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RURAL DEVELOPMENT IN THE  
YEMEN ARAB REPUBLIC:  
Strategy Issues in a Capital  
Surplus Labor Short Economy

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ABSTRACT

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If the test of a development model is its capacity to yield strategies that deal effectively with new and different situations, then the Yemen Arab Republic will be a good proving ground for contemporary theoretical approaches to agricultural and rural development. Until the early 1970s Yemen's annual gross national income was less than US\$100 per capita, and the country had a shortage of capital with a surplus of labor--characteristics shared by many developing countries. Within the last five years, however, employment opportunities in Saudi Arabia have attracted some 40 percent of Yemen's male labor force, and the remittance of earnings by these workers has increased Yemen's gross national income per capita by a factor of six. Policy makers now face the problem of planning for national development under conditions of capital surplus and labor shortage. There is a growing concern that the dominant models of agricultural and rural development cannot generate strategies responsive to their needs.

Theoretical issues underlying this analytical problem in development economics are discussed. This exercise allows for the presentation of basic information on rural development in Yemen. Detailed footnotes are provided to build descriptive foundations, consolidate often disparate data sources and alert readers to existing studies. The paper concludes with appendices including maps of the country, basic socioeconomic data, and a working bibliography which presents most of the limited literature now available on the rural sector.

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## PREFACE

The research underlying this discussion paper and our future work in the Yemen Arab Republic is funded under a cooperative agreement between Cornell University's Rural Development Committee and the Office of Rural and Administrative Development, United States Agency for International Development. Under the four year cooperative agreement the Rural Development Committee, an interdisciplinary group under the auspices of the Center for International Studies, is to undertake research on rural development participation and serve in an advisory capacity to country missions seeking to promote participation by rural people in projects that affect their lives. In this effort Cornell has teams working in a number of countries, one of which is the Yemen Arab Republic.

This paper represents a first step in our analysis of rural development issues in Yemen. The research which it leads to is closely connected to an AID development project entitled "Local Resources for Development." Designed on a process approach model, the project brings matching funds and technical assistance to Local Development Associations undertaking water, road, school and other self help efforts in Northern Hodeidah and Western Hajja Governorates. Over the next two years a Cornell team will conduct research on rural development issues in approximately six Local Development Associations in the project. The findings generated will be matched with research and analysis conducted at the regional and national levels. It is hoped the results will enrich the very thin literature on rural Yemen as well as help increase the probability of success for the AID project, particularly as it extends to additional areas over the coming years.

Those who study rural Yemen will understand why this has been a difficult paper to write. Major sources often do not agree on such standard figures as population, percapita income, size of cultivatable land and so on. At best many important indicators are the result of an educated guess. Moreover, there is almost no data available on the land tenure system, marketing practices, local government patterns and other variables critical to the analysis of the rural sector. What is available is scattered through an often disparate literature, most of which is cited in Appendix IV. Here we have attempted to bring important parts of the available information on the political economy of rural Yemen together in order to sharpen our understanding of the research questions the Cornell project must face. The effort is tentative, which is the reason why we present this draft as a working paper. Comments on our analysis, suggestions as to additional literature, and criticism on any aspect of the paper will be appreciated and in keeping with its intent.

We would like to thank Harlan Hobgood and Alice L. Morton of the USAID's Office of Rural Development for supporting this and subsequent research on rural Yemen. In our research efforts we have received substantial help and ideas from the Yemen mission's Frank Pavich and Lee Ann Ross. Analysis to date has benefited greatly from personal discussions with Sheila Carapico, Richard Gable, Ron Hart, Brinkley Messick, Diane Ponasiak, Jon Swanson and Manfred Wenner.

## Introduction

If the test of a development model is its capacity to yield strategies that deal effectively with new and different situations, then the Yemen Arab Republic will be a good proving ground for contemporary theoretical approaches to agricultural and rural development. Until the early 1970s Yemen's annual gross national income was less than US \$100 per capita, and the country had a shortage of capital with a surplus of labor--characteristics shared by many developing countries. Within the last five years, however, employment opportunities in Saudi Arabia have attracted some 40 percent of Yemen's male labor force, and the remittance of earnings by these workers has increased Yemen's gross national income per capita by a factor of six. Policy makers now face the problem of planning for national development under conditions of capital surplus and labor shortage. There is a growing concern that the dominant models of agricultural and rural development cannot generate strategies responsive to their needs.

## Paradigms and Anomalies

In any science at a given point in time there is generally a fundamental image defining the agenda of topics to be studied, the concepts used in inquiry, the validity of propositions that emerge, the essential elements of the model or framework which integrates them, and the appropriateness of policy actions based on the accumulated research.<sup>1</sup> Such an image constitutes a paradigm. Typically while science operates within the paradigm, forward thinking scientists explore its boundaries and seek to expand it. This effort inevitably uncovers anomalies which cannot be explained or dealt with by the dominant perspective. These problems lead supporters of the paradigm to develop it further so that the anomalies can be resolved. If anomalies grow in number and remain intransigently unresolvable a crisis is reached. Usually this results in the emergence of a new paradigm.

The work of Bruce F. Johnston, Peter Kilby, John W. Mellor, Uma Lele and others have been fundamental in defining what is today a major paradigm in international agricultural economics and the conceptual basis for much of the contemporary work on rural development strategies. The question we wish to raise is whether the problems of rural based capital surplus and labor short economies constitute an anomaly to this general perspective. Specifically, we propose to describe the very interesting case of the Yemen Arab Republic in order to alert rural development specialists to a situation which appears to be an anomaly needing additional theoretical work. We hope this research note will lead agricultural economists to a particularly careful study of countries like Yemen since we believe that the focus on such unique cases may lead to significant improvements in development theory and strategy.

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<sup>1</sup> See: Thomas Kuhn, The Structure of Scientific Revolutions, (Chicago: University of Chicago Press, 1962).

### Rural Development Paradigm

Since the mid-1960s, a new strategy of rural development has emerged. Increasingly national leaders, policy makers and development experts are looking beyond the industry-led, capital investment based strategy that dominated development theory during the first two decades of the post World War II era.<sup>2</sup> Growing attention is being devoted to rural development with efforts concentrated not only on increasing food production to accommodate population growth, but also on improving income levels of rural inhabitants--the majority of the population in many countries. This increase in income for a substantial portion of the population is expected to generate increased demand for domestic industrial products.<sup>3</sup> Past experience suggests that increasing agricultural output and improving income distribution in the rural sector may be the only effective way to stimulate sustained development.

The shift toward rural-led development strategies was accelerated by the appearance of high yielding varieties of wheat, rice and corn.<sup>4</sup> When combined with fertilizer, water and the proper production practices under favorable conditions, these hybrids typically yield more than traditional varieties. The technology of the new high yielding varieties has been effectively used on both large and small holdings. After initial experiences with the tendency of large farmers to adopt capital intensive labor displacing practices, however, many governments and international agencies now seek to raise yields through small farm strategies. This choice has been made easier by the increasing evidence that small farms can be as productive with good crops and some non-foods as the larger-scale commercial farms. For example, the highest yields of food grains per land unit in the world are found on small-scale holdings in Taiwan, South Korea, China and Japan.<sup>5</sup>

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<sup>2</sup>The new model emerged from: Bruce F. Johnston and John W. Mellor, "The Role of Agriculture on Economic Development." American Economic Review LI (1961), pp. 565-593; Gunnar Myrdal, "Paths of Development," New Left Review, XXVI (1961), pp. 65-74. It is consolidated in such studies as: John W. Mellor, The Economics of Agricultural Development (Ithaca: N.Y.: Cornell University Press, 1966); Guy Hunter, The Modernization of Peasant Societies (New York: Oxford University Press, 1967); Bruce F. Johnston and Peter Kilby, Agriculture and Structural Transformation: Economic Strategies in Late-Developing Countries (New York: Oxford University Press, 1975); Edgar Owens and Robert Shaw, Development Reconsidered (Lexington: D. C. Heath, 1972).

<sup>3</sup>This specific argument is well illustrated in: John W. Mellor and Uma J. Lele, "Growth Linkages of the New Food Grain Technologies," Indian Journal of Agricultural Economics, XXVII (1971), pp. 35-55.

<sup>4</sup>See: Lester R. Brown, Seeds of Change: The Green Revolution and Development in the 1970s (New York: Praeger Publishers, 1970); Carroll P. Streeter, Reaching the Developing World's Small Farmers (New York: Rockefeller Foundation, 1975).

<sup>5</sup>See, for example: Wyn F. Owen, "The Significance of Small Farms in Developing Countries," in Small Farm Agricultural Development Problems, edited by Muntley H. Biggs and Ronald L. Tinnermeier (Fort Collins: Colorado State University, 1974), pp. 31-36.

The effectiveness of small farm policies depends on the development and maintenance of a progressive rural structure.<sup>6</sup> This includes elements such as agricultural research and production incentives that are effective in serving the needs of the small farmers; commercial centers through which farmers can obtain supplies, goods, information and services; extension activities; credit facilities; group action by farmers, and so on. Much of the growth of a progressive rural structure is a private sector response to the stimuli resulting from increased rural income, but the government must also follow land, tax, pricing and monetary policies supportive of economic growth with equity.

Until the mid-1970s this small-scale farm strategy seemed to fit the needs of the Yemen Arab Republic. Its physical, social, economic and political characteristics were compatible with the basic assumptions underlying the new agriculture-led development model. However, because of some very unusual economic events the comprehensiveness of the model in general, and its appropriateness for Yemen in particular, now seem challenged. As the next section will illustrate, extensive emigration and resulting high levels of remittance have made Yemen a poor rural country that is capital surplus labor short.

#### Rural Economy of Yemen Arab Republic

The Yemen Arab Republic, or North Yemen, is located at the southwest corner of the Arabian Peninsula.<sup>7</sup> Aside from a few general introductions and a handful of village or area specific studies,<sup>8</sup> little information is available on the country or its development opportunities and problems. It is composed of areas that vary greatly with regard to

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<sup>6</sup>The basic elements of a progressive rural structure are set forth in: A. T. Mosher, Creating a Progressive Rural Structure: To Serve a Modern Agriculture (New York: Agricultural Development Council, Inc., 1969).

