging urban sector. Chapter 1 describes the ecological setting and identifies ecological trends with impact on rural population. Chapter 2 provides the institutional context of rural Yemen, focusing on the contemporary situation. Formal governmental institutions and traditional informal institutions are treated. In Chapter 3 the rural majority is profiled in terms of population dynamics, religion, social groups, gender and age. Recent sociocultural trends are isolated and implications for development planners articulated. To the extent possible, regional variations are noted. Differential access to resources and services is discussed in Chapter 8.

1. THE ECOLOGICAL SETTING

The Yemen Arab Republic is characterized by a variety of environmental zones, from an arid coastal strip to a rugged mountain chain with the highest peak (Jabal Nabi Shu'ayb) on the peninsula. This chapter provides an overview of basic environmental variables by region. Specific ecological trends affecting the Yemeni population are identified and development implications set forth.

Figure 1-1



Overall Environmental Context¹

In geological history, the area of Yemen evolved according to the widespread volcanic activity and sedimentation accompanying the formation of the Red Sea valley. Volcanic activity has persisted into historic times, as evidenced by numerous hot springs and young lava flows in the Central Highlands. It is the volcanic nature of Yemen that has shaped variations in terrain and high-land soils. The latter tend to be alkaline with poorly defined profiles. In late 1982 a series of earthquakes and tremors near Dhamar in the Central Highlands caused extensive local damage. It is believed that these were due to underground movement of magma, a further indication that significant geological change in southwestern Arabia is not confined to a distant past.²

The most fundamental characteristic about the Yemeni environment is the great diversity in a relatively small geographical area. Unlike most of its neighbors on the Arabian peninsula, Yemen cannot be viewed as an arid landscape dotted with pastoral nomads. Indeed, Yemen has been known as a "verdant" land with an important agricultural tradition. Yemen has a higher percentage of cultivated land than the other states on the peninsula.

As illustrated in the topographic profile in Figure 1-2, there are rapid changes in elevation with a major mountain chain (the Sarat) running north-south. Most of the precipitation falls on the western-facing slopes in the summer, when a monsoon circulation system flows from East Africa. There are substantial variations in regional rainfall patterns, with a higher percentage of rain for the south and for western slopes (Table 1-1). In winter clear skies and lack of rain result from air masses flowing out of the Central Asian anticyclone. It must be stressed that parts of the coastal region, north and east, can barely support minimum dry farming.

A striking feature of the Yemeni environment is the extent of affinities with East Africa. Flora and fauna in Yemen have closer parallels with East Africa, particularly Ethiopia, than they do with the rest of the peninsula. Furthermore, the dominant crops grown in Yemen have been sorghum and millet, which are not prominent in other Arab countries. Even the two traditional cash crops of Yemen (coffee and qat)³ are originally from East Africa.

Table 1-1. Average Annual Rainfall According to Altitude (Steffen et al. 1978: 1/10)

<u>Altitude (m)</u>	<u>Zone</u>	<u>Average Annual Rainfall (mm)</u>
0-50	Tihama	0-80
50-300	Tihama	0-150
300-500	Tihama	0-300
400-1400	Western Foothills	200-400
1400-2100	Western Highlands	300-600
2100-3700	Western Highlands	600-1800
1800-2400	Central Highlands	200-1000
1800-1200	Eastern Plateau	100-400
800-1200	Eastern Plateau	0-200

Topographic profiles along seven selected wadi courses: Wādī Sihām, Wādī Surdud, Wādī Zabīd, Wādī Rasyān, Jawf, Wādī Saba' and Wādī Tuban (after SCHOCH, 1977, p. 53)

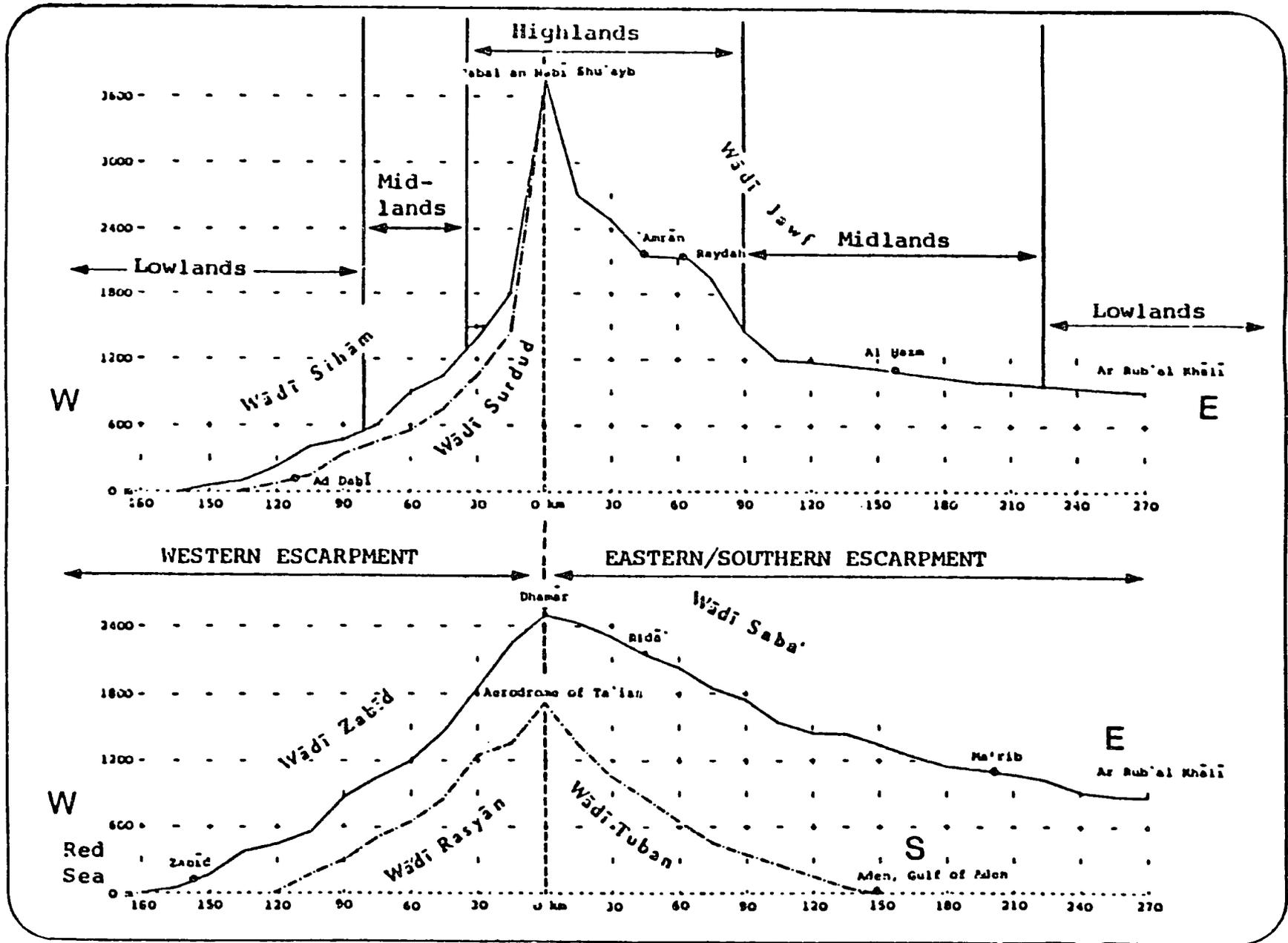


Figure 1-2

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Yemen's Environmental Zones

A number of classification systems for the geography of Yemen have been put forward by Arab geographers and modern scholars. Unfortunately, no single system has yet emerged as a common base among development planners working in Yemen. The basic distinctions proceed on an east-west line according to elevation and general climate. These are:⁴

1. Tihama or coastal plain,
2. Western Highlands,
3. Central Highlands, and
5. Eastern Plateau.

These broad environmental zones do not correspond neatly with social or political units in Yemeni society. In a social sense it is more useful to designate the highlands as Northern, Central and Southern on a north-south line.⁵

For the purposes of defining ecological regions, following a major AID funded study of LANDSAT imagery, each region noted above will be described in terms of population dynamics and basic environmental characteristics.

1. Tihama or Coastal Plain.⁶ The coastal region in the Yemen Arab Republic covers about 16 percent of the land area and stretches inland from the Red Sea for 65 kilometers or to an elevation of 500 meters. This hot and humid tropical climate (0-300 mm rain/year) supports only sparse vegetation of acacias, palms, dwarf shrubs and drought-tolerant species. Fresh water sources are limited, with salinity a problem near the coast. The natural fauna are limited, but this region has the highest population of camels, which were traditionally used in transport. The alluvial and aeolian deposits are suitable for agriculture in areas where the soils do not contain gravel and rock, but agriculture has always been limited by lack of water for irrigation.

Inhabitants of the Tihama have long had to adapt to harsh conditions of high temperature and humidity, inadequate rainfall, limited access to fresh water, exposure to malaria, sparse vegetation for pasturage, lack of natural defensive barriers and a low economic level of subsistence. On the positive side, fish has provided a food resource, transportation has been easy within the region and there has been extensive sea trade along the coast.

In 1975 the resident population of the Tihama was about 730,000 with a population density of 36 inhabitants per square kilometer. The traveler to this area is immediately struck by obvious parallels to architecture in East Africa. While there has been extensive contact with Africa over the centuries, the extent of this influence on the population has not been studied. The location of settlements is determined primarily by access to water for domestic supply and irrigation.

The dominant production strategy in the Tihama is agriculture, with a high percentage of sharecropping. Along the seven major coastal wadis (watercourses) there is a spate or seasonal flood irrigation of 2437 km². The major crops are sorghum, millet, sesame and cotton. Rainfed cultivation is

marginal on 2688 km² with 90 percent of the crops being sorghum and millet. Modern pumps irrigate about 29 km² of cotton, sorghum, sesame, tobacco, vegetables, millet and melons. About 77 km² are planted with date palms.

Fishing provides a livelihood in small coastal villages, but only recently with an improved transportation network has local fish been widely marketed elsewhere in Yemen. A fleet of less than 1,000 vessels and the work of beach seiners bring in the annual catch of between 12,000 and 17,500 metric tons. Fishing also supports the local craft of boat building.

Traditional local crafts have been straw work, weaving and pottery; but all of these are suffering from the availability of cheap foreign imports. Commerce has been limited to small village or town merchants and long distance trade through the Yemeni ports of Hodeida, Mocha and Salif. Today, Hodeida is the main port for entry of foreign goods, particularly large items that cannot be brought in by air to the capital of Sanaa. These goods must be trucked up the steep mountains to the highlands. Recently, the government has defined several manufacturing needs and fostered plant construction in Tihama, especially near Hodeida.

About 55 percent of the Tihama is range land. There are pastoral groups here with camels, sheep and goats. Historically, meat was traded up into the highlands. Although natural pasturage is limited, imported feed or increased local production of fodder could allow development of the livestock industry.

Historically, the Tihama was the most exposed region to outsiders and invading armies. Although there have been several important coastal tribes, political organization and the role of the ahaykha vary considerably from the highland tribes. There is little information on coastal tribalism. The Zaydi imams seldom controlled this region, although they were dependent on coastal merchants for trade of coffee and other traditional exports, as well as for most imported goods. Today, the agricultural development of coastal wadis is given high priority by the government.

2. Western Highlands.⁷ This rugged mountainous zone covers about 30 percent of the country. It extends from an elevation of 500 meters to over 3,000 meters in the major north-south mountain range known as the Sarat. The precambrian shield and volcanics of some antiquity characterize the terrain, with fertile soils developed in alluvial or aeolian deposits. There are significant variations in micro-environments within this broad zone due to rainfall patterns, direction of slope, vegetation cover and water supply. There are historical accounts of baboons and mountain lions as pests and predators, but there are few of these animals in evidence today.

The overall population of this zone is about 2 million, with a population density from 59-96 inhabitants per square kilometer. The greatest density is to the south, where the greatest rainfall occurs. The rugged terrain makes transportation difficult and hinders communication between settlements. Many villages stand as impregnable fortresses on rocky crags. Most houses are built of stone and may be several stories high. Yemenis often remark on the beauty of the vistas and the clean healthy air of these mountains. There are few major towns in this zone, with the exception of Manakha on the road between Hodeida and Sanaa.

The dominant mode of production in the Western Highlands is terraced agriculture. Farmers tend to hold a few small stock in addition to cattle for draft power and dairy or meat. Agriculture is based on seasonal floods, springs and rain, as noted in Table 1-2. At the lower elevations farmers exploit seasonal floods along the important wadis. Where natural springs occur, these constitute an important source for irrigation as well as for domestic supply. The major subsistence crops are sorghum, barley, and pulses. In the past the major cash crop was coffee, but recently qat has become far more important. The terraced slopes of a valley often resemble a giant amphitheater of fields carved into the mountainside. This terrace system has been built up over the centuries to exploit rainfall, slope runoff and springflow. Unlike the coastal region, lack of cultivable land is as big a problem as lack of water for irrigation.

This region constitutes a natural defensive barrier through which there are few major roads. The few tracks follow the large wadis, but only three are suitable for vehicles descending to the coastal region. The dominant political force in the central and northern parts of this mountainous zone has been the tribe. Tribesmen were sedentary farmers, but they did not traditionally engage in commerce. A system of rural markets exists, often extended along the sides of a wadi. Itinerant merchants and local service-providers travel to the periodic local markets held on staggered days within a region.

Table 1-2. Cultivated Land and Major Crops in
Western Highlands Zone (Kopp 1981:193)

<u>Elevation (m)</u>	<u>Cultivated Area (km²)</u>		<u>Major Crops</u>
	<u>Rainfed</u>	<u>Irrigated</u>	
500-1000	1262	286	sorghum, maize, bananas, millet, sesame, legumes
1000-2000	3098	141	sorghum, maize, bananas, coffee, <u>qat</u> , fruits, vege- tables, lucerne
2000+	<u>North</u> 1160	<u>South</u> 487	sorghum, maize wheat, barley, <u>qat</u> , lucerne, legumes

3. Central Highlands. About 40 percent of Yemen is a central highland plain running north-south and intersected by small ranges of hills. The climate is temperate, but there is greater rainfall in the south (up to 1,800 mm per year near Taiz and Ibb) than in the north (about 200 mm per year around Sa'da). Natural vegetation is usually found near villages for seasonal grazing. Runoff may be collected in large cisterns, but most communities are dependent on wells.

The population of this zone is about 1 1/2 million with a population density between ca. 71-76 per square kilometer. Yemen's largest settlements are in the central plains, most notably Sanaa with a population estimated in 1975 at 250,000. Houses are built of rock, except in the north where mudbrick construction is common. Large towns were traditionally enclosed by walls and the gates locked at night during the time of the imamate. Transportation is not difficult from north to south, with many settlements lining the route from Taiz north to Sa'da.

While agriculture is still the dominant mode of production, there are considerable commerce and crafts in major towns and markets. Agricultural strategy on the c. 4513 km² of cultivated land varies between terrace cultivation (mainly south and west), cultivation of flat plains with cereals, and production in former volcanic areas. Sorghum, wheat and barley form the bulk of traditional production, but recently qat and some vegetables have gained in importance. Livestock raising has traditionally been integrated with subsistence cultivation of basic grains.

Historically, this environmental zone has been politically and socially divided along north-south lines. The north has been dominated by the tribes and the Zaydi imamate, centering on Sanaa. The south evolved into more of a landlord-peasant situation, with strong commercial and cultural links to Aden in the south. Because the southerners tended to be better educated and had more experience abroad, they are very important in contemporary commerce and government affairs of the Yemen Arab Republic.

4. Eastern Plateau. This is the least inhabited and smallest zone in Yemen, with less than 200,000 living on about 55,000 square kilometers of land for a very low population density (3-9 persons per square kilometer) in the inhabited part. Traveling east from the central plains there is progressively less rainfall until one enters the desolate "Empty Quarter" of Arabia. Vegetation consists largely of tamarisks and other drought-resistant scrub. Settlements are very small, widely scattered and still isolated from central government services.

Production strategies in this zone include marginal agriculture, pastoralism and trade in local resources. Agriculture is constrained, particularly for cash crops. In the past seasonal floods appear to have been important, but today the well is the major source of irrigation. Cereals are the dominant crop, but sinking of pumpwells has allowed limited expansion into new crops (qat and fruit trees). To the east range nomadic pastoralists, but their role has been greatly curtailed in modern Yemeni political development. Wood is collected in the wadis and marketed for firewood throughout the country. There are also mineral deposits, including salt mines which have been exploited for centuries.

With the exception of potential mineral sources, there appears to be little agricultural potential in this zone. Within this area was the famous Marib dam of ancient South Arabia and this has potential for future tourism. The government is considering rebuilding the Marib dam, but nothing concrete has yet been done.

Ecological Trends

The various ecozones in Yemen have changed during historic times and are undergoing change today. This section will identify trends in environmental degradation and factors contributing to this degradation. These include decline in rainfall, overutilization of pasture, deforestation, reduction in water supply, terrace abandonment, road building, expansion of rural settlements and urban sprawl, rural sanitation and pollution.

1. Decline in Rainfall. Evidence regarding the long-term climatic trends in Yemen is scanty and inconclusive. A drought has been documented for parts of the Central Highlands in the late 1960s and early 1970s.⁸ Farmers to the northwest of Sanaa say that many fields have been abandoned in the past several years due to lack of adequate rainfall. Unfortunately, the detailed hydrologic data needed to assess rainfall patterns do not yet exist. Yemen has a national meteorological authority, but it does not have recording stations in all regions of the country.

2. Over-utilization of Pasture.⁹ Decline in rainfall alters the potential for natural pasturage. This may cause a farmer to cut back on the number of livestock, force him to seek pasture farther from the village or result in poor range management practices. The range in Yemen today has minimal ground cover. This critically reduces the effectiveness of the range in retarding erosion and in facilitating groundwater recharge.

3. Deforestation.¹⁰ Yemen appears to have undergone serious deforestation of major trees centuries ago. Wood is a major source of fuel and demand in rural areas for wood as fuel and lumber is high. The total estimated area of 1,600,000 ha under woodland and shrub is dwindling every day. With increasing population and greater mobility, the problem has become more acute. The government has done relatively little in planting seedlings to renew the forests.

4. Reduction in Water Supply. In many parts of Yemen there has been a rapid decline in groundwater supply within the past decade. Wells are being dug at a staggering rate by an active private sector and with demonstrated economic returns. The local development associations in rural Yemen have water supply as a central concern after construction of feeder roads. Studies along the major coastal wadis have shown that there is over-utilization of water for irrigation in application to fields. During the dry season this may result in a periodic influx of saline water from the coast. There is at present no national water policy to coordinate drilling of wells and efficient on-farm water management.¹¹ There are major problems in water supply on the horizon for urban areas. In the Sanaa basin, for example, the water table is being depleted at an alarming rate far beyond local recharge.¹² The lack of accurate data makes it difficult to judge the seriousness of the problem.

5. Terrace Abandonment. Over the centuries, farmers in highland Yemen have built up a delicately balanced system of agricultural terraces. Steep mountain slopes with little cultivable soil have been transformed into stepped series of plots to utilize available water from rainfall and springs.¹³ Maintenance of the system requires a surplus of rural labor for upkeep of the terraces and intensive cultivation practices. In recent years there has been a drain of unskilled male labor from rural Yemen as well as a decreased need for marginal subsistence cultivation. In a delicately balanced ecosystem of terraces, there is at present a gradual abandonment of terraced fields with a domino effect on erosion due to lack of an effective spillway and drainage system. Soil that has been collected painstakingly over the centuries may literally wash down the slopes. The pace of abandonment has not been documented, but observations by a number of researchers show this to be a major environmental problem facing the development of rural economy in the highlands.¹⁴

6. Road Building. Government-sponsored roads are designed to minimize destruction of nearby land, because these are planned and coordinated by trained engineers. However, most feeder roads (often dirt tracks) are built by Yemenis with little or no planning. A bulldozer is hired to simply carve out a path. Such roads may be easily destroyed by rain or slope erosion. Adjacent fields often have to be abandoned. The destruction of land necessarily involves disputes over land rights and the potential for litigation. Physical conditions for traffic safety are extremely poor on most Yemeni roads.

7. Expansion of Rural Settlements and Urban Sprawl. In the days of the Zaydi imamate and the early years after the 1962 revolution, Yemeni settlements were arranged with defensive needs in mind. Villages and towns were invariably walled and gates locked at night. Highland hamlets were often perched atop inaccessible crags. In the past decade, settlements have proliferated and expanded in rural Yemen, especially as new roads arrive and transportation is vastly improved. Two potential problems here involve the safety of buildings and the inevitable destruction of agricultural land. Damages suffered during the 1982 earthquake demonstrate a need for structural improvement of buildings, especially in a defined earthquake zone. Expansion of rural settlements results in little direct loss of prime agricultural land at present, but urban sprawl has led to destruction of once prosperous urban gardens, particularly in the Sanaa area. It has been estimated that future water supply needs of large cities will hinder agricultural activities within 50 km circumferences of these cities.¹⁵

8. Rural Sanitation and Pollution. The health environment in rural Yemen, as will be noted in Chapter 6, is in need of substantial improvement. Lack of latrines and limited access to potable water characterize every region of rural Yemen. As other services and the general infrastructure evolve, sanitation appears to have the least priority. Thus, physical improvements in the village may not lead to a healthier environment for the people to live in.¹⁶ Leaks from water systems may increase risk of water-borne diseases and organisms (e.g. Giardia Lamblia). There is now extensive pollution in crowded market towns, which rural Yemenis increasingly frequent. Exhaust fumes, oil spills and uncaredful use of poisonous chemicals and insecticides pose health risks to rural Yemenis. A further problem arises as a result of waste water disposal from expanded use of appliances, sewage connections, and water taps. There has been a substantial increase in non-biodegradable trash, for which there is no removal system. Rusty cans and broken bits of glass hardly define a suitable village environment for children to play in.

Implications for Development Planners

There are several ecological problems in rural Yemen which could be corrected, but a major constraint is social, specifically lack of knowledge by rural people and lack of knowledge of appropriate technological alternatives. The design of projects to foster an improved environment must take into consideration the influence of traditional ideas and distrust of foreigners who attempt to work in rural areas. Given the scope of the problems and the regional diversity, the following observations and recommendations are made.

1. Data Gaps and Research Problems. While the parameters of ecological degradation are known, precise data needed for effective planning are lacking. Data gaps include those on long-range climatic patterns, regional water supply and recharge potential, present state of the range, extent of terrace abandonment and potential pollution hazards in rural areas.

A major problem facing any donor in Yemen is the great difficulty in obtaining accurate field data. While some donors have expertise in analysis of the macro-data (such as LANDSAT imagery), it is currently impossible to field check in many regions of the country. The several authorities within the government that have a research orientation are not yet able to function in most rural areas.

2. Lack of Precise Terminology. A survey of the relevant literature on Yemeni geography demonstrates a lack of standardization in defining environmental, geographical or sociopolitical regions. The Cornell Land-Use Classification project is a good start, but this does not yet cover the sociopolitical or cultural characteristics of the environmental zones delineated. Lack of a systematic use of terms makes it difficult to use sources for comparative purposes, even those previously prepared for a specific donor. It is recommended that USAID/Sanaa establish an appropriate system of regional classification which can be used by mission personnel and contractors.¹⁷

3. Complexity of Problem. If donors are to be involved with direct support for countering ecological problems in rural Yemen, there must be clear identification of those problems which can be handled given existing logistical problems, the difficulties of the research milieu, technological feasibility and economic constraints. Situations that require more than a "technological fix" call for building up the institutional capacity to deal with regional environmental problems. Many seemingly straight-forward environmental problems involve complex social and legal issues which donors do not have experience with. Thus, donors have a need for social scientists to guide technical experts and planners dealing with ecological issues.

4. Unintended Negative Impacts. Donors should ascertain that proposed projects do not exacerbate current environmental degradation. For example, providing funding for local feeder road building would be inappropriate without promoting minimal technical expertise in design and construction. Similarly, providing a community water supply system requires a component for hands-on training of local people to monitor and maintain basic elements. A poorly maintained pipe may result in leaks and potential hazards of contaminated pools near water stands. Building a rural school can be a negative factor on health, if latrines are not provided at the site, as well as training in use and maintenance.

5. Selective Involvement. Although an ecological problem may be widespread, the donor must tailor its interventions to a limited area with a relatively homogenous population and ready access to existing government institutions. The donor should build up the institutional and technological capabilities of the relevant ministries and authorities. Given the nature of environmental degradation and development constraints in rural Yemen, it is recommended that AID limit its activities in fostering environmental conservation. Three potential areas for involvement are:

a. Deforestation. One way to counteract the depletion of Yemen's trees and scrub is to provide access to more efficient energy sources. There appears to be potential for solar and wind power at the village level, given existing high energy costs (70 cents per kwh) and current projections of the costs in electrifying the countryside. Private and public institutions in the United States have recently made great strides in the use of alternative and appropriate technological solutions for areas with poorly developed infrastructure.

b. Reduction in Water Supply. Due to the lack of a national water policy and the nature of the problem, a donor cannot single-handedly address the critical problem of reductions in water supply. Donors should continue to strengthen the institutional capabilities of the government and to provide access to macro-data, such as LANDSAT imagery. In providing aid for small water projects, AID can demonstrate proper water management in a visible and concrete manner.

c. Construction Design. There are at present no guidelines available for safe building construction in rural Yemen. Recent devastation in the earthquake zone demonstrates a need for information and technical expertise in the design and construction of rural buildings. AID might consider a project to provide the Yemeni government with information on more earthquake-resistant buildings.

Notes to Chapter 1

¹The information in this and the following sections is taken mainly from Steffen *et al.* (1978), Cornell University (1982) and Kopp (1981). The most thorough geological study of Yemen is by Geukins (1960, 1966).

²Yemeni historical sources often list earthquakes which occurred in the medieval period.

³Qat is the Arabic for Gatha adulia, a stimulant used widely in Yemen and East Africa. The plant is discussed below in chapter 2.

⁴This is the classification adopted by Cornell University (1982). See the more detailed classification by Kopp (1981).

⁵Social groups in these regions are discussed in chapter 3.

⁶For more detailed information on environment and settlement patterns in the Tihama, see the development studies of the coastal wadis: Wadi Zabid (Tesco *et al.* 1971-1973), Wadi Rima' (M.O.D., 1977, 1979), Wadi Siham (Sogreah 1978, 1979), Wadi Surdud (Halcrow and Partners 1978), Wadi Mawr (Mitchell *et al.* 1978).

⁷No synthesis of the environmental variables in this zone has been made. For information on water resources and soils, see Varisco (1982c). See Japan International Cooperation Society (1979) for detailed environmental data on the Hajja region.

⁸Gerholm (1977:82); Hogan *et al.* (1982:156).

⁹See Hogan *et al.* (1982:130-154).

¹⁰See Aulagi:(1982), Hogan *et al.* (1982:204-215) and Weber (1980).

¹¹See recommendations in Johnson (1980:7, 11-13).

¹²Estimates vary from a yearly drop in the water table of 2 to 18 meters. This shows the lack of accurate data on fundamental problems.

¹³The ecological aspects of the highland terrace and erosion problems are discussed in Varisco (1982c). See also Kopp (1977, 1981).

¹⁴See Gerholm (1977:82), Swanson (1982); Varisco (1982c).

¹⁵Johnson (1980:A-2).

¹⁶Ansall (October, 1981:21-22).

¹⁷The relevant information has been published in Arabic, English, French, German and Italian. These language skills should be sought in a review of the literature.

2. THE INSTITUTIONAL CONTEXT

The Yemen Arab Republic came into being after a revolution in September 1962. Before this time Yemen had been an imamate, administered by a religious aristocracy, that functioned alongside powerful tribal confederations in the north. Since the revolution the government has only gradually extended its authority and services in rural Yemen. Thus, in some rural areas local institutions have changed little since the time of the imams.

In this chapter an overview will be given of the formal and informal institutions in the rural sector. These include the central government through its ministries and extra-ministerial organizations, the tribes, the sanctuary town, mosque and qat chew. Implications will be drawn for development planners.

Yemen Prior to the 1962 Revolution¹

In antiquity an important civilization arose on the southwestern corner of the Arabian peninsula--the Arabia Felix famed for the overland incense trade. This was the legendary land of the Queen of Sheba. The ruins of the Marib dam and associated irrigation systems attest to the vitality and ambitiousness of the pre-Islamic Yemeni kingdoms. Although the archaeological study of ancient Yemen has barely scratched the surface, these ancient kingdoms had a formative impact on Yemeni society that was not completely altered after the coming of Islam.

Arab legend claims that Islam was introduced into Yemen during the lifetime of the prophet Muhammad, but it was not until the advent of the Zaydi imams in the 10th century A.D. that an Islamic state appeared in Yemen. The Zaydis came not as conquering warriors, but as political mediators and religious leaders. The tribes accepted the role of the imamate to help bring peace in a land of internecine conflict. Yet the imamate never became a powerful central government. Imams ruled by playing tribal politics, not with an independent military. The religious aristocracy which administered the imamate was primarily confined to towns and cities. In the rural Central and Northern Highlands the tribes were in full control and tribal law dominated social behavior.

The fortunes of the Zaydi imams waxed and waned in the Yemeni highlands, but they had little control of the south and coastal region. Often there were competing imams and the history of the dynasty is one of constant intrigue. Other local dynasties rose in Yemen. During the 13th to 15th centuries a rival Islamic dynasty--the Rasulids--ruled the south and coast. The Rasulid monarchs were patrons of the sciences and were active in introducing new plants and crops to Yemen.

A unique aspect in the history of the Yemeni highlands is the effect of geographical isolation. The Ottoman Turks managed to control parts of the highlands between A.D. 1538-1635 and between A.D. 1872-1918 but the Zaydis threw off the yoke of the Turks in World War I. The British captured the southern port of Aden in 1839, but their influence did not extend into the hinterlands. Indeed, up until 1962 a foreigner needed the personal consent of the imam to travel in the highlands.² Even today, the Yemeni government does

not automatically grant visas.

Some Yemenis, particularly those with access to Aden, traveled far and wide in commerce and as scholars. The majority of the population, however, had little or no contact with Westerners or other Arabs. There was a small protected minority of Jews, but no Christian population lived in Yemen during the imamate. Compared to Egypt, Iraq, Syria or Palestine, Yemen never really experienced Western colonialism.

Prior to 1962 and even up to the present, rural Yemenis have expected few or no services from the government. Government, be it Zaydi or Ottoman, taxed and conscripted. Very few services were provided and these were all urban in focus. When community action was needed, the tribe served as a rallying point in the north and and powerful landlords exercised authority in the south and coastal region. A system of Islamic judges balanced local customary law and practice.

Revolution and Civil War

The revolution of September 1962 swept an isolated Yemen into the arena of regional politics. The military officers who staged the coup and set up a Republic were supported immediately by Nasser of Egypt, who sent troops to consolidate power. The young imam, Badr, escaped to the north and was supported by Royalist troops with aid from Saudi Arabia. For seven years a civil war ensued with shifting tribal alliances and the inability of the Egyptian army to subdue the highlands.

One of the goals of the revolution was to counter the excesses and corruption of the imamate, but it was not a class struggle as such. Many of the religious aristocracy supported reform. Although many had to flee at first, some returned later to fill roles in the newly emerging government. During the civil war a modern government was formed on paper with various ministries, but it was impossible to build up ministerial capabilities with a government not in control of the country. In the rural areas at this time the new government had little impact and could not extend services. All aspects of the economy suffered, especially agriculture.

National Reconciliation

In 1970 a national reconciliation was reached in which moderate Royalists were included in the cabinet. In 1971 a permanent constitution was drawn up by a National Assembly. Yet, the major power base was the military, who have played a central role in Yemeni politics of the 1970s. There were still a great deal of competing interests in the government and society, but the formal ending of conflict paved the way for foreign donors to be more actively involved in Yemen. In 1972 the Central Planning Organization was instituted. This was also the year the United State renewed formal relations with the Yemen Arab Republic. The World Bank, various United Nations organizations and other donors began the task of making the government viable for providing basic services to the citizens.

Government Administration

A systematic division of Yemeni territory was done by the Ottoman Turks and this was adopted by contemporary Zaydi imams. Administrative divisions in Yemen have long been primarily functional on paper, but not in daily life. The tribal areas of the north, for example, are more or less autonomous. More remote areas of the country rarely see a government official. Only in the last decade have administrative units taken on meaning, with services provided to some citizens.

At present the following administrative levels exist in the Yemen Arab Republic:³

<u>Level</u>	<u>Number of Units</u>
Muhafaza (governorate)	11
Nahiya (district)	168
'Uzla (subdistrict)	ca. 1680
Qarya (village)	ca. 15418
Mahalla (hamlet)	ca. 50000

The most important official is the governor (muhafiz) of a governorate. He is appointed by the Prime Minister's office and may be a military officer. The governor is responsible for executing official government policy and is also the highest level of appeal within the unit. In theory, there are representatives of various ministries (for example, Agriculture, Awwaf, Finance, Public Works), but some governorates function better than others. In Hodeida, for example, the only representative of the Ministry of Public Works is a Dutch volunteer.

Until recently there was a sub-governorate level called the qada, but it no longer functions. The district (nahiya) level is the lowest directly dependent on the central government. Below this level, appointments and selections to various levels are according to local custom and politics. During the imam's time the district was often a tribal territory under the leadership of a regional skaykh. At the district level can be found the traditional Islamic judge (hakim), the tax collector and the chairman of the LDA board.

The most important unit on a day-to-day basis is the village, which generally has an elected official. In fact, it is hard to distinguish between a village (qarya) and a hamlet (mahalla), which is an arbitrary division not generally recognized in the countryside. Village leaders often mediate local disputes. A larger village may also have a tax collector. Several villages in a defined geographical or tribal area constitute a subdistrict ('uzla).

Government Ministries and Rural Yemen

The political structure of the Yemen Arab Republic is patterned on European ministerial systems, but it still contains elements of the Ottoman and Zaydi days. The military has responsibility for defense and national security,

while almost all state functions are in the hands of civilian administrators.

Within the past decade there has been a proliferation of government ministries to 26 today. In a decade the number of technocrats who occupy ministerial roles has risen from 3 to 17. As political realities alter and alliances shift, new ministries are created and old ministries sometimes languish. As a result there is often competition between ministries for virtually the same responsibilities. Some ministries appear to resemble medieval European fiefdoms, where prerogatives and powers are jealously guarded, making interministerial cooperation and coordination very difficult.

The current government structure, created in late 1980, includes the following positions with ministerial rank:⁴

- Prime Minister
- Deputy Prime Minister for Economic Affairs
- Deputy Prime Minister for Internal Affairs
- Foreign Minister
- Interior Minister
- Minister of State for Petroleum and Mineral Resources
- Minister of State for Legal Affairs
- Minister of State for Cabinet Affairs
- Minister of State for People's Constituent Assembly Affairs
- Secretary-General for Confederation of Yemeni Development Associations

The following are specific ministries:

- Agriculture and Fisheries
- Communications and Transport
- Development (CPO)
- Economy
- Education
- Finance
- Electricity and Hydraulic Resources
- Civil Services and Administrative Reform
- Foreign Affairs
- Health
- Information and Culture
- Interior
- Justice
- Labor, Youth, and Social Affairs
- Municipalities
- Public Works
- Religious Trusts (Awqaf)
- Supply and Trade

The fact that responsibilities of ministries may overlap is not unique to Yemen. Each ministry develops a clientele, but no single ministry has total power over an issue. This is a problem for foreign donors in that a specific program or project may fall within the authority of more than one ministry. On the other hand, with an issue such as water, it may be possible to work with any of several ministries or governmental institutions.

A decade ago there was practically no ministerial representation or outreach in rural areas. By the early 1980s the following ministries had

limited outreach in rural areas or affecting the rural population:

Agriculture and Fisheries. The National Extension Service has not yet become viable, but extension training and services have been provided for specific donor projects. Some rural farmers purchase seedlings from nurseries run by the ministry. The ministry is responsible for a television program on "Agriculture and the Farmer."

Education.⁵ This ministry staffs rural schools.

Electricity. Most village generator systems are privately owned or initiated by the LDA. However, this ministry is beginning to provide electricity to some rural towns through the developing national grid.

Health.⁶ Clinics are being built in rural areas, often as a result of LDA initiative. There is no rural health extension as such for the country as a whole. However, there is a major Primary Health Care Delivery project. Medicines and drugs are readily available in the active private sector.

Justice.⁷ The traditional system of Islamic judges (hakims and qadis) is more or less intact. The judge is generally at the district level, but he may visit a village to resolve a dispute.

Local Administration. Administrative officers often mediate disputes that cannot be resolved at a lower level.

Municipalities. This ministry is responsible for overseeing commercial and marketing activities. It also has the difficult task of ensuring that public lands remain public. The Division of Environmental Health has responsibilities for sanitation, but these have yet to be extended into rural areas.

Public Works. This ministry is responsible for the maintenance of roads in the district. Of the YR 3 billion allocated during the First Five Year Plan for roads, 80 percent were administered by the Highway Authority and 20 percent by the LDAs. The Rural Water Department is responsible for construction of potable water systems in villages.

Supply. This ministry is responsible for ensuring that local food supplies and prices remain equitable. In fact, a free market operates on most items in rural Yemen.

Religious Trusts (Awqaf).⁸ The main responsibility is administering its considerable holdings in the rural areas. It collects rent and taxes from sharecroppers who rent waqf lands.

Transport and Communications. This ministry is beginning to regulate the licensing and taxing of motor vehicles and to ensure that import duties are paid. There is virtually no telephones or mail services outside major cities and towns.

Extra-Ministerial Organizations

A number of organizations affiliated with the government have some impact on the rural population. The Tihama Development Authority, for example, was created to promote agricultural development in the coastal region. It reports directly to the Minister of Agriculture, but it is not part of the formal ministry structure. The most important organization that is extra-ministerial is the Confederation of Yemeni Development Associations (CYDA).

Local Development Associations⁹

In many parts of Yemen there have long existed traditional mechanisms for mutual aid during disasters and for tasks beyond the abilities of an individual. In tribal areas, for example, the village shaykh can call men together to form a work group for cleaning of a cistern, repair of a mosque or building a road. In all parts of rural Yemen there has been substantial progress in building up of basic infrastructure by the people themselves without recourse to government and out of their own pockets.

Aware of this long tradition of communal cooperation and self-help, the government in 1963 promulgated two laws (#11 and #26) to organize and guide the development of a "cooperative movement." Although by 1968 a specific ministry was responsible for regulating and supervising LDA activities, it was not until after the civil war in the early 1970s that the movement began to develop in earnest. In 1973, leaders of some of these associations met to form the Confederation of Yemeni Development Associations (CYDA) to act as a national coordinating body. Ibrahim al-Hamdi, a military officer, was elected as president of the confederation. He became chief-of-state the next year. Since that time the government has laid great stress on the LDAs not only for local development, but also as a way of extending government services into rural areas.

Since 1973 there has been a ten-fold increase in the number of associations, although some of this is due to splitting of larger ones. The LDAs are multifunctional organizations, legally autonomous from the government, but performing a number of civic and state-like functions in rural areas. There are four levels of administration in CYDA. CYDA, the national coordinating body, is based in Sanaa and is still headed by the president of the Republic. There are coordinating councils at the governorate level, of which the governor is the honorary president. These councils have financial and technical responsibilities as well as promoting the cooperative movement in the governorate. At the district level is a Local Development Board of 5-7 members. At the village or sub-district (uzla) level is a Development Cooperative Committee, often formed around a powerful or influential citizen.

Most local development efforts have concentrated in four critical areas: roads, water, education and health. In the aggregate, local development projects have contributed to a substantial transformation of the countryside. Dirt tracks now penetrate even the most remote mountain locality, bringing in new commodities and facilitating commercial exchange as well as stimulating the growth of roadside shops and regional market towns along the major roads. LDAs have contracted with private well drillers and foreign donors (through the government) to have wells drilled and water systems installed. Schools and health clinics are also being built, but on a small scale. A balance sheet of

LDA accomplishments in the past seven years is shown in Table 1.

Table 1
LDA Accomplishments (1973-1981)¹⁰

<u>Sector</u>	<u>Accomplishments</u>	<u>Cost (YR)</u>
Roads	19,505 km	810,085,227
Road maintenance	6,000 km	48,000,000
Education	4,800 classrooms	244,934,789
Health	111 projects	22,278,997
Water	1,713 projects	157,662,953
Miscellaneous	343 projects	71,182

Roads were the principal sector of LDA activity during the First Five Year Plan, accounting for three-quarters of LDA expenditures in the first two years of the plan. Schools were a second priority, accounting for 20 percent of the budget. After initial concentration on roads subsided, water projects increased from 5 to 20 percent of the LDA budgets. Health, electricity, agriculture, mosques and so on accounted for only a small fraction of the budgets.

Funding for LDA activities has been drawn from a variety of sources. Although a formula exists for dividing project costs between the beneficiaries, the LDA and the government, the record shows that the beneficiaries have contributed well over 50 percent of expenditures. The government has provided scarcely more than 10 percent of the project costs, mostly on education and electricity. The LDAs have relied heavily on the product tax (zakat) which has always been levied in rural areas. Recently, this zakat tax has been paid directly to the Ministry of Finance, which supposedly returns part of it to the LDAs. There is also a national customs tax (2 percent) and a special surcharge on cinema tickets for use by the LDAs. The beneficiaries invariably put up money themselves or special financial arrangements are created in a local area.

By the end of the First Five Year Plan, emphasis was beginning to shift from physical infrastructure and utilities to capital formation in the rural areas. To some extent, older LDAs had succeeded in building feeder roads. Thus, it was time to diversify activities. Also, the continuing financial problems required some source of income generation. Planners have recently pushed for more LDA involvement in modernizing agriculture, livestock, fishing and crafts. The recent merger of the Agricultural Credit Bank and the Cooperative Bank has been one step to make credit more accessible to LDAs and specialized cooperatives.

A number of studies on the LDA movement have seen great potential in it for development in rural areas where the government will not be able to provide services for some time to come. However, there are a number of problems that have dampened enthusiasm:

1. Effectiveness. Although LDAs theoretically exist for every district, some are inactive. It is reported that some LDA officials are not even aware they have been elected.

2. Financial difficulties. In many areas of Yemen development has been promoted through self-help outside the LDA organization. LDA projects still require at least half of the costs to be borne locally. Some in the rural sector have decided to bypass the LDAs, especially those with limited resources to offer.

3. Suspicion. A common complaint about LDAs in rural Yemen is that the representatives cannot be trusted and will waste time or money. Rural Yemenis are interested in concrete results and do not understand the need for institutional building of LDAs. In the past, corruption of LDA officials has been noted: this has not served to bolster the image of the movement. There is also a suspicion in some areas the LDAs are simply a mechanism for the government to consolidate its hold over the countryside.

4. Lack of technical expertise. The LDAs rarely, if ever, have the technical capabilities to implement projects. They serve to locate, mobilize and coordinate resources, including those of the government. Thus, they represent a potential power base, but not one which people will automatically flock to.

5. Lack of follow-up. While a great many dirt roads have been constructed and schools and clinics built, the LDAs seldom have the foresight or capabilities to follow up on initial activities. Many feeder roads are in need of major repair and a continual source of funding for such maintenance. As of September 1982, 194 rural schools had been closed due to lack of materials and teachers. At the same time 68 health clinics were unopened because of lack of materials and personnel. Both the LDA and the central government are not yet able to pick up the recurring costs of local infrastructure.

6. Political aspects. In most cases the LDAs are not grass roots phenomena, but rather another niche for traditional leaders. More often than not the shaykh simply assumes a new role in addition to the old. Rural people elect those individuals to the LDA boards that they think most able to find money or get things done. Such a system is invariably tainted with political interests. While there is nothing intrinsically wrong with the traditional power-brokers adopting roles in the LDA movement, it can create a context difficult for outsiders (particularly foreign contractors) to work in.

Recently a number of suggestions have been put forward on how to improve the operation of the LDAs. It is thought by many that efforts should be directed toward projects with limited recurring costs. The problem is that communities still need and want roads, schools and clinics, even though the government cannot pick up future expenses or staff facilities. The government is now encouraging a shift from services output in order to better invest remittance capital currently available in many rural areas. To resolve some of the problems, the government is encouraging more specialized cooperatives. However, the trend is clearly to more centralization of CYDA authority, particularly in the role of providing funds for projects.

Specialized Cooperative Associations (SCAs).¹² Within the last two years (1981-1982) 55 SCAs have been established: 42 for agriculture, 8 for handicrafts and skills, 3 for fishing, 1 each for housing and consumer goods. The rationale is economic interest or membership in a certain profession.

These bodies offer shares for voluntary membership in a cooperative venture. The administrative board represents only the shareholding members. These cooperatives are expected to increase shared capital and to provide services for the profitability of production for the market. Such activities would result in subsidiary benefits for the government and rural Yemenis as efforts are directed at new cash crops, services and effective marketing.

The government is currently supporting the SCAs with tax incentives and certain tax exemptions, but they are not expected to rely on tax revenues for future support. The role of the SCAs is more corporate than civic in that they seek to stimulate the private sector than supplant it. CYDA has set up a separate department for the SCAs.

Tribalism in Rural Yemen¹³

The major traditional institution in many parts of rural Yemen has been the tribe. Although there are a few pastoralists on the Eastern Plateau and along the coast, the bulk of Yemeni tribes have long been sedentary farmers. Yemeni tribalism does not conform to the common stereotype of the Arab nomad atop a camel in an arid waste. The concept of tribe in Yemen has multiple dimensions: a political institution with economic interests, a discrete social category in the social structure and a world view.

Unlike the case in many other parts of the world, where the concept of tribe is imposed on the group by foreigners, in Yemen the term tribe is a direct translation of the Arabic term qabila. Literally, this term signifies a group descended from a common ancestor. Yemeni tribes claim descent from the legendary Qahtan (known in the Bible as Joktan), who fathered the "Southern Arabs" as distinct from the "Northern Arabs" which settled above Yemen. Tribalism has been a factor in Yemen since before Islam and there are many historical sources on the phenomenon.

It is important to stress two points at the outset: (1) not all of Yemen is tribal; (2) tribalism differs substantially from region to region in terms of political mechanisms, roles of tribal leaders, economic conditions and relations to the state. The two major confederations are Bakil and Hashid, each with distinct territories. These confederations are both Zaydi and are found in the Central and Northern Highlands. The tribes in the coastal region are Shafi'i and have not supported the imamate. In fact, the imams seldom controlled these tribes. Ethnographic study indicates that the shaykh or tribal and village leader has a more authoritarian role than among the highland tribes. In the Southern Highlands and foothills the people often refer to themselves as tribal. It appears that this region has not been "tribal" in a political sense. The so-called shaykhs in the south are powerful landlords and not village or tribal unit leaders. The regional variation in tribalism is an issue that needs further study.

Political Aspects. The tribe as a political unit is a loose organization that allows for a great deal of autonomy of tribesmen and smaller tribal units. Political power is distributed throughout the tribe by a system of levels of group identification. These levels include segments of the household, which is either a nuclear or an extended family; the descent group, defined by seven generations through the father's line; the village or village cluster, residents of which may or may not be tied together by kinship; the tribe, which

is a territorial unit of many villages; and the confederation, which is the highest level of identification and the most political.

Each segment has a certain amount of autonomy and a recognized authority figure. Furthermore, each segment is characterized by specific obligations of mutual cooperation between members. For example, the household is the basic economic unit; all of its members cooperate in agriculture and often share in the ownership of land. Disputes within the household are generally resolved through the mediation of the head of the household or close relatives. The descent group is the principal unit of tribal identity. A tribesman may change residence or tribal affiliation (at a higher level), but he does not change the name of his descent group. This is the unit legally responsible for indemnity in cases of major breaches of customary tribal law (e.g., murder, theft, major crimes). Any marriage within the descent group is defined as a parallel cousin marriage,¹⁴ which is the stated marriage preference.

The village or village cluster is primarily a territorial unit. Traditionally this was the major defensive unit within the tribe throughout most of the highlands. Members of a village share access to water sources, communal pasture, burial grounds, mosques and often threshing floors. It is at this level that mutual cooperation is expected in the building and maintenance of roads, schools and mosques. The village is led by a shaykh,¹⁵ who mediates disputes within the village, organizes cooperative work projects, represents villagers in relationships with other villages and has administrative responsibilities to the government. The shaykh is always a tribesman and never from another social category.

When there is a regional need for defense on issues of regional dimensions (e.g., violations of tribal borders), it is at the level of the tribe that the smaller segments come together. The tribe is perceived as the unit responsible for security in its territory. Traditionally, strangers who traveled within a tribal territory were accompanied by a member of the tribe as a guarantor (rafiq) of their safety. The head of the tribe is generally called a "shaykh of shaykhs" and is elected by village shaykhs and other important tribal men.

The confederation represents the highest level of tribal identity, but it is almost purely political. Tribes will shift alliances from Bakil to Hashid, if it suits their purposes. It is not difficult, especially since Hashid and Bakil are usually said to be brothers. This shifting of alliances is as much a factor in contemporary tribal politics as it was in the days of the imams. The current shaykh of the Hashid confederation, 'Abdullah al-Ahmar, is one of the most influential men in the country. At present there is no head of the Bakil.

Authority within the tribe is invested in the role of shaykh, but his responsibilities and duties vary according to the level of the segment. The shaykhship is hereditary from father to son, but a shaykh may be voted out of office and another shaykh (not necessarily related to the first) elected in his place. This is more common on the village level than at the level of tribe or confederation. Shaykhs at the higher levels may have private retainers. Historically, there has always been interaction between regional shaykhs and the government of the day. Even today, tribal shaykhs seek out government officers who may be able to provide services to their areas.

The shaykh does not have dictatorial powers and the status of all tribesmen is more or less equal. Indeed there is an egalitarian ethic within

the tribe. Tribal customary law places an emphasis on the right of "due process" for tribesmen. Yet, it is important to observe that tribal politics are a male phenomenon. While women have considerable informal influence and are aware of tribal issues, they do not vote for the shaykh, nor do they participate openly in dispute mediation or defense of territory.

The political power of the tribes in the Central and Northern Highlands increased during the revolution and civil war. Both sides in the civil war sought tribal alliances, and great sums of money (as well as arms) made their way into tribal coffers. In the early 1970s the direct subsidies to the tribes dwindled, as Saudi Arabia recognized the regime in Yemen. However, many parts of the highlands are under firm tribal control.

Dispute mediation. Formal mechanisms for settling disputes are part of the tribal system. These usually require the presence of a third party, who acts as a mediator and for whose sake disputants agree to negotiate. A gift of money is made as reparation to the party wronged. This is the case in quarrels between individuals and in tribal disputes or warfare. For all disputes there are set procedures to be followed in preference to retort or attack. There are strong sanctions against individual acts of violence.

The mediator may be a tribal shaykh or a respected man in the community, such as a sayyid. Sometimes several mediators will be involved. At the beginning of arbitration, the daggers and watches of the disputants are handed over as a sign of good faith to the intermediary. These are returned after the dispute has been settled. In some areas a large sum of money is deposited by each disputant, or disputants may be required to share a meal together.

The disputants, mediators, shaykhs of the villages involved and other interested parties all gather together, often in the context of an afternoon qat chew, to discuss the case. Both sides of the issue are heard and there is discussion of the case by those present. The major mediator attempts to reach a consensus. If no decision can be reached, disputants may appeal to a higher level shaykh or to an Islamic judge.

Once the blame has been established, reparations are set by the mediator according to tribal customary law. The victim does not receive an exorbitant indemnity, nor one that the culprit's descent group cannot afford to pay. If both parties are found to be at fault, both must pay to the villages or descent groups concerned. Reparation is intended as a payment of damages and a formal apology for the violation of the other's honor; it is not perceived as a compensation for loss or to pay for repairs. The indemnity is divided between the victim and the mediators. The dispute is considered settled when indemnity has been paid and a sheep or cow has been slaughtered and the meat is divided between the disputant and the mediators. Once a decision is made, the unwillingness of the parties concerned to insult the mediator's honor serves as an effective mechanism to ensure compliance.

Economic dimensions of the tribes. Tribalism as a concept has economic overtones in that tribesmen are traditionally associated with subsistence cultivation of grains. The goods and services that tribesmen do not produce themselves are available from service-providers (e.g., butchers, craftsmen, smiths), who have a client relationship through the market to the tribes.

The tribes, however, must not be thought of as an economic unit. The largest unit that owns and manages property and productive land is the domestic household. Agricultural land is privately owned; the only communal land that can be considered tribal is communal pasturage, which has clearly defined borders. There are no income-producing activities in agriculture performed by any tribal segment above the household. Furthermore, there is no "tribal" tax, although tribesmen have long paid the production tax (zakat) defined in Islamic law.

World view. Tribalism, apart from political and economic dimensions, also represents a world view--a set of values and attitudes in Yemeni society. These values have been formalized in a body of tribal customary law, which has been written down and which has long influenced rural behavior between tribesmen and members of non-tribal categories.¹⁶ It is important to observe that even Islamic judges, who were not tribal, adopted customary legal ideas as long as they were not perceived to be antagonistic to Islam.

A key to understanding the tribal world view is the emphasis on honor. Tribal honor consists of an awareness of one's genealogical origins, sanctity of one's word, protection of the weak and cooperation. This concept of honor is what makes customary law so effective in tribal areas. A tribesman who loses his honor loses his tribal status. Indeed, some of the low-status service providers are said to have once been tribal, but have lost status and are now detribalized.

The tribal world view can best be understood as a particular way in which two complementary and often conflicting value emphases are dealt with. These are the emphasis on group responsibility and cooperation, and also a pull toward personal autonomy. Yemeni tribesmen cooperate in swift mobilization of groups for mutual aid and defense. They reject coercion of any kind and usually consider direct commands as insults to their pride. Any innovation that threatens this group responsibility or individual autonomy may be rejected out of hand.

Those issues which are seen by tribesmen as areas of group responsibility and cooperation include:

- dispute mediation (those that extend beyond the immediate family),
- defense of territory and tribal integrity,
- projects to benefit the village or tribal unit (such as road building, repairing a mosque, cleaning a cistern, building a school),
- any task considered too difficult for a single person or household to manage (righting an overturned truck, moving a boulder, wedding preparations).

Those issues where personal autonomy is respected in tribal areas include:

- private ownership and management of property,
- sexual relations,
- relations between close kin (especially disputes or quarrels).

The Sanctuary (Hijra)¹⁷

Since at least the 10th century A.D., Yemen has been an Islamic country. A traditional institution found in Islamic Yemen is the sanctuary town or neutral zone, called hijra in Yemeni dialect. This defines a place with immunity or that is inviolate. Tribal disputes and personal quarrels cannot be played out here. Indeed, one of the functions of the hijra is for the mediation of tribal disputes by the Sada and Quda, Yemen's religious aristocracy.

Several large towns in Yemen have been designated as hijras, the largest being Sanaa, the traditional capital. Often the hijra is located near tribal borders, particularly between the Hashid and Bakil confederations. Those living in the hijra, mainly the religious aristocracy and market groups, were under the protection of a given tribe. Violation of the sanctity of the hijra was considered a major crime. Although the importance of the hijra has declined with the emergence of a central government, it is still an important institution in some tribal areas.

The institution of the hijra is primarily a political one. It represented the base for expansion of the religious aristocracy in Yemen. A similar type of immunity extends to rural markets and market towns.¹⁸ Tribal quarrels are supposed to be set aside in the market. Violation of this may result in the abandoning of a market site. The market groups and merchants are under the protection of the tribe within the tribe's territory.

The Mosque¹⁹

Islam has long been the dominant religion in Yemen. In an institutional sense, the mosque represents a physical manifestation of religious activity. Most villages have simple mosques or areas for daily prayers. The mosque is a convenient forum for communal prayer in the village, particularly on Fridays. However, it is not mandatory that a Muslim pray in a mosque. There may be a prayer leader and someone to give the call (adhan) for prayer, but in some cases this is a local religious man who has other concerns and tasks.

In addition to the religious functions of the local mosque, it also provides a forum for socializing on a daily basis. Men will often come to perform the noon prayer, if they do not have to work in the fields at that time. The call to prayer filters through the community as a reminder of village cohesiveness, in much the same way that church bells become a part of the village routine in rural Europe. The loudspeaker of a local mosque may also be used to broadcast important messages to the community.

In rural areas there is generally one mosque for both men and women, although they would use it at different times. Because of the need for ablutions in prayer, a well or spring is often found near or at the mosque. The mosque is also a primary place where personal hygiene is performed. Rarely, however, are there formal latrines. In some areas water flowing through the mosque may be collected in a cistern for use in irrigation. This is a potential vector for contamination, such as bilharzia.

The mosque is perceived as one of the most important buildings in the community. When a man dies, he may bequeath some money or land to the mosque as trust (waqf) to support maintenance. A high priority in many rural communities is repairing or building new mosques. This is generally a result of local cooperative mechanisms, but not so much a part of formal LDA activities.

The Qat Chew²⁰

One of the most important and influential informal institutions in rural Yemen is the daily afternoon qat chew. Since this is a phenomenon unique to Yemen in the Middle East, it requires some background. Qat is the Arabic term for Catha edulis, a species of the Celastraceae with alkaloids in the leaves that serve as a strong stimulant. Medical research thus far does not indicate that qat is a narcotic, nor that chewing is physiologically addictive. However, there are ill effects on nutrition and seemingly on production of mother's milk. On the positive side, qat may provide vitamin C to rural Yemenis who traditionally had few fruits, and numerous medicinal properties are claimed.

The sole purpose of cultivating the qat plant is for the leaves, which vary in potency according to variety and environment. The plant is not indigenous to Yemen, but appears to have been introduced on significant scale by the 15th century A.D. As early as the 16th century, legal opinions were being formulated on the legitimacy of chewing qat in Islamic law. The Zaydi school in Yemen believes chewing qat is acceptable, but it does not have any ritual significance in the religion.

In the past qat chewing was not widespread among the rural population. It was mainly confined to urban elites and those urban poor who would squander their money on it. Qat has traditionally been a more important crop in the south. It does not appear to have been planted in the Sanaa region on any scale until the 18th century. One difficulty in producing qat, which has few pests or diseases, is that the leaves must be marketed almost immediately after picking and cannot withstand storage much more than 24 hours. With difficult access in the past, many rural farmers had little opportunity to grow the crop, even if demand was there. During the past most rural people chewed mainly on special occasions (weddings, religious feasts, and so on).

A survey conducted by Italian doctors working in Yemen between 1955 and 1967 indicated that some 91 percent of the men and 59 percent of the women chewed qat to some extent. Although this survey was biased toward urban areas, it does indicate the importance of qat in Yemeni society. Recent ethnographic evidence suggests that chewing has increased dramatically in the rural areas since the revolution. One reason for this increase is improved transportation, which allows more farmers to market this major cash crop. In some areas of rural Yemen, qat is five times as lucrative a cash crop as coffee (most of which is now grown for local consumption). As will be noted in chapter 5, the qat factor has far-reaching implications on the rural economy.

In urban and rural Yemen men gather together in the afternoon, after the main work of the day has been accomplished, to sit and chew qat. This may be as few as 2 or 3 men or as many as 50 to 100 men on a special occasion (wedding, dispute mediation). Although each chew has its own regular network

of chewers, the session is more or less open to all. The chew of an important man or ghaykh is often well attended.

Men bring their own gat to the chew, unless they are receiving gat as part of a work agreement with the host. The tender young leaves are plucked from the branches and stuffed into the mouth to form a wad. This is stored in one cheek, which bulges considerably, and is periodically renewed. Generally, there are three stages of effects recognized. First comes a sense of heightened awareness for up to two hours. Conversation is lively and poets claim to be especially inspired. After this a sense of euphoria or contentment sets in, followed by a final phase of mental restlessness. Chewing acts as an anorexic and usually keeps the chewer awake late into the night or next morning.

The gat chew serves as a microcosm of Yemeni society. It provides an informal forum for the conduct of business ("after hours"), social visitation, discussion of politics and religion, dispute mediation and personal relaxation. The chew is a flexible institution, but there is a basic egalitarian aspect to it. Members of diverse social categories can attend. Except for certain formal occasions, there is little hierarchy of seating, particularly in tribal areas. Those present sit on the same level (cushions on the floor) and may share the same water pipe (nadala).

There is no set agenda at a chew, even the formal ones. Several issues may be floated at once and conversation will flow back and forth unless one has the overriding attention of those present. The ebb and flow of the conversation tends to follow the changing effects of the gat. Yet, what appears like chaos to the outsider results in perceived accomplishments by those present. Even if an issue has not been resolved, men have had a chance to reach the ear of someone who can help them.

Women also chew in Yemen, but to a much lesser extent. All chews are strictly segregated, although a foreign woman may be allowed in with the men. The women's gatherings tend to be more social or concerned with family issues. Although public political issues may be discussed, women are not the decision-makers. To the extent that a man spends time at a chew away from his wife and family, the woman may have negative feelings about the habit. She may especially be upset by the economic drain on the budget, except in those rural households where gat is a major source of income generation.

Implications for Development Planners

1. Extent of government authority. The Republic born in 1962 has undergone a major civil war and numerous shocks to the system. It was only a decade ago that a national consensus was reached on paper. The emerging ministries and government institutions do not yet have the capabilities or personnel to accomplish many of their goals. This problem is compounded by the fact that some parts of the country remain more or less autonomous and outside direct government influence. One does not have to travel far outside Sanaa to see civilians armed with Kalashnikovs.

The weakness of central government authority poses a number of problems for the foreign donor. First, the government understandably is seeking to consolidate its power. This takes priority over development needs par se.

Second, the donor's role is necessarily politicized. The donor is in the country at the invitation of the government and generally seeks to build up the institutional capabilities of the central government. For this reason, when a donor is actively involved in the rural sector, it often becomes enmeshed in the politics of consolidation. The donor is perceived by the local population as an extension of the government; the government may encourage the donor to work in a remote area in order to extend its influence and visibility.

Operating at the frontier of government authority is a no-win scenario for most donors. Foreign personnel are not in a position to read the local political map and often become inadvertently aligned with a particular group at the expense of working with a coalition. When a problem may arise at the local level, the government does not always have the back-up support to find a solution. The donor is in a position of having something to offer, but expectations of the local population and power brokers are often far different than the good intentions of a specific project.

The lesson of two problem projects of the USAID/Sanaa in Yemen, an Integrated Rural Development project in Mahweit and a Local Resources for Development project in Hajja, is that the donor has little chance of success in working in the more remote areas from the central government. In Mahweit, for example, practically every interest group was alienated. The contractors in the field were vulnerable--as foreigners--to conservative religious rhetoric. This resulted in a large part because of the perceived attempt to change female roles and traditional lifestyle.

The major implication rising out of this situation is that the donor may build up the institutional capacity of the government, but it cannot play an effective role by becoming directly involved in remote rural areas except as a stimulus to government or private sector initiatives.

2. Lack of effective institutional outreach. Parallel to the problem of a weak central government is the lack of effective outreach services to the rural areas. Were it not for the initiatives undertaken by rural Yemenis in building up their own basic infrastructure, this country would be poor indeed. Some ministries have officials at governorate and district levels, but the average person never sees a government official, nor benefits from the services offered in urban areas. For example, there is a National Extension Service in the Ministry of Agriculture and Fisheries, but it has no rural extension agents other than those trained and maintained by specific donor projects. Farmers have increased access to farm inputs and new crops, but there is no one to tell them how to farm effectively under these changing conditions.

Within the ministries a new technocracy is emerging of Yemenis who have been trained in Western countries. Yet, at the same time the government contains a wide range of interest groups, including some of the traditional elites. At the present time there is no clearly defined policy objective for development within the government. In a sensitive political climate it is difficult for officials to take the responsibility for making certain kinds of decisions. Donors often feel that the ministries thwart their efforts, while the ministries are unable to absorb the pitch of donor involvement in the country.²¹ As a ministry inherits the responsibility for a completed donor project, especially in rural areas, it cannot support the project as fully and generally has limited funding to pick up the tab for recurring costs.

With the present state of a lack of coordination between donors, the government receives advice from a number of voices and some of this may be contradictory. Until such time as each ministry and institution can support a particular object, the donor would be wise to work in geographical areas closer to the central ministries and to avoid as much as possible projects that overlap in responsibilities between ministries. This is clearly a context that requires careful monitoring by the donor.

3. Role of the LDAs. The spontaneity and creativity of the cooperative movement in rural Yemen enchanted many Western observers. The LDAs were viewed as a grass roots phenomenon that could be an effective intervention for addressing a vast range of development needs. Yet this enthusiasm was fueled by a theoretical concern with the general potential of cooperative efforts rather than a careful reading of the Yemeni context. A decade after the LDA movement gained momentum in Yemen, it is clear that despite substantial accomplishments there have been many unforeseen problems.

Many LDAs blossomed initially because of the total lack of government services, the traditional cooperative ethic in certain tasks and a growing availability of remittance capital in the rural private sector. As the government's role has increased, the movement has been politicized.

Development planners, more than rural Yemenis, have believed in the LDAs and have emphasized the strengthening of the institutional capacity of CYDA. This had led to two major problems in donor involvement with cooperatives. First, the emphasis on institution building is viewed as a waste of money and extraneous to the cooperative movement by many of the intended beneficiaries. At a time when a village needs a feeder road, water system or school, it is little comfort to know that the LDA officials have a new office building and better links to CYDA. Second, donors have tried to go into the field and help the LDAs along. The lesson learned thus far is that local politics enmesh the LDAs, which have resources to offer, and politics mire the best laid plans of donors.

The major implication of the existing role of the LDAs is that this one mechanism does not represent the only potential for cooperation or local development. Indeed, the cooperatives often function with the same local power figures as existed previously. In the last two years there has been a shift from the LDA, which ended up being all things to all men and women, to specialized cooperatives. To a great extent this lessens the political nature of the group and enhances the economic potential.

A question that development planners must face is the nature of cooperation in Yemen. While a cooperative ethic exists, it varies from region to region and it only relates to certain kinds of activities. In economic matters rural Yemenis have usually been fiercely independent. This is a nation of entrepreneurs and not rank-and-file union members. There is a danger that in promoting idealized models of cooperative behavior, the opportunity might be missed to capitalize on the dominant emphasis in the private sector on the individual's role in income generation. This is one country in which the private-sector initiatives extend beyond the mere rhetoric.

4. Role of tribalism in development. A difficulty of working in Yemen is that many observers bring with them a stereotype of the Arab tribe. Not only is tribalism different in Yemen than is the case with pastoral nomads elsewhere on the peninsula, but there are different forms of tribalism within the country. An important distinction to be noted is that the tribes are not necessarily a barrier to development, but they can represent a major barrier for active donor involvement in tribal areas.

The problem is not in the nature of the system, but how the system reacts when foreigners (including the central government) become directly involved. Tribal autonomy is jealously guarded, so that donor activities are often seen as attempts to erode tribal power. There has always been a political clash between tribe and government with an uneasy truce rather than a formal peace. Donor personnel often encounter problems because they do not understand tribal protocol and may offend the honor of a tribesman. Another difficulty is that most land is privately owned in tribal areas and not a subject for discussion. Unfortunately, many projects require some sort of land measurement or rights agreement.

The major implication is that donors have a limited role to play in tribal areas. If the political milieu is problematic throughout rural Yemen, it is even more so in tribal areas. The ultimate political destiny of tribal areas is an issue that may take years to resolve. While the donor may provide access to services and materials, it is not wise to undertake a project in the shadow of a shaykh's house.

5. Importance of informal institutions. Much of the business and politicizing in Yemeni society takes place in traditional and informal settings. In rural areas the mosque is a center for village life and socializing. The rural market has traditionally fulfilled far more than an economic role, serving as a time for socializing, informal business, communication of important news and relaxation from the work routine. In these areas outside formal government influence the sanctuary town (hira) is still important for mediation in tribal areas.

Perhaps the most important informal institution which has gained in importance in the last decade is the daily afternoon qat chew. In Yemeni society this is where the action is. Unfortunately, foreign personnel are not able to easily adapt to this institution. A donor will often have cocktail parties to which few Yemeni officials show up. It might be more appropriate to have a late afternoon tea or light meal, rather than expect Yemeni officials to attend such gatherings late at night.

While supporting the expansion of ministerial capabilities, the donor should look for creative ways of utilizing informal institutions for introducing interventions. For example, a sanitation project might focus first on the local mosque, which has been the traditional locale for local hygiene. The local imam would have an interest in improved latrines and water supply. The emphasis in Islam on personal cleanliness can be built upon for improving sanitary habits.

Notes to Chapter 2

¹The best general source in English on the history of Yemen is Stookey (1978). For the pre-Islamic period, see Doe (1971). For information on the imams and Zaydism, see Madelung (1965), Serjeant (1969) and Tritton (1925). For recent history, see Peterson (1982), al-Saidi (1981) and Wenner (1967).

²Travel accounts by Westerners are numerous, despite difficulties of access. See especially Ingrams (1966), Moser (1917), Niebuhr (1792) and Scott (1942). A survey of the travel literature can be found in Bidwell (1976) and Grohmann (1930-1934).

³This information is taken from Steffen et al. (1978: I/41) and updated by YAR, CPO (1981:11). The number of units changes periodically.

⁴Peterson (1982). Government ministries are continually being created, so this list needs to be periodically updated. See also Gable (1979) and Wenner (1978, 1979).

⁵See chapter 7.

⁶See chapter 6.

⁷For further information, see Gable (1979:86-92) and Messick (1978).

⁸The maqf (plural maqaf) institution is described by Messick (1978).

⁹There is a sizeable literature on the subject, much of it contradictory. Start with Carapico (1980), Cohen and Lewis (1980) and Samuels (1979). See also Cohen and Lewis (1979), Cohen et al. (1981), Hebert (1981), Swanson (1981, 1982), Swanson and Hebert (1981) and Tutwiler (1979). For Arabic sources, see Croken (1980) and Uthman (1975).

¹⁰Hogan et al. (1982:99).

¹¹See Tutwiler (1979-1980).

¹²See Hogan et al. (1982:100) and Gow (1979).

¹³For the best introductions on all aspects of tribalism in Yemen, see Adra (1982) and Dresch (1982). See also Dresch (1981), Dostal (1974), Varisco (1982c) and Varisco and Adra (1983). Much of this section was drafted by Najwa Adra. Note that the term "tribe" is used differently by social scientists for different parts of the world.

¹⁴This is when, for example, a man marries his father's brother's daughter.

¹⁵The term shaykh has different meanings in Arabic and does not always refer to a tribal leader.

¹⁶For information on tribal law in Yemen, see Adra (1982), Dresch (1981, 1982), Ghanem (1972), Meissner (1980) and Rossi (1948).

¹⁷This may be a pre-Islamic institution in Yemen (Serjeant 1980:128). See Gerholm (1977:122-127), Dresch (1982) and Varisco (1982c:156-163). A similar institution (called hawta) is found in South Yemen, but this is more of a religious shrine.

¹⁸See chapter 5 for the rural market.

¹⁹See Gerholm (1977).

²⁰The most thorough study of qat in Yemen is by Schopen (1978). See also Chelhod (1972), Kennedy et al. (1980), Moser (1917) and Varisco (1982a).

²¹Haratani and Skenfield (1980:15).

3. PROFILE OF THE RURAL MAJORITY

The population of the Yemen Arab Republic is overwhelmingly rural, with less than 10 percent of the population (1975 census) living in settlements of more than 2000 inhabitants. The most fundamental observation about life in rural Yemen is that it is undergoing rapid change--social, economic and political. What appears at first glance to the Western observer as a fairly homogenous population of rural poor is actually a heterogeneous society with major regional variations in population dynamics, religious ideology, social identity, tribal influence, access to resources, male and female roles, education levels, nutrition and reproductive patterns. The purpose of this chapter is to describe the sociocultural context in which rural Yemenis live and to identify recent trends in social change. This completes the overview of rural Yemen and sets the stage for discussion of development issues. The differential access of rural Yemenis to resources and services will be summarized in chapter 8.

Yemeni society, so long hidden in isolation from the West, is a mosaic. It is essential that development planners develop an awareness of the elements in this mosaic--those which make Yemen "unique" and those which constrain or hold potential for development efforts. As will be described below, elements of the social mosaic include:

- almost total isolation of highland society from the West before 1962,
- rural population as a productive base in subsistence agriculture,
- integration of Islam into total fabric of social interaction and lack of historical contact with Christian populations,
- regional variations in religious ideology, local political mechanisms, economic levels and migration patterns according to north and south, urban and rural, highlands and coastal,
- pervasiveness of hierarchial model of social structure (based on descent status and prestige) with significant regional variations in the extent this influences actual behavior,
- persistence of traditional elites in contemporary economic and political arenas,
- recent economic and social mobility for low-status social groups due to opportunity for work abroad and stimulus of remittances on rural economy,
- gradual emergence of non-traditional categories (military, technocrats) in shaping government policy and social change,
- emergence of Yemeni nationalism reinforced by national media and drawing on traditional values,
- differential mobility and access to resources or new economic opportunities between males and females.

-- growing generation gap, with younger generation becoming better educated, exposed to foreign lifestyles and expecting more of development efforts.

If Yemeni society is a mosaic, how are the pieces organized? While a number of approaches could profile the rural society, no single criterion is sufficient. The availability of reliable data on social issues is still limited, especially for regions that have not been studied in detail (e.g., the coast and the Eastern Plateau). It is also important to remember that social categories, interest groups and gender roles are not frozen in time, but subject to rapid change, particularly in the Yemeni context. This profile of the rural majority begins with the basic population dynamics, followed by significant distinctions for understanding contemporary Yemeni society. The chapter concludes with implications for development planners.

Population Dynamics

The primary source of demographic data on the Yemeni population is the 1975 census conducted by the Swiss Technical Cooperation Services in coordination with the Central Planning Organization (CPO) of the Yemeni government.¹ This effort involved census gathering, field surveys, airphoto interpretation and data processing. The entire country could not be covered on the ground, but specific governorates were targeted in the major environmental zones. While not complete and not without controversy, these data represent the base for all discussions of population dynamics in Yemen.

Population estimates. The 1975 census shows a total population at that time of 4,705,000 in a territory of 135,230 square kilometers. This is an overall population density of 35 per square kilometer, clearly making the Yemen Arab Republic the most densely populated country on the Arabian peninsula (Table 3-1). Unlike her neighbors, Saudi Arabia and the PDRY, Yemen does not have an extensive unpopulated arid zone.

Estimates of the current population in the Yemen Arab Republic vary widely. The 1981 CYDA census recorded a population of 7,146,341 in country and almost 1 1/2 million migrants abroad.² This conflicts with the rate of population growth indicated in the 1975 census. Most observers place the present population (early 1983) at between 6 and 6.5 million, excluding those abroad. Such discrepancies complicate analysis of the demographic data.

Regional breakdown. Broken down by governorate, the census shows that the major population areas are in the Southern Highlands (Table 3-2). Taiz and Ibb account for 2/5 of the total population, but represent less than 1/8 of the land area. The least populated area is the Eastern Plateau (Marib and Bayda). The northernmost governorate of Sa'da is also thinly populated with a density of 13.8 per square kilometer. Women outnumber men in all governorates, except the coastal one of Hodeida. In large part this reflects the large percentage of males working abroad. Overall in 1975 the average household size was 5.2, but household size appears to be slightly larger in the Central and Northern Highlands.³

Urban and Rural. The population of Yemen is overwhelmingly rural. Only 11.1 percent of the population lived in settlements over 2000 inhabitants at the

Table 3-1. Population Densities of Arab Countries for 1975 (Steffen and Blanc 1980:76)

Country	Inhabitants	Population Density (per km ²)	Annual Population Growth (%)	Territory (km ²)
Algeria	16,776,000	7	3.2	2,381,741
Egypt	37,233,000	37*	2.2	1,001,449
Iraq	11,124,000	26	3.3	434,924
Oman	766,000	4	3.1	212,457
PDRY	1,690,000	5	-	332,968
Saudi Arabia	5,796,000	3	3.0	2,149,690
Syria	7,355,000	40	3.3	185,180
United Arab Emirates	222,000	3	3.2	83,600
YAR	4,705,000	35	2.4	135,230

*This figure is skewed, because almost all of the Egyptian population is concentrated along the Nile.

Table 3.2 Population of the Yemen Arab Republic by Governorate, According to the 1975 Census (Steffen and Blanc 1982:77)

Governorate	Territory (km ²)	<u>Population</u>			<u>Households</u>		<u>Emigrants</u>		
		Inhabitants	Density (km ²)	M/F Ratio	Number	Size	Number	Density (km ²)	% of Popu- lation
Sanaa	20,310	831,949	41.0	0.95	137,000	6.1	41,675	2.1	4.7
Taiz	10,420	882,063	84.7	0.84	178,074	5.0	75,289	7.2	7.8
Hodeida	13,580	695,631	51.2	1.03	150,817	4.6	35,052	2.6	4.7
Sa'da	12,810	176,606	13.8	0.90	32,595	5.4	13,692	1.1	7.1
Hajja	9,590	413,374	43.1	0.96	77,078	5.4	20,773	2.2	4.7
Mahweit	2,160	181,011	83.8	0.86	32,220	5.6	13,339	6.2	6.8
Marib	39,890	69,840	1.8	0.95	13,900	5.0	2,301	0.1	3.1
Dhamar	8,870	468,786	52.9	0.87	88,064	5.3	33,712	3.8	6.7
Ibb	6,430	813,203	126.5	0.88	157,891	5.2	73,385	11.4	8.2
Bayda	11,170	172,973	15.5	0.82	34,166	5.1	22,431	2.0	11.4
TOTAL	135,230	4,705,336	34.8	0.91	901,904	5.2	331,649	2.5	6.5

time of the 1975 census (Table 3.3). At that time there were only three cities with populations over 50,000: Sanaa, Taiz and Hodeida, but they accounted for only 6.4 percent of the total population. There is a trend for urbanization, with the population of the three main cities having doubled from 1970 to 1980.

Marriage and divorce. According to the census findings (Table 3-4), only 5.3 percent of girls age 14 and under are married, but this does not match with other studies and qualitative ethnographic data.⁵ The Yemen Family Planning Association estimated that the average rural woman marries by the age of 14.⁶ A survey by Myntti in 1977 of a village in the north indicated that 65 percent of women who marry do so before puberty. The legal code now proscribes that a girl be 16 for marriage, but this seems to have had little impact as of yet in rural areas. Although polygamy is legal in Yemen, less than 5 percent of the males had multiple wives in 1975.

In a society where women are dependent on men in the public sphere, being single is not a viable option, except among the more educated women. Thus, only a small percentage of women never marry. From the statistics and ethnographic evidence, it seems that women who are widows are less likely to remarry than men. The percentage of divorced is small, according to the figures, but this is misleading. In many rural communities there is a high rate of divorce and remarriage, although at any one time the number of divorced (i.e., not yet remarried) is low. There is no social stigma attached to divorce and the procedure is fairly simple in Islamic law.

Table 3-3. Population by Settlement Size
in the 1975 Census (Steffen and
Blanc 1982:81)

Settlement Size	Number of Settlements	%	Number of Inhabitants	%
50,000+	3	0.0	303,000	6.4
10,000-49,999	3	0.0	52,000	1.1
2,000-9,999	45	0.1	170,000	3.6
1,000-1,999	83	0.2	110,000	2.3
500-999	600	1.1	400,000	8.5
200-499	3,500	6.7	1,070,000	22.7
100-199	7,000	14.3	1,000,000	21.3
50-99	13,000	24.6	920,000	19.6
Up to 50	28,000	53.0	680,000	14.5
Total	52,234	100.0	4,705,000	100.0

Table 3-4. Population of the Yemen Arab Republic
According to Age, Sex and Marital Status
(Steffen and Blanc 1982:91)

Age Group	<u>Population</u>		<u>% Unmarried</u>		<u>% Married</u>		<u>% Widowed</u>		<u>% Divorced</u>	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
10-14	285,750	251,351	99.4	94.7	0.6	5.3	0.0	0.0	0.0	0.0
15-19	157,945	164,849	87.5	59.7	12.2	48.2	0.0	0.7	0.3	1.4
20-24	104,676	160,403	43.3	12.2	54.9	83.6	0.5	1.0	1.3	3.2
25-29	121,541	183,870	14.4	4.3	82.5	91.0	1.4	2.3	1.7	2.4
30-34	112,296	164,306	5.5	2.3	90.4	90.7	1.9	4.3	2.2	2.7
35-39	120,776	148,594	2.7	1.6	92.1	89.9	2.6	6.4	2.6	2.1
40-44	103,625	124,133	2.8	2.3	92.9	82.3	2.7	13.4	1.6	3.0
45-49	76,343	87,260	1.5	2.3	93.0	76.7	4.2	18.3	1.3	2.7
50-54	81,321	97,115	1.5	1.7	89.8	64.5	6.0	32.0	2.7	2.8
55-59	45,656	39,805	1.4	1.8	91.3	60.5	5.9	35.6	1.4	2.3
60 +	139,183	154,206	1.4	1.1	81.4	33.7	15.6	62.8	1.6	2.4
TOTAL	1,351,465	1,598,161	37.5	23.2	58.0	62.3	3.2	12.4	1.3	2.1

Fertility and reproduction. Nationwide, the rate of natural population increase is estimated at 2.4 percent per year. Rural women generally have their first child between 16 and 18 years of age. About one out of five of these children die within the first year. The maternal mortality rate was estimated at 10 per thousand in 1976, but this may have declined with improved access to health care in rural areas. Not being able to produce children is grounds for divorce in Yemen.

The subject of family planning and contraception is controversial in Yemen, due to some opposition from conservative religious leaders and the idea of many Yemenis that the country would benefit from a larger population. The Quran contains no explicit statement for or against contraception and is open to interpretation on this issue. The Ministry of Health supports the principle of family planning, primarily birth spacing, and works in cooperation with the Yemen Family Planning Association which was founded in 1976. Contraceptives for males and females are widely available in the pharmacies and family planning services are available in the major hospitals. A 1979 survey by Yemeni researchers found that about 13 percent of 911 women interviewed used some form of contraception.⁷

Emigration patterns.⁸ The most significant demographic factor in rural Yemen is the effect of male emigration for work abroad. The Swiss Team estimated that in 1975 about 385,000 persons (mostly males) held temporary employment outside Yemen, while another 250,000 could be characterized as long-term emigrants outside the country. At this time the potential male labor force (aged 10-50 years) was only 1,107,000 inside the country. Thus, migration has accounted for a significant amount (over one-third) of the potential male work force overall, though the number has clearly declined recently.

Yemen has a long history of out-migration, mostly from the Southern Highlands region. There was major migration through the southern port of Aden to East Asia, Africa and later to Europe and America. In the Isma'ili⁹ area of Haraz (around the town of Manakha) Yemenis used contacts with Isma'ilis in India to make inroads in trade with India. In the early part of this century many Yemenis went to East Africa to work. Most recently, Yemenis from virtually every region have gone to neighboring oil-rich states, particularly Saudi Arabia.

There are a number of factors which explain why so many Yemeni men work abroad. First, it was in part due to opportunities outside Yemen and the low economic level of rural Yemen in the past. Second, since the revolution and civil war, combined with a serious drought, traditional agriculture declined. Most Yemenis return home as soon as they can and many are not happy living abroad.

Estimates of Yemeni emigration over the decade from 1970 to 1980 indicate two major trends (Table 3-5). While the total number of Yemenis working abroad rose in the decade, there was a shift from long-term to short-term employment. This was fostered in large part by the important role Yemeni labor has played in nearby Saudi Arabia and the Gulf States. Within the last two years there is growing evidence that demand for Yemeni labor abroad, especially in Saudi Arabia, has peaked. This could have a major effect on the current inflow of remittances, as will be discussed in chapter 5.

Table 3-5. Estimates of Emigration for the
Yemen Arab Republic between
1970-1980 (Steffen and Blanc 1982:99)

<u>Date</u>	<u>Total of Yemenis Abroad</u>	<u>Emigrants</u>		<u>Short-term</u>	<u>Emigrants</u>	
		<u>Long-term</u>	<u>Short-term</u>	<u>Active</u>	<u>Non-Active</u>	<u>Female</u>
1970	478,000	326,000	150,000	144,000	4,000	2,000
1971	495,000	315,000	180,000	172,000	5,000	3,000
1972	513,000	303,000	210,000	200,000	6,000	4,000
1973	540,000	290,000	250,000	238,000	7,000	5,000
1974	580,000	270,000	310,000	295,000	9,000	6,000
1975	635,000	250,000	385,000	364,000	12,000	9,000
1976	700,000	230,000	470,000	448,000	13,000	9,000
1977	720,000	220,000	500,000	477,000	14,000	9,000
1978	733,000	203,000	530,000	505,000	15,000	10,000
1979	742,000	187,000	555,000	529,000	16,000	10,000
1980	750,000	175,000	575,000	548,000	17,000	10,000

5

Religious Ideology and Affiliation

Religion is a significant distinction in Yemeni society due in large part to a superficial but pervasive dichotomy of Yemen into a Zaydi Muslim north and a Shafi'i Muslim south. Sectarian differences are not confined to ideology, ritual, or doctrine, but reflect a bundle of sociopolitical interests. On many ritual and legal matters, in fact, there is little conflict between the main Muslim sects in Yemen. Crosscutting sectarian divisions are the expansion of a conservative ideology, most visible in the Muslim Brotherhood, and the exposure to progressive interpretations of Islamic lifestyle. The three sects into which Yemenis divide themselves are the Zaydi, the Shafi'i and the Isma'ili.

1. The Zaydis.¹⁰ About half of the population considers itself Zaydi. According to tradition, Islam entered Yemen during the Prophet's lifetime, but Yemen was not unified as an Islamic state until the arrival of the Zaydi imams from Iraq in the tenth century. Zaydism, a branch of Shi'a Islam with significant differences from the Shi'a of Iran, has dominated the Central and Northern Highlands of Yemen over the centuries, despite fluctuations in the political strength of the imamate. The Zaydi concept of a state was an imamate ruled by an imam, a religious and political leader selected from the line of the prophet's family. As a religious leader, the imam established a Muslim community and fought against the pagan and anti-Islamic elements of Yemeni tribalism. As a political leader, the imam relied on military support from the tribes by forming alliances. He never enjoyed absolute dictatorial powers, however, and at times competing imams would vie for tribal support. Although the imamate was abolished in 1962, the sect thrives.

2. The Shafi'i.¹¹ In the Southern Highlands and in large parts of the coastal region the Shafi'i sect of Sunni, or orthodox, Islam has held sway. The Shafi'i did not recognize an imam, nor did they recognize a single religious leader. Because of greater access to the coast and the crucial port of Aden, the Shafi'i had more extensive contacts with other parts of the Arab world. Unlike the Zaydi north, the political role of the tribes was limited. A number of petty dynasties, particularly in medieval times, opposed the northern tribes and Zaydi imams. Indeed, the Zaydi-Shafi'i distinction represents a sociopolitical cleavage more than a religious one. The Shafi'i were among the first to emigrate extensively for work outside Yemen and were in the forefront of the 1962 revolution. Since the end of the civil war in the late 1960s, the republican government in Sanaa has attempted to integrate Shafi'i and Zaydi in the cabinet and policy-making, but regional competition still exists.

3. The Isma'ilis.¹² The third Islamic sect important in Yemeni society is the Isma'ili. Ismailis in Yemen do not belong to the branch of Isma'ili Islam that recognizes the Agha Khan as spiritual leader, but rather to a small group with links to India and Pakistan. The Isma'ilis are concentrated in central Yemen, particularly in the Manakha and Haraz region. Although they played a role in the days of the second Turkish occupation (1872-1918), their political power today is limited. The Isma'ilis are active in urban commerce, particularly in Sanaa. In contrast to previous discrimination against the Isma'ilis under the imamate, the present government has sought to include them. Isma'ilis numbered no more than 60,000 as of the early 1970s.

The Muslim Brotherhood. The sudden emergency of the Islamic Republic in Iran, as well as the role of the more "fundamentalist" of the Islamic movements in

Egypt in the assassination of Anwar al-Sadat, have produced a great deal of concern in the United States with what appears to be a significant new phenomenon in the Middle East. The Muslim Brotherhood (Ikhwan al-Muslimin) is not a sect of Islam, but a cross-cutting religious movement that stresses a return to a stricter interpretation of Islam and often takes an anti-Western stance. It would be a misreading of the role of Islam in contemporary society to assume that the Brotherhood speaks for all or most Muslims. It has emerged as a vocal and highly political movement, which is a major reason it has gained notice in the Western media.

It is important--both for peace of mind of the average Westerner operating in the Middle East as well as the policy maker--to understand the context of this emergence. First, Islam--as a religion, as a civilization, as a philosophy, as a way of life--is no more monolithic than its more Western counterparts, Christianity and Judaism. Contemporary Islam includes an incredible array and variety of sects, groups, movements, orientations, and beliefs that trace their intellectual origins, and their raison d'etre, to the principles originally enunciated by Muhammad.

Second, all Islamic movements, including the Muslim Brotherhood, are not always opposed to Western methods, concepts, programs, and reforms. In fact, the Brotherhood has been willing to accept and adapt a variety of Western characteristics, if they are perceived as eventually helping to increase the stature and influence of Islamic principles in public life. In the case of Yemen, the Brotherhood began (shortly after World War II ended) to participate in the movements to reform the imamate and bring progressive economic ideas and sociopolitical reforms to Yemen. The average Yemeni does not conceive of the Brotherhood as a reactionary organization determined to destroy the various gains of the past two decades, but, rather, as a promoter and supporter of the foundations of these gains.

Social Groups

The available literature on Yemeni society often portrays a uniformity in the social structure. This obscures the fact that the number and nature of social groups in Yemen vary according to the sociopolitical context, religious affiliation, rural vs. urban, conservatives vs. progressive and migration patterns. The two broadest differences in the social structure of Yemen are that between north and south and that between highland and coastal. Tribalism has been a significant political factor in the north, but the south has evolved as much more of a landlord-peasant situation. There appears to be more African influence in the coastal region, but this issue needs further study.

On the most generalized level, social groups throughout traditional southwestern Arabia can be categorized as part of a three-tiered hierarchy in which status ranking depends on prestige of ancestry (Table 3-6). At the top of the social scale have been the traditional elites, who were the best educated and enjoyed the highest religious prestige. The Sada, which represent about 5 percent of the population, are descendants of the prophet Muhammad. The Quda or Fugaha were learned men of tribal ancestry, although they no longer affiliate with a particular tribal group. These groups constituted the religious aristocracy of the Zaydi imamate and performed administrative and juridical roles in Yemen. Their influence has been greatly eroded since the revolution.

Table 3-6. Traditional Social Categories and Groups in Yemeni Society

	Urban Focus	Rural Focus
High Status	<u>SADA</u> (Religious elite, descendants of the Prophet; north)	
	<u>FUQAHA</u> and <u>QUDA</u> (learned officials of tribal ancestry)	
	SOUTHERN SHAYKHS (Southern landlord elite)	
Middle Status	<u>RA'LYYA</u> (Southern peasants)	<u>QABA'IL</u> (Tribes)
	Merchants and traders	
	Artisans of respected trades	
		<u>BANI KHUMS</u> (Including barbers, vegetable hawkers, praise-singers, and musicians; north)
Low Status	<u>AHL AL-SUQ</u> , <u>AWLAD AL-SUQ</u> , <u>NUQQAS</u> (Market groups; north and south)	
	<u>ABID</u> (former slaves)	
	<u>AKHDAM</u> (Black-skinned ethnic group working as sweepers in urban areas and as rural agricultural laborers; not found in Northern Highlands)	
	Other low-status groups	

The bulk of the population has always consisted of tribal and non-tribal free citizens. The tribes were dominant in rural areas of the Central and Northern Highlands, where they were the backbone of the agricultural labor force. In the south and along the coast most of the citizens are "peasants," either sharecroppers, small holders or livestock raisers. Although many of these people refer to themselves as "tribal," there are major differences in terms of leadership roles, mediation processes, defense and the role of tribal customary law. In urban areas citizens have been largely merchants, traders and respected craftsmen.

At the bottom of the social scale are various low-status service providers and pariahs. These are sometimes referred to as "deficient" or "weak," because they did not carry arms and were often clients to the tribes. Low-status occupations in traditional Yemeni society include: barbers, circumcisers, butchers, innkeepers, praisesingers, musicians and singers, smiths, vegetable growers, potters and a variety of market tasks. Most of these were not allowed to own land and were locked into poverty.

It is important to stress that even within the category of low-status groups there was differentiation of status. The least respected group is reported to be the Akhdam, a servile pariah group found mainly in the coastal area, Southern Highlands and major cities. The Akhdam are often confused with other low-status, dark-skinned groups in Yemen. The available data are fragmentary and biased to the characterization of Akhdam by higher-status groups. It would be wrong to look at the Akhdam or any other low-status group as a monolithic entity frozen in time. In fact, there has been substantial mobility of many of the low-status groups in recent years.

A listing of social categories and groups (Table 3-6) defines terms, but it is not in itself a proper understanding of Yemeni society. Because of the limited data base, planners are given the impression that there are clearly defined social groups. This is due in part to reliance on the few published sources and generalization to other contexts where this may not be appropriate.

The following discussion focuses on regional differences in Yemen, but it is necessarily preliminary at this point in time. As more ethnographic fieldwork is completed, there is a need to update and revise the points made below. The regions are those commonly cited in the literature, but they are not necessarily homogenous.

Tihama.¹³ No major ethnographic study has been conducted here, although there are brief descriptions of a few fishing and agricultural villages. At first glance the most apparent characteristic of the coastal region is the extent of African influence on genetics, architecture, diet and certain customs. Research is needed on the extent of influence, because there is a tendency to look at differences from the "Arab" highlands as non-Yemeni. There is no basis in fact for such a conclusion.

All of the major social groups are represented in the Tihama, but tribes here do not seem to have been as independent as those in the highlands. This area is Shaf'i'i and was generally opposed to the highland Zaydi imamate. Land is mostly concentrated in the hands of large landowners, while most of the farmers need to sharecrop. Some farmers on marginal rainfed land also raise livestock during parts of the year. Women have a greater role in the market,

but it is reported that they have a limited role in actual agricultural tasks. This latter is a point that needs further study.

Central and Northern Highlands.¹⁴ The dominant feature of Yemen above the town of Dhahar is the major political role of the tribes. Tribesmen here are sedentary farmers and have access to ownership of land and sharing of water sources. The tribes have distinct tribal boundaries, which have long been vigorously defended. In the rural areas there have been three basic categories. Highest status went to the Sada and Quda, who lived mainly in towns protected by the tribes as neutral territory. During the time of the Zaydi imamate, the Sada and Quda administered the Islamic state and mediated tribal disputes. The Zaydi relied heavily on alliances with certain tribes. A number of client groups, often known as the Rani Khuma, provided services to the tribes and were considered of low-status. In the urban areas the tribes had little direct influence and there was a greater concern with status and rank. The Akhdam and other pariahs tended to reside in cities in this region. There do not appear to have been many Akhdam in the more northern area.

Several ethnographic studies have been conducted in this region and there is a variety of new data on the tribes. Traditional social structure is undergoing rapid change as there are new economic opportunities for a cross-section of the population.

Southern Highlands.¹⁵ This region has always had the highest population and enjoys the greatest rainfall. During medieval times there were several dynasties in power here that contended with the Zaydis to the north. There is a major distinction with the area to the north in terms of religious sect (Shafi'i here) and the political role of the tribes. This has been an area of substantial out-migration for work abroad. Consequently, people here tend to be the best educated and more exposed to Western lifestyles.

The major power brokers in the rural areas are the so-called shaykhs, which are not in fact tribal leaders. These are large landowners and often provide credit to others in the society. The farmers often call themselves "tribal," but they are more peasant with a high percentage of sharecroppers. There are many low-status services providers, including the Akhdam. There are also various groups of seasonal agricultural laborers. The impact of remittances on rural society here has been substantial.

Eastern Plateau.¹⁶ Of all regions in Yemen, this has long been the least populated, least blessed with resources and least studied. No ethnographic study has yet been done here, although there is some useful data from a 19th century traveler named Eduard Glaser. At the eastern reaches lies the desolate Empty Quarter of the Arabian desert. There are nomadic pastoralists here, some of which range into the desert. Most of the population is agricultural or semi-nomadic. There are no major towns. Although information is scanty, there appear to be fewer Sada and low-service providers here than in the highlands. This is a region in which it is very difficult to do field research. Yet, it is also the center of several pre-Islamic civilizations, especially the Sabaeans.