<sup>7</sup>Historical Yemen is divided among three different countries: (1) Saudi Arabia has held the northern part of Assir and Njran Oasis since the 1930s; (2) North Yemen, or The Yemen Arab Republic, which has its capital at Sana'a and has been independent since the withdrawal of the Turks after World War I; and (3) South Yemen, or The People's Democratic Republic of Yemen, which has its capital at Aden and comprises territory once held by Great Britain as the Adeni Protectorates. See Figure 1, Appendix I. The PDRY centers on the former British Crown Colony of Aden (1839 to 1967). This working paper focuses only on North Yemen and all short hand references to "Yemen" apply only to the YAR. On South Yemen see: Manfred W. Wenner, "The People's Republic of South Yemen," in Governments and Politics of the Contemporary Middle East, edited by Tareq Y. Ismael (Homewood, Ill.: Dorsey Press, 1970), pp. 412-429.

<sup>8</sup>See the work of Sheila Carapico, Thomas Gerholm, Ron Hart, Brinkley Morris Messick, Martha Mundy, Cynthia Myntti, Jon C. Swanson and Richard Tutwiler cited in Appendix IV's bibliography. Much of this work is centered in the southern uplands and north central highlands and should be generalized from only with care.

their ecological, agricultural and societal characteristics, ranging from the dry but productive coastal lowlands of the Tihama, through the agriculturally rich waddis of foothills and fertile highlands bordered by rugged mountain peaks, to the arid deserts of the peninsula interior. Unlike the stereotype of parched wastes and endless sand, Yemen's waddis and highlands are watered by the remnants of two annual monsoons<sup>9</sup> and green with crops grown on the banks of flood carved river beds or on carefully hewn stone wall terraces high on the mountainsides. The Tihama also has farmland fed by rain and tubewells, its atmosphere more distinctly African. Low stone villages of the waddis divide the Tihama's sorghum stalk huts from the high fortified farm houses and villages of the cooler highlands. These are frequently perched on mountain ridges or eroded outcroppings, contributing to the spectacular mountain scenery and colorful tribal life. Yemen's cities are no less exotic, their multi-stoned traditional houses alien to the western eye. There beneath whitewash designs, stucco work and stained glass windows, in winding narrow streets and local markets, the dramatic changes that have come to this once remote bastion of old Arabia are clearly visible.<sup>10</sup>

For centuries this Islamic country was a nominal, not fully subdued dependency of the Ottoman Empire. After gaining independence at the end of the First World War, it was ruled by an imam who kept it largely isolated from the West and closed to external economic forces and technological innovations. This absolutism ended in 1962 with an only partially successful coup. For the next several years, civil war between nationalistic republican army officers and royalists prevented much development progress in rural or urban areas. By 1969 the republicans gained the dominant position and

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<sup>9</sup> Rainfall ranges from 35 inches per year in the highlands to 15-20 inches in the interior plateau areas and less than five inches in the coastal Tihama. Droughts are frequent with rainfall irregular. Streams typically flow perennially in highlands but fail to reach lowland areas. The major rain season is from July to September, with smaller rains in the April to June period. Rainfall records are not particularly accurate and variations from government statistics are often reported.

<sup>10</sup> For an introduction to the country's geography, settlement patterns and cultural practices see: Richard F. Nyrop, et al., Area Handbook for the Yemens (Washington, D.C.: Government Printing Office, 1977), pp. 164-185. A rather uneven but interesting overview is provided by "Adnan Tarcici, The Queen of Sheba's Land: Yemen (Arabia Felix) (Beirut: Nowfel Publishers, 1977?); P. Costa, Arabia Felix, A Land of Builders (New York: 1977). Close look at life in the city is provided by James Kirkman, ed., City of Sana'a (Cambridge: Middle East Center and World of Islam Festival Publishing Company, Ltd., 1976).

the war ended.<sup>11</sup> Since then the country has been ruled by the military. In 1975/76 the armed forces consisted of 39,850 men, with an additional paramilitary force of 20,000 raised from tribal levies. The defense budget was YR 298 million or 49 percent of the total budget.<sup>12</sup>

The structure of the central government has changed considerably during the regimes since 1962. The structure as of early 1979 is presented in Figures 1 and 2 of Appendix II.<sup>13</sup> It is currently organized into 14 ministries and six non-cabinet organizations under a prime minister and a non-elected head of state. The president until recently has been assisted by a Military Command Council (MCC).<sup>14</sup> He is the chief executive

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<sup>11</sup>For a concise history of the country see: Europa, "Yemen Arab Republic," in The Middle East and North Africa: 1978-79 (London: Europa Publishers, Ltd., 1978), pp. 799-803. Longer historical presentations dominate: Robert W. Stookey, Yemen: The Politics of the Yemen Arab Republic (Boulder: Westview Press, 1978); Manfred W. Wenner, Modern Yemen: 1918-1966 (Baltimore: The Johns Hopkins Press, 1967). No detailed study of the post 1970 period has been published. For a promising beginning see the unpublished June 1977 draft by Robert Burrows entitled "Political Construction in the Yemen Arab Republic: An Imperative for the Late 1970s."

<sup>12</sup>The military is reported to be heterogeneous in that it recruits from both Zaydis and Shafi'is. Political factions within the army may at times result from this cleavage. It is thought that the military is aligned with large landowning groups. It is not involved in community development or other social action programs. See generally, Nyrop, The Yemens, pp. 226-239. With the fall of the Shah in Iran, Saudi Arabia was urging the United States to provide substantial military aid to North Yemen. Figures of US \$200 million were being cited as the probably aid level. The conflict leading to increased defense expenditure is described in: Robert W. Stookey, "Red Sea Gate-Keepers: The Yemen Arab Republic and the People's Democratic Republic of Yemen," Middle East Review, X, 4 (1978), pp. 39-47; Richard E. Bissel, "Soviet Use of Proxies in the Third World: The Case of Yemen," Soviet Studies, XXX, 1 (1978), pp. 87-106.

<sup>13</sup>Description is drawn from Richard W. Gable, "Government and Administration in the Yemen Arab Republic" (Paper Prepared for Office of Rural and Administrative Development, USAID (University of California, Davis, January, 1979), pp. 20-45; plus works by Nyrop, Stookey and Wenner, footnotes 10 and 11.

<sup>14</sup>This council has in various forms been known as the Revolutionary Command Council, the Republican Council and the Military Command Council. The changing patterns of political rule are described in Nyrop, The Yemens, pp. 207-218. Under a 1974 transitional council the country is to be governed by a MCC which holds executive and legislative power and represents the sovereignty of the country. The July 19, 1974 provisional constitution is set forth in Europa, "Yemen Arab Republic," pp. 812-813. According to Gable the present president, Ali Abdullah Saleh is serving without assistance of the MCC and has instituted the position of vice-president. "Government and Administration," p. 20.

officer and appoints the Prime Minister with the approval of a Constituent People's assembly. This assembly was established in February 1978, reviving the functions of an earlier legislature dissolved by the Hamdi government in 1975. Its 99 members are appointed by the MCC for three to five years. Their function is to propose changes to the constitution which will lead to eventual parliamentary elections and to review government budgets and certain policy matters.<sup>15</sup> The judicial function is performed by both a traditional sharia court system applying Islamic law and a state court system applying the newly emerging body of civil law.<sup>16</sup> In this regard it should be noted that the government publishes a variety of laws, decrees and appointment lists which can provide de jure perspectives on a number of fiscal, monetary, commercial and other governmental policies related to development programs and activities.<sup>17</sup>

In exercising technical executive functions, the Prime Minister<sup>18</sup> is assisted by two deputy prime ministers, one for Internal Affairs and another for Economic and Financial Affairs. The Prime Minister chairs weekly cabinet meetings, attended by heads of the non-cabinet organizations as well as the ministries. In addition, two special committees operate with direct relevance to rural development, the Committee for Economic Development which considers new project proposals and foreign aid resources and the Committee for Services which focuses on activities of the ministries of Health, Education, Public Works and Agriculture.<sup>19</sup>

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<sup>15</sup>After the assassination of al-Ghashmi in July 1978 (see footnote 26), the speaker of the assembly served as chairman of the interim four man presidential council.

<sup>16</sup>Traditional law is derived from islamic law (sharia) and customary or tribal law (urf). See J. N. D. Anderson, Islamic Law in the Modern World (New York: New York University Press, 1959); Nyrop, The Yemens, pp. 220-221 and Gable, "Government and Administration," pp. 86-92 provide summaries.

<sup>17</sup>A State Legal Office was created by 1968 to develop modern law outside and not contradicting sharia law. Four volumes have been produced. Decrees and regulations are issued by number and year and should be consulted.

<sup>18</sup>The Prime Minister since 1975 has been Addul Aziz Abdul Ghani an able technocrat who formerly headed the CPO and played a major role in drafting the present Five Year Plan.

<sup>19</sup>Gable, "Government and Administration," p. 21, who also noted projects of more than YR 5 million must be approved by the Constituent Assembly.

Perhaps the most powerful non-cabinet organization is the Central Planning Organization, the chairman of which is also Minister of Development. It develops overall planning, collects development statistics, attempts to coordinate foreign aid and regulates technical assistance programs. The most important ministries are Interior and Finance. Interestingly, the Ministry of Agriculture is one of the weakest.<sup>20</sup> The activities of the major development ministries and public authorities<sup>21</sup> will be discussed where appropriate in this study.

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<sup>20</sup> Based on a field visit in December 1979 Gable concludes it is a skeleton organization with less than 500 people in five governorates. Up to 1974 there was no extension service and it is still limited. Since 1973 the World Bank has had a team of five to six experts in the ministry with limited effect. "Government and Administration," p. 35.

By 1975, 59 graduates of agricultural schools were employed by the Ministry, a figure which rose to 70 university graduates in 1976. Despite this increase the Ministry's five year plan calls for 239 general agriculturalists, 16 irrigation engineers, 28 veterinarians and two mechanical engineers. International Bank for Reconstruction and Development, "Agricultural Sector Memorandum for Yemen Arab Republic" (Draft memorandum, April 14, 1977), p. 33. It appears to have capacity only in areas where larger donor projects are being undertaken. These projects have had difficulty finding counter-parts for training and keeping them once training is in progress or completed.

<sup>21</sup> All public authorities are attached to ministries except the National Water and Sewage Authority which has more independence and flexibility, perhaps to facilitate its performance. Ministry of Agriculture (Tihama Development Corporation); Ministry of Economy (Department of Industry, Grain and Textile General Organization, Cement General Organization, General Organization of Industrial Estates, Cotton General Organization, General Electricity Board, Tobacco and Matches Corporation, General Corporation for Printing and Publications, Yemeni Company for Pharmaceutical Manufacturing and Trading, Salt General Organization); Ministry of Supply and Commerce (General Corporation for Grains, General Organization for Foreign Trade, Cooperative Society for Civil Servants); Ministry of Communications and Transport (General Organization for Ports, General Organization for Civil Aviation, Yemen Airways); Ministry of Public Works and Municipalities (Department of Government Properties, Department of Roads); Ministry of Health (Supreme Pharmaceutical Committee); and Ministry of Information and Culture (Sabaa News and Press Corporation, General Corporation for Radio and TV, General Corporation for Tourism). Note titles vary by translation source.