Social structure and actual behavior.¹⁷ It would be a mistake to assume that the existence of status and ranking in Yemeni society necessarily results in rigorously defined behavior patterns. Status is a relative phenomenon and those at the lower end of the scale often have the least desire to maintain

such a system. The available ethnographic evidence suggests that ranking is more important in urban areas, where the high status of the religious elites can be reinforced. In the rural Northern and Central Highlands the elites were respected, but they were not considered "better" than the tribes. Indeed, these tribesmen have always been very proud of their tradition and were never dominated by the elites. In the recent rapid economic change, with traditional status in a state of flux, the rural Central Highlands have not experienced class conflict in the classic sense. Basic tribal values appear to have been idealized by all segments of the rural society. In the south and the Tihama, on the other hand, ranking is more important. Behavior of the lower status groups is more subservient. The effects of remittances on the relation between social groups has not yet been fully understood for the country as a whole.

The Domestic Household.¹⁸

The primary economic unit in all of Yemeni society is the domestic household. This is especially the case in rural areas where subsistence agriculture is integrated with small stock raising. This section will consider the household as a kinship and an economic unit, noting the division of labor within the household. Emphasis is placed on the Central Highlands, where the most information is available.

First and foremost, the household is a kinship group, either a nuclear or extended family. There are no more than three generations depth in the household. According to the 1975 census the average household size for Yemen is 5.2, with slightly higher figures for the rural Central and Northern Highlands. The 1981 survey by the MAF showed an average household size between 5 and 6 (Table 3-7). Variations in size according to region are shown in Table 3-8.

The primary authority in the household is the oldest male. Disputes arising between family members are usually settled within the household rather than in public. The household is the largest kinship unit that can privately own property or land in rural Yemen. The father may divide up the inheritance during his lifetime. It is important to note that even if a nuclear family lives separately, it still has major obligations to the larger extended family.

Table 3-7. Average Rural Household Size in Six Governorates (YAR, MAF 1981:18)

<u>Governorate</u>	<u>Individuals Present</u>	<u>Individuals Absent or Abroad</u>	<u>Total</u>
Dhamar	4.94	.30	5.24
Hajja	5.34	.24	5.61
Hodeida	4.80	.22	5.02
Ibb	5.14	.35	5.49
Mahweit	5.63	.27	5.90
Taiz	5.07	.30	5.37

Table 3-8. Number of Individuals per Household
in Six Governorates (YAR, MAF 1981:19)

<u>Governorate</u>	<u>Percentage for Each Size Household</u>					
	1	2	3-4	5-9	10-14	15+
Dhamar	2.7	8.9	33.0	48.0	5.4	2.0
Hajja	3.0	9.6	32.8	44.8	7.3	2.5
Hodeida	2.7	11.5	38.2	43.6	3.3	0.7
Ibb	3.1	9.8	34.1	46.2	5.9	0.9
Mahweit	3.5	9.9	35.3	44.0	5.7	1.6
Taiz	3.5	10.4	32.6	47.4	5.2	0.9

Marriage.¹⁹ The household consists of a married couple and their children (and female spouses) up to a depth of three generations. Marriage in Yemen is a contract between two families, rather than a "romantic" match between two lovers. In tribal law the marriage contract includes a sizeable brideprice (shart) paid by the groom to the bride's father. This is not the formal dower (mahr) called for in Islamic law, but a customary procedure often condemned by judges and government officials. This brideprice is highly inflated in rural tribal areas of the Central Highlands, where an average may be YR 50,000-75,000. The full cost of a wedding, which involves household provisions and three days of celebration, may run over YR 100,000. To many tribesmen the greater value of the brideprice depicts the honor of the bride. It is only because of the rise in remittance wealth that such exorbitant figures have been reached. Poorer families who cannot afford such amounts have an incentive to seek exchange marriages (e.g., a brother and a sister marrying a sister and brother of another family). Generally, marriages within the village are not as high in brideprice as those between villages or tribal areas. Marriage with a parallel cousin is the stated norm, but this is not that common.

Invariably the woman becomes part of the husband's household and usually receives her duties from her mother-in-law. Only recently have rural couples had the economic opportunity to set up a nuclear household. The woman does not legally become part of her husband's family, but retains membership in her natal family. Her name is still that of her natal family and she will receive her inheritance, not her husband. If a woman wants spending money, she will often go to her father or brother rather than her husband. A woman's own mother or grandmother often helps in childbirth. In case of an argument with her husband, a woman will return to her natal household and her father or brothers will intercede for her with her husband. In case of divorce, a woman usually returns to her natal family. If it is a divorce soon after marriage, all or most of the brideprice must be returned. Thus, a woman's links with her natal family provide her with leverage in dealing with the family she marries into.

Income. In rural Yemen a distinction is made between those activities and income generated for household maintenance and income generation for personal use. At marriage the husband provides the money for the bride's wardrobe and basic household items. The husband is responsible for providing the income

needed to maintain and run the household. Women in rural Yemen have several ways in which they can earn their own spending money. One of these is raising of a few chickens and eggs. Those not consumed in the household can be sold or exchanged within the village or local market. Women may also make baskets, sew, carry water, or bake bread for sale. The actual purchase of foods in the market is generally made by men, who usually make the decision on how much of the harvest is to be saved for household use.

Division of labor. Household tasks are a function of gender and age, as well as the total labor pool in a household at a given time. Although there are clear regional variations in the division of labor, these are only now beginning to be described in the literature. The following observations characterize the highlands, with information on the coastal context included when known:

1. Women have responsibilities for food processing and preparation. In recent years there has been a shift from hand-milling of grain at the household to the use of community grain mills (diesel powered). Cooking in rural areas involved baking of bread in the traditional tannur oven, preparation of sorghum or grain porridge, occasional preparation of meat, and other dishes.

2. Women have the primary responsibilities for most domestic animals, except those used in transport (camels and donkeys). It is perhaps an apt metaphor that the men ride and the women put the beast to sleep. Young girls and boys will take a small flock of sheep and goats to graze on nearby fallow fields or communal pasture. Women generally out the alfalfa (gab) fed to cows, help in the harvest of sorghum stalks for fodder and collect weeds. Cattle in rural Yemen are usually handfed, a task generally assigned to an old woman. This may take up to three hours a day. Women usually milk the animals and churn the butter. Men milk camels.

3. Women have primary responsibilities for firewood collection and fuel preparation. Brush is collected from the terraces or wasteland. Sometimes women will travel several kilometers to obtain deadwood in a wadi bed or isolated spot. With the decline in the availability of trees for firewood, this activity becomes more time-consuming. Women collect the bottom parts of sorghum stalks left in the fields for use as firewood. Throughout the highlands animal dung is collected and shaped into fuel cakes for use in the tannur oven. Purchase of a truckload or camel load of firewood, as well as the purchase of butane gas containers, is something that men do.

4. The role of women in subsistence agriculture is substantial.²⁰ Although the precise tasks that a woman performs vary regionally, they are very important for traditional agriculture. Women universally in Yemen seem to be involved in sowing, weeding, harvesting and winnowing. Women have almost no role in irrigation, do not generally use draft animals or tractors, and have little role in cash cropping and marketing of produce. It would appear that the role of female labor in field tasks is greatest when production is most marginal. It is important to note that vegetables were rarely grown in rural Yemen; this differs from the work done by women elsewhere in developing countries.

5. Women raise small flocks of poultry and handle eggs in the village and local market.²¹ There is a ritual need for eggs and young chicks at birth and circumcisions. This is an income-generating activity in that surplus chicks,

meat and eggs can be marketed. However, it is not perceived as a full-time activity or profession. Women appear to have had a minor role in the expanding commercial production of chickens in Yemen.

6. Men are involved in construction and physical repair of buildings and terrace walls. Men also tend to be the ones who bring in new soil from lower in the wadi to a field.

7. Men are responsible for long distance transport of goods and produce. In the past this was done by camel or donkey, but now the truck is commonly used. Women and children are only involved in transport within the local community from house to field or market.

8. Women are responsible for the daily supply of domestic water. From about the age of 8, a woman may make up to three or more trips a day to the local spring or well and this may be more than a kilometer away. Water is carried in a pail or other container on the head. In some seasons a well may dry up and women will have to walk further. To rural women, the provision of a close and convenient water supply is understandably a central concern. In some areas young boys bring water by donkey.

9. In the rural highlands women have a minor role in marketing. There are no female merchants or traders as such. A woman may market goods locally or purchase supplies in the local market or from a village store. Most purchases are made by men, who far outnumber the women in most rural markets. Men are exclusively engaged in marketing of grain crops, pulses and cash crops (coffee, qat). Women have a far more active role in coastal region markets. There appears to be less of a stigma here attached to female participation in the public sphere than in the highlands.

10. Men represent the household in political decisions within the community. Men vote for the local shaykh, who is always a male, and dominate the LDA structure. Men also sign all documents, even acting as agents for women. Remittance money is often sent to a male relative for the wife and children, rather than to the woman herself.

11. Children are given major household responsibilities from an early age. Children are expected to contribute to the household and its productive tasks. Boys help in the fields and learn to plow with a draft animal from age 8-10. Younger boys may be sent with the sheep and goats to nearby fields. Girls are assigned cleaning and cooking tasks, as well as helping to fetch water, from age 8-10. By the time a girl reaches puberty, she will be able to run the day-to-day activities of the household.

12. The elderly in a household contribute to the best of their ability. An old woman will often feed the cows and take care of the chickens. Old women also act as midwives and offer health advice to younger women in the household. Old men and women may sit in the fields near harvest time to scare away the birds. Old men will help with tasks in the fields that they can handle, such as weeding.

13. The precise assignment of tasks will depend on the household size, the proportion of men to women, and the total labor pool. In a household where one or more men have migrated for work abroad, other male relatives or women must often do their work in the fields. If there is a high percentage of women in

the household, a woman may have fewer individual household tasks and more outside the home in the fields. Among the elites a servant may be hired and large landlords will hire day laborers or rent out land to sharecroppers.

Male and Female²²

Throughout the Arab world there is a dramatic separation of men and women in the public sphere. This is most often symbolized by the image of an Arab woman shrouded behind a veil. Westerners often view the veil, which is more of an urban and high-status phenomenon, as a symbol of female suppression, but this is not a view shared by most rural women. Indeed, the veil represents a vehicle for female mobility in the existing cultural context. Compared to Saudi Arabia, women in Yemen have a far greater freedom of movement and voice in decisions. The mere presence of a veil does not explain the role of women in the society.

The purpose of this section is to explain the nature of female roles in Yemeni society. Only by understanding variations in the actual status and roles of women can a development planner consider culturally-attuned ways of "improving" the quality of life for women in rural Yemen. It is not enough to design a project which on paper can benefit women, for women in rural Yemen live in a radically different context than most planners and than many other developing countries. The following points illustrate the context:

1. Urban and rural variations. There is a significant difference between urban and rural women in terms of restrictions on female mobility, economic roles and status. To a large extent this is a class distinction, since wealthier and higher status women are urban in focus, have less need to concern themselves with household affairs and economic pursuits, generally have a fair amount of leisure time, have greater educational opportunities and are in the best position to enter the emerging modern work force of the cities. Poorer women, even in the cities, have more drudgery in their life and are more active in the market. Low-status women may work as servants or provide services for the wealthy.

Rural women, especially those involved in subsistence agriculture, have household duties plus tasks in production. In this sense, rural women have a greater economic role in that they participate in putting bread on the table and may have ways of small income generation. Rural women tend to have greater mobility and greater freedom in speaking with men. Women may wear a short-face veil (lithma) while working in the fields, but almost never the full-length veil (sharshaf) unless visiting in the city or town.

2. Regional variations. Although there have been several ethnographic accounts of women in Yemen, there are still significant gaps in understanding regional variations, particularly for the coastal region. It is clear that there has been African influence over the centuries in the coastal region and this may account for the fact that women here have greater mobility and more of a role in the market. From the available data, it appears that women in the Tihama have less of a role in agricultural field tasks than in the highlands.

3. Tribal and non-tribal. In tribal areas women make a substantial contribution to the rural economy, but they have little or no visibility in the dominant political institutions. Only men elect tribal leaders, who are always

male. Women were never part of war groups, nor did they usually function as mediators. No religious officials are female and women had no access to local mosques in some rural areas. It is considered shameful for a tribal woman to work for wages (i.e., on a continuing basis), although women are involved in seasonal agricultural labor.

Women of the low-status service groups sometimes perform as musicians, singers or healers in rural Yemen. There tends to be more mobility and less veiling of women in low-status groups. In the endogamous rural society of most of the highlands there is little marriage of tribesmen to low-status, non-tribal women. There is, however, marriage between Sada and the learned Quda and Fugaba groups, but this is not that common.

4. Age and Gender. A girl begins household tasks at an early age in preparation for marriage. She is not usually veiled in rural areas until she reaches puberty, and this is the lithma or short veil. Young boys help in the fields and learn to plow from about the age of 10. Widows and old women have a great deal of mobility and freedom of expression. They often act as midwives or assist in traditional medical care.

5. Economic Power. Although women have substantial tasks in the household and farming, they do not appear to be the major decision-makers over the household budget. This situation has changed with the impact of remittances. Women do inherit, and this is a source of personal wealth. Women can gain income from a number of rural tasks, including sale of fodder or certain vegetables, sale of eggs or chicks, basketry, sewing, mat-making and provision of services (healing, singing, and so on). Unfortunately, none of these tasks would be sufficient for income and the woman is always dependent on male relatives for her economic security. The major new professional opportunities are in the city. At present there appears to be little chance of rural girls becoming teachers, secretaries or university students. With the decline in subsistence agriculture and switch to cash cropping, women may have less of an economic role, although the total household budget may be increased.

6. Political Power. Yemeni society is male-dominated in terms of existing institutions. Women play no visible role in local, rural politics. However, women are now beginning to enter government service, even if not at the highest levels. In public a rural woman is dependent on male brokers--often relatives--even if she owns land or has wealth. Remittances, for example, come back to a male agent or relative. It is unclear from the literature what is the indirect and informal power which women have in Yemeni society.

7. Changing conditions in rural Yemen. The fact that a woman is wearing a veil does not indicate what she thinks about her role in society. In the past two decades there has been considerable change in Yemen following a revolution, civil war, opening of the country to the West and increased emigration of males for work abroad.

As rural men go abroad for work and then return, they are exposed to new ideas--progressive and conservative--that women are not. This may result in a gradual alienation of man and wife as expectations change. As men become educated and their wives remain uneducated, there is less that a man and wife can share in common. As there are fewer opportunities for women to work in the public sphere or local community, the alienation of rural men and women becomes greater.

A major impact has been increased mobility in the rural areas and between villages and cities. A rural woman may go to town or city for medical services or shopping, when a decade ago she barely left her local community. The media now provide women with new ideas and exposure to foreign lifestyles (both Arab and Western). Imagine a tribal woman, having finished shaping a few dung cakes, sitting down for a few minutes to watch an Egyptian soap opera set in bustling Cairo or a commercial for a Moulinex blender. The cultural shock may be every bit as great as that of a Westerner first thrust into Yemeni society.

The lot of rural Yemen has long been one of drudgery over a short life span. Rural women now are seeking escape from this drudgery and often idealize the situation of the rich, urban woman. Many think it would be nice to sit in a large house, be able to order servants around, have money to spend on clothes and have more time for leisure and visiting. Ironically, country girls are beginning to wear the urban veil (sharshaf) just as educated urban girls are seeking to emerge from under the veil. Few of the frustrations of urban women, even those in the wealthier households, are understood or appreciated by rural women.

Old and Young

Age is an important distinction in Yemeni society, where the elderly, as individuals and a group, are traditionally afforded respect. As noted in Table 3-9, over one-third of the population is under 10. According to the 1975 census, life expectancy at birth for males was 35.7 years and 38.3 years for females. Only 2 percent of the population reaches the age of 70.

Age figures in the division of household labor, restrictions on mobility and attitudes. Children are given a great deal of responsibility in the household and agriculture from the age of 8-10. The elderly perform less arduous tasks and there is no retirement age. The elderly tend to have more authority and greater freedom of expression.

Recent socioeconomic change in rural Yemen has stimulated the potential for a generation gap. The young have better educational opportunities and more options on the job market than their elders. A farmer's son may no longer be a farmer and a butcher's son may no longer be a butcher. This is a radical change in Yemen. A trend of direct relevance to development planners is the growing gap between youth (shabb) and old man (shayba). Many of the elderly feel threatened by change and the young feel frustrated at traditional barriers. A relevant example is the experience of American Save the Children in an Integrated Rural Development Project in Mahweit. In early 1978 both old and young of Mahweit welcomed the prospects of a development program in their relatively ignored governorate. Within two years, however, the American project personnel became enmeshed in local political competition. The youth received a youth center, but expected more than the project could provide. Local elderly objected to the emphasis on training local girls as nutrition workers. Even though young and old were often at odds with each other, they both reacted negatively (though for different reasons) to the way in which the project was implemented. The major problem was the difficulty of reading the local political climate in a remote area not used to foreigners.

Table 3-9. Age Distribution in the Yemen Arab Republic
According to the 1975 Census (Steffen and Blanc
1982:89)

Age Class	Total Population		Males		Females	
	Number	%	Number	%	Number	%
0 4	772,000	17.1	387,000	17.9	385,000	16.2
5 9	807,000	17.8	418,000	19.4	389,000	16.4
10 14	538,000	11.9	286,000	13.3	252,000	10.6
15 19	358,000	7.9	158,000	7.3	200,000	8.4
20 24	296,000	6.5	116,000	5.4	180,000	7.6
25 29	283,000	6.2	116,000	5.4	167,000	7.0
30 34	270,000	6.0	116,000	5.4	154,000	6.5
35 39	255,000	5.6	115,000	5.3	140,000	5.9
40 44	277,000	5.0	104,000	4.8	123,000	5.2
45 49	190,000	4.2	86,000	4.0	104,000	4.5
50 55	154,000	3.4	70,000	3.2	84,000	3.5
55 59	122,000	2.7	57,000	2.6	65,000	2.7
60 64	93,000	2.4	45,000	2.1	48,000	2.1
65 69	68,000	1.5	33,000	1.5	35,000	1.5
70 74	46,000	1.0	23,000	1.1	23,000	1.0
75 79	27,000	0.6	14,000	0.6	13,000	0.5
80 & +	21,000	0.5	11,000	0.5	10,000	0.4
Age unknown	178,000	-	88,000	-	90,000	-
TOTAL	4,705,000	100.0	2,243,000	100.0	2,462,000	100.0

It is not a case of the old being conservative and the young progressive. The Muslim Brotherhood has a large following among youth. Indeed, the young are often critical of traditional Yemeni religious practices, which are not as strict as those in Saudi Arabia and among the Brotherhood. An old judge (Qadi) will be more flexible than a young Brother. The young also have greater expectations, not having lived through the "depression" of the imamate. They expect rapid change and often have expectations that the government or foreign donors cannot meet in rural Yemen.

Folklore and Aesthetics

No survey of the rural majority would be complete without a brief consideration of the creativity and wealth of folklore in rural Yemeni society.

Traditionally, the artistic, rural crafts have not been an economic pursuit, but rather for household or community purposes. Clothing style, architecture and designs in rural Yemen are not as intricate or sophisticated as those in urban areas. Pots and baskets have a primary functional purpose, although recently there has developed a tourist trade in these items.

There are a number of ways in which folk art is thriving in rural Yemen. Great attention is paid to metal doors and wooden doors on buildings. Metal doors are often brightly painted and have a variety of designs. Automobiles are decorated inside with cloth, designs and small objects.

Cultural expression is most dominant in the arts and skills of language, music and dance. There are "illiterate" country poets famous throughout Yemen. Even farmers who have received no formal education often know parts of the Quran or have memorized poetry and proverbs. In tribal areas poetry is a major form of expression in tribal affairs, particularly dispute settlement. One of the most enjoyable parts of television programming to Yemenis is the poetry reading. Apart from playing of the guitar (oud), music is generally performed by low-status groups, but it is an important part of weddings and other celebrations. Throughout Yemen there is a great emphasis on the dance. In tribal areas there is a form of dance (called harfa) performed by men with the dagger (janbiyya) and with great tribal significance.

The sciences have always been an urban phenomenon, although you find learned religious men in rural areas. Farmers often have sophisticated methods of telling time, as in the case of the star calendar used for telling seasons to plant and harvest crops. There are traditional healers who pass on lore over the generations. Great creativity is expressed in naming of local plants and animals.

Recent Sociocultural Trends

Yemen has undergone a dramatic awakening in only two decades after centuries of relative isolation. Rapid economic changes in the rural areas have had an impact on social practices and attitudes. Against the backdrop of the preceding sections, several major trends can be identified.

1. Increased mobility. While Yemenis in the south sometimes migrated through Aden for work abroad, it has only been the last decade or so in which there has been substantial migration for short-term work in the oil-boom economies of Saudi Arabia and the Gulf States. Although Yemen thus far has not been found to have oil resources, it benefits indirectly from Arab oil wealth in the region. Yemenis receive highly inflated wages abroad for unskilled and semi-skilled labor and this money is remitted back into the rural Yemeni economy.

One impact of remittances is increased capital at the local level for traditional investments and expenditures (e.g., brideprice and dagger) and local development of infrastructure. With more money to spend and improved transportation bringing in more goods, there is a consumer mania. Almost overnight Yemen has become a market for the latest Parisian fashions, perfume, expensive watches, gold jewelry, small appliances, imported and processed food, Pepsi Cola and even Pampers. While most of these are found in the urban areas, they are also being bought by the traditional rural poor.

Because the jobs abroad are basically unskilled, Yemenis who never had access to money are now becoming relatively affluent. This has resulted in a more equitable distribution of wealth in rural Yemen. A low-status butcher can now earn more money abroad than a high-status Sayyid serving as a government official. With the high brideprices, money is distributed from families with males who migrate abroad to families with more women. More mobility in a physical and economic sense is resulting in the breakdown of traditional barriers. A low-status butcher can now use his money earned abroad to buy a taxi or open a shop in town. Traditional musicians and healers have correspondingly raised the fees for their services at a time when they are few in number but demand is still high.

2. Exposure to alternative lifestyles. Unlike most of the Middle East and many developing countries, the modern Yemen Arab Republic region was never occupied by a Western colonial power. Although the British controlled Aden, this had little impact on the Zaydi imamate. Yemen had virtually no exposure to Western technology and was more or less ignored in geopolitics until this century.

Rural Yemenis have been hurled into the modern world and inundated with a potpourri of new goods and ideas. In a few short years villages have received a dirt track opening up wheeled transport, small electricity generators, a variety of new consumer goods, potential farm inputs (fertilizer, tractors, improved seeds, insecticides) and television. Rather than a gradual introduction into a new lifestyle, rural Yemen is being asked to absorb many new and strange things instantaneously.

The most radical introduction has been the media--radio and television--linking remote rural areas with the national scene and the international community. Yemenis who may not know how other Arabs live in Egypt and Syria are now seeing programs from Europe and the United States. There are some educational programs on the media, but the main functions are newscasting and entertainment. In the past year there has been a burgeoning market for video-cassette machines, even in rural areas. In an environment with limited entertainment options, constant attention is paid to television in the evening when most village generators function. The effect on work schedules in rural Yemen has yet to be determined.

3. Changing role of the domestic household. As new economic opportunities arise in rural and urban Yemen, there is less of a need for subsistence agriculture. Many basic foods can be purchased in local markets, which are shifting from distribution of local produce to marketing of national and world market items. The effect of this is immediate on division of labor in the household. Traditional mechanisms of family solidarity tend to be weakened. Young sons are understandably reluctant to have their earnings handled by their father. As subsistence production decreases, women have less of a role in agriculture. As schools are built, children are no longer as available for household and productive tasks.

4. Emerging social groups. Traditional ranking and status are still a factor in Yemeni society, but their importance is weakened as new social groups emerge. The most important emerging group in Yemen is the military. From a retinue of bodyguards for the imam, who had no standing army, the military has evolved into the major political force in Yemen. It is significant that the tank which fired the first rounds of the revolution now stands enshrined in the

main square of the capital. The officer corps represents a new elite in Yemeni society. Recruits for the soldiers are taken from almost all segments of Yemeni society.

Another emerging social group is that of the technocrats, government workers who have been trained abroad. Young, educated Yemenis are beginning to fill roles in an expanding central government. Although there is still variation within the government in terms of social background and regional identities, there is a growing similarity of purpose for the new technocrats.

5. Emerging Yemeni nationalism. The idea and ideology of Yemen as a national-state are very recent and only slowly beginning to take hold in rural areas. Since the revolution a national military has gained in strength, national representatives have been elected and the media show a national government at work. Although rural Yemenis, especially in tribal areas, are often suspicious of the central government, there is a growing identification of being Yemeni rather than a regional or tribal identity alone. It was Yemen as a nation that welcomed the Palestinians after the war in Lebanon. It was Yemen as a nation that mourned the losses in the devastating earthquakes of late 1982. The ultimate expression of this nationalism is a continuing interest for unity between the two Yemens (YAR and PDYR), and shared antipathy toward many things Saudi.

Implications for Development Planners

Numerous implications for programming and project implementation emerge from the discussion in the preceding sections. The most significant of these are:

1. Difficulties of project implementation in a heterogeneous rural social environment. While Yemeni society may appear to be homogeneous to the outside observer (the all-Chinese-look-alike syndrome), there are crosscutting identities and competing interests based on social identity, religious affiliation, age, educational background, work experience abroad and political interests. Local politics in a remote rural area can easily thwart project implementation, as demonstrated in the failure of the Integrated Rural Development project in Mahweit and the difficulties in the Local Resources for Development project in Hajja.²⁴ The foreign donor cannot function well in a remote rural region due to an inability to read local politics and the difficulties of project personnel adapting to local cultural sensitivities.

2. Difficulty in defining rural poor.²⁵ Yemen has long been one of the poorest countries in the world, as is still reflected in official statistics. However, the great influx of remittances and consequent stimulus to the rural economy have given increased economic mobility to the rural poor. Farmers in the more marginal, rainfed areas have been quick to leave for work abroad, when the opportunity exists. The fact that most jobs in Saudi Arabia and the Gulf States are for unskilled labor favors the poor and uneducated over the traditional elites. Some low-status service providers can now demand and receive high fees for their services. The social groups which do not seem to have benefited substantially from remittances include the Akdam and other traditional parish groups. There is reported discrimination against the mixed Yemeni-African population.

3. Improved status of non-farm rural employment. In the past there were few rural occupations outside of agriculture that were deemed respectable in rural Yemen. Butchers and musicians, for example, were held in low esteem and sometimes considered unclean. Tribal farmers cultivated grain and some cash crops, but they attached a stigma to cultivation and marketing of fresh vegetables. A low-status group (qashsham) and Jews grew vegetables for marketing. In the past decade, however, traditional distain is breaking down. Tribesmen are growing marketable vegetables (tomatoes, potatoes, okra) and launching on new careers (mechanics, shopkeepers, taxi drivers). There is an active private sector in rural Yemen, but there are still few technical skills among the rural population.

4. Islam not a barrier to rural development. Foreign donors in Yemen often misunderstand the integrative nature of Islam in Yemeni society and underestimate the potential that exists for building on principles of Islamic law and customs. The fundamental point is that there is no concept of religious vs. secular as has developed in the West. By distinguishing "religious" from "secular" concerns, donors may be perceived as anti-Islamic and inadvertently may antagonize the local population. For example, a donor may express interest in providing sanitation facilities in a youth center, but refuse to do so in the local mosque. Yet, in a rural village the mosque may well be a locale where the local residents are anxious to have latrines, showers and water taps. Why should the donor avoid improving the sanitation of the facility that is most commonly used for personal hygiene?

Numerous aspects of Islam can be built upon for improved project design and implementation. Islam's emphasis on personal cleanliness, as demanded by the ablutions for prayer, is a ready starting point for improving community sanitation and health. Similarly, there are principles of resource use in Islam regarding conservation and non-pollution of water. These must not be seen as "religious" issues, because Islam is integrated into the fabric of social interaction.

Despite recent experiences in the Mahweit project, the mission should not view conservative religious movements such as the Muslim Brotherhood as necessarily opposed to development. In most rural areas of Yemen religious ideology is fairly flexible and Yemenis are eager for development. The crucial problem is an expectation of what development involves.

5. Beneficial impact on rural women. Given the sensitivities concerning female roles in Yemen, as well as the difficulties Westerners have in dealing with these female roles, the best way to improve the life of rural women is not to target them as a distinct disadvantaged group. Making women an "issue" in development will create tension in a rural context and not be understood by the women to be benefited. It is important to observe that rural Yemeni women do not perceive of themselves as a distinct interest group. If women have drudgery in their lives, it is because of the conditions of rural life and not because men are thought to be suppressing them.

A certain amount of creativity is required to improve the working conditions of women without attempting to force change in the nature of male-female interaction. This is especially the case in attempting income-generating projects at the local level. In some cases women are not interested in new jobs and going upstream against traditional attitudes. In other cases

women have too many demands on their time in household and productive tasks to participate in experimental programs and supplemental income generation.

For the foreign donor, the best approach is to foster an improved health and working environment for women. An agricultural project, for example, could be a vehicle for introducing improved types of fodder (women generally collect or cut fodder) or improved agricultural tools or food processing devices (grain mills, threshers, winnowers). Through a health project the traditional rural kitchen could be improved by labor-saving devices, improved ovens, better lighting and ventilation, more sanitary washing of utensils, and so on.²⁶ Provisions of alternative energy supply (e.g., solar in appropriate regions) could liberate women from looking for scarce fuel resources.

Notes to Chapter 3

¹The major document is Steffen *et al.* (1978), which includes much of the census data, analysis and maps. Each year the CPO puts out a Statistical Yearbook. CYDA conducted a survey of the population in 1981.

²YAR. CPO (1981:33).

³See Tables 3-7 and 3-8 below.

⁴See below under section on domestic household.

⁵Adra (1982), Myntti (1979), UNFPA (1980).

⁶Yemen Family Planning Association (1979).

⁷Ibid.

⁸For a study on the impact of migration at the local level, see Swanson (1979). See also Steffen and Blanc (1982), and Socknat and Sinclair (1978).

⁹See below under religious ideology. See also Gerholm (1979).

¹⁰For a summary of Zaydi religion, see Serjeant (1969), Strothmann (1928), or Madelung (1965). The history of the imamate is described in Stookey (1978) and Tritton (1925).

¹¹There is no general summary of Shafi'i Yemen. See Maktari (1971) for a discussion of legal issues.

¹²See Gerholm (1977).

¹³Ethnographic data are limited, but see Bornstein (March, 1972), Fayein (1973), Hebert (1981), Steffen *et al.* (1978:II/81-115), and various wadi development reports for the Tihama. A master's thesis on village life is available in Arabic (al-Hurwi, 1981).

¹⁴For the Northern Highlands, see Kuczynski (1977) and the forthcoming work of Shelagh Weir (University of London). For the Central Highlands, see Adra (1981, 1982), Chelba (1970, 1971), Gerholm (1977, 1979), Doraky (1981), Dresch (1981, 1982), Mundy (1981), Stevenson (1981), Swanson (1981, 1982), Tutwiler (1979-1980), Varisco (1982c) and Varisco and Adra (1983). Work in progress includes ethnographic study by Steven Caton (Chicago), Jeffrey Meissner (Columbia University), Charles Swagman (UCLA) and Richard Tutwiler (Suny, Binghamton).

¹⁵Ethnographic data are available in Meister (1974), Messick (1978), Myntti (1978, 1979, forthcoming) and Swanson (1979a, b). Work is under way by Mary Hebert (Harvard) and Dolores Walters (NYU).

¹⁶Valuable information is provided on this region for the 19th century by Glaser (1913). See also Steffen *et al.* (1978:II/113-126).

¹⁷See Varisco and Adra (1983).

¹⁸For a description of the household, see the basic ethnographic studies, especially Tutwiler and Carapico (1981).

¹⁹See Adra (1982, Chalhod (1973), and Dorsky (1981).

²⁰See Hogan *et al.* (1982:74-75) and Myntti (1978, 1979).

²¹See Carapico and Hart (1977:1-3).

²²Studies of rural women include Adra (1981, 1982), Carapico and Hart (1977), Ansell (1978), Mundy (1979) and Myntti (1978, 1979). Urban women have been studied by Dorsky (1981) and Makhlouf (1979).

²³For architecture, see Costa and Viscario (1977) and Steffen *et al.* (1978). For clothing style, see Wilkerson-Karpowicz (1982). For poetry, see the upcoming dissertation of Steven Caton (Chicago). For dance and music, see Adra (1982). For the star calendar, see Varisco (1982c).

²⁴For the project in Mahweil, see Rassam and Benedict (1980). For the project in Hajja, see Crosby (1982).

²⁵For differential access to resources, see Chapter 8.

²⁶See the recommendations in Bornstein (April, 1972:12) and Myntti (1978).

PART III

DEVELOPMENT ISSUES

The preceding sections have provided an overview of the ecological, institutional and sociocultural setting for development in the Yemen Arab Republic. This part will focus on specific development issues in the rural sector. In Chapter 4 land and water resources are discussed, including principles of resource use and sociocultural constraints on resource development. The issue of rural productivity, especially agriculture and the impact of remittances, is covered in Chapter 5. Health, nutrition and hygiene in rural Yemen are the focus of Chapter 6. A brief discussion of education is provided in chapter 7. Finally, in summing up the development issues, a chapter is devoted to the differential access to resources and services in rural area. In each chapter development implications are set forth.

4. LAND AND WATER RESOURCES

One of the major concerns of development in the Yemen Arab Republic is efficient use of land and water resources.¹ A substantial part of the government budget, for example, has been targeted at exploitation of the coastal wadia.² This chapter will focus on the sociocultural aspects of resource use in traditional Yemen, especially constraints and potential for resource development. Very few quantitative data are available on rural water allocation and land tenure. In many parts of Yemen these are sensitive issues that are difficult to research. Complicating development efforts is the extreme variability in use rights for Yemen as a whole and the present lack of a national water policy.

Traditional Principles of Resource Use³

Allocation of land and water in Yemen results from a dynamic interplay between formal Islamic law (sharia) and customary law (urf). Islamic law is the basis of the Yemeni government, but this does not contain a formal code of water or land law. General resource use principles are provided and these must be applied by judges to varying contexts. The tendency in Yemen has been for Islamic judges to resolve water use problems by resorting to customary practices in a region, as long as this is not antagonistic to Islamic principles. Thus, it is difficult to define water use rights on a national level.

There are three basic principles guiding allocation of land and water in Islamic law:

1. All Muslims share in the resource water. The prophet Muhammad is quoted as saying that water, fire and pasture were given by God for the entire Islamic community. Water is perceived as a shared resource in terms of a priority of needs. Drinking, the most fundamental need, can be denied to no one. It is not hard to see how this principle developed in the arid, pastoral society of the Arabian peninsula. A Muslim denied water to drink or to quench the thirst of his mount has a right to take up arms to obtain what he needs. This concept

of sharing is one reason why private wells, inside a walled enclosure, may have an outlet to the street for those passing by. Similarly, no Muslims should be denied access to water for performance of the ablutions in prayer.

It is with irrigation that access to a shared resource must be limited. For a water source that is more or less unlimited, such as a major river, there is no need to limit access for irrigation. Seasonal flow in a wadi, however, is generally shared between a number of communities along the watercourse. Thus, it is important to reach an arrangement so that the upstream users do not take more water than they need and consequently harm the agriculture of downstream users. Springs are invariably defined as communal access in Yemen. Those who own nearby land share the flow from a spring, usually according to a rotation system of defined turns. A well dug by a man on his own property may be used for his own irrigation needs. However, he is admonished by the prophet Muhammad to allow surplus water to be used by others.

2. Water is essentially an ownerless resource. Since water is shared, it cannot be considered disposal property (mal) in Islamic law. Yet there are cases when water is owned in a de facto sense, such as when a person has water in a small container (jar) or digs a well on his own land. In fact, this is not an absolute right of ownership, because the owner cannot dispose of the water as he wishes. For example, he cannot alienate a water right from a land right in inheritance, as part of a bride's dower (mahr), as a gift, as alms, or as a bequest to the religious trust (waqf). The owner of a well must provide water for drinking to anyone who asks. Furthermore, Muhammad admonished people not to waste surplus water, but to pass it on to those who need it. To the extent a man withholds water from another, said the prophet, God will withhold his mercy on the day of judgment. Shareholders in a spring system do not own the water; they simply have prior use rights. This principle presents a major problem to developing user fees.

3. Water and land are intimately linked resources. In Islamic law of Yemen (both Zaydi and Shafi'i) the water right is attached to the land right and cannot be alienated. A water right cannot be bought or sold as such, although a turn may be "rented" on a daily or seasonal basis. The guiding principle is that the amount rented be a known or fixed amount to protect the rights of other shareholders. This linkage of land and water rights may have evolved out of a pastoral setting on the peninsula.

Several basic doctrines in Islamic law associate water and land as resources. One of these is the right of pre-emption (shuf'a), which is designed to protect fellow shareholders. If, for example, a group of men build a cistern and channel, the right of pre-emption guarantees that fellow shareholders will have first rights of purchase if one man wishes to sell his land (and thus his attached water right). This is also a principle in tribal customary law, where it is difficult for a man to sell land outside his descent group, because his kin have pre-emptive rights. In the past, and to a certain extent today, this right had tended to keep ownership of land and use of water for irrigation at a local level, especially in tribal areas.

Another principle linking land and water is the concept of a buffer zone (haram) or easement around most water sources. One cannot build a well within so many meters of another well or water source. Similarly, one cannot block access to a shared water source or block travel along a common channel. This principle appears to have worked well in the past, when water was lifted by

hand or animal power, but it cannot effectively deal with use of hydraulic pumps. Here is an area of groundwater usage where a national policy must be established to build on the traditional concept of the buffer zone.

Land Tenure

The legal classification of land in Yemen comprises what is privately-owned (mulk), state-owned (miri or amlak), communal, or held as religious trust (waqf). For the early 1970s it was estimated that 70-80 percent of the cultivated land was privately held, 2-3 percent was state-owned, and 15-20 percent was held as waqf.⁴ Since there is no national or regional land registration, it is hard to determine percentage with any precision.

The 1981 agricultural census indicates that there are major regional variations in land tenure.⁵ In the coastal governorate of Hodeida, for example, almost 80 percent of the holdings are totally owned (Table 4-1 on following page). A survey by ECWA shows that only 26 percent of the farmers in the coastal region are full-owners.⁶ This agrees with the observation that land tends to be concentrated in the hands of a few large landowners in the coastal region. Consolidated holdings are generally on irrigated land. During the 1970s a number of small farmers sold off their land after a major drought.⁷ The same ECWA survey showed that 65 percent of farmers in the highlands are full-owners. Parcels in the highlands tend to be smaller (Table 4-2), which reflects the fact that they are often on narrow terraces rather than the broad fields found in the Tihama.

Table 4-2. Distribution of Agricultural Holdings by Size in Six Governorates (YAR, MAF 1981:21)

Size (ha)	<u>Governorate</u>					
	<u>Dhamar</u>	<u>Hajja</u>	<u>Hodeida</u>	<u>Ibb</u>	<u>Mahweit</u>	<u>Taiz</u>
Less than 0.25	27.6	17.9	5.9	15.4	10.7	40.7
0.25-0.50	23.0	19.9	2.8	33.9	19.7	19.2
0.50-0.75	12.9	9.9	1.4	16.2	21.2	7.9
0.75-1.0	9.0	8.1	3.6	17.1	13.1	9.1
1.0-2.0	15.0	15.1	17.3	8.0	20.4	10.6
2.0-3.0	4.1	6.8	17.3	7.0	9.1	3.6
3.0-4.0	2.6	5.8	10.1	1.1	3.1	3.3
4.0-5.0	0.8	3.3	10.8	0.4	0.1	0.9
5.0-10.0	2.7	7.6	18.5	0.5	2.6	2.1
10.0-20.0	1.4	3.4	8.2	0.4	-	2.6
20.0-50.0	0.3	2.0	3.4	-	-	-
50.0-100.0	-	0.1	0.2	-	-	-
100.0-200.0	-	0.1	0.5	-	-	-
TOTAL %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4-1. Land Tenure in Six Governorates
(MAR. MAF 1981:26)

Type of Tenure	% of Holdings in Governorates:					
	Dhamar	Hajja	Hodeida	Ibb	Mahweit	Taiz
Totally owned	39.5	65.1	79.3	56.8	47.8	71.9
Owens at least 50% of land	29.5	15.0	6.6	11.8	17.5	12.1
Owens less than 50% of land	13.2	7.3	5.6	10.7	13.3	5.9
No owned land	0.3	0.5	0.9	1.9	-	0.2
Totally share-cropped	11.7	11.4	6.9	17.1	21.4	9.4
Rented	-	0.1	-	0.4	-	0.2
Totally <u>waof</u>	0.8	0.6	0.7	0.8	-	0.3
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Most state land appears to be found in the coastal region, including a large amount of land confiscated from the imam after the revolution. This land is a prime target for government-initiated development projects such as the USAID supplied Jaroubah farm along Wadi Surdud. Waqf land tends to be concentrated near large cities, especially in the south. There is no communal agricultural land in Yemen, but villages often have communal grazing rights on nearby land.

Land Fragmentation. The subsistence farmer avoids risk by having several small parcels spread out over an area rather than a consolidated holding. Land fragmentation also results from the nature of Islamic inheritance, where the land is divided up between the beneficiaries. The 1981 agricultural census clearly shows that there are fewer parcels per holding in the coastal region (an average of 2.7 for Hodeida) than in the highlands (an average of 6.8 for Dhamar) (Table 4-3). In part this reflects the fact that the parcels are smaller on the highland terraces than in the Tihama. In the governorate of Hodeida, for example, less than 6 percent of the holdings are less than 0.25 ha, while in highland Dhamar some 27.6 percent of the holdings are less than 0.25 ha (Table 4-2). The fact that the parcels are spread out across an area in the highlands, coupled with the prevalence of narrow terraces, makes it difficult to introduce tractors and other large-scale mechanization. The greater the fragmentation, the greater the need for unskilled labor, which is in low supply in rural Yemen today.

Table 4-3. Fragmentation of Holdings in Six Governorates (YAR, MAF 1981:24)

Number of Parcels Per Holding	Percentage by Governorate					
	Dhamar	Hajia	Hodeida	Ibb	Mahweit	Taiz
1	3.8	20.0	34.4	19.2	24.4	20.9
2-3	24.2	39.5	45.9	44.6	44.0	40.4
4-5	27.0	22.0	12.4	18.5	21.7	19.5
6-9	24.4	11.6	5.5	15.0	8.6	13.2
10-19	17.1	6.9	1.8	2.7	1.3	6.0
20 +	3.5	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0
Average Number per Holding	6.8	3.8	2.7	3.7	2.9	4.0

Inheritance.⁸ According to Islamic law, inheritance is divided among the children according to a fixed formula. For example, if a man with two sons and one daughter dies, the inheritance shares of his total property may be one-third to one son, one-third to the next son, one-sixth to the daughter and one-sixth to the wife. The female receives half the inheritance of the male, because of the fact that the male is generally the breadwinner and a female can expect support from her brothers or her husband. Women can and do own land in Islamic law, but in some tribal areas this right has been denied in the past. Since a woman cannot easily work the land, there is pressure for her to take the inheritance share in some other form of property (such as in the house). A custom in some cases is for the inheritance division to be postponed until late in the life of the inheritors. In this way a woman, for example, maintains a strong link with her natal family and may be able to have her sons deal with her brothers when the inheritance is finally settled.

Sharecropping. Data on the number of sharecroppers are difficult to obtain. The 1981 agricultural census indicates that the number of holdings which are totally sharecropped range from 6.9 percent of the total holdings in Hodeida to 21.4 percent in the isolated highland governorate of Mahweil (Table 4-1). While there does not appear to be a large landless peasantry, it has been estimated that most farmers rent land even when they also own land. This figure is as high as 90 percent in the Tihama⁹ and has been estimated at 60 percent for the Central Highland area near Manakha.¹⁰ It should be noted that all waqf land used for cultivation must be rented and this may represent under 10 percent of the total amount of cultivated land.¹¹

Land leased for agriculture varies in rental from region to region, depending on the nature of the water source, crops cultivated, farm size, labor supply and who pays the production tax (zakat). On a general level, the coastal farmer receives between one-third and one-half of the harvest, while the highland farmer receives from 50 to 80 percent of the harvest. The tenant provides almost all inputs. On state land in the Tihama a fixed sum of money may be charged for irrigation water, which must be figured into the rental agreement.

In the Central Highland valley of al-Ahjur, as an example of variation within a specific locale, the tenant receives 75 percent of the harvest for sorghum, wheat or maize on irrigated land.¹² The tenant provides all labor and supplies and pays the production tax of 10 percent. For barley on rainfed land, the tenant receives seven-eighths of the harvest. For cash crops such as coffee or qat the tenant receives two-thirds. Farmers note that rental is cheaper today than it was in the days of the imams, when there was greater demand for sharecropping and surplus rural labor.

The impact of remittances has been substantial on the value of land. Land is a traditional investment in rural Yemen and one that rural Yemenis desire when they have the capital. Unfortunately, statistical data on land pricing are not common.¹³ While the value of marginal rainfed land has not climbed significantly, there have been dramatic increases in the price of irrigated land (including that for a new well). Remittance capital also allows small landowners to retain what they own, with less land available for sale.

Strategy of Resource Use

Throughout Yemen water has always been a critical need for agriculture, although dry farming is widely practiced. Settlements were located near a source of domestic water supply, often a spring in the highlands. The dominant use of the wadis and springs has long been for irrigation. In the highlands generations of Yemeni farmers built up an extensive system of terraces to utilize both spring flow and slope runoff. In the coastal region, until the introduction of hydraulic pumps, irrigation focused on exploitation of the seasonal floods in the major wadis.

A useful way of understanding traditional strategies of water resource use is according to the source. In Yemen the relevant water sources are seasonal floods, perennial spring flow, wells and runoff harvesting, as well as direct rainfall. As shown in Table 4-4, the vast majority of cultivated land in Yemen is rainfed, although not all of this may be in production at one time. Of the 16 percent of the cultivated land irrigated, seasonal floods predominate in the coastal governorate of Hodeida and coastal portions of Taiz and Hajja governorates. Springs are a highland phenomenon, while wells for irrigation predominate in the coastal region. The northern governorate of Sa'da and the Eastern Plateau of Bayda are the least developed in terms of irrigation. The latter are also the most sparsely populated regions in Yemen.

Table 4-4. Cultivated land (ha) According to Type of Water Source (from CPO Statistical Year Book 1976-77:69)

Governorate	Total	Rainfed ('Aqar)	Seasonal Flood (Sayl)	Perennial Springs (Ghayl)	Well (Bi'r)
Sanaa and Mahweit	400,000	374,000	-	20,000	6,000
Hodeida	235,000	102,000	100,000	5,000	28,000
Taiz	250,000	220,000	10,000	18,000	2,000
Ibb	300,000	278,000	-	20,000	2,000
Hajja	130,000	115,000	10,000	5,000	-
Sa'da	60,000	60,000	-	-	-
Dhamar	100,000	91,000	-	5,000	4,000
Bayda	40,000	37,000	-	-	3,000
TOTALS	1,515,000	1,277,000	120,000	73,000	45,000
	100.0%	84.0%	8%	5%	3%

1. Seasonal floods.¹⁴ Traditionally, the most important source for irrigation in the coastal region has been the seasonal flood or spate (sayl). Small wadis also were exploited for floods on the Eastern Plateau, but to a much lesser degree in Islamic times. Floods descend the coastal wadis during the rainy seasons of spring and late summer. Low barrages are placed in the wadi at intervals to divert part of the flow to channels and field systems. Fields here are relatively flat and large, unlike the terraces in the highlands. The value of the land is directly related to proximity to the wadi, with more marginal fields defined as those where flood flow might not reach in a given year. Water rather than land is the critical factor, as coastal soils are fertile.

There are several ecological factors which constrain the traditional exploitation of floods in Yemen:

Unpredictable water supply. Some years there may be little or no flooding in a wadi, depending on the distribution of rainfall in the upper catchment. In other years there may be devastating floods which destroy barrages and erode fields. In times of water scarcity tensions develop between upstream and downstream communities along a wadi. Those upstream may be accused of taking more water than they are entitled to in traditional allocation schedules. Over the centuries there has been continual litigation and political conflict over the use of water along the course of a wadi. With no centralized authority to set policy, it was very difficult to resolve water disputes over the long term. The allocation schedules which have evolved are makeshift compromises and vary from one wadi to the next.

Need for supplemental domestic water supply. While seasonal floods can be exploited for irrigation, they cannot be used for domestic water supply. This is due both to the limited nature of the flow and the quality of the water. Coastal villages, thus, have a need for wells or springs to supplement the floods. Wells may also be used to supplement irrigation of certain crops, particularly date palms. In the past several decades pumpwells have altered traditional resource use in the Tihama, as well as causing depletion of coastal aquifers.

Labor intensive technology. At a time when there is a dearth of unskilled labor in rural areas due to substantial out-migration for work abroad, traditional exploitation of seasonal floods is difficult to maintain. The construction of temporary barrages of mud and sticks requires mobilization of community labor at critical times for maintenance and construction. Distribution of flood flow through the field system places a demand on laborers at peak seasons (i.e., flood seasons). More appropriate designs for barrages have been presented in a number of development studies, but the impact on local labor has not been fully assessed.

2. Perennial spring flow.¹⁵ In the past, the most important source of irrigation in the Yemeni highlands has been perennial spring flow (ghayl). Although the amount of spring irrigated land is small overall, it provides the opportunity for more intensive agriculture with double cropping and greater yields. In most cases spring flow does not vary significantly throughout the year, although this depends on the nature of the aquifer. The flow is generally directed to a cistern (maill), rather than being directly applied to the fields. This allows the farmer to collect nightflow and distribute it during the next day. It would be very hazardous to irrigate at night on the

steeply sloped highland terraces. Also, it is easier to measure water turns from a cistern than from a continually flowing spring. Plots are small, terraced and require periodic upkeep to prevent major erosion. Irrigated plots are clustered near and beneath the spring or else several springs feed into a small watercourse. In the latter case there is greater potential for conflict between communities over water rights.

In highland Yemen spring flow is shared by farmers who own the nearby land in a rotation system of turns. For example, water from a cistern may be distributed according to defined turns in a 17-day cycle. So many hours of flow or a certain percentage of the water in the cistern will flow to a defined set of fields in a turn and this will repeat every 17 days. A farmer with fragmented holdings may switch water destined for a land plot to another of his plots, so that he may have access to water at shorter intervals than the cycle per se. It is also possible to exchange turns in a given rotation or to "rent" a turn for cash or produce. As noted above, all water rights are attached to land rights and the two cannot be alienated in Islamic law here.

While the irrigation systems are quite intricate and often extend several kilometers, there is a need for improved on-farm water management. Much water is lost in transport through the dirt channels. Many communities are lining their cisterns with cement to minimize water seepage. Farmers often do not know the water requirements of new crops (e.g., tomatoes). Irrigators in springfed areas do not waste water on purpose and are anxious to conserve water use, but traditional methods were deemed sufficient for the past population and technological level.

3. Wells.¹⁶ In traditional Yemen the well was operated by hand (sometimes by a low-status group) or with an animal-drawn pulley system. Wells were primarily for domestic water supply and garden irrigation. Within the past two decades there has been a dramatic increase in the use of hydraulic pumps. There is an active market for private well drillers in Yemen, as well as stimulus to new wells from the LDAs. These drillers often hire non-Yemeni personnel with the technical skills to operate the rigs. Drillers become known through word-of-mouth in a region. In general, the farmer or community pays one-third of the drilling costs in advance. If the well is dry, the driller receives no more money; otherwise the remainder is paid up.

The use of pumpwells in Yemen has major ecological implications, as noted in Chapter 1. There is a grave danger in some rural areas, as well as urban areas, of overutilizing the aquifer. This is especially acute because there is no effective body for supervision of well drilling operations. In the coastal region salt water may intrude in certain seasons as the water table drops, causing further problems. There is also an increasing need for urban water supply in the highlands and this may affect aquifers currently used for irrigation in nearby rural areas. The use of pumpwells is a problem that cannot be handled by traditional Islamic water law, which was oriented to a far more limited exploitation of the groundwater. However, the principle of a buffer zone (harim) around a well could be extended to stop overuse of wells within a locale.

4. Runoff harvesting.¹⁷ By far the vast majority of agricultural land in Yemen is rainfed and a small amount of this has traditionally been based on a slope runoff harvesting. In the highlands it is sometimes possible to set lines of stones along a slope to direct runoff into a set of fields and

channels. It is also possible to direct the runoff into a cistern, which is more common on the central plain.¹⁸ The nature of runoff farming is an open distribution system, so that rain will be channeled on high slopes at the time of the storm. Thus, a farmer will rarely be present to direct the flow. Runoff systems are often located far from a village and in less accessible places. Such a system requires effective drainage with a spillway to channel off water that is too much for the field system. Lack of proper maintenance of a set of plots can result in major erosion from a single storm. In the Central Highlands there is evidence that many runoff systems have been abandoned in recent years.

Although it is an effective way of exploiting water that will drain off a slope and into a floodbed, runoff harvesting is not an extensive practice. A great deal of land must be used to benefit a small amount of marginal plots. Commuting to these plots and transporting farm inputs or produce are very difficult on the steep mountain paths. Thus, this is an option which has little appeal in rural Yemen today.

National Activities in Land and Water Development

There are at least six government ministries and authorities with responsibilities for water-related issues in Yemen.¹⁹ Institutional capabilities for rural development are inadequate and there is considerable overlap in the responsibilities of various ministries. In addition, the flow of information between regions and the central ministries is slow. Some entities, particularly CYDA, are deficient in personnel with technical skills in water projects. In fact, foreign donors are largely responsible for most water development efforts.

These government entities with some involvement in rural water development include the following:

1. Ministry of Agriculture and Fisheries (MAF). This ministry coordinates study and initiatives in irrigation, primarily the major wadia in the coastal region. Originally, irrigation was a responsibility of the Ministry of Public Works, but this was shifted to Agriculture at the request of the World Bank. There are semi-autonomous regional authorities which report directly to the Minister of Agriculture: Tihama Development Authority (TDA) in the coastal region, the Southern Uplands Rural Development Unit (SURDU) for the Ibb-Taizz region.
2. Ministry of Public Works (MPW). Through its Rural Water Supply Department this ministry is involved in developing village water supply. It also provides licenses to foreign drilling companies in Yemen.
3. Yemen Oil and Mineral Company (YOMINCO). Through the Department of Hydrology this entity is supposed to monitor water resources throughout the country. However, it has no authority to act on water problems.
4. Confederation of Yemeni Development Associations (CYDA). Provision of village water supply is a major concern of the LDAs. CYDA does not have the technical expertise, but helps coordinate financing and technical help.

The Second Five Year Plan (1981-1986) gives a high priority to irrigation development, especially along the coastal wadis. This is an activity in which foreign donors are actively involved. The coastal region appears to be that with the highest potential for increases in agricultural land, water for irrigation and crop productivity. A major emphasis is being placed on the construction of storage and diversionary structures along the six major coastal wadis. However, there are a number of problems that need to be addressed. First, there is little effort being directed at water management on the farm level. Second, the introduction of a modern irrigation system with more efficient water use will lead to conflict with existing allocation schemes. Third, there is an urgent need for resolution of the problem of overutilization of existing groundwater in the coastal region.

The potential for large irrigation projects in the highlands is limited due to the nature of land tenure and the water sources. Furthermore, this is an area, unlike the coastal zone, where the government does not own a lot of productive land. Farmers in the highlands are often suspicious of government projects, particularly those which require alterations of existing land tenure arrangements. A project exists for restoration and construction of small dams in the highlands, but this has not been followed up by foreign donors. For the present the best approach in this region appears to be the experimental, demonstration farm. The sensitivities of local land and water rights, particularly in tribal areas, make it difficult for extensive foreign donor involvement on this issue in the highlands.

A major project planned for the Eastern Plateau is restoration of ancient agricultural prosperity, including the rebuilding of the historic Marib dam. From a technological point of view, it is not clear that such a dam is warranted for the most efficient use of current wadi flow.²⁰ It would appear that construction of a major dam in this area is more one of nostalgia than practical considerations.

Implications for Development Planners

The issue of land and water resources development is one with environmental, technological and sociocultural parameters. The following points relate to the sociocultural context.

1. Lack of regional data on land and water use. There have been a number of hydrologic and land use surveys along the coastal wadis, but far less is known about the highlands and Eastern Plateau. The potential water supply for most of Yemen is not well known. It is also difficult to find data on regional water allocations and land tenure. There is an acute need for data on water pricing, as new groundwater sources are exploited by pumpwells and wadis are developed. There is also a need for information on the sensitive issue of land ownership and value. Yemeni government personnel, as well as donor personnel, have difficulty obtaining the statistical data needed for analysis of resources and development initiatives.

2. Institutional weakness. An endemic problem in Yemen at this stage is the lack of effective institutional outreach in rural areas. There are at least six government entities with water-related responsibilities, but at present there is no coordination of a national water policy. It is clear that there are some major needs for monitoring and supervision of water source use at the

national and regional levels. Drastic reductions in local water tables represent a major ecological and social problem. Traditional allocation systems and land tenure practices are often wasteful, but these are issues that donors cannot approach without a national authority coordinating activities and policy.²¹

3. Land fragmentation. Traditional inheritance patterns and a risk-aversion mentality result in a system of land fragmentation. The lack of concentrated holdings makes it difficult to introduce mechanization of large-scale irrigation methods. Farmers at present waste time in commuting between plots and transporting produce. There is a need for change in traditional land tenure, especially if a shift to cash cropping is being envisioned. Such sensitive matters must come from a national policy and cannot be addressed by foreign donors.

4. Decentralized nature of dispute resolution. There has long been a history of conflict and litigation along major wadis in coastal Yemen, as upstream and downstream communities share a vital but scarce source of water. Traditional mechanisms of dispute resolution in water and land disputes varied from region to region, because there was no standard code in Islamic law. Today, there is a need for a national water code to function throughout the country. This is important for encouraging more efficient water management practices. Basic Islamic principles can be built upon, but variations in customary law should be understood.

5. Regional opportunities. Given the current sociopolitical context in rural Yemen, the coastal region and Southern Highlands appear to be the best areas for foreign donors to work on land and water-related issues. The government has sponsored major studies of development potential along the major wadis. Government land along the wadis can be used for experimental, demonstration farms. Since tribalism is weak in this zone, the constraints on land reform are perhaps fewer and easier to cope with, and a greater potential for modifying traditional allocation schemes. USAID/Sanaa could complement the activities of other donors in this region by focusing on water management at the farm level. However, this will require an awareness of traditional practices rather than simply providing new technology and new methods.

Notes to Chapter 4

¹For the ecological aspects of resource use, see chapter 1. For further information on the water sector, see Barbarossa *et al.* (1977), Consortium for International Development (1980), relevant sections in Hogan *et al.* (1982) and Johnson (1980).

²See Hogan *et al.* (1982, Appendix A).

³For a basic introduction to Yemeni water rights, see Maktari (1971) and Varisco (1982c, forthcoming). Caponera (1973:210-216) has information on water rights in Wadi Zabid. See also the various development reports for the coastal wadis.

⁴Dequin 1976:45.

⁵This is now the basic source, but it is important to compare the data with earlier studies, particularly ECWA (1980). More complete information can be found in the Arabic original, but this was not examined for this profile.

⁶ECWA (1980).

⁷Carapico (1975:35).

⁸For more detailed discussion of inheritance in Yemen, see Mundy (1979, 1981).

⁹Carapico (1979:35).

¹⁰Gerholm (1977:62).

¹¹Kopp (1981:135). This figure appears to be more accurate than the 15-20 percent suggested for the early 1970s. This is an issues which required further research.

¹²Varisco (1982c:255-258).

¹³Swanson (1979:71) describes land prices in the Ibb area.

¹⁴For a description of seasonal flood irrigation in Yemen, see Maktari (1971) and Serjeant (1964). There are also a number of reports on the development potential of major wadis: Zabid (Tesco *et al.* (1971-1973), Siham (Sogreah 1978), Rima' (Makin 1977), Surdud (Halcros and Partners 1978), and Mawr (Mitchell *et al.* 1978). See also the report on Wadi Bana (Gibb and Partners 1977).

¹⁵An early discussion of highland springs flow was presented by Rossi (1953). A detailed ethnography of spring flow allocation in a Central Highland valley is available in Varisco (1982c).

¹⁶See Rossi (1953) and Varisco (1982c:197-201) for traditional well irrigation. For the impact of modern pumpwells, see the various development reports on the coastal wadis.

¹⁷See Varisco (1982c:209-212).

¹⁸Haratani and Skenfield (1980:12). See potential for building cisterns to collect runoff.

¹⁹A study of the ministries and authorities responsible for water can be found in Merabet (1980a,b).

²⁰See the criticism in Kopp (1981:253).

²¹See Johnson (1980:13-16).

5. RURAL PRODUCTIVITY

Yemen has been known for centuries as Happy Arabia (Arabia Felix), but there has not always been that much to be happy about. Productivity in Yemen has been stifled in the past on a national level because of geographical isolation, political fragmentation and inadequate supply of water for irrigation. The overwhelming population of the country has been agricultural--tribal and peasant--with a subsistence orientation dependent on the domestic household as the main unit of production. Crafts and services have traditionally been centered in towns and cities, as well as the network of rural markets spread throughout the countryside. Trade has been local in focus, although for a limited time Yemen was the sole exporter of coffee to the West.

Productive strategies vary in Yemen according to both ecology, socio-politics and social status. This section will provide a brief overview of rural productivity in terms of agriculture, livestock production, crafts, services, trade and commerce. The two most significant influences on rural productivity today are the impact of remittances and the production of qat.

Agriculture¹

In the past the dominant strategy in agriculture has been subsistence based and risk adverse. The farmer sought to obtain a crop surplus as a hedge against future failures or political unrest, but not to sell. The average farmer did not experiment with new crops, but cultivated those that provided food for his family and fodder for his animals. The production of livestock in all but the Eastern Plateau camel-nomad zone was integrated with crop cultivation. In the days of the Zaydi imamate and Turkish occupations there was heavy taxation on production, so the lot of the small farmer was at a frozen, low level. Farmers in irrigated areas were generally better off. The more marginal rainfed areas necessitated a small stock emphasis to supplement basic grain and pulse production.

In a broad sense it is possible to characterize traditional Yemeni agriculture according to two contrasts: water availability and land tenure. Agricultural strategy varied in terms of the farmer's access to a steady and sufficient supply of water. The optimal situation was spring-flow irrigation which offered a consistent supply of water and double cropping on isolated systems of terraces in the highlands. In these areas farmers could market surplus, particularly fodder, to the surrounding rainfed areas. Coastal irrigation by seasonal flood was a more tenuous enterprise because of the unpredictable nature of flood flow. Wells were until recently mainly for small gardens. Rainfed agriculture was marginal in Yemen, but the south enjoyed greater rainfall than the north or Eastern Plateau. Land tenure is a socio-political issue, as well as an ecological one. Private ownership of productive land is the norm in tribal areas of the highlands, while sharecropping is more common in the coastal region and Southern Highlands.

Agricultural Land Use. Of the 1,500,000 ha of cultivated land in Yemen, only 238,000 ha are irrigated (Table 4-4). Overall crop production is highlighted in Table 5-1. As indicated in the 1981 agricultural census, field crops generally account for at least three-fourths of all holdings (Table 5-2).

Table 5-1. Area, Yield and Production of Agricultural Crops in Yemen for 1981 (Y.A.R. C.P.O., 1981:84-88)

CROP	AREA (he)	YIELD Kg (ha)	PRODUCTION (metric tons)
Sorghum and Millet	697,000	911	635,000
Maize	34,000	1565	53,200
Wheat	66,000	1055	69,600
Barley	52,000	1040	54,100
Dry Legumes	74,000	1076	79,600
Vegetables	29,400	9912	291,400
Potatoes	11,500	12,000	138,000
Coffee	7,000	455	3,500
Fruit Trees	14,500	5566	80,700
Grapes	12,500	5144	64,300
Dates	(1,250,000 trees)	5	6,300
Alfalfa	3,800	11,842	45,000
Sesame	9,900	525	5,200
Cotton	5,300	943	5,000
Tobacco	6,100	1,033	6,300

Sorghum (dhura) and millet (dukhn) account for 80 percent of all cereals cultivated in Yemen.² Sorghum is the rural staple in the highlands, providing grain for bread and porridge, fodder for cattle and fuel for the traditional tannur oven. Sorghum and millet serve the same functions in the foothills and Tihama. Wheat and barley are generally raised at the higher elevations. There appears to be a decline in wheat production, despite the available statistics which show a rise.³ Maize is beginning to compete with sorghum, but it requires irrigation. Important pulses are lentils ('adas), various beans, peas ('atar) and fenugreek (hulba). Irrigated alfalfa (gabd) is important for fodder. Although few vegetables were traditionally grown in the rural highlands, a wider variety was available in urban gardens, particularly in the Tihama. Tomatoes and potatoes have recently become important cash crops. Tobacco and cotton are cash crops in the Tihama.

Two major permanent crops in the Yemeni highlands are coffee (bunn) and Catha edulis (gat). During the 16th and 17th centuries Yemen was the only coffee-exporting country in the world. European and American ships docked at the port of Mocha (hence the term for Mocha coffee) for the brew that fueled the emerging coffee houses. Yemeni coffee production was centered in the Southern and Central highlands. Production was based on small holdings of up to 80 trees, although a major coffee merchant class developed. With the introduction of coffee plantations in the Western colonies of Africa, East Asia and South America, the market for Yemeni coffee dwindled. In fact, Yemen now imports coffee, especially coffee husks (from which a tea is boiled) from East Africa.

Technology.⁴ Traditional Yemeni agriculture relies on animal power for tillage and leveling land and human power for tilling small highland terraces and irrigation. In the mountainous highlands the rugged landscape had to be terraced, creating a delicately balanced ecosystem. Failure to maintain terraces may result in erosion of fields to which the soil has been brought by hand over the centuries. Along the coastal region and in the central plains broad fields can be built up. It is in these latter regions that tractors have a role. Thus far little attention has been paid to more appropriate technology (two-wheel tractors, roto-tillers, improved plow design and construction) in highland terrace agriculture.

Attitudes. Agriculture as an occupation has long been positively valued in Yemeni society. It is important to note that Yemeni tribes are mostly settled farmers and not pastoralists. Tribesmen, however, have focused on cereal cultivation and disdained vegetable gardening. The stigma was not attached to the vegetable per se, but rather to the cultivation of a crop that required immediate marketing and could not be stored. The traditional attitude, however, has undergone substantial modification in recent years with new opportunities for cash cropping of tomatoes and potatoes. Members of the elites sometimes participate in agriculture, but they more often live and function in an urban context. Service-providers in Yemen do not practice agriculture, except for the vegetable hawker (qashsham), who usually lived near a market. In the south there are many peasant share-croppers and migrant seasonal farm laborers.

Investment. Investment in traditional subsistence agriculture has been measured in terms of time and labor, rather than capital or farm inputs. Manure is applied to selected crops in areas where there is a prevalence of domestic animals, and chemical fertilizer is becoming important (Table 5-3).

Pesticides are available, even in rural areas, but information on how to safely apply them is not very widespread. Equipment used has been cheap and locally made, but tractors are too expensive for most farmers. A high percentage rent tractors, especially in the coastal region. Wells are a major investment, particularly for cultivation of cash crops, such as qat, vegetables and fruits. A farmer may purchase or hire a truck to market his produce, especially when he is near a major city market. Under Islamic law there is a 10 percent production tax on crops, but collection seems to have been relaxed since the revolution. A market tax is imposed on some cash crops, such as qat.

Table 5-2. Agricultural Holdings According to Land Use
(Y.A.R. MAF 1981:27)

LAND USE	DHAMAR	HAJJA	HOEIDAH	IBB	MAHWEIT	TAIZ
Field Crops	76.7	72.3	64.8	89.0	72.0	83.2
Permanent Crops	2.2	4.3	4.4	5.7	23.3	3.9
Temporarily Fallow	15.1	0.2	15.6	0.8	0.4	0.1
Abandoned	6.0	21.6	14.2	1.9	1.5	10.3
Other Uses	-	1.3	1.1	2.6	2.8	2.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Table 5-3. Use of Manure, Fertilizer and Pesticides in
Six Governorates (Y.A.R. MAF 1981:30)

Governorate	% of holdings using:		
	Manure	Fertilizer	Pesticides
DHAMAR	77.7	17.5	.4
HAJJA	55.5	23.5	8.0
HODEIDAH	20.0	4.0	8.4
IBB	96.8	83.5	6.5
MAHWEIT	89.5	46.1	2.6
TAIZ	94.5	48.2	4.7

Agricultural Decline. The traditional subsistence agricultural system, particularly in the highlands, has undergone considerable decline in the last two decades due to the effects of a major drought, economic disruption from the civil war and the migration of many in the rural work force to work abroad. As noted in Chapter 1, many terraces are being abandoned. For the governorate of Hajja 21.6 percent of the holdings are considered abandoned (Table 5-2). Since farmers take less care of terrace walls, the potential for erosion is greater. Although production is clearly improving in Yemen, much more remains to be done.

Agricultural Change. There has been a recent shift in Yemeni agriculture toward cash cropping. With the ready availability of basic food supplies on the world market, Yemenis have less of a need to cultivate traditional subsistence grains, especially since local production costs may not meet the market price of imported items (e.g., wheat). An improved network has facilitated production of traditional cash crops (qat and grapes) and new crops (tomatoes, okra, citrus). Farmers who cultivate qat realize tremendous profits and this income is returned into the community for infrastructure improvement. However, those farmers who still cultivate subsistence grains are in a less viable position with the shift to cash cropping and current inflation of the rural economy.

Livestock Production⁵

In most of Yemen livestock production has been integrated with cereal cultivation. Only in the eastern reaches of the Eastern Plateau was pastoralism a major lifestyle. Traditionally, livestock production was on a limited scale, because of inadequate pasture in highland areas, poor fodder supply or difficulties in marketing. On marginal rainfed lands farmers would invest in sheep and goats as capital in years of low rainfall. Disease has always been a factor limiting production in Yemen. With recent declines in the amount of sorghum cultivated, some highland farmers complain of inadequate fodder supply.

Small herds of sheep and goat are common in the highlands as these are grazed on fallow fields or communal village pasture land. The cow in Yemen is the Zebu variety and provides dairy products while the bull is used for draft power. Short distance transport and draft power in marginal rainfed lands are met by the donkey, while camels were traditionally for long distance trade. Camels, which are the most numerous in the coastal region and Eastern Plateau, also provide dairy products. The need for camels has declined sharply with the introduction of the truck in an improved road system. Traditionally, poultry has been raised in small amounts by women for household consumption and local marketing of surplus chicks or eggs.

The numbers of domestical animals in Yemen are listed in Table 5-4.

The accuracy of the data cannot be determined. Almost half of the livestock population is in the coastal region and around 30 percent is found in the Southern Highlands. The 1981 agricultural census indicated that 80 percent of farm households had at least one cow, 24 percent had sheep and 20 percent owned goats. The number of head per household in six governorates are listed in Table 5-5.

Table 5-4. Animal Population in 1981
(Hogan et al. 1982)

<u>Animal</u>	<u>Number</u>
Sheep and Goat	3.8 million
Cattle	906,000
Camel	60,000
Donkey	40,000

Table 5-5. Number of Livestock Head per Household in
Six Governorates (YAR. MAF 1981:20)

<u>Governorate</u>	<u>Chicken</u>	<u>Cattle</u>	<u>Sheep/Goat</u>	<u>Camel</u>	<u>Donkey</u>
Dhamar	4.0	1.7	7.9	0.1	0.7
Hajja	7.7	1.4	4.8	0.1	0.7
Hodeidah	5.1	1.5	5.9	0.2	0.9
Ibb	8.6	1.3	3.0	0.04	0.4
Mahweit	4.6	1.4	2.4	0.04	0.4
Taiz	7.9	1.2	2.7	0.1	0.3

As a result of a major drought in the late 1960s, many livestock in Yemen died off. There are several trends in livestock production. First, there is the beginning of a veterinary service sponsored by the British. There is, however, a shortage of personnel to deal with the influx of new diseases, especially as more animals are brought into the country on the hoof. At present there is no quarantine service. Second, modern poultry farms have been introduced in the private sector for egg and broiler production. At present chicks are shipped in by air from Europe. Due to technical reasons, expansion of poultry farms in the high Sanaa region is limited, so most production is now centered in the lower south of the country. Third, there is a growing market of imported frozen meat. This is not as popular as local (baladi) meat and is only available at present in cities.

Crafts and Services⁶

Although the rural population was predominantly agricultural, there were a number of craftsmen and service providers. Those located in the village rather than the market town traditionally included the barber, who was also a ritual expert at weddings and circumcisions, musicians, cuppers and healers. Market services comprised those of butchers, vegetable hawkers, smiths, tanners, potters, carpenters, weavers, merchants and peddlers. Another rural occupation, although with urban connections, was that of the camel driver, who traded over long distances.

Artisans and those who provided services were generally considered of low-status in tribal areas of Yemen. They had no corporate organization or guild structure in rural Yemen. There was little economic mobility so that the son of a butcher grew up to be a butcher. Women had practically no off-farm economic role in the public sphere. While women often practiced traditional crafts of basket-making and weaving, this was invariably for household use rather than trade.

There has been a dramatic increase in opportunities for off-farm labor in the past decade. In many cases, such as construction, rural wages have kept pace with urban. Indeed, Yemen has gone from a \$1 a day economy only ten years ago to \$2 an hour today. The main reason for this is the impact of remittance income, which is reinvested at the local level. Availability of cash has stimulated house construction, which is widespread in rural Yemen. Introduction of trucks has created a role for mechanics. As rural infrastructure develops, so does the number of new opportunities. Traditional attitudes toward low-status tasks are also changing rapidly.

The ready availability of consumer goods--many from Japan and China--has resulted in a decline in local crafts. Imported Chinese and Japanese cloth replaces local weaving. Plastic replaces pottery. In areas near urban centers, there is a resurgence in basketry for tourists. The Tourist Corporation in Sanaa sells some items produced by rural craftswomen. This is certainly an area for potential as Yemeni tourism increases.

One new service in rural Yemen is passenger transport. Travel is invariably by car or truck and there are many group taxis which have established routes from a town or village to a major city. Truck transport has virtually replaced camels and donkeys for marketing of produce. This has been

stimulated in part by expansion of gait marketing. Poorer families still rely on donkeys for transport in rural areas.

Trade and Commerce⁷

Markets. Throughout the Yemeni countryside is a network of local, rural markets (sugs) with links to wider, regional and national markets. This network is periodic in that market day will be on Saturday in one locale, on Sunday in a nearby locale, and so on. On other days of the week the site will be empty, as a number of merchants travel from one market to another in a weekly sequence. In tribal areas the market and its service-providers are protected as a neutral area. Violation of the security of the site would probably result in the market being shifted--a dramatic act. Each local market has an official--elected or appointed by the local power structure--to oversee the functioning and prevent use of false measures or price fixing.

The functions of the local market have been many. Local produce can be redistributed between areas of surplus and need. Rural surplus, predominantly agricultural, is exchanged for urban goods. Artisans and craftsmen are available, such as smiths for forging tools. Foreign goods, mainly food, plastic, clothes and small items, are increasingly available in the rural markets. The main obstacle is transport, since many peddlers still pack their wares on a donkey or camel. Wholesalers are found in the towns. In a survey of town markets in the Taiz-Turba area, 42% of the merchants had food and general merchandise, 19% sold fruits and vegetables, others sold textiles and stimulants.⁸ The rural market is also a forum for information and social exchange, as well as an opportunity for women to leave the house.

The role of the local market has changed dramatically in Yemen since the Revolution, specifically:

- shift from exchange of goods and services to cash transactions,
- increase in role of providing imports and non-essential consumer items,
- improved storage and transport conditions,
- greater need to visit larger, regional markets for new services (mechanics, etc.) and wider range of materials,
- creation of permanent roadside shops that make the role of the weekly market superfluous in economic terms,
- increasing restrictions on female mobility as more outsiders have access to local markets, and
- decline in number of traditional service-providers of low status, since there are more profitable and socially acceptable options in a city or regional center.

The prime stimulus for this change has been the impact of increased remittances and ready capital in even the most remote areas.

Yemen is still very much a subsistence-oriented economy in that only 15 percent of total domestic grain production passes through the market system.

About half of local meat is marketed, but over three-fourths of local dairy products never enter the market. Only in the case of fruits, vegetables and fish does the bulk of domestic production appear on the market.

One of the striking facts about rural productivity in Yemen is that the profit margins for the farmer are extraordinarily high, as indicated in Table 5-6.

For certain commodities, such as the cash crop of qat, there is a highly complex and sophisticated system of distribution. Various types of qat are sorted, bundled and standardized according to ascribed quality. The average time from harvest of leaves to market availability is 6-8 hours in many areas. Spoilage is a problem after 24 hours, so qat must be purchased daily.

Table 5-6. Profit Margins on Local Produce (percent)
(from Hogan et al, 1982)

Commodity -----	Farmer -----	Share of Retail Price	
		Wholesaler -----	Retailer -----
Grains	65-75	15-20	10-15
Meat	85-95	-	10-15
Grapes	45-60	10	35-40
Bananas	50-65	-	35-40
Vegetables	50-60	10-20	30

Rural Yemen is in the midst of a rapid change of marketing strategy, but this has come about without governmental control of production decisions or prices in rural markets. Because this is a free market without subsidies or interference, there are winners and losers. During a season of glut, for example, a farmer may not be able to match operating costs on marketable items. There is limited knowledge of market potential or direction. Those with more capital and the necessary contacts are the first to benefit. However, to a great extent many of the traditional poor now live in relative affluence.

Investment and Entrepreneurs.⁹ The emergence of the entrepreneur and small businessman in rural Yemen is a new phenomenon. In the past merchants in the main towns tended to monopolize the commerce of marketed agricultural crops, particularly coffee. The innovator in rural Yemen is often an established community leader with wealth and land. Thus, there has been substantial investment in wells and tractors by large landowners in the coastal region. Those who have migrated and worked abroad seldom return to make an active career in the rural sector. It is unclear if skills learned abroad (e.g. masons) are in demand in many parts of rural Yemen.

Traditionally, credit in Yemen depended on personal ties or payment in kind. The most common example is the sharecropping contract. One can also borrow money from a relative, especially if he has remittance capital. The agricultural Credit Bank was established in the mid 1970s to help rural farmers, but in fact most loans are made to farmers near the major cities.¹⁰ This bank has extended loans after flood damage. Recently, it has merged with the Cooperative Bank. To a certain extent the availability of remittance capital has hindered the development of the credit bank in rural areas.

Remittance Impact¹¹

The phenomenon of large-scale migration of Yemeni workers to neighboring oil-rich states and the industrialized West has been a stimulus for virtually all aspects of the Yemeni economy. Yemen has always been a population exporter, particularly through the port of Aden to Southeast Asia and East Africa. However, the current situation is related to the explosive expansion of the oil-producing states on the peninsula during the 1970s. This occurred at a time when Yemen was emerging from a civil war and there were limited domestic labor opportunities. Thus, Yemen and several other poor states in the region provided the manpower for the overnight transformation of Arabia from the bedouin tent to the computerized palace (or, more often, motor-home).

Precise figures on out-migration are not available, although government estimates of over one million appear to be highly inflated. Most observers suspect the current number of Yemenis working abroad and remitting capital is 400,000. A recent macroeconomic study places per capita annual remittances at \$2,500, based on estimated annual earnings of \$7,500 in Saudi Arabia. This represents a remittance impact on the Yemeni economy of at least \$1 billion per year. Nearly all of this money is available for consumption as tax measures have not been developed to tap this sum effectively. Neither is it clear to what extent remittances are invested wisely. Some money is simply channeled into existing spending patterns--such as the astronomical rise in tribal bride price to sums equivalent to U.S. \$15,000-\$20,000.

Numerous studies of the phenomenon have appeared. Most assume that the Yemeni phenomenon belongs in the category which includes Italians in Switzerland, Lebanese in West Africa, and Turks in West Germany. Therefore, the same set of consequences was presumed: (1) a rapid increase in the money supply; (2) a reduction in the domestic labor supply; (3) innovation, stemming from the eventual repatriation of emigrants with new ideas and altered attitudes; and (4) repatriated skills--industrial and service. In fact, the fourth factor is largely inapplicable to the Yemeni context. Many of the trades Yemenis learn abroad, such as tile laying, carpentry and upholstery, are not in great local demand. Yet, returning Yemenis are prepared to invest their

money in new enterprises if they expect an adequate profit (by somewhat inflated Yemeni standards). Investment opportunities in the rural sector, however, are not readily discerned by farmers due to lack of information.

In the aggregate it is possible to speak of the impact of remittance income, but in fact not all segments of Yemeni society have benefitted equally from remittances. The essential point is that a wide variety of social groups has had the opportunity for work abroad regardless of educational background or social status, because the jobs in Saudi Arabia and the Gulf are largely unskilled (e.g., cleaners, shop keepers, and construction workers). Thus, there have been economic differences between traditional social categories, yet, there is little evidence of a developing "class antagonism," especially in tribal areas. It must also be observed that women do not have the opportunity to work abroad, nor do they have major investment options (other than land or property) in the Yemeni economy.

The cumulative effect of the remittance boom in Yemen in the last decade can be summarized as:

- economic mobility for many elements of Yemeni society that had few productive options in the past,
- acute labor shortages in the rural areas for subsistence and traditional unskilled labor,
- availability of significant amounts of capital with largely traditional, local, cooperative mechanisms for channeling this into infrastructure development apart from government support,
- the rise of small businessmen and entrepreneurs as demand rises for goods and services,
- widespread availability of consumer goods, from Chinese thermoses to Pepsi Cola,
- limited individual investment opportunities apart from transport (truck or jeep), construction (house), and land,
- adverse effect on the rural economic roles of women, despite increased income for household consumption,
- inflation of traditionally valued phenomena, such as dramatic increases in brideprice and land values,
- continued isolation of rural Yemen from the national banking system and relative lack of needs for rural credit,
- stimulus effect on cash-cropping because of farmer's ability to obtain basic foodstuffs as imports and improvement in transport and marketing conditions, especially for qat, and
- greater opportunity for rural Yemenis to perform the pilgrimage to Mecca.

In the long term, the remittance impact on Yemen is precarious, to say the least. The Yemeni economy is almost totally dependent on the oil-rich states which constitute the market for Yemen's export of surplus labor. As these economies slacken in growth and there is increased competition for jobs by other nationalities, more Yemenis will have to find work in their own society. Unfortunately, production in Yemen is linked to the availability of remittance money. There are recent signs that labor opportunities are more constrained and declining in Saudi Arabia and that remittance money may be going to investment abroad.

The Qat Factor¹²

A unique aspect in the Yemeni economy is the role of qat (Catha edulis) as a cash crop. Although qat is also cultivated in areas of East Africa, its economic importance is nowhere so critical as in Yemen. The first qat was cultivated in Yemen only about five centuries ago, at which time it became the basis for a habit of the wealthy and urban population. Rural Yemenis did not have the money to buy qat, could not afford in most instances to cultivate it and rarely chewed it until recently. In the last decade, rural as well as urban demand for qat has increased substantially. With improved transportation and new pumpwells, many rural farmers can now make considerable profits cultivating qat.

Qat is an easy tree to grow and care for. It has few pests or diseases and requires relatively little water. In some cases qat is replacing coffee, but there is no one-to-one correlation. To a large extent qat is cultivated on newly opened land (with a new well) or plots traditionally planted with subsistence crops. The problem with qat is marketing of the leaves, which should take place within 24 hours. This requires a role for middlemen between the farmer and the market. There is a market tax on qat in major cities, but the full tax rarely seems to be collected.¹³

The implications of the qat factor for rural productivity are the following:

- major factor in shift away from subsistence crops,
- stimulus to investment in wells,¹⁴
- stimulus to role of middlemen in distribution and marketing system,
- almost total dependence on qat as a mono-cash-crop in some areas,
- potential for overproduction in the near future as farmers rush to make profits,
- potential for a major disaster on the overall economy in the highlands if the qat market collapses.

Implications for Development Planners

In a sense the rural Yemeni economy is dependent on a very tenuous relationship between remittances and the production of qat. Yemenis are not

ignorant of the possible consequences, given current socioeconomic trends, but the short-term benefits and the lack of viable alternatives are not conducive to action. There is much that could be done in rural Yemen--alternative cash crops with proven markets, more efficient use of resources and time, wise investment practices--but these are easier to think up than to implement.

The major implications, given current trends in the economy, are:

1. Direct link to Saudi Arabian economy. Ultimately, the economic future of Yemen is not in the hands of the government or foreign donors, but in events in those countries abroad where many Yemenis now work and earn wages. There is a direct link to events in Saudi Arabia, where the bulk of Yemenis work. In the past few years there have been fewer opportunities for Yemeni workers in Saudi Arabia because of a slowdown in the Saudi economy and because of a change in hiring practices. It is cheaper to import complete work crews from Pakistan, India or Korea, who will work for far less than Yemenis have come to expect. There have also been restrictions on the ability of Yemenis to invest or own facilities in Saudi Arabia. In addition to the number of Yemenis working there, Saudi Arabia also provides substantial foreign aid to the Yemeni government, both in project form as well as budgetary support.

2. Decline in remittances. If work opportunities are becoming more limited abroad, there must be an inevitable decline in remittance flow. This would have a devastating effect on the rural economy as there would be less money to continue infrastructure building, invest or to pay the current highly inflated rural wages. Decline in rural capital could also adversely affect the qat market, which has been greatly stimulated by the availability of cash. Furthermore, if Yemeni workers return home, there will not be enough jobs to absorb them.

3. Decline in agricultural base. For centuries Yemen had a viable agricultural system sufficient to meet the needs of the population. Traditional agriculture has declined substantially, although it still dominates production, and much productive highland terrace land is eroding away. At present there is little incentive to grow most food crops, because foreign imports are so cheap and more profits can be made growing qat. There is potential for cash cropping of fruits and vegetables, but this will require a vastly improved marketing system. The nearby Saudi market, for example, is sophisticated and will require sorting, packaging, and quality control measures not currently practiced in Yemen. At a time when young farmers are not learning the methods of their fathers, they are also not receiving adequate information or inputs from the Yemeni government or the private sector.

4. Viability of private sector. In the past there was little non-farm labor in rural areas that was not considered low status and marginal in return. In recent years, due in large part to availability of capital in the rural sector, there has been an expansion of new occupations and services, such as shopkeepers, mechanics, construction workers and taxi drivers. This has provided economic mobility and a rise in social status for the traditional low-status groups. Yemeni businessmen are very energetic and respond quickly to market demand. The government realizes the vital role of the private operators and has placed few restrictions on the market. If, however, remittances decline, this could have a damaging impact on private initiatives in the currently inflated economy.

Notes chapter 5

¹For land and water resources, see Chapter 4. For regional agricultural information, see Chapter 1. For the division of labor, see under Domestic Household in Chapter 3. The most thorough overview of Yemeni agriculture is Kopp (1981). For a review of the agricultural sector, see Hogan et al. (1982). See also Tutwiler and Carapico (1981) and Varisco (1982b).

²Kopp (1981:152).

³Based on personal observations of several researchers. One reason for the lack of growth in wheat production may be the inability of local farmers to compete with imported wheat. There are no government subsidies to farmers.

⁴For details of tractor use and other farm machinery, see YAR. MAP (1981). For all aspects of agricultural technology, see Kherdekar (1978).

⁵See Hogan et al. (1982:155-175) and YAR. CPO Advisory Team (1981).

⁶The best description of traditional crafts and services is in Grohmann (1930-1934). See the various wadi development reports, especially Mitchell and Escher (1978, Appendix B).

⁷For rural markets, see Dostal (1974), Carapico (1979), Gerholm (1977), Tutwiler and Carapico (1981), Varisco (1982c: 85-92), Wilson (1977). See Hogan et al. (1982:254-290).

⁸Mitchell (1978:32).

⁹The best discussion of rural investment is in Hogan et al. (1982:216-352).

¹⁰Carapico (1978:61).

¹¹For remittances, see Birks and Sinclair (1979), Hogan et al. (1982:42-71), Ross (1979), Socknat and Sinclair (1980), Swanson (1979a, b).

¹²Qat is discussed in chapter 2 as an informal institution.

¹³This is supposed to be 10 percent.

¹⁴Most of the new wells in the Sanaa basin are for qat (Hogan et al. (1982:191).

6. HEALTH, NUTRITION AND SANITATION

Up until two decades ago there was virtually no modern health care available in Yemen. Even today the outreach of health services and appropriate medicines is limited in rural Yemen. Over the centuries there evolved an indigenous preventive health care system involving the use of herbs, traditional medicines, and various folk curative practices. To understand the health environment and determine appropriate interventions in rural Yemen, it is necessary to begin with the traditional context of health care and beliefs.

According to the available statistics, which are fragmentary and widely variable, the rural population continues to have a very poor health and nutritional status. Infant mortality, for example, is deplorably high, estimated between 115 and 210 per 1,000 live births or an average of 190 per 1,000. Most surviving infants exhibit growth retardation and suffer from a continual state of undernutrition. The combination of poor nutrition and frequent gastroenteritic or diarrheal disease results in nearly half of all children dying before the age of 15. Life expectancy at birth was measured in the 1975 census at 35.7 years for males and 38.3 years for females. At present the average is estimated at 42 years, but there are few hard data to determine a trend. The crude death rate is about 23 per 1,000. The main causes of such poor indicators include the prevalence of communicable diseases, polluted water, certain dietary habits (modern as well as traditional), the lack of sanitary facilities and the lack of effective health services in the rural areas.

This chapter provides an overview of health, nutrition and hygiene in rural Yemen. One phenomenon that has not been adequately explained is why the national health indicators remain so negative, despite substantial improvements in the economic levels of many rural people. It is clear that traditional beliefs still dominate, even in cases with improved health care. Special emphasis will be placed on problems in rural health care delivery.

Disease Patterns

The most frequently reported communicable diseases are, in declining order, enteritis, malaria, bilharzia and amoebic dysentery. Enteritis and dysentery, taken together, are reported twice as often as the next most common, malaria. Enteric diseases are the most common cause of death in young children, most of whose deaths occur before the age of two years. Less common but still major communicable diseases include tuberculosis, whooping cough and measles. The first occurs throughout the population, the last two mainly among children.

In disease distribution, geographic variation is considerable. Bilharzia, for example, is a highland problem while malaria is the predominant disease of the coastal plain where it replaces enteritis as the most frequently reported. Reported cases of the major diseases in 1981 for eight of the governorates are shown in Table 6-1. While the figures may be of questionable accuracy, they are acceptable as indicators of a broad pattern in which enteric diseases are widespread and severe. Thus, malaria is most significant in governorates that are entirely or partially in the Tihama, and bilharzia is most significant in the highlands of Hajja and Sanaa.

Table 6-1. Distribution of Major Diseases by Governorate in 1981 (Y.A.R. C.P.O. 1981:242-245)

Disease	Governorate							
	DHAMAR	HAJJA	HODEIDA	IBB	MAHWEIT	SANA' A	SA' DA	TAIZ
Enteritis	5,169	5,411	26,257	10,684	1,617	40,159	720	5,470
Dysentery	3,009	1,928	4,378	5,328	878	5,678	1,535	2,810
Malaria	2,799	8,484	32,134	1,550	579	2,801	1,399	8,156
Bilharzia	1,661	10,156	873	4,534	1,640	11,610	1,127	4,699
Measles	643	754	1,914	1,386	577	2,987	175	1,275
Infectious Hepitatis	642	302	1,807	225	395	561	38	362
Typhoid	56	19	685	226	35	207	3	316

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Traditional Health Care¹

Rural Yemenis resort to an array of traditional herbs and foods as medicines for preventing and curing health problems. In many parts of Yemen it seems as if every plant and many animals have potential value in medicine. The sap of aloe, for example, is widely applied to burns. The leaves of sorrel (Uthrub or Rumex ruerosus) are chewed for an upset stomach. While some plant usages are known to almost everybody, others require the knowledge of a traditional specialist. Within the Islamic tradition there is a body of knowledge and literature on medicine and health care extending back to the sayings of the prophet Mohammed. A distinction can and should be made between those who are literate specialists in health care and may have access to books and those who are native practitioners of a range of cures or a particular therapy.

A high status is given to the specialist with knowledge of religious and medical texts. This individual, invariably a male, is called a hakim or tabib 'Arabi. He may consult Islamic medical texts, some of which have been written by medieval Yemeni scholars. Medical care in Yemen is integrated with folk beliefs, some of which may predate the introduction of Islam into the country. An important preventive practice is to seek out a Quranic scholar (Sayyid or Faqih) for preparation of a protective amulet (hirz) or a written verse from the Quran. The primary reason for this is to seek divine help against the evil eye ('ayn) and evil spirits (jinn, singular). Although Zaydi Islam discourages the worship of saints, there are many shrines in the Tihama and Shafi'i Yemen. Women, in particular, often seek out shrines for help with infertility.

The more literate "healers" are generally found in towns and cities and not spread out among the rural population. In a village community, however, there may be several health specialists with specific curative roles or who give general advice on health problems. The most important of these are the barber-circumciser (muzayyin), bleeder and cupper (hajjam), burn-giver, bone-setter (mu'abbir) and cataract operator. These practitioners are afforded relatively low status in Yemeni society, although some may have higher status than others.

The system of health beliefs in rural Yemen is embedded in everyday phenomena, but it is not readily articulated on demand or apparent to the outside observer. Illnesses are commonly perceived of in terms of outward manifestations (diarrhea, upset stomach, fever, back pain, headache, and so on), but there may be no understanding of the relative seriousness of various illnesses. Outwardly, rural Yemenis appear to accept disease and illness as part of a system in which God knows best. In fact, there is a major preventative emphasis in everyday life. There is a variety of phenomena associated with the cause of diseases and illness, including cold weather, fright, certain foods, too much work, supernatural influences (evil eye and spirits), exposure to the sun, unhappiness, unpleasant smells and so on. Ideas about causes differ from region to region and according to level of education. Often it is difficult to obtain this information, because the informants are reluctant to discuss beliefs in spirits and magic.

Childbirth and Infant Health

The rural health specialist that most often assists the mother in childbirth is the midwife (muwallida, qabila or jadda), who has no formal training but is considered to have local expertise. After childbirth the mother and child are considered particularly vulnerable to the evil eye and evil spirits, as well as the cold. In the rural highland governorate of Mahweit, it is reported that a masseuse (masaba) may be called into the house to massage the stomach so the internal organs will right themselves. The mother is confined to the house for 40 days so that her body can be cleansed and strengthened. She receives special items in her diet, which may vary from region to region, such as local eggs, chicken broth, nabati sugar and gishr (a drink made from boiling coffee husks and certain spices). This is a time of intensive visitation by relatives and friends.

The infant is not given colostrum, but is fed water or some clarified butter (samn) for the first three days after birth. After this it is breastfed. Traditionally infants were breastfed at least two years or until the mother became pregnant. The milk of a pregnant woman is not considered to be healthy for infants. Although the Quran prescribes breastfeeding for two years, both the prevalence and duration of breastfeeding have declined sharply in the face of fashionable, convenient and "modern" bottles and powdered milk. Some amount of bottle-feeding is now nearly universal in Yemen and most mothers discontinue breastfeeding by the time the infant reaches 5 or 6 months of age. Women sometimes complain that they are getting pregnant earlier and are being forced to abandon breastfeeding as early as 6 months after delivery.

The problems typically associated with bottle-feeding in developing countries also exist in Yemen, namely overdilution, contamination and spoilage of milk being left too long in the bottle. Many Yemeni mothers make poor decisions with regard to supplemental weaning and feeding. For example, biscuits have become a popular weaning food. Bottle-feeding is increasingly a cause of diarrhea and malnutrition among infants.

The male child is circumcised in the Zaydi areas of Yemen between one and two weeks after birth. In some parts of the Shafi'i areas and the coastal region circumcision takes place around the age of puberty. Usually, this is the task of a ritual specialist and a celebration is held. It is reported that there is some female circumcision in the coastal area.³ Circumcision in rural areas poses a health risk to the child, because the circumcisers may not be aware of proper hygiene in performing the operation.