More than 31,000 civil servants work for the government, many of whom are poorly educated, ill-trained and underemployed.<sup>22</sup> Rural local government salaries in particular are nominal, hardly covering the costs of office and family support, the deficit made up from patron support, payment for services such as conflict resolution and embezzlement.<sup>23</sup> Since 1967 a Civil Service Commission has sought to create an efficient and effective bureaucratic system. This effort has largely failed, with nepotism, overstaffing and service bottlenecks becoming major political issues.<sup>24</sup> Efforts at reform since the mid 1970s have been only partially successful and bureaucratic inefficiency as well as the limited presence of ministries in the countryside continues to be a significant constraint on development activities.<sup>25</sup>

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<sup>22</sup>A 1975 census found 31,315 civil servants excluding the armed forces but including internal security people. Nyrop, The Yemens, p. 517. The largest ministry was Education (4,438 employees) followed by Public Works and Municipalities (3,337), Finance (3,154), Health (2,199) and Communications (1,513). See Table 22 Appendix III. 5,160 were illiterate, only 1,284 had secondary education degrees, 256 post secondary training and 691 college graduates. Female civil servants number 1,156, 642 of whom are illiterates. Gable, "Government and Administration," p. 71, based on 1975 CPO Manpower Survey. Gable estimates 736 people in top management, 6,689 in middle management and 11,890 in clerical positions, the rest in specialist or auxiliary posts. Salaries range from YR 300 per month to YR 3000 to 5,000 for top people with allowances. Ibid., p. 66.

<sup>23</sup>Thomas Gerholm describes the processes by which the needed additional income is generated in Manakha, Market, Mosque and Mafraj: Social Inequality in a Yemeni Town (Stockholm: University of Stockholm, 1977), pp. 72-81.

<sup>24</sup>A Supreme Committee for Financial and Administrative Reform was established to supervise and purge the civil service of corruption in 1976 and other efforts are being made to end the top heavy, cumbersome procedures inherited from the UAR occupation period.

<sup>25</sup>Gable concludes this has been particularly the case as a result of 1978's political events, with administration becoming more atomistic and new staff ill-informed of their jobs, lacking in experience and unprepared for their responsibilities. "Government and Administration," p. 19.

The central government is indecisive, weak and unstable, primarily because of the failure of either side to win the civil war. Attempted coups, assassinations of top political leaders and tribal conflict threaten national stability.<sup>26</sup> Even today, the central government has only limited authority in the hinterland. There is no tradition of a central government able to provide effective public services. Decentralized population distribution and geographical isolation has led to traditional local government systems performed mostly by village sheikhs--traditionally very independent men for whom tribal allegiances are often paramount to national concerns.<sup>27</sup> Until recently they have provided security and loyalty in return for subsidies. Increasingly, however, they look to the government for access to public goods in return for taxes. While the larger towns and southern and western parts of the country are more integrated with the national government, few government officials go into the remoter regions of the north without apprehension.<sup>28</sup>

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<sup>26</sup>On June 13, 1974, an army group led by Lt. Colonel Ibrahim al-Hamdi seized the government and established a seven-man Command Council which rules the country and appoints the prime minister. Al-Hamdi dominated the government until his assassination on October 11, 1977. He was replaced by Lt. Colonel Ahmed Hussein al-Gashmi who ruled as president until his bizzar death by bombing on June 24, 1978. A four man Presidential Council maintained power until the election of Lt. Colonel Ali Abdullah Saleh as president on July 17, 1978. A coup attempt to oust him failed in October 1978. For a chatty discussion of such events see: Tamar Yegnes, "The Yemen Arab Republic," in Middle East Contemporary Survey, edited by Colin Legum (New York: Holmes & Meier Publishers, Inc., 1978), pp. 651-666. For a comparison of Sallal, Iryani, Hamdi and Saleh regimes see: Gable, "Government and Administration," pp. 9-15.

<sup>27</sup>Sheikh can refer to a head of an uzlah or nahiyah, a large-scale landowner, the patriarch of a respected family, or the leader of a tribe or tribal confederation. For a helpful description of tribe and sheikh see Gerholm, Market, Mosque and Mafraj, pp. 109-119.

<sup>28</sup>Stookey reports a large part of the north to be under nominal government control with a large area east of Khamir to be beyond government control. Yemen, pp. 277-280. Evidence for this is the fact that 1975 census enumerators could not enter certain northern districts and tribal opposition to central government policies, particularly on unification with South Yemen, leads to occasional fighting.

The long history of local self-reliance and political management cannot be taken lightly.<sup>29</sup> Many boundaries are based on tribal groupings--tribe, clan or confederation--worked out over centuries and are not easily adjusted. Some administrative subdivisions still bear tribal names, such as Bani Matar, Bani Hushaysh, Dhu Muhammad, and Iyal Sarih. Still, since consolidating power the republican government has sought to limit the power of local tribal or religious leaders by increasing the number of governorates from six to ten and developing a more modern system of local administration. This has been done by central legislation which at best serves as an ideal model.<sup>30</sup> Local modifications tend to be the rule and each area must be studied carefully to determine its political patterns. The administrative subdivisions in Yemen, the proposed organization of the governorates in 1977, and ideal models of organizational structure of local self-government are presented in Appendix II. There are either four or five levels of government: governorates (muhafazah or liwa), sub-provinces (gada) centered on major cities or governorate centers, districts (nahiyah), sub-districts (uzlah) and villages (qaryah).<sup>31</sup> Governorors are directly responsible to the Prime Minister. The Ministry of Local Administration has less than 1,000 employees who assist the governor. Detailed descriptions of local government are lacking, but enough evidence exists to conclude that: (1) the Yemen Arab Government does not completely control all its territory; (2) outside urban areas and their surrounding regions traditional tribal patterns are dominant; (3) important personalities at local or national levels are critical to the patterns of rural governance; (4) central officials will increasingly attempt to extend their influence to the local level; (5) there is a drastic shortage of administrative and technical personnel to staff any local government effort; and (6) the present stability achieved by the central

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<sup>29</sup>This point and the error of western experts who argue Yemen has no local government system is made by Manfred W. Wenner, "Local Government in (North) Yemen" (Report Prepared for USAID Yemen, May 1978).

<sup>30</sup>Republican Decree No. 8 of 1964 and Decree No. 55 of 1973 set forth the ideal structure and function fo the local government units.

<sup>31</sup>Wenner, "Local Government," pp. 6-14. Gable reports that gada are no longer recognized as separate levels of government. "Government and Administration," p. 42. See their two different models in Figures 5 and 6, Appendix II.

government's compromise with traditional authorities presents major problems for any national rural development program.<sup>32</sup>

On the basis of a rough census in 1975, the Yemen Arab Republic is thought to have some 6.5 million people, of whom 1.3 million are temporarily abroad.<sup>33</sup> They are divided by a complex set of cleavages based on ecological zone, region, tribal confederation, ethnicity,

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<sup>32</sup> Swanson provides a good argument as to why this is so: "...rugged terrain encourages the development of locally autonomous political systems which can more or less successfully resist or at least limit [surplus production or tax] collection by a broader based, more centralized power structure... [for which]...the cost of mobilizing the forces..necessary to overcome local resistance and recover rents, exceeds the surpluses themselves.. [so] the central government comes to terms with local power structures accepting a minimum of tribute in exchange for maximum local autonomy. [To build a power base transcending a limited area the center follows a strategy of]...selectively redistributing resources among a limited number of tribal groupings, subsidizing them for support in coercing lesser tribes into paying tribute. Such a system always causes the risk that one or a coalition of the subordinate groups will attempt to usurp the control at the center or simply break away. The central government finds itself in a constant state of juggling the power structure, playing off one group against another in order to achieve a precarious political battle." Jon C. Swanson, "The Consequences of Emigration for Economic Development in the Yemen Arab Republic" (Unpublished Ph.D. dissertation, Wayne State University, 1978), pp. 41-42. On the basis of these six conclusions, Wenner points out the necessity for rural planners to "obtain up-to-date information on major personalities in the relevant ministries, including their tribal and religious affiliation, in order to be able to accurately assess the level of central government influence in local decision-making." *Ibid.*, p. 15.

<sup>33</sup> Annual rate of population growth is approximately 2.4 percent with life between 35 and 45 years. Infant mortality is approximately 160/1,000 live births with average mortality rate among children below 15 years of age about 46 percent, with 76 percent of these deaths occurring before the age of two. Population density is 88 persons per square mile. It is estimated that 20 percent of the population lives in the Tihama, five to seven percent on lower western slopes, 33 to 35 percent on higher western slopes, 30 percent on the high plateau, and 12 percent in Mashriq area. Nyrop, The Yemens, pp. 169-170.

Islamic sect and rural urban identification.<sup>34</sup> Little agreement yet exists on the organization of Yemen's rural and town social hierarchy, perhaps because it varies from area to area.<sup>35</sup> A generally agreed upon hierarchy has at the top aristocrats and landowners (sayyids and mansabs) followed by owner or tenant cultivators (gabail), merchants and artisans (ba'ya) and outcasts, slaves or performers of despised tasks (akhdam).<sup>36</sup> Most observers see Yemen organized into endogamous groups based on occupation with too many cross cutting cleavages to allow the emergence of interest groups based on economic factors. At the same time they view the system as allowing some mobility through the acquisition of wealth, education and marriage. Finally, there appears to be little correlation between tribal or religious ties and openness or hostility to change. Differential progress in the country is probably more the result of a longer history of economic opportunities, as in the shafi'i Southern Uplands, or a perceived threat to vested interests, as in the north.<sup>37</sup>

The area the Yemeni inhabit is estimated to range from 145,000 to 200,000 square kilometers.<sup>38</sup> Nearly 90 percent of the population have traditionally

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<sup>34</sup> These divisions can be critical to rural development efforts but are too complex to go into here. The relationship between ecological zone, religion and tribal background is well described in: Richard N. Tutwiler, Maneera Salem Murdock and Michael M. Horowitz, Workshop on the Problems and Prospects for Development in the Yemen Arab Republic: The Contribution of the Social Sciences (Binghamton: Institute for Development Anthropology, Inc., Report No. 2, 1976), pp. 6-19; Nyrop, The Yemens, pp. 55-87.

<sup>35</sup> For a detailed study of social hierarchy in Manakha see: Gerholm, Market, Mosque and Mafraj, pp. 102-158. In particular see his comparison of social hierarchy systems worked out by al-'Attar, Chelhod and Glaser, p. 105.

<sup>36</sup> Tutweiler, Workshop on Yemen, p. 31.

<sup>37</sup> Ibid., pp. 33-34.

<sup>38</sup> Robert Serjeant puts the area at 200,000 km<sup>2</sup>. "Yemen," Middle East Annual Review: 1978 (Essex: The Middle East Review Co., Ltd., 1978), p. 420. Tutweiler, Workshop on Yemen, place it at 145,000, p. 6.

earned their livelihood from agriculture or animal husbandry.<sup>39</sup> Until recently, the dominant farming pattern was a highly integrated subsistence system based on sorghum and cattle.<sup>40</sup> Most Yemeni live in small villages or towns, the former based largely on agricultural production and the latter distributive commercial centers. Occasionally, a single house or houses of an extended family are found.<sup>41</sup> These settlements are thickly spread over a rural sector divided into highland, waddi, coastal plain and arid regions.<sup>42</sup> The major crops of the highlands are sorghum, wheat, millet, barley, fruits, tomatoes, potatoes and a variety of lentils. The seasonally heavy flow of rivers of the foothill waddis permits the cultivation of most cereals, corn, sugar cane and tropical fruits such as mangoes or bananas. Dates, tobacco, cotton, millet and sorghum are widely grown on the hot Tihama plain along the coast. Most farmers also raise a variety of livestock, and pastoralists work their herds on the arid fringes of the cultivated areas.<sup>43</sup>

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<sup>39</sup> For a description of subsistence farming practices near Ibb see Swanson, "Consequences of Emigration," pp. 55-75. Examples of interesting observations are: milk is almost never drunk fresh, but transformed into clarified butter and buttermilk; cattle graze but get substantial forage from being handfed sorghum stalks by women once or twice per day; sorghum is preferred because of its drought resistance and ability to feed humans and animals; there is considerable genetic variation in sorghum and villagers carefully select types for microenvironments; cash crops in area include leeks, radishes, alfalfa and gat, with the first two grown by endogamous caste groups (usually) in irrigated fields; and planting never occurs in anticipation of rain, rather only after there has been enough rain to ensure germination; intercropping of sorghum in maturing maize rows occurs. More descriptive research of this type in various ecological zones is greatly needed.

<sup>40</sup> While patterns vary from Tihama to waddi to highland, sorghum, millet and milk provide nutrition for most Yemeni. Sorghum provides minimal nutritional requirements and fodder for livestock which in turn provide manure, fuel and traction. Sorghum may also be used in house construction or as fuel. Yields are low and some intercropping of leguminous vegetables takes place. Minimization of waste and careful conservation underpin the system.

<sup>41</sup> Family settlement (bayt), village (qarya) and town (madina) and the division labor among them is described in Gerholm, Market, Mosque and Mafraj, pp. 48-51. It is estimated that Yemen has 15,000 villages and 14,000 satellite settlements.

<sup>42</sup> For an excellent summary of these zones see: Tutwiler, Workshop on Yemen, pp. 6-19. Their helpful map is included in Appendix I.

<sup>43</sup> It is estimated that only five percent of the population live on the arid eastern slopes only part of whom engage in classic Arabian nomadism. Ibid., p. 15.

The analysis underlying this study is premised on the position that North Yemen has substantial agricultural potential. Unfortunately, the agricultural sector is stagnant or declining, food production barely keeping up with population growth. Typical reasons cited for this condition are uneven rainfall and limited development of water resources,<sup>44</sup> lack of an efficient rural road network, absence of price and marketing policies, insufficient agricultural credit, poor and inefficient use of fertilizers or insecticides, disease and limited pasture or fodder for livestock production, low levels of fish resource exploitation, shortage of research and extension manpower, and attractive prices for such non-foods as qat. While non-agricultural sectors may be growing steadily at nine percent per year since 1970, agricultural output has expanded at an average of no more than three percent per year, though great fluctuations make accurate projections difficult.<sup>45</sup> More importantly, the country is unable to feed itself. In the early 1970s 40 to 50 percent of imports were food, an item which Table 16 of Appendix III shows is steadily increasing. Clearly, the country's economic future is linked to closing that domestic production-import gap, especially given its increasing heavy balance of payments deficit.

Overall, some 80 to 90 percent of the agricultural land is planted under cereal crops, with the northern parts of the country dominated by sorghum, millet and barley, and the south by sorghum and maize. A total of some 1.5 million hectares are regularly cultivated with an additional 1.5 to 2 million hectares farmed every four or five years or during high rainfall years. Hence about seven to twelve percent of North Yemen is cultivated.<sup>46</sup> Estimates of agriculture's share of Gross National Product range from 50 to 70 percent, with perhaps 70 percent of the labor force

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<sup>44</sup> The country's peripheral position relative to monsoon rains leads to great variability from year to year. Alternatively mild temperatures help conserve moisture in highlands by lowering evapotranspiration rates. Therefore less rain in highlands will allow crop production whereas more rain in lowlands will be insufficient.

<sup>45</sup> The IBRD notes "Total agricultural output declined six percent in 1975/76 and the outlook for 1976/77 is for a further decline of eight to ten percent..." "Agricultural Sector Memorandum," p. 10.

<sup>46</sup> This assumes a total land area of 17 to 20 million hectares. Woody vegetation or scrub covers 1.6 million hectares with the rest of the land desert or mountain areas with sparse vegetation. International Bank for Reconstruction and Development, "Agricultural Sector Memorandum for Yemen Arab Republic" (Unpublished Memorandum, April 14, 1977), p. 10. Tutweiler et al. place the cultivated area at two percent based on an estimated country size of 145,000 km<sup>2</sup>. Workshop on Yemen, p. 6.

in that sector. Agricultural statistics are unreliable<sup>47</sup> but some estimates are set forth in Tables 5-7 of Appendix III. Nearly 90 percent of export earnings come from the agricultural sector, with cotton, coffee and hides being the major export products.<sup>48</sup> Another major cash crop, gat is sold throughout the country. It is a mildly narcotic plant whose leaves are chewed to produce a sense of euphoria.<sup>49</sup> Probably only 10 to 15 percent of the country's grain production is marketed outside the growing area.<sup>50</sup> Rising per capita income has led to an increasing demand for wheat, with higher prices stimulating wheat expansion. Barley has declined as farmers switch to higher priced cereals. There has also been an increase in the production of vegetables, potatoes and fruits.<sup>51</sup> Still, only cotton, gat and

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<sup>47</sup> No agricultural census has been made. The Statistical Yearbook of the Central Planning Organization produces figures that may be off by substantial amounts. "For example, the 1976 yearbook shows for 1975/76 2,040,000 ha. of millet and sorghum with a total production of 1,608,000 tons. The revised series shows for 1975-76 an area of 1,145,000 ha. of sorghum and millet, with a production of 859,000 tons... The revised series show 30,000 ha. with a production of 27,000 tons of seed cotton in 1975/76, where as data obtained from (the reliable) General Cotton Company...showed 14,000 ha. and 13,000 tons of seed cotton for 1975/76." Ibid., p. 9.

<sup>48</sup> Coffee is largely grown at 3,000 to 7,000 foot elevations in the hills behind the Tihama. Production ran 12,000 tons in the 1930s but has declined to 5,000 tons or less. Nyrop, The Yemens, p. 191. The amount of land under coffee has decreased, in part because of fluctuating world markets but largely because of increasing demand for the more profitable crop of gat. Cotton production has fallen since 1974/75 but it still earned more than three times the foreign exchange that coffee did. The decline appears due to low government prices, competition from maize and wheat, variable yields, uncertain labor markets, credit bottlenecks and lack of improved seeds. See Table 14 of Appendix III.

<sup>49</sup> See footnote 138.

<sup>50</sup> Nyrop, The Yemens, p. 190.

<sup>51</sup> Vegetable production increased from 50,000 tons to 183,000 tons 1969/70; potatoes 20,000 to 76,000 tons, fruits 23,000 to 65,000 tons and grapes 10,000 to 42,000 tons. IBRD, "Agricultural Sector Memorandum," p. 33. See Table 14, Appendix III.

coffee have relatively developed markets. Attractive credit markets and extension services are non-existent. The Ministry of Agriculture and other development ministries are unable to find more than a handful of trained personnel. The use of insecticides is limited,<sup>52</sup> traditional seed varieties are typically used and only small quantities of commercial fertilizer are applied.<sup>53</sup> Rainfall is the major determinant of production. Rough estimates put the annual harvest of sorghum and millet at one million tons in a good year. Wheat, barley and maize production may raise this 250,000 tons.<sup>54</sup> Because of poor yields, only in good years will the country reach 1.5 million tons of cereals, such as is thought to have occurred in 1974 and 1975.

There are perhaps 800,000 farm households in Yemen,<sup>55</sup> most families working small holdings with traditional techniques of handdigging or animal traction. Rural land ownership patterns vary from region to

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<sup>52</sup> Imports have increased from 118 tons in 1968/70 to 717 tons in 1974/75 and 2,510 tons in 1975/76. Much of this is due to UNDP/FAO locust control efforts and development project assistance. A strong visibility for insecticides came from the bilateral campaign against army worms in summer 1974. IBRD, "Agricultural Sector Memorandum," p. 26.

<sup>53</sup> Nyrop estimates 4,000 tons were imported in 1974, 8,000 in 1975/76, with the first commercial fertilizer arriving only in 1969. Apparently the government subsidizes its use. Most farms use ashes from cook fires and animal manure. The Yemens, pp. 187, 190, 192. The IBRD reports that despite fertilizer trials and extension promotion efforts by various projects, few farmers are adopting chemical fertilizers, the average fertilizer use, kg per hectare of cultivated land being 1.6 for nitrogen, 1.32 for phosphate and 0.16 for potash. "Agricultural Sector Memorandum," p. 29.

<sup>54</sup> 1974/75 figures are sorghum and millet 1,008,000 tons, wheat 56,000 tons, barley 80,000 tons, and maize 79,000 tons. See Table 14 of Appendix III for rough figures.