Malnutrition among children of preschool age ranks among the most serious health problems in Yemen.⁴ According to some sources, well over half of all infants and young children may be suffering from moderate to severe protein-calorie malnutrition with the result that the malnutrition-infection syndrome is perhaps the greatest health problem facing Yemen. The 1979 National Nutrition Survey reported 67 percent of rural children and 50 percent of urban children to be malnourished. Some 10.9 percent of preschool children were classified as wasted (low weight for height), while 62.7 percent were considered stunted (low height for age).

Women's Health

There are several specialists which cater specifically to women's health in rural Yemen. The midwife assists in delivery and may give advice on infant health problems. Another important specialist, particularly in the Central Highlands, is a masseuse (masaha). In the areas of Mahweit the masseuse is reported to have a wide variety of activities: midwifery, cleaning a woman after her monthly period, stopping the bleeding after pregnancy, giving advice on diarrhea and vomiting, advice on infertility, and curing of malaria, hepatitis and back pains. She is primarily known for her role in massaging the body, particularly after childbirth. Usually she is an older woman and widow, but she may come from any social category. Each masseuse has a local network of friends and neighbors as clientele. Medicines used are generally local products, such as salt (used for cleansing wounds and removing dirt), sorghum and clarified butter (samm).

Another important health specialist for women is the burn-giver. This is generally a woman for women, but men are burned by men. The application of a burn (nakwa) to certain areas of the skin is believed to protect from disease and deliver someone from a condition of "fright." The patient is literally branded with a hot iron rod, often on the forehead, nape of the neck or chest. This is a widespread practice in rural Yemen and is part of a broader tradition throughout the Arab world. In Mahweit it is reported that a woman may seek a burn-giver without needing consent from her husband or male guardian.

Diet and Nutrition in Rural Yemen

Most information on the traditional Yemeni diet stems from the quantitative and qualitative studies of Annika Bornstein (FAO) in the early 1970s.⁵ There is an urgent need for this material to be updated, particularly in light of the rapid economic changes in rural Yemen within the last decade. The most fundamental observation about Yemeni diet is that it is dominated by sorghum (dhura) and millet (dukhn). This is a situation with closer parallels to countries in Africa than with other Arab areas. Traditionally, there were major differences between urban and rural diets, influenced in the main by the subsistence mentality of rural farmers and the lack of an effective marketing system for perishable foods. In recent years there has been a rapid influx of new foods, including imported foreign, processed foods, into the rural areas, but the precise impact of this on the overall diet has yet to be determined.

Data on changes in per capita food consumption in Yemen are provided in Table 6-2. Despite the trend indicated in these statistics, sorghum and millet remain the dominant staple. Sorghum is made into bread or a porridge (asid). The latter is considered "peasant food" by many urban Yemenis. Barley is still an important grain for bread in rainfed areas. There has been a dramatic increase in consumption of wheat, much of this imported, but this is more so in urban areas. One of the most interesting developments is the dramatic increase in rice consumption. Almost all rice is imported, generally from India and the United States. Pulses remain an important part of the diet, particularly lentils, compeas, broad beans and sweet peas. Yemenis make a sauce from fenugreek (hulba) which is put in stews.

Table 6-2. Per Capital Food Consumption in the YAR (Kgs/Year)
(Hogan et al. 1982:244)

Foodstuff -----	1974-1976 -----	1979-1981 -----	% Change -----
Flour - wheat	31.0	43.5	40.3
- sorghum/millet	112.6	55.0	-51.2
- barley	4.0	3.1	-22.5
Rice	.8	3.2	400.0
Potatoes	9.8	14.5	48.0
Sugar	11.2	16.2	44.6
Pulses	11.5	11.7	1.7
Vegetables (fresh)	27.5	42.4	54.2
Fruits (fresh)	33.9	43.4	28.0
Beef	1.8	2.9	61.1
Mutton	5.3	5.9	1.9
Poultry	0.3	10.0	3,333.3
Eggs	.5	2.2	440.0
Fish	2.0	3.2	160.0

Before the revolution vegetables were rare in rural Yemen. Tribal farmers disdained cultivation and marketing of vegetables, which was left in large part to low-status groups. The onion (basal), Chinese chive (kurrath) and long white radish (fiil or gushmi) were the most common vegetables. A greater variety of vegetables was cultivated in urban gardens. Recently tomatoes and potatoes have become important cash crops in Yemen. Some canned vegetables are available in local markets. In general, however, rural markets have a poor selection of fresh vegetables.

In rural Yemen fruits used to be available only in season and were not an important item in the diet. The Central and Northern Highlands are known for grapes.⁶ Other fruit trees included apricots, peaches, plums, and cactus fruit. Bananas and melons were important in the Tihama and foothills. In the last decade rural Yemenis have had access on a year-around basis to imported apples, oranges and bananas. Dates have always been available, especially in the Tihama.

Meat has always been a desired part of rural Yemini cuisine, but in the past few could afford meat on a regular basis. Meat tended to be eaten on special religious occasions, weddings and the like. Because livestock raising was integrated with agriculture, there was a limited amount of local meat available on the hoof. In some areas a bull might be sold for meat after the plowing season. Some livestock raised in the Tihama was traded into the highlands through a low-status service group as middlemen. It is reported that in some parts of the Tihama there is an aversion to eating meat.⁷ Local meat is quite expensive today (\$12 per kilo for a mixed selection of beef or lamb), and imported meat is only available in cities.

The most dramatic change in the diet has been the increase in poultry--at 3333.3 percent from 1974-76 to 1979-81. Chicken did not use to be an important part of the rural diet, except for eggs. In the past decade frozen chickens⁸ have become available in rural markets. For the past three years commercial poultry production has begun operation. Imported eggs are not readily available in many rural areas.

The most important dairy product for trade was clarified butter (samm), but this is being replaced by imported vegetable and palm oils. In some areas cows yield less than a pint of milk per day,⁹ although this varies seasonally. Sour milk is generally consumed within the household. Cheese is not common in the Central and Northern Highlands. Powdered and evaporated milk are available in the most remote villages today.

Along the coast fish has long been an important part of the diet.¹⁰ Only recently, however, has it been possible to distribute fresh fish to highland towns, but these do not reach most rural markets. Imported mackerel is found in the most remote villages, often in tomato sauce.

Within the last decade there has been a rapid influx of new foodstuffs and processed foods from the world market. Perhaps the most significant new food is sugar, which was rarely found in rural Yemen during the days of the imamate. The introduction of sugar has had a startling domino effect on overall nutrition in Yemen. In most remote villages it is possible to buy Yemeni "biscuits," cola, sugary fruit mixtures, candy and other sugar foods. There is also a shift from the drinking of qahr (made without sugar) to tea made with large quantities of sugar. In addition to the inevitability of more dental

problems, this rapid switch to sugar may have long-range negative impact on rural health.

Hygiene and Sanitation

To the Western observer, it appears at first glance that rural Yemeni villages are unsanitary because of the dirt and dust. While modern sanitary facilities are almost entirely lacking in rural Yemen, there is a well developed sense of personal hygiene integrated into Islamic belief. Islamic prayer requires ablutions--personal cleansing--as part of the ritual. To the extent possible, a mosque should have a source of uncontaminated water for the performance of ablutions. In some cases rural mosques will have latrines, but these are usually for men.

There are no communal latrines, apart from those in the mosque, and only the wealthy have household latrines. The traditional Yemeni toilet in the highlands is also used for personal washing. Excrement is deposited in a simple pit latrine, but urine is led off in a channel. Generally, there are several stone pedestals on which the person stands while washing. Women, for instance, must wash from head to foot after menstruation and after sex. In some cases water is provided in a small container for anal cleansing, which is accomplished with the left hand. In some villages an area outside the house may be enclosed for toilet or a secluded spot may be chosen. There may be no anal cleansing in the latter. Children tend to do their business wherever they please.

On the whole, traditional methods of excreta disposal are adequate, because of ample sunlight. An AID-sponsored study in 1980 indicated that minor modifications could make indigenous latrines more sanitary.¹² Few flush toilets have been installed in rural areas. These are impractical in many areas because of the amount of water needed to flush and difficulties in sludge removal.

The critical factor in rural sanitation is the availability of water. Only the wealthy have access to water inside the household (i.e., a personal well). In most rural villages women and girls have the chore of fetching water, which may be a kilometer or more away from the house. Thus, water for household cleaning and bathing, as well as for drinking and cooking, must be brought in by hand. A variety of factors is considered by the rural Yemeni in defining "clean" water, a process that appears to be more developed among women than men.¹³ Water for drinking must be clear of sediment and visible particles and fresh. Thus, water for drinking is not stored over a long period of time. Water from a cistern is generally not regarded as clean. Once water has been dirtied in household usage, it can be reused for certain tasks.

There are a number of aspects of rural life that can lead to health problems. Domestic animals are generally kept inside the house in the highlands or in the compound in the Tihama. The night soil is cleaned out periodically and used as fertilizer. Women also shape dung droppings, particularly those on the street, into cakes for fuel in stoves. All of these activities encourage the concentration of flies, which constitute a vector for spread of disease.

Problems in Rural Health Care Delivery¹⁴

Because of the long, drawn-out civil war in the 1960s, little could be done to promote health care in rural Yemen. Investment, health training and the recruitment of thousands of Egyptians and Sudanese personnel were oriented to the support of large hospitals in Sanaa, Hodeida, Taiz and Ibb. Decreasing remoteness, increased local wealth and power and changing priorities have brought, during the last four years, a proliferation of small health centers at a rate difficult to keep supplied with materials and personnel. By 1982 nearly 70 centers were estimated to be closed for lack of staff and the majority of the rural population remained unserved.

Background. Yemen's first five-year plan (1976-77 to 1980-81) was accompanied by the establishment of a National Health Plan designed for the period 1976-77 to 1981-82. In 1976 a WHO "Country Health Programming Exercise" was conducted, resulting in the start in 1978 of the "Basic Health Services/Primary Health Care Program," (referred to as BHS/PHC), which was to supply health services to 20 percent of the country by 1981 and to 60 percent by 1986. The program was accorded (on paper) highest priority among all programs of the Ministry of Health and was to be an integral part of the rural development program or other ministries as well. In the newly established department within the ministry for BHS/PHC there were four subsections: maternal and child health care, health education, nutrition and school health. Unfortunately, for reasons not clearly understood, the department was never sufficiently staffed or equipped and it remained a paper exercise.

In 1980 a Primary Health Care Project agreement was signed bringing in external assistance through UNICEF, WHO, UNCDF (United Nations Community Development Fund), and several bilateral and non-government agencies. Implementation started in early 1981 with project staff being paid by external sources (UNICEF, WHO and Saudi Fund) in order to overcome the problem of recruiting sufficient and qualified personnel. The project's aim is to strengthen rural health centers for use in training and as integral parts of a chain of referral and supply between primary health care units and urban hospitals. Delivery of health care to the mass of the population--in theory mainly preventive and educative care--is to be in the hands of primary health care workers and local birth attendants: village health workers with short-term training. The primary health care workers and local birth attendants will, again in theory, work with a population of 2,500 each.

By the end of 1982, 10 health centers were training primary health care workers: 4 in the main towns, 5 in small towns served by paved roads, and 1 in a remoter village served by unpaved mountain roads. Close to 100 primary health care workers had completed training, about 5 percent of the number required to cover the country at a rate of one for every 2,500 persons. Three of these centers had attempted training local birth attendants by the end of 1982. By that time 12 had been graduated in two places despite the lack of a formally accepted structure for their training and supervision--a degree of flexibility for which the Ministry of Health should be commended.

Constraints. Constraints and obstacles at both central and peripheral levels are numerous. The Ministry of Health is well aware that some of them are beyond its capabilities and hopes that through intersectoral as well as international cooperation problems can be minimized or even eliminated. The following outlines some of the major obstacles:

1. Financial constraints. Despite optimistic assumptions made in the National Health Plan regarding the extension of services to the rural areas, and despite statements that primary health care is highest priority, health is a relatively low priority in national planning (although this is improving in the second five-year plan, with the draft plan showing basic health services receiving 6 percent of government services investment). Nevertheless, a low priority means that when national finances are short, the Ministry runs out of cash. Yemeni law on the payment for health services is still being formulated. The limited revenue generated from fees for lab tests, x-rays and registration does not make a dent in the overall costs. Alternative models, using the LDAs as intermediaries, are only now being tried out on a small scale, and with extreme caution. External sources of financing remain of great importance, and it cannot be foreseen how this financial burden can be absorbed by the Ministry of Health. This basic financial problem is an immediate contributing factor, if not cause, of many other problems constraining the provision of health care in the country. On the other hand, city hospitals have better funding.

2. Inadequate salaries for Yemeni health personnel. Health workers, like most government workers, receive very low salaries, lower even, according to some authorities, than staff of other ministries and often inadequate for family support. Thus many work at a low level of performance or seek better opportunities in the private sector. The progression of many into the private sector, making good money from the increasing demand for drugs, makes this problem worse. The low salaries themselves are a disincentive to the better candidates for jobs in health care and health-care administration.

3. Shortage of adequately-trained health manpower. There is a lack of skilled manpower at all levels, including:

-- Inadequate managerial and administrative skills at central and governorate level. Many of the headquarters staff have not had training in their area of responsibility, and there are many expatriates in key positions. Many positions are vacant, yet some existing staff are underutilized. There is no capacity to do forward planning nor to play an active role in dealing with central agencies of the government. With few exceptions (Taiz, Hodeida and Ibb), the situation at the governorate level is even worse, a situation not unique to the Ministry of Health.

-- Extreme shortage and lack of certain required categories of health personnel for services at each level. Health manpower training on an institutional level only began in 1972, although some training had been done earlier. It is insufficient in quality and is not appropriate in content or category to meet the nation's most urgent requirements. Donors have difficulties finding properly trained counterparts. The traditional mode of centralized training of specialized categories of health manpower cannot meet the pressing need for health care providers. Because most health personnel accumulate in the three bigger cities of the country where less than 10 percent of the population lives, the health manpower situation is most critical in the rural areas. This problem has been ameliorated somewhat by recruiting health personnel from Egypt, Sudan and, recently, from India and the Philippines.

-- Shortage of lack of trainers and training facilities in existing rural health services.

-- Scarcity of female health workers. While women's public roles are expanding in some regards, there are still few who can work in or influence the direction of health policy and program design. It is hard for women, especially young girls, to travel far for training, especially if they have to stay overnight. This is one of the reasons for the fact that midwifery training is lagging behind other activities.

4. Lack of national health planning from a sound information base. The shortage of manpower and management skills, exacerbated by low salaries, leads to inefficiency and an almost total lack of detailed plans. The Ministry of Health has no planning unit; neither planned implementation nor evaluation is performed in a systematic manner. Local political demands have largely determined the quantitative expansion of services heavily dependent on staff from Sudan and Egypt. Attempts to improve systems have tended to mean bureaucratic growth without any concomitant easing of the problem.

5. Continued concentration of health services and health resources (MONEY, MANPOWER, and MATERIAL) in urban areas. Less than 10 percent of the rural population have access to a public health facility, of which less than half are considered to be functioning adequately.

6. Difficulties in assigning certain health staff to rural areas. One illustrative issue here is the problem of housing. None of the health centers so far constructed have sufficient housing for medical and clerical staff assigned to the unit. Units are, for the most part, not staffed by locals but instead by contracted employees of the Ministry of Health--most often from Egypt and the Sudan. Living arrangements often include unused wards (as in Madinat ash-Sharq), schools (as in Kusmah, Jabal Raymah) or rented houses. There has been a recent proliferation of health centers with the "standard H design" with no facilities for housing. The negative effects on the quality of life of the contracted employees often lead to early resignation of the personnel. For example, Dawran Anis had six physicians in as many months.

7. Logistics: poor communication infrastructure and transport facilities. Although roads are now reaching the remotest areas, many mountain villages remain several hours walk from vehicle access. Tribalism in the north and east, perpetuating antipathy toward outside influence, also works against the spreading of government services. Because of this and other factors, the Ministry of Health's administrative support and infrastructure for providing both curative services and preventive services are very limited. Many key support functions (e.g., data collection and analysis, health education and supplies management) are done poorly or not at all. There is little supervision anywhere throughout the system and a grave lack of cooperation and coordination between the different types of health facilities. Of the many central projects, only the Expanded Program of Immunization is sufficiently integrated into the Basic Health System. Logistics problems contribute directly to the four following related constraints.

8. Inadequate drug supply. The Ministry of Health cannot afford to supply its health centers. Thus, for example, the quantity of medicines allotted quarterly from the Governorate of Dhahar Health Office during recent months would not

last three weeks if dispensed according to medical need. The patients are given partial doses and instructed to buy the remainder on the open market. The negative consequences deriving from patient non-compliance are high, and often dangerous (as in the case of tuberculosis treatment). Additionally, a significant portion of the allotted drug supply is inappropriate for the disease epidemiology of the area.

9. Equipment Supply Discrepancies. Some units supported by a foreign donor are overstocked with oversophisticated equipment, for example, the Governorate of Dhamar. In contrast, the health center in Madinat ash-Sharq, which was built by the former Anis LDA, is not furnished with enough furniture, lab or diagnostic equipment to function properly.

10. Maintenance. The health centers are often very poorly maintained and when structural problems (such as roof leakage) occur, the problem does not get solved. There is no efficient system for periodic inspection or maintenance of existing facilities either at the local or ministerial level.

11. Access. Transportation to health centers is often cited as a major problem. Only under certain circumstances can women and children travel to health facilities alone, and that is basically a function of distance. For the most part, the father or husband or a wakil (person entrusted with the wellbeing of the family) must accompany the woman or child to the center. In an area with high emigration and father absence, this is often another block. Because most of rural Yemen is without convenient access to secondary roads, ill persons simply cannot make it to the health centers, and as often, mobile programs, such as immunization, cannot reach population clusters. Rural communications are very poor, so it is not possible to give advance notice that services will be available at specific times and dates.

12. Inadequate attention to cultural patterns and traditions of people in different regions of the country. The planning process does not at present give much attention to the cultural patterns, habits, attitudes and traditions of persons for whom the services are being provided.

13. Inadequate use of knowledge about traditional healers and healing and about people's attitudes with regard to modern and traditional medicine. Although primary health care workers have been trained in various parts of the country, and have started to practice in their villages, little or no attention has been paid to traditional healing practices in the same village.

14. Curative emphasis and demand for drugs. Despite the great need for improved sanitation and access to clean water in rural Yemen, de facto priorities in health care are curative. The curative ideology of health care is stimulated by the booming private sector and its catering to increased demand for quick cures, especially injections. There is a growing faith in chemical panaceas, hand in hand with a seizing of opportunity by practitioners who range from senior doctors to unqualified rural health auxiliaries.

15. Inadequate training and supervision of donor medical personnel. Since it has often been impossible to recruit and keep trained locals in more remote locations, the government has been forced to recruit foreign nationals to staff health care facilities. These personnel have often dispensed drugs indiscriminately, and have been known to both use and prescribe inappropriate or dangerous drugs to any and all seeking assistance (thereby developing

numerous cases of drug dependence as well as accidental reactions which have included death).

Foreign agency support. Implementation of projects is limited to places with a strong input from foreign donors. Yemen is and will probably remain very dependent on foreign and multi-lateral donors to build, staff and operate health care facilities of all types. This raises the question as to whether or not such a basic health program--with its requirements for enthusiastic participation--can survive if run by nationals acculturated in the present ideological environment. Furthermore, the wide range of foreign donors makes their coordination through the ministry a difficult task.

Under a forthcoming World Bank/IDA grant, provision will be made to reorganize and strengthen the Ministry of Health (i.e., finance, administration, planning and evaluation, statistics, research and evaluation, BHS/PHC, health education, nutrition and supplies management) as well as the Health Manpower Institute and its branches. The UNICEF/WHO/UNCDF-sponsored primary health care project is intended to offer 17 rural communities the opportunity to enjoy a health service sensitive and appropriate to their needs.

Eight of the primary health care training and support centers are run wholly or in part by six foreign agencies: Swedish Save the Children (3), Norwegian Save the Children, British Save the Children, British Organization for Community Development, CIDR and German Technical Assistance. The two remaining centers are run by the Ministry via its Hodeida health office in conjunction with USAID support (with Management Sciences for Health expected to take over the running of these two centers). Proposed expansion into new training and support centers in Jibla, 'Abs, Sa'da, Juba and Dhamar will involve four more organizations. The overwhelming level of foreign involvement and the lower-than-planned inclusion of nationally-run projects can be put down to lack of skilled manpower, lack of widespread publicity, and, linked with those, lack of management ability at all levels.

Implications for Development Planners

In discussing the problems of rural health care delivery in Yemen, a number of implications have been mentioned. It is evident that health outreach is poor in most rural areas and that the Ministry of Health cannot be expected to make great advances in the near future. Furthermore, the "modern" medicines that do reach the rural area may be inappropriate. There is a wide availability of drugs and even contraceptive devices in rural Yemen due to an active private sector, although these are quite expensive. This has resulted in an expectation of quick cures or medicine for any problem on the part of many rural Yemenis. While the tradition folk medicine is being criticized as "medieval," the "modern" alternative is not being effectively communicated or utilized.

From the standpoint of a foreign donor, the options are limited, but there are some promising alternatives.

1. Institution-building. The Ministry of Health, as do so many government institutions, lacks the financial resources, material supplies and manpower to provide health services in rural areas. The building of clinics is a start, but staffing problems and communications problems are acute. A donor has no

choice but to help improve the capabilities of Yemeni institutions, but this alone will not help the rural sector. Perhaps the greatest need at the present time is for trained health personnel at all levels from midwives to doctors. It is also important to encourage local institutions, because foreign personnel should not run the health program. Reliance on foreign experts (and to a certain extent, foreign aid) serves to lessen the urgency of Yemenis developing their own health services. Unfortunately, when a foreign donor concludes its task, there may not be trained Yemeni counterparts to take over the work.

2. Health education. Perhaps the greatest need in rural Yemen is not for medical supplies, but rather for proper information on medical care. The average Yemeni has no context within which to respond to modern health care. Old beliefs still influence thinking, but there is a growing reliance on the medicine or drug as an almost magical "cure" without understanding the conditions that promote disease and illness. Health extension through the ministry can reach only a small part of the population at best. There is potential here for expanded use of television, which is present in the daily life of most villagers. Rural Yemenis have many questions about health and nutrition; the local media should develop programming aimed at these concerns, particularly child health and infant weaning.

3. Private-sector initiatives. A wide variety of imported medicines is available in rural Yemen, due to lack of any government regulation in the pharmaceutical field. A Yemeni can buy over the counter, even in some rural villages, medicines that in most countries require (for good reason) a doctor's prescription and monitoring, or have been banned elsewhere (e.g. Enteroc-Vioform). While a foreign donor has no authority in influencing private-sector traffic in medicines, it could assist in providing information to druggists and merchants on appropriate vs. dangerous medicines.¹⁵ This might be coordinated through the proposed Faculty of Medicine in Sanaa University, as well as the ministry.

4. Lack of information on nutritional habits. There has been a dramatic increase in economic levels in the rural areas, but little is known about changes in overall consumption patterns and nutrition. It is clear that infant nutrition may in fact have deteriorated. Certainly many new items on the rural market (white flour, biscuits, cola) are poor substitutes for the traditional foods. A study updating the earlier nutrition studies of Annika Bornstein (FAO) rates a high priority.¹⁶

5. Need for appropriate sanitation facilities. In the building up of rural infrastructure, sanitation takes last place. Thus, in many villages the number of color televisions is greater than the number of latrines. The traditional Yemeni pit latrine is well adapted to Yemen with certain modifications and could be constructed with existing materials and at a reasonable cost. Donors should seek to interest the private sector, which has a large amount of construction workers and masons, in design and building of pit latrines in rural villages. In areas with a large animal population the compost toilet would appear to be a viable option. UNICEF has run a successful compost toilet project in the PDRY. Roof-top solar water heaters should be encouraged and could be added on as a component in existing projects (e.g., for clinics under the PHC program in Yemen).¹⁷

Notes to Chapter 6

¹Much of this section is based on Ansell (1981d). For an overview of traditional health care in rural Yemen, see Ansell (1981d) and Myntti (forthcoming). A list of medicinal plants for Yemen has been prepared by Fleurentin and Felt (1982). For information on traditional health care in the Middle East region, see Pillsbury (1978). Research is currently under way on rural health by Charles F. Swagman (UCLA).

²See Adra (forthcoming), Firebrace (1981), Greiner (1980), Israel et al. (1982), Melrose (1981) and Myntti (1979b).

³Pomasik (1979:12).

⁴YAR. Ministry of Supply (1979).

⁵See Bornstein (1972a, b, c, 1973, 1974). For more recent information, see Almroth (1978-1981). See also Hogan et al. (1982:242-249) and Mitchell and Escher (1978, appendix 6).

⁶See CARS (1982).

⁷Bornstein (1972b).

⁸And refrozen chickens.

⁹Carapico and Hart (1977:3).

¹⁰See Hogan et al. (1982:196-203).

¹¹See Ansell (1981a, b) and Haratani and Skenfield (1980).

¹²Haratani and Skenfield (1980:13).

¹³Anseli (1980).

¹⁴This section is based in part on a report submitted by Charles F. Swagman, Ph.D. candidate in anthropology at the University of California at Los Angeles. Assessment of the institutional capabilities of the Ministry of Health stems mainly from a report by Jens Hermann. For additional details, see Hermann (1979).

¹⁵In Egypt a bulletin is provided to pharmacists on health-related issues.

¹⁶See the recommendations in Part Four.

¹⁷Haratani and Skenfield (1980:17).

7. EDUCATION IN RURAL YEMEN

Yemen has long been a center of Islamic education, with Muslims in the medieval period coming from as far as Spain and China to study with scholars in the coastal town of Zabid. However, the rural Yemeni received no formal education apart from occasional and limited Quranic teaching. This invariably consisted of rote memorization and did not include any of the subjects in a modern curriculum.

The purpose of this chapter is to provide a brief overview of the basic literacy, traditional non-formal modes of learning, emerging rural facilities and access to education among the rural population.¹ This is an area on which there is limited qualitative and quantitative data. Furthermore, it is difficult to chart the pace at which change is taking place. In overall terms rural education is still at a low level of development, but considering where education was only a decade ago substantial achievements have been made. Still, the major effort has been directed at urban areas.

Literacy

While ranking among the better off developing countries in terms of rural income levels, Yemen ranks among the least developed in terms of literacy. Nationwide only 13 percent of Yemenis over the age of 10 can read and write.² Of those over ten, 26 percent of men can read and write but only 2 percent of females are defined as literate. In absolute terms, this means only some 31,000 Yemeni women (over 10 years) can read and write.

Not surprisingly, the urban population is much more literate and has higher rates of school attendance at all levels. Based on the admittedly questionable 1975 census figures, more than 20 percent of all literate Yemenis are concentrated in the three cities of Sanaa, Taiz and Hodeida; yet this population represents only 6 percent of Yemen's inhabitants. Similarly, about 45 percent of literate Yemeni women live in these three cities, despite the fact that the population here is only 5 percent of Yemeni women. The literacy rate in the three main cities is about 43.8 percent, in contrast to 10.8 percent in rural Yemen.

As in all aspects of Yemeni life, here too is great regional diversity beyond the urban-rural distinction *par sa*. Literacy levels are shown in Table 7-1. Overall literacy in the governorates of Sanaa and Taiz is twice that of the percentage for Mahweil and Hajja. Female literacy in Taiz, for example, is 13 times greater on a percentage basis than in the governorate of Sa'da.

Adult literacy programs exist providing elementary education to about 6,000 adults age 15 and over. However, this represents only one out of every 500 persons and is mainly urban in focus. Despite ambitious goals of the government to improve literacy, efforts have been uneven. Not all literacy students stay to complete training. Women are often unaware that courses can be segregated. Literacy programs suffer from the same problem as basic education in rural Yemen: lack of trained personnel, lack of facilities, traditional attitudes about female education, lack of motivation by students and, in some cases, lack of free time of either adults or children.

Table 7-1. Literacy levels according to sex and governorate for population over 10 years (Steffen *et al.* 1978:I/120)

Governorate	Male Literacy (Percent)	Female Literacy (Percent)	Total Literacy (Percent)
Taiz	37.2	4.6	18.4
Sanaa	31.5	2.5	16.5
Marib	26.2	0.6	13.2
Bayda	28.6	2.0	12.8
Dhamar	24.5	0.6	11.3
Sa' da	20.4	0.2	9.5
Ibb	16.7	1.6	9.1
Hajja	17.9	0.5	8.7
Mahweit	16.1	0.5	7.5
National	25.4	1.9	12.6

Traditional Non-formal Modes of Learning³

The lack of a school system in most of rural Yemen should not be interpreted as proof that rural people are ignorant. To a great extent literacy and formal education has had little relation to the daily lives of rural farmers and housewives. Traditional skills and knowledge were passed on orally and through hands-on experience. The father initiated his son into methods of working the land, knowing when to plant certain crops, how to irrigate and so on. A girl learned household domestic skills (basketry, sewing, cooking) from her mother and older sisters. Artisans (potters, weavers, smiths) passed on their knowledge from father to son.

Among many in the rural population there is a reverence for the man (or woman) who can read and write. A learned man may be sought out to inscribe a verse from the Quran as a protective amulet. Those who can read and recite Quran are accorded great prestige, no matter what their economic or social background. Important documents (deeds, contracts, legal decisions) were generally written down. Indeed many village shaykhs have a rudimentary knowledge of reading and writing because of their administrative duties within the community.

In rural Yemen there has been limited Quranic teaching in the more formal manner found in towns and cities. Rural mosques were simple buildings and local religious men were seldom scholars. If there was any instruction in Quran or religious teaching, this was often done out of doors or for those of the higher status groups. Many rural Yemenis have learned their prayers and a few Quranic verses by imitation rather than any formal schooling, however limited in scope.

Facilities

By the end of the 1950s only 680 primary schools (invariably mosque run) were reported for all of Yemen; most of these were in major towns and cities. In 1958 under the imamate there were only 5 preparatory and secondary schools providing classes for some 696 pupils. It was not until 1970, after the revolution and civil war, that the Ministry of Education took over the Quranic schools in rural Yemen. At this time the system was brought into line with Egyptian schools: six years of primary, three years of preparatory and three years of secondary education.

Although rates of school attendance have increased since 1970, only about 25 percent of children ages 6-11 are enrolled in school. At the primary level in 1982 there were 3,747 schools reported, with a dropout rate of 25 percent. A quarter of these schools do not go beyond the 3rd grade. At the same time there were 314 preparatory schools with a much lower dropout rate. Some 120 secondary schools were reported for 1982 with an even lower dropout rate. Although it is clear that many students repeat years, particularly within the past several years, it is also true that the further one goes in the system, the greater the chance of remaining there to the end.

There are several other types of institutions which provide secondary education. For 1981-82 there were 300 religious schools (previously administered by the Ministry of Religious Affairs and Awqaf) serving 46,086 students. Ten institutes at the same time trained 692 students as primary school teachers. Preparatory school teachers are trained in General Teachers Institutes of which there were twelve in 1981-82 with 1,210 students. Secondary school teachers are trained in the Faculty of Education at Sanaa University. In addition there are a number of vocational secondary schools as of 1981-82:

- 7 commercial schools serving 581 students,
- 2 technical schools serving 461 students,
- 4 industrial schools with 483 students,
- 2 agricultural schools with 144 students.

The only university level education in Yemen is provided by the University of Sanaa, which was founded in 1970 and has received substantial foreign aid input. Currently, there are five faculties: arts, science, commerce, law and education. Plans exist for establishing faculties of medicine, agriculture and engineering by 1985. In 1981-82 there were 6,634 students registered for degrees, although fewer were actually studying. Most of the teaching staff are foreign--Egyptian, Sudanese, Iraqi, Indian--while Yemenis occupy most senior administrative positions. About 20 percent of the student body is female, but up to half of these are not Yemeni.

Access to Education

Access to education varies considerably according to rural versus urban, regional variations and sex. The distribution of schools by governorate is noted in Table 7-2.

Table 7-2. Distribution of schools by governorate
in 1981-82 (YAR, CPO 1982)

Governorate	Primary	Preparatory	Secondary
Sanaa	722	49	13
Taiz	464	102	27
Hodeida	192	19	8
Ibb	366	22	7
Dhamar	267	20	3
Hajja	374	9	3
Mahweit	155	3	1
Bayda	121	7	2
Sa' da	113	7	1
Marib/Jawf	161	8	3

As might be expected, the largest concentration of schools is in Sanaa. However, it is significant that the southern governorate of Taiz contains the highest number of preparatory and secondary schools. This is an area where education has long been stressed, in part because of the long history of out-migration through Aden to and other countries. These migrants have tended to fill roles that require a level of education (such as commerce or work in an industrialized country), unlike the recent influx of unskilled labor to Saudi Arabia and the Gulf States.

Much of what dynamism exists in the country's education derives from the relatively modern city of Aden in the current PDRY. Yemenis during the days of the imamate could sometimes migrate to Aden for a secular education on the British pattern. Well-educated Adenis were fluent in English and Arabic. Following the Marxist ascendancy in the late 1960s, many educated Adenis came to Yemen where they have had considerable impact on social, commercial, political and intellectual life. Many of the personnel needs of the government have been filled by Yemenis from the Southern Highlands.

In the past there was no formal educational training of girls, although women of the elites often learned to read and write at home. Unlike some other Arab countries, Yemeni women have not really been encouraged to go abroad for higher education. There is virtually no formal education of girls in the countryside for a number of reasons. One is the traditional attitude that girls do not need to be educated to be housewives; another is that existing opportunities usually mix girls and boys in school. It is reported in some areas that Yemenis do not oppose mixing of boys and girls; rather this is the attitude brought in by foreign Arab teachers. Furthermore, given the household tasks and early female marriage age of most rural Yemen, there is little opportunity or time for attending school.

Formal education opportunities for women have improved only slightly in rural Yemen since the days of the imamate.⁴ However, more progress has been made in urban areas, where it is possible to have all-girl schools and female teachers can function more effectively. There is now an opportunity for university level education, but this is still confined to those few girls who have gone through the system (or a private school) and these tend to be urban and from wealthy families. At the present time there are only about 100 women with B.A. degrees and only a handful with M.A. degrees. This number may improve dramatically in the near future.

The government has recognized the need for equalization of educational opportunities for boys and girls. Unfortunately, the rural education system is at present inadequate for males as well. One major problem is the lack of female teachers in rural areas. It would be extremely difficult for an unmarried woman to teach in a village, and unlikely that if she were married, her husband would also find work in the village. An exception to this is the wife of the male teacher. In some villages the wife (who may have little training) will hold classes for girls in her home while the boys are in school. Rural families are often reluctant to send their daughters to learn under a foreign male teacher.

Problems in Rural Education

1. Lack of institutional outreach. Like other ministries in the Yemeni government, Education lacks the trained personnel, supplies and finances to effectively counter the lack of facilities and opportunities in rural Yemen. Although schools are being built by the LDAs, it is often difficult to find teachers who will live in remote rural areas. The general logistical problems of working in rural Yemen also hinder development.

2. Reliance on foreign personnel. Education at all levels in Yemen relies heavily on expatriate Arab teachers. These are financed by their own government as a form of aid to Yemen. Their salaries would be far lower in their own country (which is a major incentive for going to Yemen). Yemeni teachers have their salaries paid by the government. Thus, there is little incentive to decrease the number of foreign teachers, as long as some other government will pay the bill. Of the estimated 17,000 foreign teachers in Yemeni schools, about 14,000 are Egyptian and a sizeable number Sudanese. The problems of this excessive reliance on foreign teachers are:

- reluctance of Yemenis to have their children taught by foreigners, even though they are Arabs (especially because of teachers' attitudes about being in rural Yemen),
- different expectations in disciplining of children,
- lack of Yemeni teachers as role models and therefore less incentive to stay in school,
- communication problems because of differences between Yemeni dialects and those of teachers,

- demands of some local teachers for money from villagers on top of their salary,
- need to house and feed foreign teachers in the local community.

3. Extent of foreign teachers in education system. A striking feature of modern education in Yemen is that practically all elements are from outside the country. The levels, curricula, teachers, administrative features and even styles of schools are foreign and to a great extent based on the Egyptian model. Schooling, especially in rural areas, is an alienating process from the day the child begins primary classes and has to adjust to the values of accent of his teacher until the day he or she graduates from a university in cap and gown derived from medieval Europe. Foreign aid keeps the schools afloat. Kuwait assists in materials and buildings for schools and makes large contributions to the running of Sanaa University. Britain is funding a curriculum development project in English language training. West Germany assists in vocational training, as does USAID and other donors. Furthermore, UNESCO provides an advisor in curriculum development.

USAID/Sanaa supports the MOE in Yemen through a Basic Education Development project administered by Eastern Michigan University (EMU). This involves three components at present.⁵

- Primary Teacher Training. The goal is to educate 180 Yemenis to the M.A. level at EMU. There will be teacher trainers and administrators at Teaching Training Institutes. It is hoped that more appropriate models for primary schools can be developed.
- Administrative Support to MOE. Twenty MOE officials will be trained abroad. There will be in-country workshops.
- Primary Science Education. In conjunction with the Faculty of Education at Sanaa University a Department of Primary Education will be set up to improve teaching of science.

In the planning stage is an Instructional Materials project, which will promote use of media and printed materials at all levels.

4. Shortage of appropriate teaching materials. A major problem in the rapid development of the education system is the shortage of textbooks, instructional materials and media for teaching. The textbooks are not necessarily appropriate for Yemeni students. There is a distinct lack of materials for science teaching.

5. Low levels of rural literacy. Compounding all the other problems is the fact that few rural Yemenis understand what education is all about. Children seldom have role models of elders who have gone through the system. With such extensive adult illiteracy, it is difficult to communicate a modern, secular education system to parents. The government cannot force compliance in school attendance, even in those places where there are established schools. The role of the LDAs and local community initiative are encouraging building of schools

in many rural communities, but there is almost total reliance on the ministry for staffing and no viable mechanisms for picking up recurring costs.

Implications for Development Planners

1. Low literacy levels. In a country with a vast majority of illiterate adults, it is not enough simply to train the next generation. There is a need for adult literacy, as recognized in the Basic Literacy Campaign by the Ministry of Education. This is not a problem that can be solved for the whole population by formal classes. There is a great potential for use of the media in teaching basics of reading and writing. For example, Iraq has employed an extensive media campaign to eliminate illiteracy coordinated with local literacy classes around the country. Use of media may be an effective way of reaching women, who might not attend classes in a school.

2. Need for institution building. Although foreign donor support has been extensive, there is a need to train Yemenis who can fill ministry positions at all levels and to train Yemeni teachers. The lack of Yemeni teachers at the primary level is a major barrier to rural education. Emphasis should be placed on indigenous institutions, such as Sanaa University, for increased training of teachers. Furthermore, it is important to encourage in-country training or at least in another Arabic-speaking country. By having to learn the language of the donor country, the student may not be able to study as effectively. In some cases a student might be over-trained for the needs of the country. In other cases he may not receive the appropriate training in basic teaching skills, but be encouraged to teach only the specialty of his undergraduate training.

3. Need for alternate financing. A major problem in developing education in Yemen is the lack of knowledge in budgets and finance. In the past most schools were financed by the waqf institution. With the current influx of donor funds, there is little incentive to seek alternative revenues for operation of an ever-expanding system. A major problem is determining appropriate wage rates and perquisites for rural teachers to encourage their remaining in remoter areas.

4. Need to integrate traditional and non-formal modes of education. In trying to develop a modern education system overnight, numerous problems have arisen. Some of these are due to the fact that education is presented in an alien and alienating fashion. Rather than replace Quranic schools with secular schools, it might be useful at this stage to upgrade training of traditional Quranic teachers, particularly in reading and writing teaching skills. Such teachers are established and respected in a community. Parents are more likely to send their children (at least at present) to a school if the traditional Quranic teacher is involved. The one-room school model should be explored for rural Yemen.

There are a number of non-formal components which could complement the current emphasis on teacher training. For example, literacy training can be part of a health of mother-child clinic. Home economics education is needed in Yemen for such issues as improved cooking methods, diet, sanitation in the

home, preservation of food, useful crafts and skills (sewing, basketry) and even keeping financial records. This type of training could be fostered by increased use of television and radio.

5. Promotion of women's education. A major reason for the low number of Yemeni women at the university level is the limited pool of potential applicants. Yemen is not as conservative as other parts of the Arabian peninsula, but social, institutional, and foreign donor attitude constraints hinder the full participation of women in the educational process. The bottom-line is that education must be improved for both male and female. Only when men are better educated is it likely that the role of women in the educational system will improve. If resources are seen as being diverted from men to women, the MCE may hesitate. Foreign donors should encourage more participation of girls in the public schools, but not force a confrontation with Yemeni attitudes. The use of female teachers and segregated (by sex) schools may be the most appropriate approach in rural areas. This is an issue that requires further study.

6. Promotion of practical science teaching. The problem in Yemen is that there is widespread access to new technology, but little or no understanding of the scientific principles behind the technology. This creates a twofold problem in that technology is either ignored (because it is too difficult or considered "foreign") or worshipped. The curricula from grade one should deal with basic scientific concepts in terms familiar to students. There is a need to define terms and concepts precisely in Arabic at the higher educational levels. The consciousness of teachers and administrators must be raised. The proposed Instructional Materials Center could play a useful role in promoting understanding of basic science concepts and technology transfer.⁶

Notes to chapter 7

¹For more information, see Steffen, et al. (1978:I/109-122) and Sharif (1973).

²In most cases, however, there will be someone in the village who can read or write for a person.

³See Ansell (1981a).

⁴See El-Faqeh (1982) and Myntti (1978, 1979a) for women's education in Yemen.

⁵See Eastern Michigan University (1979).

⁶See recommendations in Adibe (1982).

8. DIFFERENTIAL ACCESS TO RESOURCES AND SERVICES

The preceding chapters have profiled a heterogeneous population with variations in religious affiliation, social status, political leverage and economic opportunities. Unfortunately, the research that has been conducted in rural Yemen is limited and difficult to generalize for the country as a whole. It is extremely difficult to pinpoint disadvantaged groups or areas in rural Yemen both because of the lack of quantitative data and the rapidly changing economic context. While the poor are indeed out there, they are not easy to recognize.

Who are the disadvantaged and those with least access to services and resources in rural Yemen? On a superficial level one might think the Akhdam are the poorest of the poor. According to the literature, the Akhdam constituted a pariah group in the days of the imamate. However it is unclear who the Akhdam are. A number of dark-skinned low status individuals are placed in this category by higher-status groups. All of our information reflects the bias of people who use the term in a pejorative sense. For a donor to target the Akhdam would be inappropriate, because this is not a monolithic group, not all are disadvantaged, the concept of such a group has racial overtones, and the government would find this an embarrassing situation.

Another potential "target group" in Yemen is the so-called munalladin, who are of mixed Arab and African families. This too is a pejorative term in Yemeni society and reflects racial attitudes that have evolved over centuries. Observations indicate that they are discriminated against by many Yemenis, even in official circles. Unfortunately, it is difficult to distinguish the mixed population from the so-called Akhdam, former slaves and recent refugees from fighting in East Africa.

If one sets the complicated and imprecise concept of social identity or ethnic origin aside, there are broad types of people who are disadvantaged. These include:

1. Seasonal pastoral and farm workers. In the coastal region and Southern Highlands there are numerous poor, seasonal laborers. Many of these do not own land and live in tents or makeshift structures. Wages are low relative to other opportunities in the expanding economy. Children are not able to go to school. Sedentary people often look down on these migrants as unclean or untrustworthy.

2. Those without access to remittance wealth or remittance-stimulated occupations. To a great extent remittances have filtered through all levels and regions of Yemen. Furthermore, mechanisms of high brideprices, highly inflated wage scales and cash cropping (especially qat) spread the money to many families without sons abroad. According to the 1975 census, the governorates of Hajja, Hodeida and Marib had the least out-migration. All social categories regard work in Saudi Arabia or abroad as an ideal way of income generation, but there are financial restrictions. Today, for example, a man must pay at least YR 4000 for an exit visa to work abroad. The landless and seasonal laborers may not be able to afford this or obtain credit.

3. Urban squatters. Those without land or remittance income often come to the cities for possible employment in low-status jobs of street sweeping or as

servants. In the major cities there are makeshift shanty towns, often on the outskirts, with little access to water or sanitation. The government attempted a low-income housing project in Sanaa, but this was never completed. Individuals who come as squatters include a variety of groups, despite the fact they may be lumped together as Akhdan.

What can be done about the disadvantaged in Yemen? First, it must be recognized that this problem is wrapped up in the process of urbanization. Rural poor may come to the cities for work or charity. Second, there is a category of "invisible people" in Yemeni society of which many are dark-skinned. Little is known about racial attitudes in the Yemeni population, but there is a need to recognize the nature of discrimination. Third, in the context of rapid change the poor are those who have not been a part of the remittance and cash-cropping boom. These come from several categories in the traditional social structure. Fourth, it is necessary to define the people and the problem, rather than operate with pejorative terms and outdated literature. Yet, this represents a sensitive issue and must be approached with caution. To help the disadvantaged, one must first know who they are. Donors are not yet at that stage.

Given these caveats, only preliminary observations can be made in defining differential access to resources and services in the rural sector. These observations are based on a limited and often biased data base. Thus, there is a need for updating, refining and perhaps rejecting certain points in the following discussion. For each access, the remainder of this chapter is organized according to the resource or service.

AGRICULTURE

Before the revolution in the tribal areas of the Central and Northern Highlands, there was a disdain for vegetable cultivation and marketing among tribal farmers of cereals and legumes. This has virtually disappeared today. (See Extension, Farm Inputs.)

Consumer Goods

A variety of imported consumer goods are now available in rural markets, including soft drinks, candy, biscuits, canned food items, cooking oils, plastic shoes, plastic utensils, toys, cloth, kerosene, primus stoves, small hand tools and various medicines. Major appliances must be purchased in major cities, as well as most luxury items (perfumes, foreign clothing, electronic equipment, expensive watches). On many goods, including the few available medicines, there is inadequate consumer labeling (instructions, warnings), which is compounded by the basic illiteracy of the rural population. High-tar cigarettes represent a threat to Yemenis who smoke.

Perishable and large items are less available farther from the main cities, because of inadequate storage or transportation. Access appears to be logistical and economic, rather than social discrimination. For example, medicines are highly overpriced in rural areas.

Credit

Islamic law forbids the taking of interest on loans, although there are mechanisms for getting around this. With the massive influx of remittances into the rural sector, there has arisen a group of remittance agents who aid in transfer of the money back to the local community. In some cases these agents will loan out money. People can often borrow from relatives or powerful men in a local area. A sharecropper, for example, may obtain credit from a major landowner. There is no banking system in rural Yemen. Up to the present there has been no great demand for credit from rural farmers due to the availability of remittances and the limited availability of investments in many areas.

Education and Training

As noted in Chapter 7, there are differences in educational opportunities between urban and rural, male and female, and according to region. The best rural school system has developed in the Southern Highlands and foothills. Children of seasonal migrants have limited access to education. Girls have far less access at all levels of schooling due to the attitude that education and professional training are not needed for marriage, the lack of female teachers in rural areas and the conservative attitude of many foreign Arab teachers, who dominate the occupation. Emphasis on female education has been greatest among the traditional elites.

A number of training centers exist in technical and vocational skills, but these affect only a small minority of rural youth. Those families nearer the major cities or with connections in the cities (i.e., relatives a youth can live with) have the greatest access to training centers. The recruitment efforts of training centers are poorly run and ineffective in reaching most of the rural population.

Education at the higher levels, particularly the university, requires an independent source of money for living expenses. This is an age when most young people are engaged in full-time work or are married and raising families. Most university-level students come from urban areas or families where education has traditionally been valued. Many of the university students and those sent abroad for study are from the south of the country, particularly the Taiz-Ibb area.

The Ministry of Education supports a Basic Literacy Program, but this is urban in focus and reaches only 1 out of every 500 illiterate adults. Also, many who begin the training do not complete it.

Electricity

In the rural areas there is at present virtually no outreach of public electrification efforts. In the last decade small diesel-fueled electricity generators have been installed in numerous villages. This is usually the work of an entrepreneur who charges a fixed fee for usage. Those without access to remittance income may find it difficult to hook up, because the local cost is 70 cents per kilowatt hour. Household electricity seems to be rarer in the Tihama, in part due to difficulties in wiring the thatched huts. Most village generators do not operate around the clock, but in the evening (sunset to

midnight). In some villages the electricity generator precedes the call to prayer, which is then amplified over the surrounding area. In the case of a wedding, where dancing may go on all night, the expense of operating the generator may be picked up as a wedding expense. (See Energy.)