<sup>55</sup> The 1975 census figure of 800,000 would mean an average cultivated land per household of two hectares given the 1.5 to 2.0 million hectare figure cited earlier. Government reports estimate the average size of holdings to be 2-5 ha. in the Tihama, 0.25-1.5 ha. on the western slopes, 1-5 ha. to the south of Sana'a, 0.5-2 ha. north of the Sana'a, 1-2 ha. in the Beida area, and 5-10 ha. on the eastern slope. Average household figures are estimated at five persons. IBRD, "Agricultural Sector Memorandum," p. 25.

region. Few studies of tenure exist.<sup>56</sup> In general, there are four patterns: (1) mulk or private land which constitutes 70 to 80 percent of cultivated land in Yemen; (2) miri or state land which was confiscated from old imams or regionally powerful families and comprises two to three percent of cultivated land; (3) waqf or religious endowment, the usufruct of which is granted by the holder of mosques, schools or people to please God, constituting perhaps 15 to 20 percent of Yemen's arable land;<sup>57</sup> and (4) hima or communal land which covers uncultivated land used for pasture, threshing or collection of fuel.<sup>58</sup> Numerous technical rules affect land transfers and trends in tenure patterns but they have been little studied despite their importance to rural development programs or projects.<sup>59</sup> Sharecroppers or shariks are numerous, but the country does not seem plagued by the kinds of concentrated holdings that make rural development difficult in many less developed countries.<sup>60</sup> It appears that land holdings tend to be more concentrated in areas where river or pump irrigation is possible, with smallholders dominating rainfed areas. Tenants are numerous where larger land holdings

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<sup>56</sup> The two basic studies are H. Dequin, Arabische Republik Jemen: Wirtschaftsgeographie eines Entwicklungslandes (Riyadh, n.p., 1976); Herman A. Escher, Wirtschafts- und social geographische Untersuchungen in der Wadi Mawr Region (Arabische Republik Jemen) (Wiesbaden: Dr. Ludwig Reichert Verlag, 1976).

<sup>57</sup> There are two kinds of "wakf khairi," or endowments of a definitely religious or public nature (mosques, madrasas, hospitals, bridges, waterworks), and wakf ahli or dhurri, family endowments... The ultimate purpose of [which] must however always be...pleasing to God..." W. Heffening, "Wakf" in Shorter Encyclopedia of Islam, edited by H. A. R. Gibb and J. H. Kramers (Leiden: Brill, 1961), pp. 624-625. Waqf is used in Yemen to keep property intact at inheritance, overcoming Muslim law's tendency to promote fragmentation at death.

<sup>58</sup> Summarized from Gerholm, Market, Mosque and Mafraj, pp. 58-60.

<sup>59</sup> For example, in the Ibb-Taiz area Swanson found areas of mulk holdings concentrated in patrilineal groups due to customary rules of land transfer giving relatives and adjacent landholders special purchase rights when land comes up for sale. There was also no registration of deeds, leading to conflicting rules over priority rights to purchase. Women inherited land in this area, but only half as much as brothers. "Consequences of Emigration," pp. 70-71, 113. Still, it appears each family keeps land records which can be tapped in specific case studies, a strategy Ron Hart has had some success with.

<sup>60</sup> Patterns of holding are known to vary greatly by ecological zone and area. Some estimate that 25 percent of cultivated land in highland areas is held by smallscale proprietors, IBRD, "Agricultural Sector Memorandum," p. 26. The Yemen government estimated that only 20 percent of total cultivated area is exploited directly by landowners and that there is need to "organize relations between landowners and tenant farmers," United Nations Economic Commission for Western Area, "Summary of the First Five-Year Plan of the Yemen Arab Republic" (Draft Summary, UNECWA, Beirut, November 1977), p. 16. Gerholm found the best lands

predominate, but little is known about their extent or contracts.<sup>61</sup> Data on tenancy are complicated by the fact that tenants and landlords are not homogeneous categories, landowners often renting land, tenants being relatives of landowners and so on. Indeed, it may be that tribal, religious or rural-urban differences may be more important than land ownership divisions in the formation of social cleavages.<sup>62</sup> Still, some think rents are significant enough to lessen interest in land improvements.<sup>63</sup> It is generally thought that landowners are either demanding a larger share or abandoning sharecropping arrangements in favor of hired laborers. Others argue labor shortages are lowering landlord shares of rent, as will be discussed later. Little is yet known about short term migration of agricultural workers but it is believed that farmers from the Tihama harvest in the highlands and highlanders work in the waddis or on large Tihama farms. However, given increasing labor shortages in the economy, there is reason to doubt the view that landowners are moving to hired labor strategies. In some cases landowners are also tenants, and tenancy can carry family, social or political ties as well as mere contractual relations.

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around Manakha to belong to four owners and noted one landowner in western Haraz had 400-700 sharecroppers working his land. Market, Mosque and Wafraj, p. 61. Still, he found many people in Manakha who "have a small plot tucked away somewhere in the mountains." Ibid.

<sup>61</sup> Estimates of tenancy range from low figures in the central highlands to 40-50, or even 90 percent, in some areas. The basic pattern is a 50-50 share, with proportions varying with water supply, soil conditions, cropping patterns and inputs. Sharecroppers may get 75 percent of crop in marginal areas where they provide all inputs and only 25 percent on farms served by a landlord's well. The more labor intensive the crop the less the landlord gets. Sharecroppers may get 65 percent of tobacco production and only 30 percent of coffee output. IBRD, "Agricultural Sector Memorandum," pp. 26-27. It is thought that powerful sheikhs are the major landlords. Gerholm finds that pattern in Manakha to be 1/3 landowner if tenant bears all expenses and pays zakat (10 percent on total harvest). If the landowner pays all expenses then he gets two-thirds. Contract variations occur depending on personal relationships. Market, Mosque and Mafraj, p. 62.

<sup>62</sup> Gerholm notes this, commenting that "sharik" does not convey the image of exploitation or misery that the word sharecropper does in the west. In Manakha cross-cutting cleavages militated against the emergence of groups or factions based on land ownership status. Market, Mosque and Mafraj, pp. 62-64.

<sup>63</sup> Nyrop, The Yemens, p. 189.

Some evidence exists that the recent long drought led a number of small holders to sell their land to richer landowners, thereby increasing land concentration. Businessmen who can afford to invest in costly pump and other irrigation systems may also be consolidating holdings. Finally, fragmentation and parcellation are known to occur. Whether this is an onerous result of inheritance or a conscious strategy to hedge risk by working various ecological niches is unclear. Until careful land tenure studies are done it is difficult to confirm or expand upon these speculations. While irrigation has increased since the end of the civil war, most farmers are still limited to dry farming practices.<sup>64</sup> Compared to other areas of the Arabian Peninsula, North Yemen receives adequate rainfall, with a long range average of 450 mm per year over most of the central area.<sup>65</sup> Yemeni farmers have developed a high degree of sophistication in the management of run-off rain water. On the terraced hillsides and in the waddis it is efficiently channeled from field to field with minimal losses. Spring and stream flows are often diverted to terraced slopes or fertile valleys, spate flood flows are channeled to high water retention soils and shallow hand dug wells are found in many areas. Still, promoting efficient water storage schemes and tapping ground water, particularly in areas with good soils but inadequate rainfall, is essential to expanded production. A major constraint on the sound use of these resources is that reliable data on surface run-off and ground water reserves, flows on recharge rates do not exist. The drought of the 1963-1973 period and the rapid expansion of per capita income through remittances are stimulating a great increase in the use of expensive pumps, leading to careless use of ground water, a resource which appears to be depleting rapidly in some important agricultural areas.<sup>66</sup> In addition, groundwater use has increased soil salinity problems, particularly in the Tihama and some waddis.

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<sup>64</sup> Approximately 85 percent of the cultivated area is rainfed, eight percent supplied with a single irrigation by spateflow and seven percent irrigated by perennial streams, springs or wells. IBRD, "Agricultural Sector Memorandum," p. 10. One government report placed irrigated land at 1.4 million hectares, less than half of which had year round supply. Nyrop, The Yemens, p. 188.

<sup>65</sup> This however, can be highly variable. Records at Sana'a range from 17mm in 1967 to 163 mm in 1973; 1938 to 1947 ranged from 200 to 500 mm. IBRD, "Agricultural Sector Memorandum," p. 14. Perhaps 25 percent of the surface area of Yemen receives 50 percent of total rainfall. Ibid., p. 16.

<sup>66</sup> Imported pumps increased from 400 in 1969/70 to 900 in 1975/76. IBRD, "Agricultural Sector Memorandum," p. 32. Some private drillers charge up to YR50,000 for drilling and casing tubewells.

The country has no forest reserves though woody vegetation is found in some coastal mangrove areas, in waddi bottoms and in the foothills and highlands.<sup>67</sup> Large trees are generally scarce so that those with woodlots can earn solid profits despite high transportation costs. Many hillsides are denuded and subject to severe erosion, particularly as outmigration limits labor for maintaining terraces and erosion control works. New growth is not keeping pace with extraction.

Few Yemeni are pastoral herdsmen, most being settled, but nearly all raise livestock on available pasture. Overgrazing complicates the forestry and erosion problem as well as holds back development of the country's livestock potential.<sup>68</sup> Most villages with common tribal heritage have well recognized communal grazing areas. While other groups are generally not allowed to use such pasture, tribal leaders have not acted to preserve the range.<sup>69</sup> Some argue that severe erosion and depletion of plant cover on the range will increase unless open grazing traditions are changed and systematic off take patterns established.<sup>70</sup> Almost no areas have veterinary services despite the dependence of agriculture on animal traction and the potential demand for domestic or export meat and hides, or the fact that milk helps keep protein levels up for rural children. The lack of trained Yemeni veterinarians and the fact that only a handful are being trained at present reinforces the pattern of poor animal health care. The country has the land, water and demand to support a large poultry industry. Eggs and poultry meat help narrow protein gaps in rural diets, but only recently have efforts been made to improve production.<sup>71</sup>

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<sup>67</sup> Forest and brush may comprise nine to ten million hectares, of which perhaps 2.5 million hectares are marginal woodland. Nyrop, The Yemens, p. 188.

<sup>68</sup> Gross government estimates for 1973 are 800,000 cattle (1.3 million 1965), 9.5 million goats and sheep (11.6 million 1965), 100,000 camels (55,000 in 1965) and 600,000 donkeys (500,000 1965). Nyrop, The Yemens, p. 191.

<sup>69</sup> Much of the fodder comes from leaves and stalks of grain crops such as millet or sorghum.

<sup>70</sup> IBRD, "Agricultural Sector Memorandum," p. 31. Experience from the Sahel indicates that such "tragedy of the commons" arguments must be carefully studied. See: David W. Brokensha, Michael M. Horowitz and Thayer Scudder, The Anthropology of Rural Development in the Sahel: Proposals for Research (Binghamton: Institute for Development Anthropology, Inc., 1977), pp. 6-49.

<sup>71</sup> It is estimated a rural farmer with 100 hens could increase his income by \$450 per year. Kathryn W. Uphaus, "Yemen's Poultry Industry Takes Wing," Front Lines (USAID) (December 14, 1978), p. 7.

Finally, the marine fisheries along the Red Sea have yet to reach their full potential. Estimated landings of all fish are approximately 17,000 metric tons, a figure perhaps 10,000 metric tons below the potential of Yemen's coastal waters.<sup>72</sup> Fishermen get relatively low prices for their catch because processing facilities and road links limit the bulk of their sales to coastal areas.<sup>73</sup>

Primarily on the basis of observation, researchers and donor staff members find a general tendency to innovate among farmers, herdsmen and fishermen if the new technology or production strategy is profitable and without unreasonable risk.<sup>74</sup> Sheikhs, government officials and merchants can quickly spread information on innovations if they are perceived to be advantageous to individual or community. Typical of this has been the success of the Germans in diffusing new potato strains through the use of merchants. Still, the use of these informal communications channels is no substitute for the formation of a research and extension system that can match innovations to the ecological and cultural diversity of the country.

At present efforts to promote greater self-sufficiency in foods are focused on extending commercial farming and raising productivity on existing plots, with greater emphasis on water resources than improved seed-fertilizer combinations. Labor and topography constraints make strategies for expanding land under cultivation unattractive. An Agricultural Credit Bank has been formed to make loans to farmers for inputs, water supply development, land leveling, machinery purchase and so on. For better off farmers this helps but it hardly ends the reliance of most on the local merchant and his high interest rates. Beyond this, the Ministry of Agriculture together with other organizations, such as the National Cotton Company and the Livestock Development Corporation, are encouraging coffee, cotton, grapes, livestock and poultry production. Red Sea fish are an underexploited resource which the Russians have helped tap through a drying station in Hodeidah. Excellent markets for all these products exist in the Middle East alone. Efforts are being made to upgrade the quality of export crops, but increasing domestic consumer demand appears to be holding back exports of the increased production.

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<sup>72</sup> IBRD, "Agricultural Sector Memorandum," pp. 21-24. Nyrop puts the catch at 7,000-8,000 metric tons in the mid 1970s. The Yemens, p. 191.

<sup>73</sup> Aid from the Soviet Union and Kuwait is aiding fisheries development. Road improvements allow increased marketing opportunities in the cities of Sana'a and Taiz. Larger boats and coastal processing plants are needed to expand production. Salted fish markets exist in Singapore and fresh fish markets in Saudi Arabia can be expanded. Some fish is packed in ice and marketed in Saudi coastal towns.

<sup>74</sup> Tutweiler, Workshop of Yemen, pp. 34-35.

Yemen is now implementing its second multi-year plan.<sup>75</sup> Given the lack of knowledge about rural areas, the absence of reliable statistics, the limited amount of technical manpower and the weakness of governmental institutions serving the agricultural sector, these plans are at best unreliable guidelines. The first plan, running from 1973/74 to 1975/76 had little effect on agricultural output, mainly because only 15 percent of planned expenditures went to the agricultural sector.<sup>76</sup> Highway construction expansion of urban electricity and water services, formation of public enterprises in the manufacturing sector, telecommunications and postal infrastructure improvement, and other industrial, urban biased development activities received the bulk of plan funding. In the agricultural sector emphasis was on institution building, manpower training, research stations and

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<sup>75</sup>The plan runs from 1976-77 to 1980/81. It envisions over all investment at YR 16.6 billion, nearly all of which are for fixed capital formation. External sources are expected to provide 41.4 percent of financing. Distribution of investment are dominated by transportation and communication (30.8 percent), industry (22.2 percent), agriculture (14.3 percent) housing (13.1 percent) and services (12.3 percent). The plan projects an average rate of GDP growth of 8.2 percent over the plan period, beginning with 7.4 percent in 1976/77 and ending with 8.9 percent in 1980/81. Contribution of various sectors to GDP during the plan period are: agriculture 41.2 percent, trade 24.9 percent, services 12.8 percent, industry 6.4 percent, construction 5.2 percent, housing 3.4 percent, transport and communications 3.2 percent, and finance and banking 2.9 percent. The capital output ratio between investments and increases in domestic product is expected to increase from a ratio of 2.4:1 in 1976/77 to 8.8:1 in 1980/81. Imports are expected to increase at an average annual rate of 28.3 percent during the plan period and exports at 13.3 percent. Total final consumption is expected to increase from an annual growth rate of 4.8 percent in 1976/77 to 6.4 percent in 1980/81. (Real increase accounting for population growth at 1.9 percent is estimated to average 3.9 percent per year). Gross National Savings are projected to increase from YR 2,270 million to 3,272 million during the plan, giving an average annual increase of 7.6 percent, much of it in the later years. UNECWA, "Summary," pp. 42-53

<sup>76</sup>The total plan allocation was YR 936 million of public sector and YR 789 million of private sector investment. Target achievement was 101 percent for public and 160 percent for private sectors. During planned periods annual growth rate was 12.6 percent GNP and seven percent GDP. UNECWA, "Summary," pp. 1-11. Major public investment targets in YR millions were education 195, transportation 292, industry 91, health 48 and agriculture 138. Europa, "Yemen Arab Republic," p. 808.

and water resources surveys.<sup>77</sup> The present five year development plan(1976/77 to 1980/81)<sup>78</sup> builds on the earlier plan's partial successes in establishing research stations, training manpower and developing higher yielding varieties of maize and cotton. It envisions an expenditure of YR 2.27 billion on agriculture out of a total plan expenditure of YR 16.6 billion.<sup>79</sup> Again priority is given to transportation, communication and industrial sectors, with most of the expenditure planned to go for more all weather roads, increased electricity generating capacity, improved telephone linkages, expanded urban water supplies and such industrial activities as the Omran cement project, a liquid paper plant in Zubeida and steel works facilities in Hodeidah. The plan for agriculture seeks to promote an average growth rate of not less than 5.5 percent by promoting self-sufficiency in economically viable crops, providing for increased production in oil seed, cotton and tobacco industries, reducing trade deficits in agricultural commodities, and insuring equitable opportunities for small scale farmers. In particular, the emphasis is on: improving the staff of research and extension organizations and stimulating better applied linkages between them; studying water resources, prices, market performance and taxes in order to develop better agriculture promoting policies; forging more equitable relationships between landowners and agricultural workers; increasing yields per unit of land and quality of production, giving particular attention to wheat, dukhin, maize and barley, and development of grain storage capacity; expanding the mechanization of agriculture where economically and socially appropriate; promoting increased production of cotton, sesame, castor and tobacco; stimulating the expansion of forage crops, fruit plantations and vegetable production; improving distribution of fertilizer; promoting better crop protection strategies; developing new tenancy techniques and improved

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<sup>77</sup> The Ministry of Agriculture was reorganized and its activities better defined, research stations established, crop protection and extension units formed, Agricultural Credit Fund and Agricultural Credit Bank set up and Directorate for Fisheries established. Superior varieties of sorghum, millet, maize, wheat, barley, sesame and sunflower were identified. Feasibility studies were carried out for water resources, particular crops (coffee production) and specific areas (e.g., Wadi Sardoud, Ram'a, Siham). UNECWA, "Summary," pp. 5-6.

<sup>78</sup> The plan is in Arabic. Information in this paper is drawn from the translated summary: UNECWA, "Summary," pp. 27-102.

<sup>79</sup> Ibid., p. 43. There must have been considerable revision due to rapid increase in remittances for in 1976 the IBRD estimated YR 952 million on total plan expenditure of YR 6.8 billion. "Agricultural Sector Memorandum," p. 46.

ways to build small dams, water storage vaults and irrigation canals; issuing legislation to insure proper use of surface and underground water resources; introducing reforestation and erosion control programs; stimulating the expansion of livestock production through improved veterinary services, disease control, development of natural pasture and promotion of fodder crops; expanding the availability of farm credit; promoting the formation of farmer cooperatives; increasing the capacity of the fishing industry through port expansion, credit, cooperative formation and training; and designing more projects with particular emphasis on integrated rural development efforts.<sup>80</sup>

Much of the funding for the Yemen development plans comes from foreign donors.<sup>81</sup> In the past they favored non-agricultural capital projects such as airport or urban water and sewage system construction. However, donors have given increasing emphasis to water resource development, such as the International Development Association and the Kuwait Fund's Tihama Development Project. It is one of the largest rural development efforts in Yemen. Since 1973 it has sought to modernize the irrigation system in Waddi Zabid and study irrigation potential in Waddi Mawr. Other UN efforts focus on a pilot sugar cane project and the expansion of a government farm near Taiz into an agricultural advisory center. The United States Agency for International Development has an increasing amount of its Yemen budget committed to projects related to rural development. Efforts are being made to promote poultry production, horticulture research, sorghum, and millet improvement, soil classification, small rural water system development and rural self-help activities.<sup>82</sup> The World Bank is involved in a grain storage project, a livestock credit, dairy farm and meat processing program, the Tihama Development Project and the Southern Uplands Rural Development Project in Ibb and Taiz Governorates which focuses on credit, extension, feeder roads, irrigation and land protection works and village water supply systems.<sup>83</sup> Finally, a number of other donors, such as West Germany, Sweden, the Netherlands, and the British are increasingly involved in rural development efforts. Unfortunately, no known summary of donor or private

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<sup>80</sup> UNECWA, "Summary," pp. 29-31.

<sup>81</sup> Of the YR 138 million allocated for agriculture in the first plan, YR 120.4 million was foreign. IBRD, "Agricultural Sector Memorandum," p. 44. Of second plan expenditure, planning is for 41.2 percent of total investment requirements to come from aid, loans and direct investment. Europaia, "Yemen Arab Republic," p. 808. The range of projects planned for agriculture and subject to foreign aid are described in: UNECWA, "Summary," pp. 64-67.

<sup>82</sup> These and other projects are described in detail in: USAID, Annual Budget Submission FY 1979: USAID Yemen (Washington, D.C.: USAID, June, 1977).