Employment

The number one occupation in all of rural Yemen is farming, which is generally a family or household endeavor. In subsistence agriculture women, children and the old make a substantial contribution to putting food on the table. With the outflow of unskilled male labor and influx of cheap, domestic foodstuffs, there is little incentive to maintain traditional cropping patterns or upkeep of terraces. In the Southern Highlands and coastal region there are migrant seasonal laborers. Throughout Yemen local hire or payment in kind is practiced, particularly at harvest time. In some areas women must pick up the slack left when many village men migrate for work.

The expanding infrastructure in rural Yemen has opened up a number of new employment opportunities, such as mechanics, masons, construction workers, taxi-drivers and shopkeepers. However, all of these are men. Few opportunities exist for women apart from traditional income-generation in poultry raising, sewing, basketry, mat-making and household skills. The economic role of women is on the decline in rural Yemen. Many are not seeking new work, but more leisure in their lives. Lack of education is a limiting factor in new jobs for men and women.

The most striking feature of rural Yemen is the fact that over a third of the potential male work force is abroad and sending back remittances which highly inflate the rural economy. Those with proximity to British-controlled Aden in the past were in the best historical position to migrate. The opportunities in neighboring oil-rich states extended to almost all areas of the country. Only men worked abroad. Those who cannot afford the YR 4000 for an exit visa to work abroad may not benefit from remittances.

Energy

Access to energy sources is a critical problem in all of rural Yemen because of the extent of deforestation. Butane gas is expensive and only available in major towns and cities. Wood is available, but at a tremendous cost to the household budget. Electricity is also expensive and limited. There appears to have been virtually no experimentation with solar, wind, mini-hydro or geothermal power, yet one or more have significant potential. It is not clear which regions or social groups have the least access to energy in rural Yemen. (See Electricity.)

Entertainment and Recreation

In traditional Yemeni society there are many occasions that provide entertainment within the community. These include weddings, circumcisions, religious feasts and the return of pilgrims from the hajj to Mecca. In many areas of rural Yemen there is a growing lack of traditional musicians, who increasingly charge large fees for performances. In much of the highlands,

unlike the coastal region, there is little flat ground for athletic games (especially soccer). Television and the video-cassette recorder are becoming the most important entertainment sources in the villages. There are no parks, and travel to a resort or the beach is unheard of.

Extension, Agricultural and Livestock

Although there is a National Extension Service in the Ministry of Agriculture and Fisheries, there is no effective extension service apart from specific donor projects. Extension agents are being trained at two secondary schools, but graduates have not yet been placed in the field. Many farmers are interested in cultivating new crops, but they need advice and information on farm inputs. Appropriate farm machinery for highland terraces is not widely available, especially small tractors, roto-tillers, sorghum threshers and corn shellers.

The British have trained livestock extension agents, but they function mainly near cities or in specific project areas. Livestock in Yemen have many nutritional and disease problems, so increased outreach is needed.

Family Planning

Although Yemen has a Family Planning Association, it has little outreach in rural Yemen. A survey in 1979 showed that 13 percent of 911 women interviewed used some form of contraception. According to the same survey, the most common method was the pill (slightly more than 50 percent of those who use contraceptives) and less than 8 percent used condoms. A variety of contraceptives is available in pharmacies of towns and cities and in major hospitals. However, most rural women appear to have no access to these and families have little or no access to information on family planning. Greater access may be a function of educational level. The issue of religious attitudes and family planning has not been thoroughly studied in Yemen. It appears that there is widespread interest in contraception among men and women.

Farm Inputs

Although there is a lack of extension, many rural farmers now have some access to fertilizer, tractors, hydraulic pumps, insecticides, and improved seeds or seedlings through the private sector. Use of farm inputs has been stimulated in great part by a switch to cash cropping of qat from basic subsistence farming. Farmers on older, highland terraces have least need for large tractors and no access to more appropriate machinery.

Food

In the past decade there has been a dramatic increase in availability of food in rural Yemen. This is due to increased capital from remittances and improvement in road networks. It appears that vegetables have always been rare in rural areas and continue so today. Imported canned green beans and tomatoes are available in most rural markets. Consumption of potatoes and fresh tomatoes has increased greatly. While some seasonal fruits were available in

the past, imported fresh fruits (bananas, apples, oranges) are found in rural areas today. Imported white flour and sugar consumption has skyrocketed, resulting in nutritional problems. Chicken and egg consumption has also increased dramatically. Due to the high price of local meat, many poor, rural families only eat meat periodically or on special occasions.

Women seem to receive less food, particularly meat, vegetables and fruits, because men are often presumed to need more for their tasks. Children's nutrition is appalling, especially due to the shift from breastfeeding to bottled milk.

Food Processing and Storage

The biggest improvement in food processing has been the widespread introduction of community diesel-powered grain mills. In the past women had to grind flour almost daily by hand on stone mills. Unfortunately, there are no mechanical corn shellers nor sorghum threshers available, despite the fact that sorghum is still the major agricultural crop. There is substantial loss in grain storage, particularly in the Tihana. Lack of electricity limits refrigeration and leads to food spoilage or thawing and refreezing. Food storage problems appear to be greater in the coastal region.

Health Care

Most rural villages have no access to a rural clinic or doctor. Those who live farthest from a city with a hospital, doctors and medicines are the most disadvantaged. Professional care by a private physician is expensive and there are reports that people must pay for some government health services. Many villagers still rely on traditional health practitioners. The preventative approach of traditional health care is being replaced by a curative emphasis, where the pill or injection is the panacea for all ills. There is no professional, mental health care in rural Yemen. The lack of female doctors limits opportunities for women or gives a greater role to less-trained female nurses. Given the greater prevalence of communicable diseases in coastal areas, this requires immediate health outreach.

Housing

In most highland villages, housing appears to be adequate, although several families may share the same structure. There is a boom in rural house construction, stimulated by remittance capital. There is a need to upgrade design and construction standards in earthquake zones. There is at present an urgent need to house those left homeless in the 1982 earthquake. Coastal housing is adapted to the heat and lack of building materials, but thatched huts are not viable for introduction of household electricity. Many rural poor have now become urban poor and live in makeshift shanties. These squatters are in need of housing and basic services.

Irrigation

Access to irrigation water is linked with regional supply and land

ownership. Those groups with least access to productive land also have least access to irrigation. In recent decades there has been a large increase in the number of pumpwells, creating an active market for water rental or exploitation of new land. Pricing mechanisms are not adequately studied. In general, the coastal region holds greatest potential for improved irrigation methods and water availability. Given the limited water resources of Yemen, it is important to make more efficient use of traditional water-use systems.

Land

Historically in the Central and Northern Highlands only tribesmen and the religious aristocracy owned land. Members of low-status service-providing groups were not allowed or could not afford to own land. In most of the Southern Highlands and the coastal region most land was concentrated in the hands of a few large landowners and there was a large, landless peasantry.

Land is the most highly valued investment in rural Yemen. With remittances the value of land has skyrocketed, making it difficult for those with new-found affluence to invest in rural land. In tribal areas there are mechanisms for keeping productive land within the tribal segment. Women own land and receive part of the inheritance, but they are dependent on male agents, especially fathers and brothers. The dominant system of land fragmentation is a difficult problem for development of land resources in agriculture.

Legal Aid

In most of rural Yemen traditional, customary law prevails alongside a system of Islamic judges. Most personal and village-level disputes are settled (or at least cooled) at the local level through the mediation of relatives, shaykhs and respected mediators. A major rural dispute may be taken to an Islamic judge, but this can be expensive and time-consuming. Modern lawyers are only available in the major cities.

The emphasis in customary and formal law in Yemen is the contractual relationship. Low-status service providers were clients to the tribes and this guaranteed certain rights and obligations. Almost all dispute settlements are a written down and preserved. It is unclear to what extent these traditional processes will change as the government extends its influence.

Literacy

(See Education.)

Marketing

In the tribal areas there was in the past a disdain for commerce and marketing, but this appears to be of little significance today. The main restraint on marketing has always been the inadequate road network. With the building of new roads there is a shift from the periodic rural market to roadside markets and permanent shops.

Marketing is more limited in the highlands than the coastal region. However, the recent switch to cashcropping of qat has resulted in a fast and effective marketing network to the towns and cities. Even small farmers can market qat effectively and realize large profits. For all other crops, however, marketing informatica is inadequate, so there are periods of glut and scarcity.

Women appear to have less access to the market than men, except in the coastal region. This does not mean that women are absent from the market. However, they have little or no involvement in marketing of basic grains and most cash crops. There are no women traders in rural Yemen, with the exception of female qat sellers at Jabal Sabr near Taiz.

Media

There is probably not a village in Yemen without radios. Wherever television reception is possible, at least one person will have a set. In parts of the north it is possible to receive broadcasts from Saudi Arabia, and PDRY broadcasts are available in the south. The media are a primary source of entertainment and national or world news, but there are also educational and religious programs.

Television represents an important vector for communication of development interventions, particularly in the form of docu-dramas or real-life shows. This is an area of great potential for reaching women, who can watch in the privacy of their own homes. In the past two years, video-cassette machines have become widely available, even in rural areas. This holds potential for video cassette packages on health or agricultural problems.

Migration

(See Employment.)

Qat (Catha edulis)

Chewing the leaves of qat is a national pastime in Yemen. In recent years qat production has increased astronomically, bringing in high profits for the farmers. At the same time there is a national increase in chewing of qat, particularly in rural areas. Fewer women chew than men. There are grades of qat, but it is an expensive pastime for those who do not cultivate large amounts.

In the Tihama qat must be trucked down from the highlands. Qat is only available in the market one day a week in the PDRY. Saudi Arabia forbids Yemeni workers bringing qat into the country.

Nutrition Planning

Current information on nutrition and diet is limited, although nutrition training is part of the goals for primary health care development. Many new items on the market (e.g., white bread, sugar, soda) are replacing more

nutritional foods and creating new health problems. Women have little knowledge about how to deal with the problems related to infant feeding, particularly bottled-milk use.

There is a need to develop effective outreach after understanding the consumption habits in Yemen today. (See Food.)

Religious Facilities and Services

In traditional rural Yemen Islam has been integrated into the total fabric of daily life. However, in many villages there is a need for improved mosques and mosque facilities (especially latrines). Local religious officials are spread out in the countryside, but poorer villages and more remote areas may not have any religious instruction. Women tend to receive less formal religious attention than men. Very few Yemeni Jews remain in Yemen, since most left for Israel in the days of Imam Ahmad.

Repairs. Mechanical

With the influx of trucks, jeeps and tractors there is a need for trained mechanics. Most major towns have adequate facilities for mechanic's services. However, there is little expertise available at the village level for auto repair, tractor repair, or diesel engine repair. Mechanics does not appear to be a major skill picked up abroad.

Sanitation Facilities

Detailed information on sanitation facilities in rural Yemen is limited, but it is clear that few houses or mosques have latrines or showers. In traditional society, most waste is recycled. Animal dung was used as manure or fuel. Human waste was mixed with manure. Most garbage could be fed to animals.

The problem today is what to do with non-biodegradable trash, wastewater and human wastes as settlements expand. If a septic tank is installed, for example, there is no waste removal service. Clearly, appropriate technological solutions to rural sanitation problems are needed.

Urban squatters have very limited access to potable water and latrines. Women have less access to latrines in mosques.

Traditional Services

Many Yemenis claim that there is a decline in the number and variety of traditional service providers, as they seek higher-status jobs. This is particularly the case with musicians, barbers, praisesingers and traditional craftsmen (smiths, potters, weavers).

Transportation

Almost all areas of rural Yemen now have dirt tracks as feeder roads to the nearest highways. This has stimulated growth of taxi services and transport of goods. There is no public transport system operating in rural Yemen, and all efforts are by private initiatives. The LDAs are active in road building. Those areas least able to afford roads or maintain roads are those with the fewest remittances. In more remote areas it is difficult to find gasoline, although pumps are springing up along government roads. In tribal areas it is often difficult to travel without permission of the tribal functionaries or payment of a toll for transport of goods. There are military checkpoints along major government roads, particularly near the borders.

Water

Access to drinking water is a basic right in customary and Islamic law. The problem is not one of social restrictions, but difficulties of access in all regions of Yemen. In 1975 it was estimated that only 5 percent of the rural population had easy access to potable water. Water-borne diseases are endemic in many areas.

One of the primary development needs is for water supply. In some villages women must walk over a kilometer to fetch water. Seasonal sources may dry up and force one to go even farther for water. Near the coast water is saline and fresh water must be brought in. LDAs and an active private-sector business have been responsible for many small water projects, but there is still a great demand. There is an urgent need to assess potential water supply by region.

PART IV

SUMMARY DISCUSSION: CONSTRAINTS AND POTENTIAL FOR DEVELOPMENT

In the preceding discussion the authors of this social and institutional profile have sought to draw conclusions and present implications and recommendations for development assistance wherever possible. This section attempts to summarize the foregoing analysis in terms of economic realities, political and institutional realities, sociocultural realities, and, finally, recommendations for AID.

Economic Realities

The fundamental economic reality about Yemen is that it does not fit the pattern of most less developed countries. The Yemen Arab Republic currently has a dearth of labor and a surplus of capital in the rural sector. Due to the impact of remittances from highly inflated salaries for work abroad, it is extremely difficult to identify a category of rural poor. Problem areas for development considerations are the following.

1. Extremely vulnerable macro-economic system. The Yemeni government is severely limited in increasing revenue production through either taxes or upgrading exports. The balance of trade is highly negative: U.S. \$1.8 billion in imports in 1981 compared with only \$10 million in exports, according to official figures. Although GDP has risen at 5-6 percent in recent years, the national economic system is dependent on external donor assistance and a continued high level of remittances. Official remittance estimates are around \$1 billion for 1981, but there is a trend of less remittance inflow due to decreased work opportunities in Saudi Arabia. Given the lack of institutional or financial soundness to survive a sustained loss of donor aid or remittances, Yemen may be only one step away from an economic collapse.
2. Continued low labor productivity. Agricultural production has been steadily declining in Yemen due to two major factors: depletion of the rural labor force and inability of local producers to match market prices of imported foodstuffs. Given the predominance of highland terraced agriculture, which is not conducive to most major cash cropping, and limitations on water supply, Yemen will not likely become a major food exporter. The greatest productive energy is now placed on qat, a plant with no nutritive and virtually no export value.
3. Erratic market conditions. Yemen's agricultural production has long been subsistence oriented, with emphasis on local marketing of crops. Although transportation has improved and demand is high, market conditions are erratic. Due to the lack of any regional coordination in growing of new crops and the lack of government regulatory powers, there are often seasons of over-production. Highland farmers growing tomatoes, for example, may not be able to meet production costs during the glut season. Uncertainty of market prices discourages switching to new cash crops with unproven markets.
4. Highly inflated wages. Yemen has gone from a \$1-a-day wage economy to a \$2-an-hour economy in the last decade. Rural wage increases have kept pace

with urban. This inflation can be directly linked to the influx of remittance capital. Such high wages also encourage farmers to seek other occupations rather than continue a subsistence-based strategy or switch to unproven cash crops. Unfortunately, government workers, especially in rural areas, receive a small salary which often needs to be supplemented.

5. High capital costs of rural implementation. The number one priority of rural Yemeni communities is roads. Yet, this intervention is also the most expensive in the rugged, mountainous terrain which makes up the majority of the country. Projects that require matching grants may be doomed from the start because local communities are often unable or reluctant to part with such capital until some material benefits are evident.

6. Economic impact of qat. A unique aspect of the Yemeni economy is the extent to which agriculture is oriented to the production of qat, a plant with no nutritive value that must be marketed within 24 hours after harvesting. It is estimated that in many cases the amount of household money expended on qat may rival that spent on food. Currently, a day's supply of qat is between YR 35 and YR 150, while the average daily wage of unskilled labor is YR 70 to YR 90. To the extent that qat is cultivated, fewer food crops are grown.² While in the short term qat provides the greatest return of any cash crop (up to five times that of coffee), there will soon be market problems as the supply begins to exceed demand. The issue of qat is political, as well as economic, and problematic for any direct intervention by foreign donors.

The positive aspects of the Yemeni economy with development implications are:

7. Vitality of private sector. With the availability of remittance-based capital in the rural areas, Yemenis have been quick to invest in basic infrastructure. Communal action, often outside the formal LDA mode, can mobilize finances for feeder road construction, well drilling, schools and village electricity generators. Rural Yemenis are active entrepreneurs as evidenced by the proliferation of shops along new roads. There has been a massive influx of consumer goods, but investment opportunities are still limited. There are virtually no government restrictions on the private sector. The donor can play an effective role in helping the government to facilitate expansion of private-sector services which are dominant in rural areas.

8. Economic stimulus of new roads. In an economic sense, the increased mobility and cheaper transportation costs following major road construction stimulate new production strategies and cash-cropping. The mere existence of a road does not guarantee greater economic activity, but it provides the opportunity for entrepreneurs and innovators. The opening of a coastal road to Saudi Arabia, for example, creates a potential new market for fresh vegetable production in the coastal region.

9. Preference for domestic products. Although most Yemeni products are more expensive than imported substitutes, there is a pronounced preference for the local product. Frozen, imported chicken costs YR 10 to 15, while rural, domestic, live chickens may cost YR 40. Yemeni almonds are five times the price of almonds imported from Syria. This cultural attitude counteracts to a certain extent the higher local production costs which discourage local farmers.

Political and Institutional Realities

10. Limited extent of government authority. Perhaps the greatest obstacle to development efforts has been the lack of central government initiatives to influence those areas of Yemen most in need of development. No foreign donor has the understanding or capability necessary to work effectively in areas on the frontier of government control. This has been vividly demonstrated, for example, by problems with both the AID-funded Integrated Rural Development Project in Mahweil and the Local Resources for Development project in Hajja. Unfortunately, the government ministries have little effective political leverage or institutional back-up to support the donor's activities when problems arise in remote areas.

11. Negative perception of government institutions in many rural areas. During the days of the Zaydi Imamate the central government played little or no role in the rural areas, except in appointing judges and collecting taxes. Rural Yemenis still view the government with suspicion, because they are afraid of interference, having land confiscated or increased taxation. The foreign donor, by definition, is associated with the central government and seen as an element in the extension of government influence into remote areas.

12. Inadequate manpower for government services. There is an acute and well-recognized need for appropriately trained manpower at all levels in Yemeni government institutions. This was identified as the main development constraint by the World Bank Country Study of the Yemen Arab Republic in 1979. The recent Agricultural Sector Assessment team for AID in Yemen identified agricultural training and education as the highest priority in the sector. At present there is heavy dependence on other Arab nationals (Egyptian, Sudanese, Jordanian, Syrian, Iraqi) as advisors, engineers, health personnel, teachers, and so on. Another problem is that those Yemenis who are trained abroad may be called upon to enter a position in the government before their training is complete or in a secondary field where there is a greater need. They become administrators rather than implementors in the areas of their expertise. Unfortunately, they may not have received the needed training in management.

13. Lack of Yemeni counterparts in foreign donor projects. The lack of adequately trained manpower within government institutions makes it difficult for donors to find counterparts who can be assigned to a project over a length of time or free of other commitments. This is particularly the case in remote rural areas, where some Yemeni personnel may not wish to live or work. The lack of an effective counterpart relationship between donor and government leads to misunderstandings and an inability of the foreign donor personnel to interact successfully with the local population.¹

14. Lack of coordination among and within government entities. From the standpoint of the donor, there appears to be no system of responsibility for implementing government services. In the bureaucracy decisions must always come from above, so that there are delays, top officials are overworked and they are out of touch with details of the programs for which they are responsible. This situation is exacerbated by competing interests within the wide spectrum of personnel in the Yemeni government. The government has not prioritized specific development needs. Furthermore, institutions do not yet have the capacity to keep accurate and updated records at all levels.

15. Contradictory nature of local development associations. There has been great enthusiasm among some donors about the potential of the LDA movement in Yemen for fostering development in rural areas. Unfortunately, major problems have arisen that temper the initial optimism. Studies of LDA activities at the local level have shown that in many areas they are not a "grass-roots" phenomenon, but serve as another niche for local elites. Rural Yemenis often view the LDAs with suspicion and suspect the officials of wasting money. A distinction must be made between indigenous mechanisms for cooperation and communal activities and the LDA as an institution with direct links to the central government.

16. Reliance on foreign donors. The development program in Yemen is directly dependent on inputs of finances and personnel from Arab, Western and international donors.² Yet, the foreign donor working in rural development necessarily has a politicized role. In some cases it is assumed that the donor has almost infinite resources to contribute. Expectations of the beneficiaries may not match the project goals. In rural Yemen, the broader Middle East policy of the donor, particularly the United States, may become a factor in implementation of a project.

Sociocultural Realities

17. Heterogeneity of Yemeni society. Despite superficial appearances of homogeneity, there are significant variations according to social identity, political orientation, age, educational background and gender. The development planner must be aware of the local cultural phenomena likely to promote or hinder project implementation in a given region. For example, there are more developed mechanisms for cooperative labor in tribal areas due to principles in tribal customary law, than there are in non-tribal areas. Yet, tribesmen are reluctant to let foreign donors in at the ground level. Also, the extent to which Yemenis behave according to traditional status and ranking differs between rural and urban, tribal and non-tribal, young and old, coastal and highland.

18. Distinctiveness of Yemeni communication and other cultural patterns. There is nothing profound in pointing out that Yemenis have their own distinct culture, as each society does, but it is essential that foreigners attempting to design and implement development projects understand certain basic features of Yemeni communication and cultural patterns in order to be successful. This is especially true when trying to collaborate with Yemenis in the kinds of development activities mandated by AID policy.

Patterns of basic protocol that must be understood are:

- Subtle directness. In comparison with other Arab countries, Yemeni officials often seem blunt and direct. However, the context of an initial exchange will not necessarily be interpreted by Yemenis as acceptance, acquiescence or disagreement. In Yemeni society great emphasis is placed on the "indirect deal" in which a third party or broker functions between two parties with potentially opposing viewpoints.

- Being on time. For people who only two decades ago had few clocks or watches, the idea of being exactly on time for an appointment or general meeting has not become part of the lifestyle or even internalized by many officials, let alone the rural populace.
- Exchange of pleasantries. Because Yemenis are more direct than many other Arabs, foreigners often underestimate the importance of pleasantries before beginning a conversation or a meeting.
- Non-verbal communication. Foreigners often unintentionally embarrass Yemenis by not understanding appropriate behavioral cues. For example, it is rude to show the soles of one's feet while sitting, for a woman not to cover her hair in public,³ to eat with the left hand (which is used for anal cleansing), or to avoid eye contact while engaged in conversation. Understanding these cues, which is a small gesture on the foreigner's part, will often smooth communications, especially with Yemenis outside official government channels who are not used to foreigners.
- Extent of accommodation. Foreign donor personnel who interact chiefly or solely with ministry personnel, who are often trained abroad, may not understand the extent to which these Yemenis have modified their outward behavior to accommodate their own perception of Western protocol. There is a danger in generalizing from the behavior of government workers to the society as a whole. This makes it hard for mission personnel to understand the problems of extended contact at ground level with rural Yemenis.

19. Leap from medieval to computer age overnight. Unlike many countries in which donors work, Yemen (except for the Aden area) was never colonized by a Western power and has had minimal contact with the West over the centuries. In the days of the Zaydi imamate there was almost total isolation of the highlands. After the 1962 revolution and ensuing civil war, many foreign donors flocked to Yemen at the same time as an astronomical rise in emigration of Yemeni men for work abroad and consequent remittance of earnings that introduced enormous economic changes. Many rural Yemenis do not have the education or experience for understanding the technical differences, for example, between a toaster and a computer; nor could they be expected to. Both of these Western items are equally alien to the Yemeni context. Thus, a rural Yemeni may expect the magic of a water system being installed overnight or a modern road being built in a day. Greater emphasis must be placed on technology transfer as a component of capital projects.

20. Contradiction between relative affluence and poor conditions of health, education, sanitation and water supply in rural areas. Although remittances have improved dramatically the financial situation of many rural Yemenis, there has not been a corresponding improvement in the basic rural community and household environments. Disease and mortality rates are still exceptionally high and literacy is extremely low. A household may own a truck and a video-cassette machine, yet not have a latrine or water tap. The cash is generally available to buy nutritional food (to replace the decline in subsistence cereal production), but it is often used for expensive imported and national items of low nutritional value, as well as guiding consumers toward use of powdered milk for infants and food items new to the diet which are not integrated properly.

Cultural attitudes toward appropriate foods and health care practices cannot be expected to change overnight.

21. Lack of personal experience with foreigners. Although Yemen is heterogeneous in a cultural sense, it is not a melting pot. Yemeni Muslims have had no exposure to Christian populations, unlike the situation in many other Arab countries. Foreign travelers in Yemen during the days of the imams were sometimes suspected of being malevolent spirits in rural areas. Just as Westerners have stereotypes of Arabs, so Yemenis often have unsophisticated stereotypes of us. Thus, a knowledge of Arabic and previous experience in the Middle East does not guarantee acceptance in a local, rural context. Working for extended periods of time in a rural area is a very difficult undertaking for foreign personnel, even other Arab nationals.

22. No concept of "religious" vs. "secular." Traditionally, religion has not been viewed as separate or opposed to secular activities. It is only in the last two decades that a modern government has evolved, but this is explicitly based on Islamic law and ideology. Religion and specific religious movements are not seen by rural Yemenis as dangerous or barriers to development. Indeed, certain Islamic customs (such as performing ablutions before prayer) can be built upon to introduce interventions for improving community and individual welfare.

23. Traditional social categories in flux. Although there has long been a ranking of social groups and categories according to status, this is undergoing substantial modification in Yemen. The traditional elites and religious aristocracy now participate in government affairs, despite the overthrow of the imamate, but they are not regarded as "categorically" superior. Tribesmen are increasingly shifting to non-farm occupations once disdained. Low-status rural service providers (butchers, barbers) have taken advantage of new rural and urban occupations to improve their mobility and traditional status. To a great extent, this flux is due to the influx of remittance wealth, which has altered traditional economic patterns in rural Yemen.

24. Complexity of male/female relationships. Important regional and cultural differences in the male/female relationship exist throughout Yemen according to rural and urban, tribal and non-tribal, rich and poor, age and educational background. Yemeni women do not generally perceive of themselves as part of a distinct interest group, despite the fact that there is differential access to land and water resources, education, politics, economic opportunities and physical mobility between male and female. The next decade will be a period of great stress on role models for both men and women in Yemen as there is increased exposure to foreign and alternative lifestyles, changing expectations, gradual introduction of women into the schools and urban workforce, and rural women have less of an economic role (due to decline in subsistence agriculture).

25. Attraction to rural Yemen. The Yemeni is proud of his country and particularly of the freedom, clean air and overall aesthetics of the rural environment. Despite the influx of rural labor to exploit urban work opportunities, close ties are maintained with the countryside and relatives there. The dream of many a worker in Yemen is not to use his earnings to move to the city, but to build a comfortable house with a splendid view for the afternoon qat chew. Thus, there is considerable private and community investment of remittance wealth into electricity, schools, feeder roads and

village water supply. The critical problem is the present limitations on economic opportunities for a viable lifestyle in rural Yemen.

26. Aesthetics and creativity. Although Yemen is poor in terms of infrastructure, services, technology and institutional capabilities, it is rich in creativity and self-expression. A major cultural reality in Yemen is devotion to and expertise at the art of poetry. Illiterate rural farmers may also be poets or memorize religious and poetic passages they have heard. Any major event (such as the revolution, tribal conflict, or natural disasters) may serve as a catalyst to spontaneous generation of poetry in describing and analyzing the event. This emphasis on poetry extends to a general appreciation of language skills and speaking ability. There are other arts in Yemen which are regarded as important forms of self or group expression, including dance, calligraphy and traditional skilled crafts. As is well evidenced from watching Yemeni television, the arts serve as a basis for national and ethnic pride. Thus, Yemen should not be labeled as primitive or backward because of a lag in technology and overall development. Instead, the communication potential of existing arts and aesthetics should be examined for application in the overall process of development efforts.

Implications and Recommendations for Development and for AID

This profile, and particularly this concluding chapter, was to have identified both constraints and potential for development. Specifically, what is the context faced by a donor such as AID who chooses to work in Yemen? The reader will note that many constraints have been identified--factors that are likely to frustrate the attempts of a donor to design projects, successfully implement them and benefit the rural population without at the same time inducing unintended negative impacts.

A wide range of potential, however, has not been identified in this document. As this fact became evident to the authors in the process of finalizing the profile, many long hours were spent in trying to identify clear areas of potential and distinct targets of opportunity. It is the conclusion of the authors that, in Yemen as of early 1983, few such unequivocal targets of opportunity exist for AID. Furthermore, the impact of AID activities will not be immediate, but rather are likely to be realized down the road. This conclusion was reached having taken into consideration not only the social and institutional realities of this unusual country, but also the realities of AID--its overall policy mandates, the size of USAID/Sanaa's program budget and AID's mode of operation.

Ambition and Realities is the title of a book, recently published by a member of the foreign aid community in Sanaa, which assesses the frustrations and difficulties that have accompanied the attempt to extend primary health care services into rural Yemen.⁵ It is the conclusion of the authors of this profile that "Ambition and Realities" might also serve as an appropriate subtitle to USAID/Sanaa's next CDSS or other program documents. While AID policies established in Washington are laudable on the whole, the ambitions embodied therein become somewhat contradictory and rather untenable in a development context like Yemen. Conventional wisdoms applicable in other developing countries may not apply to Yemen in many cases. This is complicated by the fact that economic change has been so rapid in rural areas that long-range donor goals may not effectively meet changing needs.

In virtually every sector it was found that intervention in rural areas was likely to be fraught with implementation difficulties or certain to result in at least some unintended negative effects. Should AID invest in rural roads, for example? The development experience in rural Yemen to date makes clear that the introduction of roads is a necessary precondition for development in most other sectors. Yet, at the same time, construction of feeder roads in the rugged Yemeni mountains can be extremely expensive and tax the patience of communities who expect a road carved out overnight. There are inevitable disputes over right-of-way and at present no mechanism for adequate maintenance of a road once built. Furthermore, rural economic realities are such that a new road may curtail the physical mobility of rural women and may drive the small farmer out of business before he can adjust to a non-subsistence economy.

The fact is that Yemen only a decade ago had not reached the level of development achieved in countries like Egypt and India or Tunisia and Morocco a century ago. A great many achievements have been made in a very short stretch of time, considering from where the country started. Yet, despite the overnight infusion of capital and consumer goods in rural Yemen, the country still has a limited infrastructure for development and lacks the coordinated policy at present to begin to stand on its own.

Yemenis expect a lot from the United States, which enjoys a positive image throughout the country. At least 100,000 are working in the United States and almost 7,000 are also U.S. citizens, including three at the ministerial level. In the early years AID achieved major success with the Sanaa-Taiz road and the Taiz water project. Recently, however, the image of AID in Yemen has been perceived as lackluster and with few or questionable results for the money spent. Thus, it is important that the program be made more effective and that projects more closely meet the needs of Yemeni ministries and people.

Bearing in mind the political, economic and sociocultural realities enumerated above, as well as the role of AID in the Yemeni context, the following broad recommendations are suggested.

1. Program retrenchment. Experiences to date have clearly demonstrated the multifaceted difficulties facing foreign donor projects operating in rural Yemen, especially in those areas over which the central government has little authority. Given the poor performance of several recent AID projects, it is recommended that USAID/Sanaa retreat from ambitious, experimental and complex projects whose implementation requires substantial social or behavioral change at the local level, as well as careful coordination and intense donor involvement at the local level. Until such times as there is a lessening of social constraints and an improvement of government capabilities, it would appear wisest for AID to limit its projects geographically, perhaps even to the Sanaa-Taiz-Hodeida "triangle". Evidence suggests that chances for project success will be greater, at least in the immediate future, if USAID/Sanaa concentrates on completion of existing projects, employing relatively established strategies and working primarily in areas of established governmental influence. New project development should center on more narrowly focused activities with some established track record for effectiveness. The following ideas should be considered within this framework.

2. Institution-building at the national level. By this is meant training and other activities designed to build capabilities at the national level, primarily in Sanaa, of government ministries, extra-ministerial bodies (e.g., CYDA), and even the private sector where feasible, to carry out the sort of development work that AID seeks to foster. There is a need to centralize before the country can effectively decentralize. Three factors argue for this emphasis: (1) the very limited abilities, at present, of government bodies to implement programs for which they are responsible; (2) provide U.S. capabilities in providing expertise in management, organization, training and use of technical hardware for improved communication; and (3) current AID policy, which emphasizes institution building and involvement of the private sector. At the same time, given limited ministerial capabilities for both coordination and implementation, it would appear wise to avoid whenever possible project activities that require intersectoral or inter-ministerial coordination.

3. Picking up on Yemeni initiatives. Rather than launch new projects, especially ones based on AID-generated schemes that Yemenis have difficulty understanding, it is recommended that AID look for targets of opportunity in meritorious initiatives or projects that have already been launched by Yemeni ministries or other Yemeni entities but that have subsequently languished for want of funds, staff or other expertise. Picking up on and shoring up such Yemeni initiatives would seem a promising course, because it would address perceived needs of various governmental entities and could contribute to the process of institution-building. Ultimately this might also be less of a strain on existing institutions, given the difficulties they presently have in absorbing new donor initiatives and in coordinating donor activity. An example of such a target of opportunity might be the Sanaa Waste and Disposal Project, an initiative of the Ministry of Municipalities which, in order to move ahead, is currently seeking support for a pilot project and small field study.

4. Project activities that produce concrete and visible results. AID enjoyed a good reputation in Yemen in the 1960s but now suffers from failure to implement projects that Yemenis can understand or that they perceive as producing something beneficial. It is recommended here that AID consider relevant small-scale projects that produce concrete results within a relatively short period of time--for example, village water supply. Such projects should be undertaken both as a means of restoring AID's image and as a balance to the training and institution-building components of the program. Ideally, this could be done by adding components to ongoing projects. Because many Yemenis are tired of donor projects that involve large amounts of preliminary research or that deliver "just talk," the activity undertaken should be as tried-and-true an intervention as possible so that time-consuming preliminary analyses are not necessary. While this might be construed by some in AID/Washington as contrary to guidelines for detailed beneficiary analysis, it would seem that a certain latitude is required here given the mandate with which AID approaches development in Yemen.

5. Expanded use of media. One of the most dramatic aspects of change in rural Yemen is the influence that the media (radio and television) are having in communicating new ideas and information. Support for the expanded use of quality media programming for information transfer would appear to be an area of considerable potential for AID. Specifically, AID can assist in two areas:

(a) Providing technical expertise, training, and equipment to upgrade the quality of technical production and film editing. This is an area in which the U.S. private sector has extensive technical expertise, both in training and educational programming. This is also a recognized need in Yemen.

(b) Encouraging the use of media to serve development purposes. The national television station in Sanaa already cooperates with several ministries (e.g., Health and Agriculture) in producing educational programs. Unfortunately, these often follow an ineffective Western "talk-show" or lecturing model. Rural Yemenis can respond best to real-life or "docu-drama" programs in which new information is set in a more familiar context. A promising new strategy would be to harness the creative potential of Yemeni writers and performers in drama, poetry, and humor (such as a prominent humorist or poet) in producing entertaining programs into which development messages could be interwoven.

It is estimated that a majority of all Yemenis can be reached by television. Given that the television set usually remains on continually in many rural households, so long as there is electricity from a generator, a clever program may have a significant impact if the programming is culturally meaningful. Innovative use of the media for development messages may also be the best way to have a positive impact on rural women. Unlike community-based activities, this would pose no problem of access for women, who can watch in their own homes. Basic literacy programming might be well-received and could have a double impact if, for example, content was carefully planned to convey messages about child care and feeding.

6. Educational activities. There are a number of donors working in the education sector, so AID involvement should be considered in light of other initiatives. It is clear that the rural school system cannot be built overnight, so an emphasis should be placed on non-formal educational opportunities. For example, there is an acute need for consumer information and training in vocational skills. This is especially true for women who have less access to the public school system. It is recommended that the mission follow up on the assessment made of the Instructional Materials Center in Sanaa.⁶

7. Stimulus to more appropriate technology. Yemen is a country where bigger is not better. Because of high energy prices, there is an opportunity for use of alternatives to fossil fuels (which must be imported), particularly photovoltaics.⁷ Much of Yemeni agriculture is based on small farmers in highland terraces. Given the lack of water supply and flat land for major expansion of mechanized agriculture, there is an acute need for small tractors, roto-tillers and basic field tools. With the dominant emphasis on sorghum and increased production of maize, there is an urgent need for sorghum threshers and maize shellers.⁸ Composters would be useful both as an agricultural and sanitation intervention. Ventilated pit latrines and compost toilets are needed interventions in rural sanitation.⁹ It is recommended that AID coordinate a small trade fair, perhaps at the Ibb Secondary Agricultural Training School, and invite U.S. and other manufacturers to show their relevant wares. This would both stimulate the private sector in Yemen and in the United States. The mission should follow up on earlier assessments of potential for expansion in this area.

8. Research priorities. Although there are numerous development issues on which research should be conducted, it is recommended that AID establish clear priorities in Yemen for research and study not mandated by specific project and program requirements. One reason for this is current Yemeni government impatience with foreign donors for funding large research components in projects, especially when the research does not produce significantly new information or conclusions that the Yemenis perceive as useful.¹⁰ A second reason is the fact that, while academic and contract researchers have potentially much to offer AID in terms of specialized knowledge and field experience, managing such research contracts must necessarily be very labor intensive for AID, if it is to receive a useful final product rather than an academic treatise. An example is the large amount of reporting generated on LDAs in numerous and repetitive volumes of study by a team from Cornell University, but the failure to predict major problems in projects directed at local-level support of LDAs. Dusty volumes are a legacy not only to a waste of money, but also to the difficulties of having information in a brief, informative manner conducive to planning.

For these reasons, as well as the need to establish the major information gaps, only three research priorities are suggested.

(1) Analysis of remittance impact. One of the overriding economic realities of development in rural Yemen is remittance impact. Roughly a third of the potential male work force is working outside the country and infusing the rural economy from the bottom up. This profile, as well as the recent Agricultural Sector Assessment for Yemen, defines the parameters of the issue, but there is no updated synthesis of the macroeconomic and field data for AID to use in planning for the next few years.¹¹ As a first priority, it is recommended that a Remittance Impact Analysis be sponsored by the mission or AID/Washington. To the extent possible, this analysis should seek to answer the following key questions:

- What are the present state and trends in the Saudi Arabian economy that affect Yemeni migration patterns and remittance repatriation? (This should be coordinated between USAID/Sanaa and the embassy in Riyadh. Similar research on migration patterns has been done in Egypt.)
- Based on a synthesis of available macroeconomic data in Yemen and elsewhere, what is the impact of remittance trends on the rural and national economy of Yemen?
- Using targeted field research by researchers with previous experience in Yemen, what are rural consumer and investment patterns in those regions where there has been substantial outmigration? How do these patterns affect nutrition and health status, for example? Are Yemenis able to repatriate skills learned abroad?
- What are policy and program options for development, given present economic realities and future trends in remittances?

(2) Analysis of nutrition and food consumption patterns. Despite concerns about the nutritional status of the rural population, there has been no coordinated systematic collection or analysis of field data since the pioneering studies of Annika Bornstein (FAO) in the early 1970s in Yemen. The 1979 Yemen Nutrition Study, for example, concentrates on health correlates of

infant and child nutrition, but does not identify patterns of overall consumption and feeding practices in rural Yemen. The recently published Maternal and Infant Nutrition Review for Yemen has taken data from available sources, many of them secondary, but it confuses data for different regions and collected at different times. Many more unpublished reports and more expertise have not been utilized.

It is recommended that AID sponsor a study to update the data base established by Bornstein, other researchers and the 1979 Yemen Nutrition Study. A nationwide survey is not possible or called for, but much can be learned from existing researchers and donor personnel, as well as in targeted small-scale studies focused on gaps emerging from the data base. It is important that Yemeni nutrition be considered in the same light as a number of African countries, because of the emphasis in diet on sorghum and millet and also because of the large African population in the coastal region. It is also important that data be collected on traditional beliefs about food and nutrition and how these may be changing with an improved economic context.

In order to identify change it would be useful for the earlier surveys of Bornstein in 1971 and 1972 to be done again. Preferably this could be done by Bornstein and replicate the original methodology.¹² This could be done as part of a larger attempt to develop a data base relevant to contemporary Yemeni economy and society.

(3) Upgrade mission library. As this profile has demonstrated, there is a growing body of social science literature relevant to development planners. Much of this contains information based on extensive field experience, although not necessarily written for use in development. While there are a number of libraries and researchers in Sanaa, mission personnel cannot be expected to run to an outside library every time a specific issue comes up. The mission library must have an adequate, subject-indexed updated collection of primary source material (including translations) for easy access by mission personnel and contractors. Yet it is important that a system be instituted so that documents are not lost or stolen through carelessness or the inconsiderateness of the users. For example, the major source on the 1975 census, the Final Report of the Swiss Team, is missing from the mission library and cannot be easily replaced.

Specifically, it is recommended that:

(a) The mission upgrade its current collection of published sources, unpublished dissertations and articles with relevance to understanding the Yemeni social and cultural environment. The annotated bibliography attached to this profile lists many references not available in the mission or for most contractors.

(b) Determine if a more appropriate referencing system can be adopted, including a subject listing.

(c) Consult with the Middle East Representative of the Library of Congress for file cards and bibliographies available on Yemen, as well as listings of new and relevant publications.

(d) Consider short translation projects of recent Yemeni books on development issues and abstracts of research and publications being published by Sanaa University and the Yemen Center for Studies and Research.

(e) Maintain at least a part-time librarian (local hire, if possible) to process new items and supervise checking out of references. It may be necessary to have some items, which are not replaceable, for limited or library use only.

Notes to Part IV

¹See Ali (1978:30-44).

²For example, of the YR 136 million for agriculture in the First Five Year Plan, YR 120.4 was provided by foreign donors directly.

³This is more important in rural areas, where Yemenis have less contact with Western women.

⁴This problem has been faced by the Peace Corps in Yemen.

⁵Hermann (1979).

⁶See Adibe (1982).

⁷The World Bank has expressed an interest in this type of project.

⁸A sorghum thresher has been developed by CRS in Egypt (CRS N.D.)

⁹See Haratani and Skenfield (1980).

¹⁰An example is the National Sorghum and Millet Crop Improvement Program of AID (University of Arizona 1981). This had little impact on the most dominant crop in Yemen.

¹¹The issue of remittances in the Middle East has been of concern for AID (SEE AID 1977, 1979; Birks and Sinclair 1979). There is a need to integrate the macro-data with qualitative field observations.

¹²Conversations were held with Bornstein about the feasibility of such a project as USAID/Sanaa.

*Some recent studies have suggested that oat cultivation has materially promoted the retention and even extension of the total amount of arable land in Yemen. See: Shelagh Weir's paper, Economic Aspects of Oat Industries in Northwest Yemen delivered at the Symposium on Contemporary Yemen held at Exeter University, Summer 1983.

ANNEX A

AVAILABLE DATA AND INFORMATION GAPS

In recent years the number of sources on the Yemen Arab Republic has increased considerably, although many of these are unpublished reports. This annex provides a guide to sources useful for development planners and identifies specific data needs. References are keyed to the annotated bibliography in Annex B. This annex is arranged according to subject.

Agriculture. An overview of the agricultural sector is provided in Hogan *et al.* (1982), which also has further references. The best survey of Yemeni agriculture is by Kopp (1977, 1981). A summary of the recent agricultural census is in YAR. MAF (1981). For a critique of donor involvement, see Hart (1980). For information on traditional agriculture in Yemen, see Grohmann (1930-1934), Kuczynski (1977), Rossi (1953), Tutwiler and Carapico (1981) and Varisco (1982b). Serjeant (1974) has translated a chapter on cereals from a medieval Yemeni manuscript. For tools and appropriate technology, see Kherdekar (1978). There is a lot of valuable information in the various wadi development reports. For a valuable and early source on agriculture in the coastal region, see Mann (1973). The YAR has a Central Agricultural Research Center at Taiz. More research is needed on traditional methods, especially on terraced land. The impact of qat cultivation on cropping patterns should be looked at.

Agricultural Cooperatives. Case studies are presented in Gow (1979). Recent progress needs to be documented.

Akhdam. Very little data can be found on the history of this group, which is ignored in most history texts. Much of the early literature presents the akhdam as a pariah, but there is a need for more recent research. Some data can be found on Akhdam in the coastal region in al-Hurwi (1981). A study is under way on Akhdam by Delores Walters (NYU). This is an important subject, but one that must be approached with care, because of existing biases.

Arabic Source Material. There is a wealth of Arabic materials on development that was not examined for this profile. For the best introduction to this material, see Croken (1980). It would be useful to translate abstracts of new publications and major articles on development issues by Yemeni authors.

Architecture. For basic surveys, see Costa and Vicario (1977) and Steffen *et al.* (1978). Serjeant and Lewcock (forthcoming) have information on architecture in Sanaa. Information is needed on appropriate architecture for earthquake regions in Yemen.

Bibliography. Basic bibliographies on Yemen according to subject include: Kalandar (1973) and Mondesir (1977). Useful lists are found in Douglas (1981), Macro (1960) and Wenner (1965b, 1967). For development reports, see UNDP (1981) and YAR. CFO (1981). For health, see Greiner (1982). For water resources, see Babcock (1980) and Varisco (1982c). For agriculture, see Tutwiler *et al.* (1976) and Hogan *et al.* (1982).

Bottle-feeding and Breastfeeding. See Adra (1983), Firebrace (1981), Greiner (1980), Ilaco (1979), Israel *et al.* (1982), Melrose (1981) and Myntti (1979b). This issue appears to have been well covered in recent years.

Clothing. For women's clothing, see Wilkerson-Karpowicz (1982).

Coffee. There is actually an extensive literature on coffee, some of which refers to Yemen. Many travelers (e.g., Niebuhr 1792) commented on coffee production. See Gerholm (1979), Wenner (1964), and Macro (1968) for the coffee trade. Little is known about the history of using the coffee husks to make a drink (known as qishr or qahwa) in Yemen. A continuing issue is how to make coffee production viable in Yemen.

Crafts. Traditional. Scattered references are made in a number of development reports, but the best overall description is still in Grohmann (1930-1934). A study is needed on the tourist market for baskets, weaving and other traditional crafts.

Daggers. Yemeni. The best study is by Camman (1977).

Dances. The most thorough study of the subject is by Adra (1982), which covers tribal dancing and dancing at weddings and parties. Little is known about dance in the Tihama. A research project to preserve dance on film would be a contribution.

Demography. The basic source for Yemen is the 1975 census, which is summarized in Steffen et al. (1978). See the update in Steffen and Blanc (1982). Other sources include Allman and Hill (1978), Loew (1977) and UNFPA (1980). Each year the CPO publishes a statistical yearbook with demographic data. The reliability of this data still needs to be explored. One of the most interesting studies would be the process of urbanization in modern Yemen.

Development in General. In addition to this profile, the basic source is World Bank (1979). For general studies, see Cohen and Lewis (1979), Gebhardt (1983) and UNFPA (1980). For a workshop on the issue, see Tutwiler et al. (1976). There is a mass of development literature, mostly unpublished, available in Sanaa libraries. A useful project would be to evaluate the performance of previous and existing projects in Yemen from a variety of donors. This profile has concentrated on AID.

Dissertations. Ph.D. (These are also referenced under the appropriate subject listing.) al-Abdin (1975), Adra (1982), Boals (1970), Dresch (1982), Gerholm (1977), Dorsky (1981), McClintock (1974), Messick (1978), Mundy (1981), Myntti (forthcoming), Stevenson (1981), Stookey (1972), Shaibani (1975), Swanson (1978), Varisco (1982c), Wenner (1965a). Dissertations in progress include: Steven Caton (Chicago), Jeffrey Weissner (Columbia), Charles F. Swagman (UCLA), Delores Walters (NYU), Shelagh Weir (London Univ.), Leigh Douglas (London Univ.), Barbara Crokan (Harvard), Mary Hebert (Harvard).

Economy. National. For a recent study, see Hogan et al. (1982:42-71). See Grohmann (1930-1934) for a description of the traditional economy. See also al-Shaibani (1975) and World Bank (1979).