<sup>83</sup> IBRD "Agricultural Sector Memorandum," pp. 1-8, 53-64.

voluntary organization programs, in general or in the rural sector in particular, is known to exist.<sup>84</sup>

During the early 1970s industry increased its share of Yemen's Gross Domestic Product from three to five percent and the percent of the country's labor force employed in industry rose from one to four percent.<sup>85</sup> Despite a 1965 law designed to attract foreign capital investment, the country still had only a small number of large enterprises--all the result of foreign aid. The major factories in the mid-1970s were the Sana'a textile factory, the Salif rock salt factory, the cement plant at Bajil and an aluminum plant in Taiz.<sup>86</sup>

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<sup>84</sup>The Federal Republic of Germany has given aid since 1967. It funds a research farm near Sana'a which does trials, a fertilizer promotion program focused on merchants and plans a plant protection program. The research team is having some success with vegetables, notably potatoes. British technical assistance marshalled a veterinary team in 1972 which runs a laboratory and ran a major rinderpest vaccination program in 1974. Since 1975 it has supported a farm mechanization team near Taiz which tests and develops appropriate equipment. The USSR has a large experimental farm in the Tihama which focuses on large scale mechanization and irrigation systems. Chinese are testing new varieties on a small research farm near Hoth. Finally, a number of plans for rural development projects are being developed by such donors for various parts of the country, the most notable of which are: (1) Rada Nahiya (Netherlands); (2) Hajjah (British); (3) Ramaia Valley (Germany); (4) Waddi Seham (Arab Agricultural Development Corporation); (5) Mahweit (Arab Agricultural Development Corporation); (6) Sadah (Arab Agricultural Development Corporation); (7) Waddi Sordid (Germany); and (8) Waddi Mawr (Bank Group).

<sup>85</sup>It is unclear how many work in industry, Table 3 of Appendix III reports 1,072,169 employed in Yemen with 13.1 percent in industry, transport and labor. The five year plan reports employment of 1,165,800 in 1975/76 with 3.7 percent in industry (42,600). UNECWA, "Summary," p. 43. (Compared to p. 17 which notes 23,856 in industry). In 1975/76 the industrial sector had 59 enterprises with ten or more workers, 211 with five to nine workers, and 11,067 with one to four workers. This third category tended to be more in the service or commerce sector. Perhaps 24,000 workers were in industry with the value of their production at YR 513 million. Productivity per worker was estimated at YR 23,000 with value added YR 255 million. Industrial activity was concentrated in Sana'a, Taiz and Hodeidah. *Ibid.*, p. 17.

<sup>86</sup>The textile factory was begun in 1958 with Chinese assistance. It employs 1,500 workers, many women. A French and Syrian textile plant at Bajil has failed since the late 1950s to come into production. The Soviets financed both the cement and aluminum enterprises. The cement factory is being expanded and is probably the most successful of these enterprises. Cotton cleaning plants have been established at Zebid and Hodeidah, with a cotton oil seed and cake plant at Hodeidah. Italian aid helped establish a cigarette plant at Hodeidah. Europa, "Yemen Arab Republic," pp. 804-805.

In recent years a number of public enterprises have been formed to stimulate industrial activity or run particular plants.<sup>87</sup> Light industry activities focus on food products, furniture and housing materials. The in flow of remittances has stimulated the construction industry in particular. In both urban and rural areas shops are being built, new homes constructed or rooms added on to existing structures. Shortage of skilled manpower, however, hampers construction. Most rural craft activities center on baskets, straw mats, beds, pottery, bricks, carpentry, smithing, jewelry and sandal making. Cheap imported goods and rising per capita income threaten these activities.<sup>88</sup> Industrial production figures for selected products are set forth in Table 18 of Appendix III.

The principle goal of government policy in the industrial sector is to gain self-sufficiency in food, clothing and construction, activities which can use local materials.<sup>89</sup> However, achievement of these goals and success in other enterprises will continue to be hampered by the lack of a clear industrialization policy, limited raw materials, absence of technically skilled manpower, inadequate systems of accountancy, specification and measurement, and, perhaps most importantly, strong competition from abroad.

The economy in general is hampered by the lack of known oil reserves.<sup>90</sup>

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<sup>87</sup> These include: Public Spinning and Weaving Corporation (formed in 1965 to run the Chinese financed textile factory); Public Cement Corporation (formed to run the Russian financed cement plant at Bajil); Public Corporation for Industrial Complexes (created to establish and construct industrial centers); Public Cotton Company; National Tobacco and Match Company; Yemni Company for Manufacture and Trade of Pharmaceuticals; National Printing and Publishing Company; and Public Electricity Corporation.

<sup>88</sup> This has been an historical pattern. As Aden routed cheap western textiles into Yemen after 1900 it had a devastating effect on Jewish dominated handicrafts, particularly weaving. Much of the country's handicraft capacity has failed to recover from the Jewish community's departure in the early 1950s. Swanson "Consequences of Emigration," p. 50. Gerholm notes this trend in Manakha, finding only tailors, stone cutters and masons among the safe crafts. Market, Mosque and Mafraj, pp. 68-9.

<sup>89</sup> Details on objectives and strategies for the industrial, manufacturing and mining sector during the present five year plan are presented in UNECWA, "Summary," pp. 32-6, 55-8, 67-78.

<sup>90</sup> Some oil was found in 1972 in the Tihama but conditions were not promising enough to attract foreign exploration investment on any scale. There is some drilling by Deutsche Shell AG along the coast. American and Japanese companies hold concessions off the coast.

Costly fuel imports limit the use of mechanical power.<sup>91</sup> Mineral resources are both limited and largely untapped.<sup>92</sup> Aside from agriculture, the country's greatest asset is its manpower. Yemen has historically supplemented income from domestic production with income earned and repatriated by emigrants working abroad,<sup>93</sup> Census estimates for 1975 place the number of Yemeni citizens abroad at about 1.2 million, though the present figure is likely to range from 0.8 to 1.2 million.<sup>94</sup>

In 1972 the country stood at the bottom of most lists for demographic development and quality of life indicators. Few public services reached the towns, much less the villages, and basic amenities--such as paved streets, sanitary water supplies or sewage systems--were available only in a few of the larger towns. This is due as much to the extreme decentralization of the country's population into more than 15,000 villages

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<sup>91</sup>To cut fuel costs British and Indian technicians are building generators for the Yemen Lighting Corporation near Hodeidah at Bajil, site of a proposed industrial center. Rising oil prices have forced the country to negotiate loans. An agreement was reached in 1977 whereby Saudi Arabia will supply the Yemen Petroleum Company with natural gas. The Public Electricity Corporation generates and distributes electricity in Sana'a, Hodeidah, Taiz, Thala and Huja. Smaller towns tend to have privately owned generators.

<sup>92</sup>The only mineral exploited on any scale is salt. There are deposits at Salif, Maarib and Qumah. Most salt is exported to Japan but the Yemen Salt Mining Corporation is seeking new outlets, notably in North Korea and Bangladesh. Copper deposits at Hamoura and Beida may be capable of exploitation. The Mawzah region has exportable quantities of marble. Possibilities exist for coal near Wadi Rujam, crude iron at Umran and Huja, granite in Da'ada and some silver, gold and uranium mining. Europa, "Yemen Arab Republic," pp. 804-5.

<sup>93</sup>For details on this historical pattern see Swanson, "Consequences of Emigration," pp. 81-99. He notes two modern phases: (1) mid-eighteen hundreds to 1970 involving migration to Aden and overseas; and (2) late 1960s to present centered on intra-peninsular migration to Saudi Arabia and Arab Gulf States. Gerholm amplifies this by noting that earlier historical waves came from merchant and elite groups of Dawudis, Sulaymanis and Zaydis but that the Saudi Arabia migrations are those of the poor. Earlier waves made tribesmen into tradesmen, the present wave is turning farmers and craftsmen into proletarians and petty bourgeoisie. Market, Mosque and Mafraj, pp. 80-2.

<sup>94</sup>Manpower surveys and statistics on passports suggest lower figures than the 1975 Central Planning Organization Census. International Monetary Fund, "Yemen Arab Republic - Recent Economic Developments" (Internal Memorandum, SM/77/46, Supplement 1, March 30, 1977), p. 2. A General Union for Emigrants was established in 1976. To maintain contacts abroad it publishes the magazine Al-Watan.

and 14,000 satellite communities as it is to the lack of government institutions, manpower, and budget resources.<sup>95</sup>

Pervasive disease like tuberculosis, belharzia and malaria--as well as chronic malnutrition,<sup>96</sup> limited potable water or sewage systems,<sup>97</sup> low levels of health knowledge, and lack of hospitals, clinics and medical staff<sup>98</sup>--keep life expectancy at the low level of 36 years. Illiteracy

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<sup>95</sup>The ratio of central places to villages in Yemen is estimated at 635, probably the highest in the Middle East. Comparative ratios are Israel 4, Turkey 201, Iraq 204, Syria 301.

<sup>96</sup>Studies, indicate the Yemani diet is particularly inadequate for children. Annika Bornstein's studies in Taiz found that average weight (Harvard weight/age ratio) was 62% of standard for one year olds, 21% of 1-2 year olds and 24% of 2-3 year olds were suffering severe protein calorie malnutrition. In the Sana's area she found 40-50% of children 7-12 months old suffered from second or third degree protein calorie malnutrition. In highlands and midlands 30% of all children aged 1-5 were below 70% of weight/height ratio for their age. Nutrition levels are even lower in Tihama. A study of mortality in four highland villages found 45% of children died before the age of 15. See her publications cited in bibliography. For a summary of public health and disease in Yeman see Nyrop, The Yemens, pp. 180-5.

<sup>97</sup>Jurisdiction over water systems for towns and villages as well as wells, as well as Five Year Development Plan efforts to drill wells, build reservoirs and cisterns, install pumping systems and so on rests with the Rural Water Department of the Ministry of Public Works and Municipalities. Sewage is under the National Water and Sewage Authority, a public authority. Efforts to improve garbage collection in the present conditions of poor urban sanitation is charged to the Municipalities Department of Ministry of Public Works and Municipalities. It also seeks to construct latrines, improve drainage, control pests, clean streets and conduct anti-litter campaigns.