Economy. Rural. See Carapico (1979), Cohen and Lewis (1979), Escher (1978), Gerholm (1977), Hogan et al. (1982), Mitchell (1978), Mitchell and Escher (1978), Mitchell et al. (1978), Mundy (1981), Steffen et al. (1978), Swanson (1979b), Tutwiler (1978), Tutwiler and Carapico (1981), Varisco and Adra (1983). There is a need for further information on remittance impact on rural economy in Yemen.

Education. For an overview of the institutional context, see Eastern Michigan University (1979). A good survey can be found in Steffen et al. (1978). See Sharif (1973) for an early survey of attitudes. See El-Faqeeh (1981) for women in Yemeni education. There is little information on how local schools actually function. For the Instructional Materials Center, see Adibe (1982).

Ethnography:

Coastal Region. No major ethnography has yet been undertaken here. Preliminary studies include Bornstein (1972b, c), Fayein (1973) and Hebert (1981). For an M.A. thesis in Arabic on a village near Zabid, see al-Hurwi (1981). The role of tribalism in this area needs to be studied.

Central and Northern Highlands. For the north, see Kuczynski (1977) and the forthcoming work by Shelagh Weir (London Univ.). Central Highland towns studied include: 'Amran (Chelhod 1973, Dorsky 1981, Stevenson 1981), Manakha (Gerholm 1977) and Sanaa (Makhlouf 1979). For rural areas, see Adra (1982), Dresch (1982), Mundy (1981), Swanson (1981), Tutwiler (1978, 1979-1980), Tutwiler and Carapico (1981) and Varisco (1982c). See also Steffen et al. (1978). Work is in progress by Jeffrey Meissner (Columbia) on al-Muhabisha, Steven Caton (Chicago) on Khawlan and Charles F. Swagman (UCLA).

Southern Highlands. The town of Ibb was the site for a study by Messick (1978). Swanson (1978, 1979) studied in the Ibb area. See also Meister (1974), Myntti (forthcoming), Tutwiler and Carapico (1981) and Yacoub and Akil (1971). Work is in progress by Mary Hebert (Harvard) on Jabal Sabr and by Delores Walters (NYU) on a village near Taiz.

Eastern Plateau. No major ethnographic study has been done here. See Steffen et al. (1978). Valuable data from the 19th century comes from Glaser (1913).

Family Planning and Contraceptives. For general information, see Adra (1983), Allman and Hill (1978), Boque (1978), Myntti (forthcoming) and UNFPA (1980). A survey was conducted by the Yemen Family Planning Association (1980). Further study is needed on attitudes of women and improved interventions.

Fisheries. For a basic survey, see Hogan et al. (1982:196-203). See Bornstein (1972c) for a fishing village. See also Mitchell and Escher (1978). An ethnography of a fishing village is needed.

Flora. There are numerous sources on the subject. For basic references and a glossary of terms for flora in a Central Highland valley, see Varisco (1982c, appendix 2). See the excellent discussion in Grohmann (1930-1934). For medicinal plants, see Fleurentin and Pelt (1982).

Forestry. For a general overview, see Hogan *et al.* (1982:196-203). For Mahweit, see Weber (1980). For Haraz, see Swagman (1981). For the Southern Highlands, see Aulaci (1982). There is a need to assess afforestation needs by region.

General Surveys of Yemen. For traditional Yemen, the best survey is Grohmann (1930-1934), who synthesizes previous sources. The best survey in English is Steffen *et al.* (1978). The area handbook by Nyrop (1977) is dated, but still useful. The short survey by Fayein (1975) is excellent. See also: Attar (1964), Heyworth-Dunne (1952), Klaum (1978) and Verdery (1981).

Geology and Geography. The best source on geology is Guekins (1960,1966), but there is a variety of recent data in unpublished reports. For land use, see Kopp (1981) and Cornell University (1981). For basic geography, see Steffen *et al.* (1978) and Loew (1977).

Government. For the constitution, see YAR (1971). See al-Abdin (1975), al-Azzaiz (1978), Boals (1970), Gable (1979), McClintock (1974), Petersen (1982) and Wenner (1978, 1979). For a history of administrative divisions, see Hoefeld (1978). For basic administrative divisions, see Steffen *et al.* (1978).

Health Care and Traditional Medicine. A review of the health sector is found in Hermann (1979). See the five-year plan in YAR. MOH (1976). Pillsbury (1978) provides a survey of traditional health practices for the region, but the material on Yemen is derivative. For a recent thesis on the subject of traditional medicine and health care, see Myntti (forthcoming). For traditional medicine, see Ansell (1978, 1981d) and Fleurentin and Pelt (1982). For rural health conditions, see Adra (1983), Almroth (1978, 1981), Bornstein (1974), Gascoigne (1982), Hammerin (1972), Ilaco (1979), Ponasik (1979) and Steffen *et al.* (1978). Many more reports mention health conditions. A review of the health sector in terms of knowledge about traditional practices and proposed interventions should be undertaken.

History. General. The best source is Stookey (1978). See also Ingrams (1963).

History. Recent. The best source is Peterson (1982). See also: Boals (1970), McClintock (1974), Stookey (1978) and Wenner (1967). Two eye-witness accounts of the civil war are in O'Ballance (1971) and Schmidt (1968). For the issue of unity, see Tuchscherer (1980).

Imams. (See Zaydi Imams)

Infrastructure. Rural. See Gebhardt (1983), Mitchell (1978), Mitchell and Escher (1978), Mitchell *et al.* (1978), al-Shaibani (1975), Nyrop (1977), and Tutwiler (1978, 1979-1980).

Islamic Law. Information on courts can be found in Messick (1978) and Meissner (1980). See also Gable (1979). Family law is discussed in Myntti (1979a). Inheritance is discussed in Mundy (1979, 1981). For water law, see Maktari (1971) and Varisco (1982c:224-261). There is a need for a short survey of Islamic law for development personnel working in Yemen. There is also a need to look at the role of Islamic law and the state (see al-Abdin 1975, 1976).

Land Tenure. The basic data are in ECWA (1980) and YAR. MAF (1981). Useful ethnographic studies include Mundy (1981), Messick (1978) and Varisco (1982c:236-258). There is also information in many of the wadi development reports and Mann (1973). There is a need for more up-to-date on land tenure, but this is a sensitive issue. Little is known about land prices.

Language and Dialect. The Peace Corps has a training manual in Yemeni Arabic. For Yemen as a whole, see Dien (1973). For the Sanaa district, see Rossi (1939). For the south, see Landberg (1901-1913). For the Tihama, see Greenman (1978). There are a number of sources in Arabic. A basic introductory text in Yemeni Arabic is needed.

Literature. Yemeni. Very few poems, songs or proverbs are available in translation. For proverbs, see Goitein (1934) and Rossi (1939). For songs and poetry, see Landberg (1901-1913) and Rossi (1939). A study of the art of Yemeni poetry is under way by Steven Caton (Chicago). The YCRS is considering a bilingual edition of selected Yemeni poetry. Translation is an important need at this time.

Local Development Associations. The literature is extensive, but much of it covers the same ground. Begin with Cohen *et al.* (1981) and Samuels (1979). Of particular value are the studies based on field observations: Hebert (1981), Swanson (1981), Swanson and Hebert (1981), Tutwiler (1979). See also Carapico (1980), Green (1975) and Cohen and Lewis (1980). An important source translated from the Arabic is Uthman (1975). See Croken (1980) for other Arabic sources. This subject has been over-studied, especially in terms of the LDA as a development concept. More field research would be helpful, but not more assessment along the same line. More information is needed on the specialized cooperatives.

Law. See Gable (1979) for national law. Most of the relevant sources are in Arabic.

Livestock. See Hogan *et al.* (1982:155-175), YAR (1981). Much valuable information has been published by the British Veterinary Team.

Markets. For rural markets, see Tutwiler and Carapico (1981), Mitchell and Escher (1978), Dostal (1974) and Varisco (1982c:85-92). For town markets, see Dorsky (1981), Stevenson (1981), Gerholm (1977) and Wilson (1975). See also the data on Sanaa in Serjeant and Lewcock (forthcoming) and in Rathjens and von Wissmann (1929). A study is needed of changes in the local markets.

Marriage. Many ethnographies mention marriage patterns. The best discussions are in Adra (1982), Chalhod (1973), Mundy (1981) and Dorsky (1981). See also Women.

Migration Abroad. The basic source of ethnographic study is Swanson (1978, 1979a, b). See also AID (1977, 1979), Allman and Hill (1978), Birks (1981), Birks and Sinclair (1978), Socknat and Sinclair (1978), Steffen *et al.* (1978) and Steffen and Blanc (1982). Research is needed on opportunities for Yemenis working abroad and the repatriation of skills learned abroad. Precise figures of migrants are still uncertain.

Music. There is no source in English. A study is needed. Ford Foundation is sponsoring a research study to preserve folk music in Yemen.

Nutrition. The best overall study is still Bornstein (1974) and her selected papers for FAO. See also Adra (1983), Almroth (1978, 1981), Ansell (1979, 1978), Gascoigne (1980), Israel *et al.* (1982), Myntti (forthcoming) and YAR. Ministry of Supply (1979). There is an urgent need for a nutrition study, particularly in terms of actual consumption habits in rural areas.

Picture Books on Yemen. For photographs of Yemen, see Costa and Vicario (1977), Jargy and Saint-Hilaire (1978), Marechaux (1979) and Rakow and Rose (1981). See also the articles in National Geographic: Abercrombie (1964), Hoogstraal (1952), Moser (1917).

Poultry. For an overview of poultry in Yemen, see Hogan *et al.* (1982:155-175). For small-scale poultry interventions, see Kelsey (1980) and Obermeyer (1978). USAID sponsors a poultry project through CID.

Poverty. No study exists on poverty as such in Yemen, yet this is a rapidly changing context. For preliminary discussions of the poor, see Adra (1981), Gerholm (1977), Myntti (1978) and Serjeant (1980). A study to define the poor in changing Yemen would be worthwhile, since it is not clear from the literature.

Oat. The most complete study of qat is in German (Schopen 1978). For a review of the phenomenon in English, see Kennedy *et al.* (1980) and Varisco (1982a). See also Chelhod (1972) and Moser (1917). There is a need to define the health effects of chewing. Up-to-date information is needed on the marketing of qat.

Remittances. For a study of the remittance agent system, see Ross (1979). See Migration. This is an extremely important topic and requires study of the macroeconomic data and targeted field studies on remittance impact in rural areas.

Sanaa. There is a growing literature on this city, but the definitive work is Serjeant and Lewcock (forthcoming). For an older survey of the city, see Rathjens and von Wissmann (1929). For photographs, see Rakow and Rose (1981). For Sanaa women, see Makhlouf (1979). More study is needed on the process of urbanization.

Sanitation. Ansell (1981a, b) provides some useful information and suggestions for communicating interventions. The basic study is Haratani and Skenfield (1980), who make recommendations for appropriate technology. Research is needed on the extent of sanitation problems in rural Yemen.

Sciences, Islamic. A number of important Islamic scientists have lived and worked in Yemen. There is an extensive literature from the medieval period in astronomy (King 1979), for example. There is a need for an overview of the sciences in Islamic Yemen. A translation project of selected folk-scientific texts is under way by David A. King and Daniel M. Varisco.

Social Structure. There are many studies that talk about the social structure, but some make it appear monolithic and unchanging. For an introduction, see Chelhod (1970), Gerholm (1977) and Varisco and Adra (1983). For South Yemen before the revolution, see Bujra (1971). See Ethnography. More research is needed on regional variation, particularly in the coastal region and Eastern Plateau.

South Yemen. For an up-to-date survey, see Stookey (1982). For an ethnography, see Bujra (1971). For personal experiences in the time of the Aden protectorate, see Ingrams (1966).

Trade, Foreign. Annual statistics are published in the CPO yearbook. For a history, see Macro (1968). See also al-Shaibani (1975).

Travel Literature. Basic accounts are referenced in the bibliographies. For a basic overview, see Bidwell (1976). A synthesis of much of the early travel literature can be found in Grohmann (1930-1934). Useful travel accounts include Bethmann (1960), Hoogstraal (1952), Ingrams (1966), Niebuhr (1792) and Scott (1942), but the number of accounts is far greater.

Tribalism and Tribal Law. The best two studies on the phenomenon in the Zaydi areas are Adra (1982) and Dresch (1982). See also Dostal (1974), Glaser (1913), Varisco (1982c), Gerholm (1977) and Stevenson (1981). For tribal law, see Adra (1982), Dresch (1981, 1982), Meissner (1980), Ghanem (1972) and Rossi (1948). Far more research is needed on regional variations, particularly the nature of tribalism in the Southern Highlands and the Tihama. How is tribalism affected by remittances?

Wadi Development. Most of the major wadis have had some study on their development potential: Bana (Gibb and Partners 1977), Mawr (Mitchell 1978, Mitchell *et al.* 1978), Rima' (Makin 1977, Williams 1979), Surdud (Halcrow and Partners 1978), Siham (Sogreah 1978, 1979), Zabid (Tosco *et al.* 1971-1973). Study is continuing. A comparative study of water rights along all the wadis would be a useful project.

Waqf Institution. The basic source is Messick (1978). See also Gable (1979) and Caponera (1973:210-216).

Water Use, Domestic. The best source is Ansell (1980). More information is needed on water use and storage in the Tihama.

Water Resources. For a basic bibliography, see Babcock (1980). For Yemen as a whole, see CID (1980), Barbarossa *et al.* (1977) and Johnson (1980). The section in Hogan *et al.* (1982:176-195) has some inaccuracies and is incomplete. Institutional entities responsible for water are treated in Merabet (1980a, b). For a review of traditional water resource use, especially springs, see Varisco (1982c). For irrigation methods, see Pirenne (1978), Maktari (1971), Rossi (1953), Serjeant (1964) and Varisco (1982c, forthcoming). There is a need to synthesize water rights throughout the country. There is an acute need for a study of water pricing policies.

Women. An early survey of Yemen was made by Myntti (1978, 1979a). For other studies, see Adra (1981, 1982), Ansell (1978), Carapico and Hart (1977), Dorsky (1981), Makhlof (1979), Mundy (1979, 1981), Myntti (1979b, forthcoming) and UNFPA (1980). For womens education, see El-Faqeeh (1981). The changing roles of women need to be studied, especially in the coastal region.

Zaydi Imams. For an English summary of Zaydi beliefs, see Serjeant (1969) and Strothmann (1928). For the history of the imamate, see Ingrams (1963), Stookey (1978) and Tritton (1928). See also Madelung (1965) for one of the more important imams in the Zaydi school. For the last imams, see Gahleb (1979), Peterson (1982), al-Saidi (1981) and Wenner (1967). Further research is needed on the history of imamate, for which there is a large corpus of Arabic source material.

ANNEX B

ANNOTATED BIBLIOGRAPHY

Abercrombie, T.J.

- 1964 "Behind the veil of troubled Yemen," National Geographic 125:403-445.
(AIYS, YCRS)
-- nicely illustrated travel account soon after the revolution.

al-Abdin, al-Tayib Zein

- 1975 The Role of Islam in the State: Yemen Arab Republic (1940-1972).
Ph.D. dissertation, Cambridge University.

- 1976 "The Yemeni constitution and its religious orientation," Arabian Studies 3:115-125. (AIYS, YCRS)
-- good introduction on nature of Islam in the modern Yemeni state.
See YAR (1971)

Adibe, Nasrine

- 1982 Project Report. Instructional Material Center. Yemen Arab Republic.
Falls Church, Va. Pragma Corporation. (USAID)
-- Provides background on UNESCO-initiated Instructional Materials
center and recommendations for improvement. Also available in
Arabic.

Adra, Najwa

- 1981 Notes on Yemen: Social Structure, Poverty and the Position of Women
in al-Ahjur. Washington, D.C.: International Center for Research on
Women. (background report)
-- based on fieldwork in Central Highlands during 1978-1979.

- 1982 Qabyala: The Tribal Concept in the Central Highlands of the Yemen
Arab Republic. Ph.D. dissertation, Temple University (Philadelphia,
Pa.). (AIYS, YCRS)
-- Covers tribal political processes, tribal law, tribal values,
relationship of tribalism to personal values, comparison of tribal
and personal dancing.

- 1983 Local Perceptions of Breastfeeding and Fertility in a Rural Community
in the Central Highlands of the Y.A.R. Sanaa.
-- Ethnographic study of perception by local women of relationship
between breastfeeding and fertility, constraints against
breastfeeding, attitudes toward contraception and recommendations
of appropriate intervention.

AID

- 1977 Synopsis, Seminar on Labor Migration in the Middle East. Washington,
D.C.: AID. (USAID)
-- Yemeni migration is discussed on pp. 9-10. This was a one-day
seminar.

- 1979 Conference Proceedings. Near East Labor Migration. Implications for
AID Policy. Washington, D.C.: AID. (USAID)
-- Yemeni migration discussed on pp. 29-33.

- Ali, Ali Abdalla
 1979 Foreign Expertise in the Yemen Arab Republic. A Brief Survey. Sanaa. (AIYS, USAID)
 -- Translation from Arabic. Report by advisor to CPO. Discusses roles of donors, volunteers, counterparts and general development administration.
- Allman, J. and A. Hill
 1978 "Fertility, mortality, migration, and family planning in the Yemen Arab Republic," Population Studies (Spring) 32:#1:
 --Based on 1975 census data and small sample survey conducted in May, 1976.
- Almroth, Stina
 1978 Nutrition and Health Programmes in the Yemen Arab Republic. Taiz: The Swedish Health Clinic. (AIYS, USAID)
- 1981 Nutrition Education at some MCH Clinics in the Yemen Arab Republic. Unpublished. (AIYS)
 -- Provides background on nutrition programs in Yemen and some case study materials.
- Ansell, Christine
 1978 "The veiled struggle," Dialogue (Summer/Fall), pp. 21-31. (AIYS, USAID)
 -- Discussion of women's roles in Yemen with emphasis on health and nutrition problems.
- 1979 Notes on Food Classification in Sana'a. Unpublished. (AIYS)
 -- Useful addition to earlier work by Bornstein.
- 1980 Domestic Water Use in a Subdistrict of Mahweil Province. Sanaa: ASTC. (AIYS, USAID)
 -- Based on observations in the field. Describes classification of water and how water is obtained and stored.
- 1981a Communicating Hygiene/Sanitation Messages to Villagers: An Experiment in Wadi Ayyan. Sanaa: ASTC. (AIYS, USAID)
 -- Case study in Central Highlands.
- 1981b Training in Water-Related Hygiene/Sanitation. Sanaa: ASTC. (AIYS, USAID)
 -- Manual for contractors based on practical experience.
- 1981c The Benefits of Rural Water Projects: An Impact Survey of Five Villages. Sanaa: New Transcentury Foundation. (AIYS, USAID)
 -- Villages in Rayda, Khawlan, Bayt al-Faqih and Mahweil. Details on domestic water use, storage facilities and sanitation.
- 1981d Women and Health in Mahweil Town. Sanaa: ASTC. (AIYS, USAID)
 -- Detailed data on rural health and traditional health care in Central Highlands. Basis for intervention of nutrition center in Mahweil.

- al-Attar, M.S.
 1964 Le Sous-Developpement Economique et Social du Yemen. Alger: Editions Tiers-Monde.
 -- General survey of Yemen immediately after the revolution, but now dated. Discussion of social structure is superficial.
- Aulaqi, Nasser A.
 1982 Household Energy and Tree Seedling Demand Survey in the Southern Uplands of the Yemen Arab Republic. Sanaa: Sanaa University.
 -- Survey on household energy needs and afforestation. Includes data on rural fuel costs.
- el-Azzazi, Mohammed
 1978 Die Entwicklung der Arabischen Republik Yemen: Sozio-Politische Grundlagen der Administration. Tuebingen: Horst Erdmann Verlag.
 -- Study of recent governmental history with section on attempts to develop a modern administrative structure and the socio-political consequences.
- Babcock, Melinda
 1980 Supplement to the Bibliography of Water in Yemen. Sanaa: YOMINCO. (AIYS)
 -- Annotated listing of development reports, articles and books on water resources in YOMINCO library.
- Barbarossa, Nicholas L. et al.
 1977 Report on Water Resources Sector Study in the Yemen Arab Republic. Sanaa: USAID. (AIYS, USAID)
 -- Discusses water policy, water rights, areas of development and recommendations.
- Bethmann, E. W.
 1960 Yemen on the Threshold. Washington, D.C.: American Friends of the Middle East. (AIYS)
 -- Travel account during last days of the imamate.
- Bidwell, Robin
 1976 Travellers in Arabia. London: Hamlyn. (AIYS)
 -- General survey of Western travellers to Arabia. Further references noted. Nicely illustrated.
- Birks, J.S.
 1981 "Aspects of labour migration from North Yemen," Middle East Studies 17:49-63.
- Birks, J.S. and C. Sinclair
 1979 Aspects of International Labour Migration in the Arab Near East: Implications for USAID Policy. Washington, D.C.: (USAID)
 -- Yemen is discussed on pp. 111-128.
- Boals, Kathryn
 1970 Modernization and Intervention: Yemen as a Theoretical Case Study. Ph.D. dissertation, Princeton University. (AIYS)
 -- Recent history, foreign policy, international law and interventionism in Yemen.

Bonnenfant, Paul et al.

- 1932 La Peninsule Arabique d'aujourd'hui. Paris: C.N.R.S. (AIYS)
-- Two volumes. Yemen covered under various subject headings in volume one. Volume contains eight essays on North Yemen and one political essay on South Yemen. Important new source.

Boque, Donald J.

- 1978 Yemen: A Golden Opportunity for Family Planning in the Middle East. Sanaa: USAID. (USAID)
-- Argues for demonstration project and discusses potential for family planning in Yemen.

Bornstein, Annika

- 1972a "Some observations on Yemeni food habits," FAO Nutrition Newsletter 10:3: (AIYS, USAID)
-- Early description of Yemeni cooking techniques and diet. See also Ansell (1979).
- 1972b Al-Zorah -- An Agricultural Village in the Tihama. Sanaa: FAO Nutrition Programme. (USAID)
-- Brief survey of village life in coastal region near Wadi Mawr. Emphasis on diet, nutrition and health.
- 1972c Al-Homrah and Ibn Abas. Two Fishing Villages in the Tihama. Sanaa: FAO Nutrition Programme. (USAID)
-- Study of poor fishing villages with no outmigration. Data on traditional fishing, crafts, markets, family compounds and social groups.
- 1973 Planning for a Rural Health and Nutrition Extension Service in a Yemeni Village. Sanaa: FAO Nutrition Programme. (USAID)
-- Results of survey in Mocha in the Tihama on health and nutrition conditions. Suggestions for outreach through health center.
- 1974 Food and Society in the Yemen Arab Republic. Rome: FAO (AIYS)
-- Basic source on nutrition and domestic consumption in many parts of Yemen during early 1970s. Contains much information from the reports published in Sanaa. General information on rural agriculture and society.
- 1977 Yemeni Cooking. Unpublished. (AIYS)
-- Recipes of traditional Yemeni foods.

Bujra, Abdalla

- 1971 The Politics of Stratification. Oxford: Oxford University Press. (AIYS)
-- First ethnography of Yemeni society. Conducted in South Yemen (modern PDRY) before the revolution there. Describes local politics in town of Hureidah and discusses social relations and case studies of disputes.

- Carman, S.
1977 "The cult of the jambiya: dagger wearing in Yemen," Expedition 19:2:27-34. (AIYS)
-- Discusses types of daggers and their cultural significance. Nicely illustrated.
- Caponera, Dante
1973 Water Law in Moslem Countries. Rome: FAO. (USAID)
-- See pp. 210-216 for section on Yemen. This is mainly taken from the Wadi Zabid report. Has information on types of waqf in Yemen. Not representative of Yemen as a whole.
- Carapico, Sheila
1979 A Preliminary Socio-Economic Profile of Hodeidah and Hajja Governorates, Y.A.R. Sanaa: USAID. (USAID, AIYS).
-- Survey of the rural economy, social issues and LDA activities.

1980 The Cooperative Framework for Local Development in Hajja and Hodeidah Governorates, Y.A.R. Sanaa: USAID. (USAID, AIYS).
-- Based on field research over 2 year span. Provides history of LDAs. Information on road-building and agricultural cooperatives.
- Carapico, S. and S. Hart
1977 The Sexual Division of Labor and Prospects for Integrated Development: Report on Women's Activities in Mahwit, Tawila, and Jihana Regions, Yemen Arab Republic. Sanaa: USAID. (USAID, AIYS)
-- Covers traditional practices in agriculture, livestock raising, collection of manure, health and nutrition, water, crafts and commerce. Recommendations.
- CARS
1982 Grape Production and Marketing. Taiz.
-- Excellent study of grape cultivation in Yemen with cost estimates provided.
- Champault, Dominique
1978 "L'economie due lisier. Une technique feminine au Nord Yemen," Objets et Mondes 18:1-2:79-84.
-- Discusses the process of dung collection in rural Yemen and the role of women.
- Chelhod, Joseph
1970 "L'organisation sociale au Yemen," L'Ethnographie 64:61-85. (YCRS)
-- General discussion of Yemeni social structure by profession and division of labor. Based on limited fieldwork in the Central Highlands.

1972 "La societe yemenite et le kat," Objets et Mondes 12:1:3-22. (YCRS)
-- Good description of qat chew in Yemen. Some historical information.

1973 "Parente et mariage du Yemen," L'Ethnographie 67:47-90. (YCRS)
-- Study of marriage patterns in Central Highland towns. Based on fieldwork.

- 1975 "La societe yemenite et le droit," L'Homme 15:2:67-86. (YCHS)
 -- Covers both tribal customary law and Islamic law in Yemen. Some data on the hijra concept.
- CID
 1980 Water Policy Initiatives for Yemen. Tucson: CID. (USAID, AIYS)
 -- Brief overview of the water sector in Yemen with recommendations.
- Cohen, John M. and David Lewis
 1979 Rural Development in the Yemen Arab Republic. Cambridge, Mass.: Harvard Inst. for Int. Development. (USAID, AIYS)
 -- General review of the literature, but poorly organized. The amount of space devoted to footnotes appears to be greater than the text.
- 1980 Rural Development and Local Organization in Hajja and Hodeidah. Regional Baseline Study. Ithaca: Cornell University. (2 volumes)
 -- Contains valuable field data in addition to general analysis.
- Cohen, J. et al.
 1981 "Development from below: local development associations in the Yemen Arab Republic," World Development 9:1039-1061.
 -- Survey of the history of the LDAs and how they operate in Yemen. Tends to be overly optimistic about the success of the LDAs, which are tied to a world-wide phenomenon.
- Cornell University
 1982 Preliminary Synopsis of Land Use Classification Element Definitions and Land Use Area Statistics. Ithaca.
 -- Covers all of Yemen, based on LANDSAT imagery. Good ecological introduction to the regions, but ignores social characteristics. work in progress.
- Costa, Paola and E. Vicario
 1977 Yemen. Land of Builders. London: Academy. (AIYS)
 -- Good discussion of Yemeni architecture. Nicely illustrated.
- Croken, Barbara
 1980 Source Materials in Arabic on Rural Development and the Cooperative Movement in the Yemen Arab Republic. Ithica: Cornell University. (AIYS, USAID)
 -- Good bibliography on the subject in Arabic. Contains excerpts in translation and discussion of sources. See the useful glossary of Arabic terms.
- Crosby, Taylor
 1982 Summary Report by RDS, Hajjah. Local Resources for Development: Project 297-045. Unpublished. (USAID)
 -- Frank assessment by volunteer of problems with the project.
- CRS
 N.D. Small Scale Machinery for the Nile Valley. Cairo: Catholic Relief Services. (USAID)
 -- Discussion of multi-crop thresher developed for Egypt by CRS.

- Dequin, Horst
 1976 Arabische Republik Jemen. Wirtschaftsgeschichte eines
 Entwicklunglandes. Riyadh. (USAID)
 -- Survey of the economy, agriculture and society of Yemen by a long-
 time resident of the donor community. Much useful information,
 but note that the social and cultural information is often taken
 from Grohmann (1930-1934) without reference.
- Diem, Werner
 1973 Skizzen Jemenitischen Dialekte. Beirut. (YCRS)
 -- Study of several Yemeni dialects. Fairly technical.
- Dorsky, Susan
 1981 "Women's Lives in a North Yemeni Highland Town. Ph.D. dissertation,
 Case Western Reserve University (Cleveland). (AIYS, YCRS)
 -- Study of female roles and general ethnographic description of
 Central Highland town of 'Amran.
- Dostal, Walter
 1974 "Sozio-ökonomische Aspekte der Stammesdemokratie in Nordost-Yemen,"
Sociologica 24:1:1-15. (AIYS, YCRS)
 -- Important study of tribalism in the Central Highlands. Data on
 tribal markets.
- Douglas, Leigh
 1981 Guide to the Foreign Publications of the Yemeni Centre for Research
 and Studies, Sanaa, Yemen Arab Republic. Sanaa: AIYS. (AIYS,
 USAID, YCRS)
 -- Lists articles, books and journals, but not all deal with Yemen.
 Over 500 titles.
- Dresch, Paul
 1981 "The several peoples of Yemeni tribes," Journal of the Anthropological
 Society of Oxford 12:2:73-86.
 -- Discusses tribal system with emphasis on tribal law, but draws
 mainly from the literature.
- 1982 The Northern Tribes of Yemen: Their Origins and Their Place in the
 Yemen Arab Republic. Ph.D. dissertation, Oxford University. (YCRS,
 AIYS)
 -- Detailed study of the major tribes using both historical data and
 ethnography. Details on relation of tribes to imamate.
- Eastern Michigan University
 1979 Education Sector Study. Sanaa: EMU. (USAID, AIYS)
 -- Provides information on the Ministry of Education and overview of
 educational system. Nothing on traditional education in Yemen.
- ECWA
 1980 Crop-Sharing and Land Tenancy Practices in the Yemen Arab Republic.
 Report No. 1. ECWA. (USAID)
 -- Results of survey in lowlands and highlands. Some of the figures
 are in doubt, but this is useful to compare with the 1981
 Agricultural Census.

Echer, Hermann

- 1976 Wirtschafts- und Sozialgeographische Untersuchungen in der Wadi Ma'ar Region. Wiesbaden. (YCRS)
-- Economic and social survey based on field study. See the summaries in Mitchell et al. (1978).

El-Faqeeh, Wahesba

- 1982 A Thesis Abstract. Girl's Education in the Yemen Arab Republic between Reluctancy to Schooling and Equilization of Opportunities. M.A. thesis, 'Ain Shams University (Cairo), Faculty of Education.
-- Abstract of thesis in Arabic on history of women's education in Yemen. Also has good recommendations.

Fayein, Claudie

- 1973 "Al-Zohrah: Village de la Tihama," Orbis et Mundos 13:161-172. (YCRS)
-- Brief survey of agricultural village in coastal region. Illustrated. See Bornstein (1972b).
1975 Yemen. Paris: Petite Planete, Editions du Seuil. (AIYS)
-- Overview of Yemen. Observations based on extensive travel before and after the revolution by a medical doctor. Interesting discussion on women in Yemen.

Firebrace, James

- 1981 Infant Feeding in the Yemen Arab Republic. London: Catholic Inst. for International Relations. (AIYS, USAID)
-- Good introduction to the problem of bottle-feeding.

Fleurentin, Jacques and J.-M. Felt

- 1982 "Repertory of drugs and medicinal plants of Yemen," Journal of Ethnopharmacology 6:85-108.
-- List of 130 medicinal plants used in Yemen with Arabic names, identification, geographical distribution, medicinal use and pharmacological properties.

Gable, Richard W.

- 1979 Government and Administration in the Yemen Arab Republic. Sanaa: USAID. (AIYS, USAID)
-- Review of recent political history, government structure, budgets, manpower, LDAs, legal systems and development strategies. Discusses duties of each ministry.

Gascoigne, Elizabeth

- 1982 A Baseline Study of Dhowran District: Health and Society. Dhamar Governorate, Health Services Programme, Social Research Department. (AIYS)
-- Information on traditional medicine, local economy, agriculture, health services, diet and so on.

- Gebhardt, Hans
 1983 Problems of Infrastructure Development in the Yemen Arab Republic and the Effects of Infrastructural Land Development Measures upon the Settlement and Economic Structure. Sanaa: The Volkswagen Foundation/University of Cologne.
 -- Report is in German, with summary in English.
- Gerholm, Tomas
 1977 Market, Mosque and Mafrai. Social Inequality in a Yemeni Town. Stockholm: University of Stockholm Studies in Social Anthropology, #5. (AIYS)
 -- First book-length ethnography on North Yemen. General study of urban setting, but includes information on Yemeni society in general. Good discussion.
- 1979 "Provincial cosmopolitans: the impact of world events on a small Yemeni town," Paples Mediterraneens Peoples #9:53-72.
 -- Study of Manakha, where he did his fieldwork. Argues this area is not that isolated because of connections with Isma'ilis in India and the coffee trade. Good discussion of coffee trade.
- Geukias, F.
 1960 Contribution à la Géologie du Yemen, in Memoirs de l'Institut geologique de l'Université de Louvain 21:117-180. Louvain.
- 1966 Geology of the Arabian Peninsula. Yemen. Washington, D.C.: USGS. (AIYS, USAID)
 -- The English is a translation, but is not complete. This is still the basic source on Yemeni geology.
- Ghaleb, Mohamed A.
 1979 Government Organization as a Barrier to Economic Development in Yemen. Bochum: Ruhr University Institute for Development Research and Development Policy. (AIYS, USAID)
 -- Originally written in 1960 about the imamate. Revised in 1979 by the National Institute for Public Administration.
- Ghanem, al-Sayyid Isam
 1972 "Social life in the Yemens and the role of tribal law," Middle East International No. 18 (December):11-13.
 -- Impact of civil war on tribal law.
- Gibb and Partners
 1977 Development of Wadi Bana. Stage 1. Preliminary Report. London: Gibb and Partners. (USAID)
 -- Sketchy baseline study of the agricultural potential of this wadi. Some useful information.
- Glaser, Eduard
 1913 Eduard Glasers Reise nach Marib. Vienna: Holder. (YCRS)
 -- Account of social customs and general description of Eastern Plateau by 19th century traveler. Useful data on the tribes.

- Goitein, S.
 1934 Yemenica. Leiden: Brill. (YCRS).
 -- Proverbs of Yemeni Jews. Collected in Jerusalem.
- Gow, David
 1979 Narrative Case Study of the Agricultural Cooperative Society of Ajshoob, Yemen... Washington, D.C.: Development Alternatives. (USAID)
 -- Studies in Southern Highlands, Mahweit and Tihama. Useful source.
- Green, James W.
 1975 Local Initiative in Yemen: Exploratory Studies of Four Local Development Associations. Washington, D.C.: AID.
 -- One of the first studies of the LDAs. Includes case studies of four LDAs and CYDA. Discusses local rural administration.
- Greenman, Joseph
 1978 "A sketch of the Arabic dialect of the Central Yemani Tihamah," al-Arabiyya 1:20-34. (AIYS, USAID)
 -- One of the few studies on the Tihama, but this is fairly technical. Not a do-it-yourself approach.
- Greiner, Ted
 1980 Infant Feeding and Nutritional Status in Udain, Ibb, and Two Areas of Sana'a in the Yemen Arab Republic. Sanaa: (AIYS, USAID, YCRS)
 -- Results of survey conducted between 1978 and 1979. Discusses issue of bottle feeding.
- 1982 Bibliography on Health, Especially Nutrition in the Yemen Arab Republic. Ithica: Cornell University: Division of Nutritional Sciences.
 -- Semi-annotated and includes many unpublished reports.
- Grohmann, Adolf
 1930- Südarabien als Wirtschaftsgbiet. Brunn: Rudolf. 2 volumes.
 1934 (YCRS)
 -- Complete survey of Yemen at the time based on the travel literature and basic Arabic sources. This also incorporates the unpublished notebooks of Eduard Glaser. Much of this information cannot be found in other sources.
- Halcrow and Partners
 1978 Wadi Surdud. Development on the Tihama. England: Sir William Halcrow and Partners, 9 volumes. (YCRS, USAID).
 -- Covers development potential of land and water resources. Much valuable information on local economy and agriculture.
- Hammerin, Lars
 1972 A Socio-Medical Study of Some Villages in Yemen Arab Republic. Stockholm: Swedish Save the Children. (USAID)
 -- Useful data on health practices and nutrition problems in the Southern Highlands. Survey of 180 village families.

- Haratani, Joe and Mike Skenfield
 1980 Small Cities Water Supply. TDY Report. Sanaa: USAID. (USAID)
 -- Discusses agencies responsible for water supply and sanitation, donor involvement, rural hygiene and sanitation practices. Diagrams of traditional toilets and recommendations for modifications.
- Hart, Sharon
 1980 For a Energy Limited Future. American or Yemeni Agricultural Production. Unpublished. (USAID, AIYS)
 -- Discusses political aspects of traditional agriculture in Yemen. Critique of donor activities in the agricultural sector.
- Hebert, Mary
 1981 Interim Field Report. Local Organization and Development Maghlaq, Hodeidah Governorate. Ithaca: Cornell University.
 -- Brief survey of the LDA in a coastal area. Good case study.
- Heyworth-Dunne, G.
 1952 Al-Yemen: A General Social, Political and Economic Survey. Cairo: Renaissance Bookshop. (AIYS)
 -- Survey of Yemen during the last days of the imamate.
- Hogan, Edward et al.
 1982 Agricultural Sector Assessment. Yemen Arab Republic. Washington, D.C.: AID. (USAID)
 -- Survey of the Yemeni economy, markets, farm systems, social milieu, livestock, irrigation, horticulture, dry land crops and training institutions. Includes a list of donor activities in agriculture.
- Hermann, Jens
 1979 Ambition and Reality: Planning for Health and Basic Health Services in the Yemen Arab Republic. Frankfurt: Peter Lang Verlag. (AIYS)
 -- Good overview of health sector in Yemen. Describes institutions and practices.
- Hoehfeld, Volker
 1981 "Die Entwicklung der administrative Gliederung und der Verwaltungszentren in der Arabischen Republik Jemen," Oriente (Hamburg) 19:2:22-63.
 -- History of various administrative divisions in Yemen from the Ottoman period. Well documented.
- Hoogstraal, Harry
 1952 "Yemen opens the door to progress," National Geographic 101:213-244. (AIYS)
 -- Popular account of life in the days of the Zaydi imamate.
- al-Hurwi, Nuriyya
 1981 Al-'Awamil al-Muathara 'ala al-Tanmiyya al-Ijtima'iyya fi al-Qarya al-Yamaniyya... Master's thesis, 'Ayn Shams University (Cairo).
 -- Field study in a coastal village near Zabid. This is one of the most complete studies available on coastal society.

ILACO

- 1979 Fada' Integrated Rural Development Project. Technical Note No. 4. Women in Child Care. Arnhem, The Netherlands: JLACO. (USAID)
-- Detailed study of Central Highland practices in all aspects of pregnancy and infant health. Based on interviews with 80 women.
- Ingrams, W. Harold
- 1963 The Yemen: Imams, Rulers and Revolutions. London: Murray
-- Popular account of Yemeni history up until the revolution. Ingrams was a political officer in the Aden protectorate.
- 1966 Arabia and the Isles. New York: Praeger. 3rd edition. (AIYS)
-- Travel account based on extensive experience of Ingrams in the Aden protectorate.
- Israel, Ron et al.
- 1982 Maternal and Infant Nutrition Review: Yemen. Newton, Mass.: International Nutrition Communication Service. (USAID)
-- Survey of the literature on the subject. Easily used outline of information relevant for planning in health and nutrition. Not all available literature was covered. Data still fragmentary.
- Japan International Cooperation Society
- 1979 Report on Master Plan Study for Hajja Province Integrated Rural Development in the Yemen Arab Republic. 2 volumes. (USAID)
-- Detailed analysis of topography, geology, climate, land use, water supply, economy, agriculture, afforestation, fisheries, infrastructure and development priorities.
- Jargy, Simon and Alain Saint-Hilaire
- 1978 Yemen avec les Montagnards de la Mer Rouge. Lausanne: Editions Mondes S.A.
-- Nicely illustrated picture book of all regions of Yemen.
- Johnson, Reuben J.
- 1980 Water Resources Planning and Development. Policy Recommendations. Yemen Arab Republic. Sanaa: USAID. (USAID)
-- TDY report based on 3 week mission. Recommendations for national level, particularly on well-drilling. Review of other development efforts.
- Kalander, Sulaiman et al.
- 1973 Selected and Annotated Bibliography on Yemen. Kuwait: Kuwait University Library Department, Bibliography Series No. 6. (AIYS, YCRS)
-- Contains Arabic and Western sources. Watch for errors on the Western sources.
- Kelsey, Peggy et al.
- 1980 Activities to Date of the Women's Poultry Demonstration/Experiment. (USAID)
-- Account of attempt to raise chickens at Mahweit Nutrition Center. Technical data on poultry production included.

Kennedy, John et al.

- 1980 "Qat use in North Yemen and the problem of addiction: a study in medical anthropology," Cultura, Medicina and Psychiatry 4:4:311-344.
-- Preliminary results of major survey of qat chewing in selected cities of Yemen. Emphasis of article on concept of addiction.

Kherderkar, D.M.

- 1978 The Production and Use of Agricultural Implements, Tools, and Machines in Yemen Arab Republic. Sanaa: UNDP. (USAID)
-- Details on UNDP projects in Yemen. A collection of papers and memos, some of which are of no value. Some useful information on traditional agricultural machinery. Poorly organized.

King, David

- 1979 "Mathematical astronomy in medieval Yemen," Arabian Studies 7:61-65. (AIYS)
-- Survey of medieval astronomy in Yemen. The author is preparing a book on the subject.

Kirkman, James (Editor)

- 1976 City of Sanaa. London: World of Islam Festival.
-- Good introduction to Sanaa. Nicely illustrated.

Klaun, G.A.

- 1978 "The Yemen Arab Republic: From behind the veil," The Link 11:3:1-14. (USAID)
-- General overview of Yemen: history, government, geography, development problems.

Kopp, Horst

- 1977 "Die raumliche Differenzierung in der Arabischen Republik Jemen: Bericht nach einer Studienreise," Erdkunde 29:59-68. (AIYS)
-- Classification of land use for Yemen and basic data on agricultural production by region. See the update in his book (1981).

- 1978 Al-Qasim. Wirtschafts- und sozialgeographische Strukturen und Entwicklungsprozesse in einem Dorf des Jemenitischen Hochlandes. Wiesbaden.
-- Detailed economic and agricultural study of a highland village.

- 1981 Agrogeographie der Arabischen Republik Jemens. Erlangen: Erlangen Geographische Arbeiten, Sonderband 11. (AIYS)
-- Comprehensive study of Yemeni agriculture by region. Most complete source available. Excellent maps.

Kuczynski, Liliane

- 1977 "La vie paysanne dans un village du Nord-Yemen," Objets et Mondes 17:4:155-174. (AIYS)
-- Good ethnographic study of a village near Sa'da in the north. Covers rural economy, agriculture and society.

- Landberg, Carlo
 1910- Etudes sur les Dialectes de l'Arabie Meridionale. Leiden: Brill. 3
 1913 volumes.
 -- Basic reference of grammar and terms in dialect of South Yemen Hadramawt. Contains poems, stories and songs. Extensive glossary with notes on relations to other dialects.
- Loew, Guy
 1977 "La diversite regionale de la Republique arabe du Yemen," Revue de Geographie de Lyon 52:1:55-70.
 -- Good overview of Yemeni regions, drawing on the 1975 census. Data on migration patterns.
- Macro, Eric
 1960 Bibliography on Yemen and Notes on Mocha. Coral Gables: University of Miami Press. (AIYS)
 -- Useful source of references. Historical notes on port of Mocha.
 1968 Yemen and the Eastern World since 1571. London: Hurst. (AIYS, YCRS)
 -- Details of recent historical period, particularly trade with Britain and the West. Data on the coffee trade.
- Madelung, Wilferd
 1965 Der Imam al-Gasim ibn Ibrahim und der Glaubenslehre der Zaiditen. Berlin: Walter de Gruyter & Co.
 -- The major study of Zaydi religious ideas.
- Makhlouf, Carla
 1979 Changing Veils. Women and Modernization in North Yemen. Guildford, Surrey: Croom Helm. (AIYS)
 -- Study of changing lifestyles and attitudes among women in Sanaa.
- Makin, M.J. (Editor)
 1977 Yemen Arab Republic. Montane Plains and Wadi Rima' Project. A Land and Water Resources Survey. England: MOD, Land Resource Division. 2 volumes. (AIYS)
 -- Basic survey of the development potential. Useful data. See Williams (1979).
- Maktari, Abdullah
 1971 Water Rights and Irrigation Practices in Lahi. Cambridge: Cambridge University Press. (AIYS)
 -- General study of water rights in South Arabia. Cites examples of case studies from the legal literature. Description of the local administration of agriculture and irrigation. Discusses irrigation techniques.
- Mann, E.S.
 1973 Lowland Farm Development Project. Hodeidah. Yemen Arab Republic. Rome: FAO. (USAID)
 -- General survey of coastal zone, agricultural methods and rural economy. Dated, but still valuable source.

- Marechaux, Pascal
 1979 Villages d'Arabie Heureuse. Paris: Chene. (AIYS)
 -- Also in English translation. Superb photographs of Yemen.
- McClintock, David
 1974 Foreign Exposure and Attitudinal Change: A Case Study of Foreign Policy Decisionmakers in the Yemen Arab Republic. Ph.D. Dissertation, University of Michigan. (AIYS)
- Meissner, Jeffrey
 1980 Customary and Islamic Law in North Yemen. Paper presented at the American Anthropological Association Meetings, Washington, D.C.
 -- Based on study in al-Muhabisha during 1977-1978. Good discussion of customary legal procedures and relation to Islamic law.
- Melrose, Dianna
 1981 The Great Health Robbery. Baby Milk and Medicines in Yemen. Oxford: Oxfam. (AIYS, USAID)
 -- General survey of health-related development in Yemen, focusing on the influx of milk powder and non-essential medicines.
- Meister, Leland
 1974 "Yemen: Breaking with the feudal past," Expedition 17:1:31-39.
 -- Good discussion of social customs and agriculture near Jibla by a health worker.
- Merabet, Zohra
 1980a A Survey on Development and Management of Water Resources in the Yemen Arab Republic. Sanaa: German Volunteer Services. (AIYS, USAID)
- 1980b A Survey of Water Activities under Foreign Assistance in the Yemen Arab Republic. Sanaa: USAID. (AIYS, USAID)
 -- Two good sources on the entities with responsibilities for water and foreign donor involvement in the water sector by an engineer with extensive experience in Yemen.
- Messick, Brinkley
 1978 Transactions in Ibb: Economy and Society in a Yemeni Highland Town. Ph.D. Dissertation. (AIYS, USAID)
 -- Based on fieldwork in the town of Ibb. Describes waqf and courts. General ethnographic data included.
- Mitchell, Brigitta
 1978 Yemen Arab Republic Feeder Road Survey. Summary Report: Taiz-Turba and Wadi Mawr. Baseline Socio-Economic Survey Findings. Washington, D.C.: World Bank. (USAID)
 -- Summary of findings on agriculture, markets, infrastructure development, roads and households.
- Mitchell, B. and E. Escher
 1978 A Baseline Socio-Economic Survey of the Taiz-Turba Road Influence Area. Washington, D.C.: World Bank. 2 volumes. (USAID)
 -- Details on agriculture, soils, water supply, markets, crafts, pricing, household consumption.

- Mitchell B. et al.
 1978 Yemen Arab Republic. A Baseline Socio-Economic Survey of the Wadi Mawr Region. Washington, D.C.: World Bank. (USAID)
 --- Details on agriculture, irrigation and the local economy.
- Mondesir, Simone (Editor)
 1977 A Select Bibliography of Yemen Arab Republic and Peoples Democratic Republic of Yemen. Durham: University of Durham. (AIYS, YCRS)
 -- General bibliography of books and articles arranged by subject.
- Moser, Charles
 1917 "The flower of paradise". The place which khat plays in the life of the Yemen Arab," National Geographic 32:173-186.
 -- Travel account written by American Consul in Aden. Informative. Excellent pictures.
- Mundy, Martha
 1979 "Women's inheritance of land in highland Yemen," Arabian Studies 5:161-187. (YCRS)
 -- Based on ethnographic observations and other sources.
- 1981 Land and Family in a Yemeni Community. Ph.D. Dissertation, Cambridge University. (YCRS)
- Myntti, Cynthia
 1978 Women in Rural Yemen. Sanaa: USAID. (AIYS, USAID)
 -- Basic survey of rural Yemeni women based on extensive field experience. Recommendations.
- 1979a Women and Development in Yemen Arab Republic. Eschborn: GTZ. (AIYS, USAID)
 -- General survey of women in Yemen. Best available survey. Translation of family law.
- 1979b "Population processes in rural Yemen: temporary emigration, breastfeeding, and contraception," Studies in Family Planning 10:10:262-289. (USAID)
- forthcoming
 Medicine in its Social Context: Observations from Rural North Yemen. Ph.D. Dissertation, London School of Economics.
 --- Case studies in health care and overview of traditional health care in rural Yemen. Based on fieldwork in Turba area.
- Niebuhr, Carsten
 1792 Travels through Arabia. Edinburgh. (Recently reprinted in Beirut) (AIYS)
 -- One of the earliest travel accounts of Yemen. Good historical information on the imamate and customs in Yemen at that time.
- Nyrop, R.F. et al.
 1977 Area Handbook for the Yemens. Washington, D.C.: The American University/USGPO. (AIYS)
 -- General survey of Yemen. Dated but still useful.

- O'Ballance, Edgar
 1971 The War in Yemen. Hamden, Conn.: Archon Books. (AIYS)
 -- Account of the civil war by an on-the-spot witness.
- Obermeyer, Judy
 1978 Women's Poultry Survey in al-Mahweit. Sanaa: ASTC. (USAID)
 -- Survey of 66 women and recommendations.
- Peterson, Jon E.
 1982 Yemen. The Search for a Modern State. London: Croom Helm. (AIYS)
 -- Overview of recent Yemeni history in this century. Discussion of the Yemeni government. Comments on development. Most up-to-date source on the subject.
- Pillsbury, Barbara
 1978 Traditional Health Care in the Near East. Washington, D.C.: AID. (USAID)
 -- Review of the literature. Still useful, but dated.
- Pierenne, J.
 1978 Le Maitrise de l'Eau en Arabie du Sud Antique. Paris: Memoirs de l'Academie des Inscriptions et Belles-Lettres, N.S., Vol. II.
 -- Detailed study by archaeologist of pre-Islamic irrigation and water conservation techniques. Major study of dew in Yemen. Note the author has a tendency to argue for diffusion from Yemen abroad.
- Ponasiak, Diane
 1979 Social Soundness Analysis of the Proposed CRS Basic Health Services. Sanaa: USAID (USAID)
 -- Overview of health problems in the coastal region. Data on traditional health care.
- Rakow, Rosalie and Lynda Rose
 1981 Sana'a. City of Contrasts. Burke, Va.: Tandem Publishers.
 -- Nicely illustrated picture book.
- Rassam, Amal and Peter Benedict
 1980 Project 279-0031. Community Based Rural Development: Mahweit (OPG). Evaluation Report (May 1979-June 1980). AID. (USAID files)
 -- Evaluation of the Integrated Rural Development Project in Mahweit.
- Rathjens, Carl and H. von Wissmann
 1929 "Sanaa: ein suedarabische Stadtlandschaft," Zeitschrift der Gesellschaft fur Erdkunde zu Berlin 9-10:329-353.
 -- Detailed study of the town and its architecture and inhabitants during the imamate in this century. Map of old city.
- Ross, Lee Ann
 1979 The Yemeni Remittance Agent System. Sanaa: USAID. (USAID)
 -- How agents operate. Biographical information included.

- Rossi, Ettore
 1948 "Il diritto consuetudinario delle tribu Arabe del Yemen," Rivista degli Studi Orientali 23:1-36.
 -- A major source on tribal law in Yemen. Contains texts of two collections of tribal law from the Central Highlands. Description of social structure.
- 1953 "Note sull' irrigazione, l'agricoltura e le stagioni nel Yemen," Oriente Moderno 33:349-361.
 -- Survey of spring and well irrigation in the Sanaa region during the 1930s. Valuable data on allocation systems. Glossary.
- 1939 L'Arabo Parlato a Sanaa. Rome.
 -- Basic source on Yemeni Arabic in Sanaa dialect. Contains grammar, sample texts (proverbs, songs, stories) and vocabulary. Vocabulary arranged according to the subject.
- al-Saidi, Ahmad K.
 1981 Die Oppositionsbewegung im Jemen zur Zeit Imam Yahya und der Putsch von 1948. Berlin: Basalbek Verlag.
 -- Major new work on the political events leading up to the assassination of Imam Yahya.
- Samuels, B.C.
 1979 Local Development Associations in the Yemen Arab Republic: A Summary of Official Documentation and Case Studies. Sanaa: USAID. (USAID)
 -- Review of literature on the development problems of the LDAs. While this is useful in drawing attention to differences in the literature, it was not done by someone with experience in Yemen.
- Schmidt, Dana Adams
 1968 Yemen: The Unknown War. New York: Holt. (AIYS)
 -- First-hand account of the Yemeni civil war by a well-known journalist.
- Schopen, Armin
 1978 Das Qat. Wiesbaden: Franz Steiner. (YCRS)
 -- Thorough and scholarly study of the qat plant and its social significance in Yemen. Contains translations of poet. on qat and legal decision on appropriateness of chewing qat in Islamic law. Excellent for vocabulary.
- Scott, Hugh
 1942 In the High Yemen. London: Murray. (YCRS)
 -- Travel account by British entomologist.
- Serjeant, R.B.
 1964 "Some irrigation systems in the Hadhramaut," Bulletin of the School of Oriental and African Studies 27:33-76.
 -- Detailed description of flood irrigation in areas of South Yemen. Excellent for vocabulary. Information on contracts and water law.

- 1967 "Societe et gouvernement en Arabie du Sud," Arabica 14:284-297.
 -- Also available in English. General study of the social structure in Yemen by historian and arabist with extensive experience in the Aden protectorate.
- 1969 "The Zaydis," in A.J. Arberry (Editor), Religion in the Middle East, Vol. 2, pp. 285-301. Cambridge: Cambridge University Press.
 -- Best description of Zaydi sect in English.
- 1973 "The two Yemens: historical perspectives and present attitudes," Asian Affairs 60:3-16.
 -- Survey of the differences between the historical roots of the YAR and the PDRY.
- 1974 "The cultivation of cereals in medieval Yemen," Arabian Studies 1:25-74. (AIYS, YCRS)
 -- Translation of chapter on cereals from medieval Yemeni agricultural text. Brief account of traditional agriculture in Yemen. Excellent for vocabulary.
- 1980 "Social stratification in Arabia," in The Islamic City, pp. 126-147. Paris: UNESCO. (YCRS)
 -- Historical discussion of social groups and status differences in Yemen. Primarily urban in focus.
- Serjeant, R.B. and R. Lewcock (Editors)
 1983 Sana'a, an Arabian Islamic City. London. (AIYS when published)
 -- Major study of all aspects of the city: architecture, history, sciences, people, etc.
- al-Shaibani, Saeed
 1975 L'Influence des Structures du Yemen sur la Balance des Paiements (1955-1975). Ph.D. Dissertation, University of Paris (Pantheon-Sorbonne). (AIYS)
 -- Covers many aspects of the economy and society, including agriculture, infrastructure, marketing, energy, politics, and social structure.
- Sharif, Marilyn Ray
 1973 Youth's Aspirations for Social Mobility in the Yemen Arab Republic. M.A. thesis, American University of Beirut. (AIYS)
 -- Results of surveys on attitudes toward education conducted in Taiz in 1971-1972. Emphasis on secondary schools.
- Socknat, James A. and C.A. Sinclair
 1978 Migration for Employment Abroad and its Impact on Development in the Yemen Arab Republic. Durham: Durham University. (USAID)
 -- Survey of available literature and findings of 1975 census.
- SOGREAH
 1978 Wadi Siham Feasibility Study. Inception Report. Grenoble, France: Sogreah Consulting Engineers. (AIYS)
 -- Survey of development potential of land and water resources.

- 1979 Wadi Sihan Feasibility Study. Interim Report. Grenoble, France: Sogreah Consulting Engineers.
- Steffen, Hans et al.
1978 Yemen Arab Republic. Final Report on the Airphoto Interpretation Project of the Swiss Technical Cooperation Services. Berne: Swiss Technical Cooperation Services. (USAID, YCRS, AIYS)
-- Basic source in English on the 1975 census. Contains valuable data on Yemen by region. This source is indispensable.
- Steffen, Hans and O. Blanc
1982 "La demographie de la Republique Arabe du Yemen," in: P. Bonnenfant, ed. La Peninsule Arabique d'aujourd'hui, pp. 73-106 (Paris).
- Stevenson, Thomas B.
1981 Kinship, Stratification and Mobility: Social Change in a Yemeni Highland Town. Ph.D. Dissertation, Wayne State University. (AIYS)
-- Based on fieldwork in 'Amran. Information on the tribe and markets. Emphasis on social relations within the town.
- Stookey, Robert
1972 Political Change in Yemen: A Study in Values and Legitimacy. Ph.D. Dissertation, University of Texas at Austin.
-- Study of political changes in Yemen by a historian with practical experience in Yemen around the time of the revolution.
- 1974 "Social structure and politics in the Yemen Arab Republic," Middle East Journal 28:3:246-260, 409-418.
- 1978 Yemen. The Politics of the Yemen Arab Republic. Boulder: Westview Press. (AIYS)
-- Best introduction to history of Yemen in English. Uses Arabic sources. Covers all periods.
- 1982 South Yemen. Boulder: Westview. (AIYS)
-- Survey of people, history and economy of South Arabia with emphasis on recent conditions.
- Strothmann, Rudolf
1928 "al-Zaidiya," the The Encyclopedia of Islam 8:1196-1198.
-- Brief discussion on Zaydi sect and imams in English.
- Swagman, Charles F.
1981 Haraz Afforestation and Erosion Control Project. Field Report No. 2. Unpublished. (AIYS)
-- Results of survey in 21 villages on potential for growing more trees. Data on wood supply and demand.
- Swanson, Jon C.
1978 The Consequences of Emigration for Economic Development in the Yemen Arab Republic. Ph.D. Dissertation, Wayne State University.
-- Based on field work in the Ibb region. See (1979).

- 1979a "Some consequences of emigration for rural economic development in the Yemen Arab Republic," Middle East Journal 33:1:34-43.
-- Main argument of the dissertation.
- 1979b Emigration and Economic Development: The Case of the Yemen Arab Republic. Boulder: Westview Press. (AIYS)
-- Revision of dissertation. Important source for local impact of migration and remittances.
- 1981 Interim Field Report: Local Government and Development. Bani Awwam, Hajja Province. Ithaca: Cornell University. (AIYS, USAID)
-- Good field data on local development problems and rural economy.
- Swanson, Jon and Mary Hebert
1981 Rural Society and Participatory Development: Case Studies of Two Villages in the Yemen Arab Republic. Ithaca: Cornell University. (USAID)
-- Field data on local economy and nature of LDAs in a highland and a coastal village.
- Tesco et al.
1971- Survey of the Agricultural Potential of the Wadi Zabid. Yemen Arab
1973 Republic. Budapest. 16 volumes. (YCRS)
-- Covers all aspects of development. Good data base on rural economy, agriculture, irrigation and geology.
- Tritton, A.S.
1925 The Rise of the Imams of Sanaa. London: Oxford University Press. (AIYS, YCRS)
-- Study of Zaydi imams based on analysis of Yemeni sources. Also contains practical aspects of the unity issue between the YAR and the PDRY.
- Tutwiler, Richard
1978a General Survey of Social, Economic and Administrative Conditions in Mahweil Province, Yemen Arab Republic. Sanaa: USAID (AIYS, USAID)
-- Useful ethnographic information on this governorate based on field experience.
- 1978b A Report on Small Water Projects in Yemen. Sanaa: USAID. (USAID, AIYS)
-- Results of field visits to ten projects. Discusses positive and negative aspects.
- 1979 "Ta'awon Mahweil: Development and social and economic change in a Yemeni community," Dirasat Yamaniyya #2 (March): 3-14. (AIYS)
-- Study of IDA in Mahweil. Based on field experience.
- 1979- Reconnaissance Surveys. Sanaa: ASTC. (AIYS, USAID)
1980 -- Six-part series on areas in Mahweil with valuable data on LDAs, local administration and rural economy.

- Tutwiler, Richard and Sheila Carapico
 1981 Yemeni Agriculture and Economic Change. Sanaa: AIYS. Yemen Development Series, No. 1. (AIYS, YCRS, USAID)
 -- Based on field study in 'Amran and Ibb regions. Valuable data on rural economy, especially agriculture and the domestic household, marketing and social relations.
- Tutwiler, R. et al.
 1976 Workshop on the Problems and Prospects for Development in the Yemen Arab Republic: The Contributions of the Social Sciences. Binghamton: Institute for Development Anthropology.
 -- Good discussion of problems. Bibliography attached. Workshop held in Washington.
- UNDP
 1981 Bibliography of the PSU Reference Unit. Sanaa: UNDP. (AIYS)
 -- Classified according to general development topics. Semi-annotated. Excellent for unpublished reports. Supplement issued in February, 1982.
- UNFPA
 1980 Yemen Arab Republic. Report of Mission on Needs Assessment for Population Assistance. New York: UNFPA. (USAID)
 -- Valuable source on demographic aspects, family planning, education, women, donor activities and development needs. Discusses various censuses in Yemen.
- University of Arizona
 1981 Final Report. National Sorghum and Millet Crop Improvement Program. Tucson: University of Arizona, College of Agriculture. (AIYS, USAID)
 -- Description of project, but fails to describe traditional methods of sorghum production.
- Uthman, Abdu Ali et al.
 1975 The Yemeni Co-operative Movement and its Problems. Unpublished. (USAID, AIYS)
 -- Translation from Arabic. Study of formative period in LDA development. Lists problems with LDA activities.
- Varisco, Daniel Martin
 1982a On the Meaning of Chewing: the Significance of Qat (Catha edulis) in the Yemen Arab Republic. Paper presented at the Middle East Studies Association Meetings, Philadelphia. (CID, AIYS)
 -- Review of qat plant, cultivation and chewing in Yemen. Argues that recent increase in chewing due to growing identity crisis among Yemenis who are now exposed to other lifestyles and of remittance wealth.
- 1982b "The ard in highland Yemeni agriculture," Tools and Tillage, (4:3:158-172). (Denmark), December. (AIYS, USAID)
 -- Discussion of traditional plow agriculture in the highlands. Yemeni terms described.

- 1982c The Adaptive Dynamics of Water Allocation in al-Ahjur, Yemen Arab Republic. Ph.D. Dissertation, University of Pennsylvania. (AIYS, YCRS, USAID)
 -- Discussion of water resource use in Yemen, focusing on springfed irrigation and allocation. Data on water rights. Extensive glossaries.
- 1983 "Sayl and ghayl: the ecology of water allocation in Yemen," HUMAN Ecology, December. (AIYS and USAID)
 -- Comparison of coastal flood irrigation and highland spring irrigation. Relationship of tribalism and water allocation explored.
- Varisco, Daniel Martin and Najwa Adra
 1983 "Affluence and the concept of the tribe in the Central Highlands of the Yemen Arab Republic," in R.F. Salisbury (Editor), Affluence and Cultural Survival. Washington, D.C.: American Ethnological Society.
 -- Discussion of the tribalism and impact of remittances on social structure. Argue for basic egalitarian emphasis in tribal code.
- Verdery, Richard
 1981 Some Brief Background Notes on Yemen for Newly Arrived CID Employees. Sanaa. (AIYS, CID)
 -- Discussion of important aspects of Yemeni culture and suggestions for better communication by foreign personnel. Regional description. Suggestions for further reading.
- Weber, Fred
 1980 Forestry/Conservation Situation and Potential: Mahweit Province, the Yemen Arab Republic. Sanaa: ASTC. (AIYS, USAID)
 -- Excellent study of afforestation issue in this area. Recommendations. Glossary of tree names.
- Wenner, Manfred W.
 1964 "Mocha and Coffee," Middle East Forum, XL: (Autumn 1964).
 1965a Yemen since Independence: A Political Study (1918-1962). Ph.D. Dissertation, John Hopkins University.
 1965b Yemen: A Selected Annotated Bibliography of Literature since 1960. Washington, D.C.: Library of Congress. (AIYS)
 -- Semi-annotated. Emphasis on history and politics.
 1967 Modern Yemen 1918-1966. Baltimore: John Hopkins Press. (AIYS, YCRS)
 -- First major study of modern Yemeni history in English. Origins and background to the 1962 revolution.
 1978 Local Government in (North) Yemen. Unpublished. (USAID)
 -- Breakdown of administrative features in Yemen.
 1979 Trip Report. Unpublished. (USAID)
 -- Observations on governmental institutions and potential for LDAs.

- 1983 "Rural Energy Issues in a Developing Society: The Case of Yemen" in: Ahmet Evin, ed. Development and Urban Metamorphosis: Yemen at the Crossroads. Singapore: The Aga Khan Award for Architecture, 1983.
- Wilkerson-Karpowicz, Darleen
 1982 A Regional Survey of Contemporary Woman's Dress in the Yemen Arab Republic. Unpublished. (AIYS)
 -- Detailed information on rural and urban styles. Emphasis on Southern Highlands.
- Williams, J.B.
 1979 Yemen Arab Republic. Montane Plains and Wadi Rima' Project, A Land and Water Resources Survey. Physical Aspects of Water Use under Traditional and Modern Irrigation/Farming Systems and Wadi Rima' Tihama. Survey, England: MOD. (USAID)
 -- Details on climate, soil, water, agriculture and rural economy. See Makin (1977).
- Wilson, Robert
 1975 "Hajja market," Arabian Studies 2:204-210. (AIYS, YCRS)
 -- Short summary of the market and produce in it.
- World Bank
 1979 Yemen Arab Republic. Development of a Traditional Economy. Washington, D.C.: World Bank. (AIYS, USAID, YCRS)
 -- Good overview of the development context in Yemen. Emphasis on the economy and training needs.
- Yacoub, Salih and A. Akil
 1971 A Socio-economic Survey of the Hojjuriyya District, Yemen Arab Republic. Beirut: American University of Beirut. (USAID)
 -- Superficial study of area. Emphasis on agriculture.
- YAR
 1971 "Permanent constitution of the Yemen Arab Republic," Middle East Journal 27:3:389-401. (AIYS)
 -- English translation.
- 1977 The First Five-Year Plan: 1975/1976 - 1980/1981. Sanaa : CPO.
 -- English translation.
- YAR. CPO
 1981 List of Books, Studies and Reports on Yemen Arab Republic in English Language (as of April 1981). Sanaa: CPO. (AIYS)
 -- Semi-annotated by author.
- YAR. CPO Advisory Team
 1981 The Marketing of Livestock and Animal Products in the Yemen Arab Republic. Sanaa: CPO. (AIYS)
- YAR. MAF
 1981 Summary of the Final Results of the Agricultural Census in Six Provinces. Sanaa.
 -- English translation. More complete data in the original Arabic. Important statistical data on agricultural system.

YAR. Ministry of supply

- 1979 Yemen Arab Republic. National Nutrition Survey 1979. Sanaa. (AIYS)
-- Statistical study. Emphasis on child and infant nutrition. This is not really a national nutrition survey, but is very useful for what it covers. Little use of previous material on subject.

YAR. MOH

- 1976 National Health Programme: 1976/1977 - 1981/1982. Sanaa.
-- Basic background on health services and problems.

Yemen Family Planning Association

- 1980 Yemen: A General Study of Contraceptive Use. Sanaa.
-- Results of survey in 35 towns and villages by Yemeni researchers using standardized questionnaires. Argues that contraceptives used on a wider scale than thought.

ANNEX C

LIBRARIES IN YEMEN

AMERICAN INSTITUTE FOR YEMENI STUDIES

Location:

Sana'a. Bayt Ali Al-Dhub'l, Bir Shams Quarter (Nr. East German Embassy).

Hours:

Sunday 9:00 AM - 1:00 PM, Tuesday 6:00 PM - 9:00 PM.

Thursday 9:00 AM - 1:00 PM and by appointment.

Access/Borrowing:

Permission of the Resident Director, Ms. Lealan Swanson, required for lending privileges or entrance to the library at times other than scheduled. The library is open to all interested readers, but excessive theft of materials has required the limitation of access.

Condition:

Books arranged by subject categories on shelves. Articles organized alphabetically by author in filing cabinets. There is a card catalog, arranged by author and subject.

Collection:

ca. 2,000 books, articles, and magazines in English and Arabic.

ca. 100 maps and aerial photographs.

Subjects:

General reference works, almanacs, directories. Collection covers: Arab world, development, archaeology, geography, history, law, religion, literature, social sciences, health.

BRITISH COUNCIL

Location:

Sana'a. West of Shari' al-Bawniyah, near the Handal mosque and the Institute of Music.

Hours:

Saturday-Thursday, 9:30 AM - 12:30 PM.

Access/Borrowing:

Open to the interested public. Lending privileges to members only. Cost of membership is 50 YR per year.

Condition:

Books and pamphlets arranged on shelves by subject categories. Card catalog lists references by author and subject with reference numbers according to the Dewey Decimal System.

Collection:

ca. 7,000 books, pamphlets, magazines, and articles in English.

Subjects:

General reference works. Large fiction collection. Arab Studies section include ca. 200 books, many of which are major works in the field. Arab section covers Islamic studies, Islamic art, Islamic law, Islamic history, Arabic calligraphy.

BRITISH ORGANIZATION FOR COMMUNITY DEVELOPMENT

Location:

Sana'a. North of the Ring Road, west of Sana'a University.

Hours:

Open whenever any member of the Organization is present.

Access/Borrowing:

Open to all interested readers. Informal arrangements for borrowing may be made with any member of the Organization.

Condition:

Books and reports arranged by subject categories on shelves. Card catalog currently being produced. Printed list of subject categories available in the library.

Collection:

ca. 1,000 books and reports in English.

Subjects:

General reference works in health and medical technology, works on midwifery, child care, health work, pediatrics.

CENTRAL AGRICULTURAL RESEARCH STATION

Location:

Ta'iz Quarter. Al-'Usaitarah, Ta'iz.

Hours:

Saturday-Thursday, 7:30 AM - 1:30 PM.

Access/Borrowing:

Interested readers welcome to read in the library without any special permission. Borrowing requires permission of the Project Manager. Local sponsor must request authorization by letter to the Project Manager.

Condition:

Books, reports, journals, and pamphlets arranged on shelves and in folders. Card catalog for books lists reference numbers according to the Dewey Decimal System, by author, title, and subject. Shelf list updated every 2-3 months available in the library.

Collection:

ca. 2,000 titles in English and Arabic. Microfiches of FAO collections in Rome, New York, and Australia.

Subjects:

General reference works in agriculture and related sciences. Collection includes materials on horticulture, soils and water, plant pathology, animal science, entomology, agriculture, and agricultural extension. Reports on UN projects in Yemen, and special, short-term studies.

Librarian:

Mr. Madhab P. Sharma

CENTRAL PLANNING ORGANIZATION

Location:

Sana'a. Ministry of Justice Road (becomes Wadi Dahr Road), north of the Ministry.

Hours:

Saturday-Thursday, 8:00 AM - 2:00 PM.

Monday, Tuesday, 5:00 PM - 7:00 PM.

Access/Borrowing:

Open to all interested readers. Borrowing requires permission of the Wakil. Local sponsor must request authorization by letter from the Wakil.

Condition:

Books and reports arranged by subject categories on shelves. Card catalog lists reference numbers, organized by author, title, and subject. Shelf list of books, studies, and reports in English available in this library.

Collection:

ca. 4,000 books, articles, and reports in Arabic, English, and European languages.

Subjects:

General reference works, statistical yearbooks, feasibility studies, project reports, international publications. Collection includes materials on: economics, development, trade, housing, regional planning, urban development, water supply, sewerage, roads, airports, ports and maritime works, telecommunications, agriculture, fishing, forestry, banking, livestock and animal husbandry, health, environment, education, tourism, industry, appropriate technology, social science, labor, culture, geography, geology, mining.

Librarian:

Mr. Khalid Muhammad al-Yusif

Bookstore:

The bookstore located near the library sells books and documents to the public.

CENTER FOR THE PRODUCTION OF EDUCATIONAL MATERIALS

Location:

Sana'a. West of Shari' al-Zubairi, south of the EMU project headquarters.

Hours:

Saturday-Thursday, 8:00 AM - 1:30 PM.

Access/Borrowing:

Open to all interested readers. No lending policy currently in force.

Collection:

Cultural library includes ca. 3,000 books and pamphlets in Arabic, ca. 1,000 books and pamphlets in English.

Film library includes ca. 600 educational films in English and Arabic, for use in Yemeni Public Schools.

Condition:

Cultural library includes books and pamphlets arranged by subject categories on shelves. Card catalog gives reference numbers according to the Dewey Decimal System, organized by author, title, and subject.

Film library stores films in cabinets by reference numbers corresponding to a typed list available in the library. New list including additions currently under preparation.

Subjects:

Cultural library contains exclusively Egyptian materials. General reference works, guides to educational institutions all over the world. Collection includes Islamic religion, biography, literature.

Librarian:

Mr. Muhammad 'Abd al-Baqi

CENTRE FRANCAIS D'ETUDES YEMENITES

Location:

Sana'a. At end on right of alley opposite Radio Station (near Yemen Student Union).

Hours:

Open whenever members of the Centre, guests, or the guard are present.

Access/Borrowing:

Open to all interested readers. Materials must be used on premises.

Condition:

Books and pamphlets arranged on shelves. Maps and photographs and slides arranged in cabinets. Slide projector, illumination table, and designing room available for library users.

Collection:

ca. 250 books, mostly in French, some in English and Arabic

ca. 3,000 slides

ca. 200 photographs and posters

Subjects:

General reference works in Islamic architecture, materials on Yemeni history and poetry. Library is dedicated to architecture, but will include other topics as it develops.

CONSORTIUM FOR INTERNATIONAL DEVELOPMENT

Location:

Sana'a. East of Ministry of Justice Road, near junction with Ring Road.

Hours:

Saturday-Wednesday, 7:30 AM - 4:00 PM.

Access/Borrowing:

Open to the public, but access requires the permission of the secretarial or advisory staff. All materials must be read in the library.

Condition:

Books, articles, and reports arranged by subject categories on shelves. Card catalog currently under preparation will list holdings by author, title, and subject.

Collection:

ca. 500 books, reports, and pamphlets on agriculture.

Subjects:

Library devoted specifically to agriculture and all related fields. Includes reports concerning Yemen in general and project reports.

DAR AL-KUTUB (NATIONAL LIBRARY)

Location:

Sana'a. Shari' al-Qasr, at corner of Shari' al-Iqtisad (across from British Embassy).

Hours:

Saturday-Thursday, 8:00 AM - 1:00 PM, 4:00 PM - 7:00 PM.

Access/Borrowing:

Open to all interested readers, regardless of nationality. No documents or special permissions required. Lende form must be submitted only.

Condition:

Books arranged by subject category on shelves. Newspapers bound and stored in cabinets. Card catalog lists materials by author and title. New card catalog under preparation which will use the Dewey Decimal System. Foreign books uncataloged.

Collection:

ca. 10,000 books in Arabic

ca. 2,000 books in foreign languages, including English, European, and Asian languages.

Subjects:

Arabic collection includes materials in the following subjects: general reference works (encyclopedias, almanacs, statistical yearbooks), Islamic studies (culture, law, Qur'an, hadith), Arabic language and literature, natural and applied sciences, arts, history.

Librarian:

Mr. Qasim Ahmad

FOOD AND AGRICULTURAL ORGANIZATION

Location:

Sana'a. North of Ring Road, west of intersection with Shari' al-Zubairi, before the Japanese Embassy.

Hours:

Saturday-Wednesday, 7:30 AM - 2:00 PM.

Thursday, 8:00 AM - 12:00 PM.

Access/Borrowing:

Open to all interested readers. Informal lending arrangements may be made with staff.

Condition:

Books, reports, journals, and articles arranged by subject categories on shelves. Card catalog currently under production. FAO bibliography available in this office.

Collection:

ca. 2,000 books, articles, journals and reports in English and Arabic.

Subjects:

General reference works, FAO and UN reports, project reports. Collection includes materials on: agriculture, animal health, forestry, small farms, plant science, veterinary science, fish production, land tenure, land reform.

HEALTH MANPOWER INSTITUTE

Location:

Sana'a. Agricultural Road, west of the Ministry and near the Central Laboratory and Kuwait Hospital.

Hours:

Saturday-Thursday, 7:30 AM - 2:00 PM.

Access/Borrowing:

Open to students of the Institute mainly. Other interested readers required to present letter from local sponsor to the Institute Director, Mr. Muhammad al-Zindani, requesting permission to read in the library and to borrow materials.

Condition:

Books, magazines, and pamphlets arranged on shelves by subject categories. Card catalog lists holdings by author and subject.

Collection:

ca. 5,000 books, journals, pamphlets, and articles.

Subjects:

General reference works, health-related technical works, course materials, reports.

MINISTRY OF AGRICULTURE

Location:

Sana'a. Agricultural Road.

Hours:

Saturday-Thursday, 8:00 AM - 2:00 PM.

Access/Borrowing:

Reading and borrowing privileges require the permission of the Wakil, Mr. Muqbil Ahmad Muqbil. Local sponsor should request authorization by letter.

Condition:

Books, reports, magazines, and articles placed on shelves without organization. Shelf list of Arabic holdings available in the library.

Collection:

ca. 2,000 books, articles, and reports in Arabic, English, and European languages.

Subjects:

General reports of international organizations and conferences related to agriculture and development. Specific reports of Yemeni projects. Many valuable materials included but difficult of access.

Librarian:

Mr. Lutf al-Anisi

MINISTRY OF PUBLIC WORKS. SURVEY DEPARTMENT

Location:

Shari' al-Zubairi, north of intersection with Shari' 'Abd Al-Mughni.

Hours:

Saturday-Wednesday, 8:00 AM - 2:00 PM.

Thursday, 8:00 AM - 1:00 PM.

Access/Purchasing:

Open to all interested users, but letter required. Sponsoring local organization must request permission for user to examine or order materials from the Chairman of the Users' Service Department, Mr. 'Abd al-Malik al-'Ulufi.

Condition:

Catalog of 1:500,000 maps, tourist maps, aerial photographs, photomosaics, and Landsat images which exist or may be produced located in Users' Service office.

Collection:

Maps, aerial photographs, photomosaics, and Landsat topographical images for the entire Yemen Arab Republic.

NATIONAL INSTITUTE OF PUBLIC ADMINISTRATION

Location:

Sana'a. Ministry of Justice Road, north of the Ministry.

Hours:

Saturday-Thursday, 8:00 AM - 1:00 PM, 3:00 PM - 6:00 PM.

Access/Borrowing:

Reading and lending privileges require permission from the Vice-Chairman. Letter from the local sponsoring agency addressed to Mr. Mutahhar al-Hibsi required.

Condition:

Books and reports arranged by subject categories on shelves. Newspapers bound by year or collection of years. Card catalog exists for Arabic materials. English card catalog currently under production.

Collection:

ca. 8,000 books, newspapers, journals, and reports in Arabic

ca. 4,000 books, journals, and reports in English

Subjects:

General reference works and encyclopedias in English and Arabic, NIPA conference documents and reports, CPO publications, YAR government publications, publications of international organizations. Collection includes: administration, accounting, law, economics, training, politics, statistics, sociology, pedagogy, agriculture, history, geography. Yemeni newspaper al-Nasr (1948-1960) and al-Thawrah (1963-present) collected and bound by the year.

Librarian:

Mr. 'Abduh 'Ali 'Ubaid

SANA'A UNIVERSITY

Location:

Sana'a. Two different libraries: old campus, between Agricultural Road and Ring Road; and central library, north of Ring Road on Wadi Dhahr Road.

Hours:

8:00 AM - 7:00 PM, seven days per week.

Access/Borrowing:

Old campus: requires letter from local sponsoring agency addressed to Head of the Library, Mr. Hassan al-Mudwahi.

Central library: requires letter from local sponsoring agency addressed to the Director of the Central Library, Mr. Abdulla al-Haddad. Charge for lending privileges is 100 YR per year.

Condition:

Materials arranged by subject categories on shelves. Card catalog lists reference numbers of author, title, and subject.

Collection:

Old campus: ca. 45,000 works in Arabic, some in English and European languages.

Central library: ca. 45,000 works, mostly in Arabic though some in English.

Subjects:

Old campus: collection specialized in literature and sciences. General reference volumes, course materials, and miscellaneous publications in other fields.

Central library: collection specialized in commerce and law, but is intended to contain one copy of all materials purchased for all branch libraries connected with the University.

TIHAMA DEVELOPMENT AUTHORITY

Location:

Al-Jirbah, north of Hais on the Ta'iz Road. Turn east ca. 1 km. south of the Ma'in Factory. Office located at the end of the road, ca. 7 km. from the Ta'iz Road.

Hours:

Saturday-Wednesday, 7:00 AM - 1:00 PM, 4:00 PM - 6:00 PM.

Thursday, 7:00 AM - 12:00 PM

Access/Borrowing:

Access requires letter from local sponsoring agency addressed to the Ministry of Agriculture requesting permission to read in the library. The Ministry should then send a letter to the TDA General Manager, Mr. Ahmad 'Ali Hummad, P.O. Box 3792, al-Hudaidah.

Condition:

All books and reports are arranged on shelves. No card catalog or shelf list exists to date.

Collection:

ca. 500 books and reports in English.

Subjects:

Technical reference works, feasibility reports for Wadi development schemes, project reports, specialized studies on Yemen.

UNITED NATIONS DEVELOPMENT PROGRAM

Location:

Sana'a. Shari' al-Zubairi, north-west of intersection with Haddah Road.

Hours:

Saturday-Wednesday, 7:30 AM - 2:00 PM.

Thursday, 8:00 AM - 12:00 PM.

Access/Borrowing:

Open to the interested public. Borrower must fill out form provided by the librarian.

Condition:

Materials arranged by subject categories on shelves. Card catalog under preparation. Shelf list with appendix updated in February 1982 covers complete collection.

Collection:

ca. 3,000 books, reports and films.

Subjects:

General reference works, publications of all UN agencies, general reports on various topics, reports concerning Yemen, project reports and related studies. Collection includes materials on: political affairs, development, natural resources, agriculture, forestry, fishing, industry, transport and communications, international trade, development finance, demography, health, education, employment, relief, social conditions, culture, technology.

Librarian:

Mr. Faisal Hassan

UNITED NATIONS INTERNATIONAL CHILDREN'S EMERGENCY FUND

Location:

Sana'a. 'Amran Road, southeast of the USAID office.

Hours:

Saturday-Wednesday, 7:30 AM - 2:00 PM.

Thursday, 8:00 AM - 12:00 PM.

Access/Borrowing:

Informal arrangements can be made with the Secretary or any member of the Organization.

Condition:

Materials arranged by subject categories on shelves. Card catalog covers some of the holdings, arranged by subject headings. Maps and films arranged in cabinets.

Collection:

ca. 500 books, pamphlets, and reports in Arabic and English

Maps of Yemen (1:50,000) as yet incomplete for whole country

ca. 30 UNICEF films in Arabic and English

Subjects:

General reference works, statistical yearbooks, UN, UNICEF, FAO, WHO reports and other publications, general health-related publications. Collection includes: rural women, health, education, agricultural and rural development, water.

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT. DOCUMENTS CENTER

Location:

Sana'a. 'Amran Road, northeast of the NWSA office.

Hours:

Saturday-Wednesday, 7:30 AM - 4:00 PM.

Access/Borrowing:

Open to the public. Informal arrangements may be made for taking materials from the library.

Condition:

Books and reports arranged by subject categories on shelves. Articles arranged by subject, in alphabetical order by author name in filing cabinet. Card catalog lists materials by author and subject. Shelf list available in Reference Center.

Collection:

ca. 1,000 books, reports, and articles, most of them in English, some Arabic.

Subjects:

Agriculture, nutrition, health, IDA research, migration, rural development, women and children, infrastructure, economy.

YEMEN CENTER FOR RESEARCH AND STUDIES

Location:

Sana'a. West of Shari' al-Zubairi, at the intersection marked by the EMU Project.

Hours:

Saturday-Thursday, 8:00 AM - 1:30 PM.

Access/Borrowing:

Open to the interested public. Borrowing permitted after payment of a 50 YR deposit per book, returnable when the book is returned.

Condition:

Materials arranged by subject category on shelves. Card catalog and shelf list available for the English-European language collection. Catalog of the Arabic materials planned.

Collection:

The collection is divided into two rooms--one for general works, and one specifically for works concernign Yemen. The combined collection includes ca. 8,000 books, pamphlets and reports in Arabic, English and European languages. A collection of manuscripts exists, but is not yet organized for public use.

Subjects:

General reference works, literature, poetry, historical sciences, philosophy, religion, economics, Linguistics.

YEMEN OIL AND MINERAL RESOURCES COMPANY

Location:

Sana'a. Shari' al-Zubairi, north-west of the intersection with Ring Road.

Hours:

Saturday-Thursday, 8:00 AM - 1:30 PM.

Access/Borrowing:

Open to the interested public. Lending arrangements may be made with the librarian with the permission of the General Director, Mr. 'Ali Jabir 'Alawd.

Condition:

Materials arranged by subject categories on shelves. Extensive bibliography lists materials by subject and by geographical area (copy submitted with this SIP).

Collection:

ca. 800 books in English and Arabic

ca. 1,000 reports and magazines in English and Arabic

Subjects:

General reference works on mineralogy, meteorology, hydrology. Reports on Yemeni mineral and water resources. Collection includes: irrigation, water resources development, water rights, hydrogeology, and ground water.

Librarian:

Ms. Aagla Nasser

ANNEX D

RESOURCE PERSONS CONTACTED

The list below includes organizations contacted and individuals who were contacted, answered questions of team members or submitted background reports for the profile.

Government Entities

Ministries of Agriculture and Fisheries, Education, Health, Public Works,

Transportation and Communications

Confederation of Yemeni Development Associations

National Water and Sewerage Authority

Local development associations in various governorates

Sanaa University

Yemen Center for Studies and Research

YOMINCO

Foreign Donors

British AID, Sanaa

Dutch Project, Dhamar and Rida'

German Project, Rawda

German al-Bawn Project, 'Amran

Oxfam

UNDP

UNICEF

AID Personnel

Charles Ward, Mission Director

Tracy Atwood, Assistant Agriculture Officer

Dave Fredrick, Program Officer

John Giusti, General Development Officer

Howard Keller, Health Officer

Patsy Layne, Education and Human Resources Officer

Pat Peterson, Agriculture Officer

Diane Ponasik, Rural Development Officer

Fritz Weden, Deputy Director

Patrick Fleuret, AID/Washington

Pamela Johnson, AID/Washington

Barbara Pillsbury, AID/Washington

Consultants and Researchers with Experience in Yemen

Adra, Najwa	Cultural anthropologist (field expertise in Central Highlands)
Ansell, Christine	Consultant, (field experience in nutrition and water supply in Central Highlands)
Audouin, Remy	Director, French Institute for Yemeni Studies, Sanaa
vom Bruck, Gabriele	Cultural anthropologist
Burrowes, Robert	Political scientist, consultant (field experience in Central Highlands)
Carapico, Sheila	Consultant, (field experience in Central and Southern Highlands)
Clark, Peter	British Council
Cassam, Mohamed	Economist, 1982 Agricultural Sector Assessment Team
Croken, Barbara	Historian, bibliography
Douglas, Leigh	Former resident director, AIYS, political historian
Gascoigne, Elizabeth	Consultant, BOCD
Gross, Robert	Consultant in health, BOCD, Sanaa
Hermann, Jens	Doctor of Tropical Medicine, (extensive experience in health sector)
Hogan, Edward	Economist, 1982 Agricultural Sector Assessment Team
Meissner, Jeffrey	Cultural anthropologist, (field experience in Central Highlands)

Marabet, Zohra	Consultant, engineer (extensive experience in water sector)
Myntti, Cynthia	Cultural anthropologist, Ford Foundation (Cairo), (extensive field experience on women and health, especially in Southern Highlands)
Price, Sheila	Nursing Coordinator, WHO
Roberfroid, Andre	Director, UNICEF, Sanaa
al-Saqqaf, 'Abd al 'Aziz	Economist, Sanaa University
Swagman, Charles	Cultural anthropologist (extensive field experience in rural development, especially health)
Swanson, Jon	Cultural anthropologist, consultant (Chemonics), (extensive field experience in Yemen)
Swanson, Lealan	Resident Director, AIYS, Sanaa
Tutwiler, Richard	Cultural anthropologist, (extensive experience in Central and Southern Highlands)
Verdery, Richard	Consultant (Chemonics)
Walters, Delores	Cultural anthropologist (experience in Taiz region)
Wenner, Manfred	Political scientist, President AIYS

ANNEX E

GLOSSARY

This annex contains a listing of Arabic terms cited in the profile. Some of these terms are only used in Yemeni dialects. There are regional variations in Yemeni dialects, but these terms are understood in Sanaa. While no attempt was made to transliterate Arabic terms according to a standard system in the text, this glossary is transliterated according to the system employed in the International Journal of Middle East Studies, which is indicated in Table E-1.

Table E-1. I.J.M.E.S. Transliteration

	q
b	k
j	l
h	m
kh	n
d	h
dh	w
r	y
z	ay or ai
s	aw or au
sh	
s	
d	
t	
z	
c	
f	

ᶜabid	slave, former slave
ᶜadas	lentils
ᶜadil	village leader
Ahl al-Suq	people of the market
Akhdam	pejorative term for dark-skinned low-status group treated as pariah during imamate
ᶜamil	governor of qada' or district administrator
ᶜaqar	rainland
ᶜaqil	village leader
ard	land
ᶜarim	dam, field bund
ᶜasid	sorghum porridge
ᶜaskari	soldier
ᶜatar	sweet peas
awlad al-suq	sons of the market
awqaf	plural of waqf (see below)
ᶜayb	shame
ᶜayn	spring
amin	village official, tax collector
amin al-ᶜamm	secretary general
Bakil	major tribal confederation in Central Highlands
baladi	"local"
baladiya	municipality
balas turki	prickly pear (<i>Opuntia</i> sp.)
Bani Khums	sons of the fifth (low-status grouping)
bank al-taslif al-ziraᶜi	Agricultural Credit Bank
baqar	cattle

bar ^{ca}	tribal dance
basal	onion
bayt	house, household; also term used in naming of settlement
bayt al-mal	public treasury
bi'r	well
birka	cistern
bunn	coffee tree or berry
burtuqal	orange
dajaj	chicken
dawl	turn in water allocation rotation cycle
dawla	state
dawshan	herald, praisesinger
dhura	sorghum
dijr	cowpea
dim	cat
diya	blood money paid by tribal segment
dukhn	millet
dukkan	store
faqih	pious man, learned man
fijl	radish
fuqaha'	plural of faqih
ghayl	spring flow
ghurrab	raven

habhab	watermelon
hajj	pligrimage
hajjam	cupper and bleeder
hakim	judge
hamam	pigeon
harim	buffer zone around water source
Hashid	major tribal confederation in Central Highlands
hawta	religious shrine, neutral zone in South Yemen
ha'ya	association
ha'ya al-tatwir al-ahli	local development board
hijj	yoke
hijra	neutral zone or town in North Yemen
hima'	communally owned land, often pasture
himar	donkey
Hind	maize (term used to south in Yemen)
hirz	protection (against evil eye, etc.)
hukuma	government
hulba	fenugreek
idara	administration
idhan	call to prayer
Ikhwan al-Muslimin	Muslim Brotherhood
imam	head of Zaydi theocracy, also term for local mosque official or prayer leader
Isma ^c ili	Islamic sect concentrated near Manakha in Central Highlands
al-itihad al ^c amm li-hay'at al-ta ^c awun	CYDA

jabal	mountain
jadda	grandmother, also term for midwife
jahr	hot and dry season in June
ja'ish	voluntary communal labor
jama ^c iya al-ta ^c awuniya al-zira ^c iya	Agricultural Cooperative Society
janbiya	Yemeni dagger
jaysh	army
jazzar	butcher
jihaz	organization
jihn	spirit (often malicious)
jirba	field
jumhuriya	republic
kalb	dog
khabt	low and level land, rainfed
khadim	servant, singular of Akhdam
khir	aloe
kurrath	Chinese chive (leeks)
lajnat	committee
libna or lubna	variable land unit
lithma	short face veil
liwa'	governorate (old term)
ma ^c az	goat
mada ^c a	water pipe (for tobacco)
madina	city

madfan	underground storage chamber
mafras	pick
mafraj	large reception room, often on top floor
mahall	hamlet or settlement
mahr	dower for bride
ma'jil	cistern
majlis	meeting, assembly, council
majlis al-tansiq	coordinating council
majrafi	shovel scoop
makwa	burn
mal	possession, land
malik	landowner
masaha	masseus
mashru ^{ca}	project
maswan	head covering for woman
mawz	bananas
mudir	director
mudir al-nahiya	district administrator
mufti	legal scholar in religious law
muhafaza	governorate
muhandis	engineer
mujabbir	bone-setter
mulk	private property
muwallida	midwife
rabati	type of unrefined sugar in Yemen
nafs	evil eye
nahiya	district

na'ib	assistant
najis	contaminated, polluted
nissi	mosquito
nizam	system, way of doing things
nuqqas	"deficient", used for low-status groups
qaba'il	tribesmen
qabila	midwife
qabila	tribe
qabili	tribesman
qada'	sub-governorate, no longer recognized as administrative unit
qadb	alfalfa
qadi	judge or learned man
qa'id	commander
Qahtan	Biblical Joktan, legendary ancestor of Southern Arabs
qahwa	coffee (drink), or drink of coffee husks
qarya	village
qashsham	vegetable grower and hawker
qat	<u>Catha edulis</u> , tree grown for its leaves, which are chewed in Yemen as stimulant
qishr	drink made from boiling coffee husks
quda'	plural of qadi
qushmi	radish
rafiq	guarantor of safety while traveling in tribal territory
ra'is	president

ra'is al-wuzara'	prime minister
ra ^{ci} ya	southern peasants, clients
rif	countryside
riyal	Yemeni currency (YR 5.1 = \$1)
Rumi	miaze (term used to north in Yemen)
Sada	plural of Sayyid
sadaqa ^t	aims, charity
sadd	dam
samn	clarified butter, ghee
saqi	irrigation
saqiya	irrigation channel
Sarat	central mountain chain in Yemen, running north-south
sawm	field bund
sayl	seasonal flood, spate
Sayyid	descendant of the prophet Muhammad
shabab	youth
Shafi ^{ci}	Islamic sect in south and coastal region
shadhab	rue (<i>Ruta chalepensis</i>)
sha ^{ci} r	barley
Shari ^c	street
shari ^{ca}	religious law
sharik	shareholder, sharecropper
sharshaf	full-length outer covering of urban women
shart	brideprice
shawk	thorn
shayba	old man

shaykh	tribal leader, religious man, southern landlord
shī ^{Ca}	branch of Islam that includes Zaydi sect
shuf ^{Ca}	right of pre-emption
sub	uncultivated wasteland
sunni	orthodox branch of Islam that includes shafi ^{Ca} sect
suq	market
ta ^{Ca} awun	cooperation
tabib ^{Ca} Arabi	traditional healer
tajir	merchant
talh	acacia
talūq	wild fig tree
tanmiya	development
tannū ^r	cylindrical, clay oven
tariq	road, way
thawr	bull
thawra	revolution
Tihama	hot and dry coastal region
tuffah	apple
^{Ca} ud	Arab guitar or lute
^{Ca} ulama'	religious scholars
^{Ca} uthrub	sorrel (<u>Rumex nervosus</u>)
^{Ca} urf	customary, tribal law
^{Ca} uzla	sub-district
wabal	grassy weeds in general or <u>Synodon dactylon</u>

wadi	watercourse that swells with floods after rains
wahrani	blue lizard
wakil	agent, duty
waqf	religious trust institution
wazir	minister
zakat	religious tax of 10 percent on production (along with other taxable items as outlined in Islamic law)
Zaydi	dominant Islamic sect in Central and Northern highlands