<sup>98</sup>1975 figures listed 28 hospitals, 3,317 beds, 13 health centers, 14 health subcenters, 9 dispensaries with 290 beds and 73 rural health centers. Yemani medical manpower included 182 physicians, 11 dentists, 17 pharmacists, 747 paramedics, 172 nurses, 1 nutritionist, 55 village midwives, 323 assistant nurses and a few laboratory technicians. Nyrop, The Yemens, p. 184. 1977 figures note 2,672 beds in 28 hospitals and 12 clinics, 319 doctors (205 Yemani) and 24 pharmacists (11 Yemani), one health institute to train male nurses, health supervisors and laboratory assistants. The Yemani Company for Manufacture and Trade of Pharmaceuticals sells medicines over more than half the country through

rates ran more than 75 percent for men and 97 percent for women, with the education system severely retarded by past history and the civil war. There were few schools, shortages of teachers and no efficient education program.<sup>99</sup> The modern communications sector reached only a small percentage of the population.<sup>100</sup> As a result of limited educational

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its branches. UNECWA, "Summary," p. 19, 24. Illustrating data problems, Gable reports 1978 figures: 20 general and 2 special hospitals, 20 health centers with in-patient service, 16 health centers, 18 health sub-centers and 106 rural health units with manpower levels of 399 doctors (255 Yemeni), 20 dentists (11 Yemeni), 44 pharmacists (25 Yemeni), 441 qualified nurses (281 Yemeni), 678 assistant nurses and 64 midwives (31 Yemeni). "Government and Administration," pp. 23-4.

<sup>99</sup> A formal education system was established in 1963, under Egyptian influence. By 1976/77 there were 221,482 pupils in primary schools, 27,026 in higher grades and commercial, trade and teacher training schools, and 2,760 at the new University of Sana'a established through Kuwait aid in 1970. The number of students in elementary school rose 212% from 1970/71 to 1975/76. Females make up only 27% of primary students and 14% of secondary and training schools. (See Cynthia Myntti, "Report on Female Participation in Formal Education Training Programs, and the Modern Economy in the Yemen Arab Republic") (Paper Submitted to USAID, Sana'a, April 1978). In 1974/75 permanent teachers numbered 2,149 men and 162 women, some of whom had only elementary school certificates. An additional 3,241 teachers were employed on a contract basis. No vocational education is taught at primary or intermediate levels. A Chinese trade school at Sana'a is increasing technical education and plans for other vocational and agricultural schools are being pushed by the government. An adult literacy program was founded in 1970, reaching only 4,100 people at 88 centers in 1974. For a summary of education see: UNECWA, "Summary," p. 23; Europa "Yemen Arab Republic," p. 812; Nyrop, The Yemens, pp. 170-3. Gable reports 1,670 schools, 1528 of which were primary schools, in 1976. Half of these schools are located in Sana'a. Of the 2,304 at Sana'a University in 1975/76 only 143 were Yemeni women. Secondary school teachers are being trained on the university compound (3 year program with 280 students enrolled). "Government and Administration," pp. 30-5.

<sup>100</sup> Since 1976 newspapers have been under the Saba Press and News Agency. It printed 5000 copies of its two major newspapers, Al-Sawra and Al-Jumhuriyah. Their distribution has proven difficult. Television began in 1975 and is confined to Sana'a though there are plans to expand it to all regions. The radio station "Voice of Yemen" can be heard throughout the country. UNECWA, "Summary," p. 25.

opportunities, the government had few technical or middle level managerial people needed to get development moving. In the agricultural sector, in particular, there were few agricultural resources, no production credit programs and few extension agents.<sup>101</sup> Major cities had been linked by road since 1970<sup>102</sup> and some progress had been made in building feeder roads to smaller marketing towns,<sup>103</sup> though the repair of major and minor roads was a problem due to lack of equipment and trained personnel. Improvements had also been made in telecommunications, air transport and port facilities.<sup>104</sup>

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<sup>101</sup> See footnote 20.

<sup>102</sup> There may be 4,000 km of roads with approximately 1,640 kms being all weather, of which 600-900 are asphalted. These connect the principal cities of Sana'a, Hodeidah, Taiz, Ibb and Mocha. The network largely results from foreign aid. The Sana'a-Hodeidah and Sana'a-Saada roads were built by the Chinese, the Sana'a-Ibb-Taiz-Mocha link by the Americans and the Hodeida-Taizz road by the Russians. The World Bank, United Arab Emirates, Chinese and Saudis are aiding various road projects linking Sana'a to Marib, Amran to Hajja and Dhamar to Rada-al-Bayda. Local Development Associations are actively involved in building a number of rough feeder roads linking their villages to marketing towns.

<sup>103</sup> Local Development Associations are actively involved in building a number of rough feeder roads linking their villages to marketing towns. See: James Wyche Green, Local Initiative in Yemen: Exploratory Studies of Four Local Development Associations (Washington, D.C.: United States Agency for International Development, October 1975). The government credits them with building 5,000 km of roads during the first three year plan. UNECWA, "Summary," p. 20.

<sup>104</sup> At the beginning of 1977 there were 13,915 telephone lines in Yemen, 7,000 of them in Sana'a. Taiz and Hodeidha were linked by telephone lines and central exchanges were found in the major towns. Satellite links to Europe were completed in 1976. Air transport and navigation had been improved but service only connected the country's three major towns. The national airline being jointly owned by the Yemen (51%) and Saudi Arabian governments. Hodeidah was still the only principle port, its facilities being modernized by 1962 and continually expanded through foreign aid. It handled 601 thousand tons in 1979 with delays up to 4 months. Continuing efforts are being made to upgrade Hodeidah, Mocha and Salif ports. Salt mining at Salif and overload at Hodeidah justify expansion of these latter two facilities. IMF, "Yemen Arab Republic," p. 4.

The effects of this progress on traditional markets and towns was unclear. Little is known about rural markets or commercial transactions.<sup>105</sup> Until the early 1970s traditional periodic markets<sup>106</sup> and scarcely developed storage and warehouse systems remained the rule despite the emergence of more modern marketing systems in areas close to principal cities. Certainly poor road networks beyond major towns held back the emergence of efficient markets, yet the construction of roads and resulting penetration of cash markets and consumer goods had devastating effects on formerly thriving small towns and their inhabitants.<sup>107</sup> By 1977 it became increasingly difficult to ensure adequate good supplies at fair prices

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<sup>105</sup> One of the few studies to focus on commerce and financial or market transactions is: Brinkley M. Messick, "Transactions in Ibb: Economy and Society in a Yemeni Highland Town," (Unpublished Ph.D. diss., Princeton University, 1978). Good detail is also provided by Gerholm, some important observations from his work are: often villages are located between towns in special stalls to limit competition; itinerate peddlers, carpenters, masons, butchers, haircutters and mafraj upholsterers travel from town to town; small town shopkeepers tend to farm as well sell goods; mediators and brokers make many commercial deals indirect, with anger focused on the mediator; profit margins of retail shops are narrow and rise to affluence is slow; success in commerce comes through gaining trade franchise of specialization; butchers, barbers, blood letters, and green grocers are despised occupations; local fortunes of the big merchants tend to rise and fall within a generation or less; successful commerce depends on elusive but critical ties to political power; to succeed in commerce one tends to need tie to agriculture and to maintain wealth it is necessary to diversify. Market, Mosque and Mafraj, pp. 49, 67, 70-2, 83-95.

<sup>106</sup> The typical periodic market pattern, especially in highland areas, is for periodic markets at a neutral place that can be reached equally by a number of villages. Rough stalls and a few shops may exist but in general the market area is not a town. Some merchants travel a circuit, getting their wares from a few cities, such as Hodeidah, Sana'a or Taiz. Vertical trading links from large merchant to middle men appear to be the rule, and horizontal links by higglers are rare. Major items include grains, sorghum stalks, wood, rope, dates, cotton, oil seeds, vegetables and leather. Some sell gold, others cookware, clothes or sandals. Qat vendors are always present. See Tutwiler, "Progress Report," pp. 3-7.

<sup>107</sup> The decline of the former Ottoman garrison town and entrapot of Manakha with the completion of the Hodeidah-Sana's road is well described by Gerholm, Market, Mosque and Mafraj, pp. 31-47, where he notes how the road changed distribution channels and serves to drain the town of economic power, initiative and talent. The assault on traditional market systems is described for Mahweet in Richard Tutwiler, "Progress Report: Rural Development Perspectives in North-Central Yemen and Plans for Future Research," (Report Prepared for USAID Yemen, June 22, 1977), pp. 3-7.

throughout the country in general and in urban areas in particular.<sup>108</sup> Prior to 1962 exports and remittances usually balanced imports. However, by the late 1960s the country faced an increasingly negative trade balance, a problem considered in detail shortly. Moreover, the government lacked sufficient tax revenue<sup>109</sup> to support its needs for defense expenditures and increasing levels of government services. In part this may be due to

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<sup>108</sup> Among the few steps taken to deal with this problem are the creation of the Ministry of Supply to promote sufficient quantities of food stuffs at reasonable prices, the National Cereals Company to promote industrialization of cereal production and storage, the Public Institute for Foreign Trade to maintain stocks at levels that combat price fluctuations, the Government Employees Consumption Cooperative to provide basic food stuffs to government officials at cost, and the Permanent Commission for Food and Nutrition to handle the distribution of food aid. Lack of qualified personnel, absence of statistics, port bottlenecks, limited storage capacity, world inflation and inability to reach rural areas hampers these efforts. UNECWA, "Summary," p. 20.

<sup>109</sup> In 1966 the government began to develop a modern tax system. The present system was established in 1972. Revenue is under the Ministry of Finance in general and its Customs, Fiscal, Government Property and Wajibat Departments in particular. All departments suffer from poorly trained staff and lack of coordination in collection efforts. No detailed study of taxation is known to exist. For a recent attempt based on field inquiry see Gable, "Government and Administration," pp. 46-61. It is thought that two-thirds of government revenue is derived from indirect taxation on foreign trade and customs (see Tables 8-10 in Appendix III), with considerable revenue lost to inefficient staff and smuggling. Direct taxation comes largely from the zakat, one of the five pillars of Islam (creed, daily prayer, fasting and pilgrimage). There are at least four types of zakat, each with a standard rate structure but subject to variable collection and local political negotiation. The zakat runs on honesty and self reporting. Often a small collection commission is kept by those whose hands it passes through enroute to the central treasury. Some "tax farming" occurs where collector pays estimate to Finance and keeps what he makes above that levy. Agricultural zakat is variable on irrigation. It appears it is 10% of production on rain fed land and 15% of that on irrigated land. It is paid in cash or kind. If the later is stored at the nahiya level to feed the army or sold under public bid. The amin or aqil watch the harvest and they or other collectors send reports to nahiya and muhafazah levels, but the local shaikh at the wila level keeps 75% of agricultural zakat for local projects. The rest and revenue from the livestock, patron (tax on gold or silver held more than one year--2.5% of value) and head (YR 2.5/person) zakats are channeled to the general fund. A wajibat Department

its inability to tax the rural sector where government support appears particularly based on a reduction of rural taxes.<sup>110</sup> As a result of trade and budget imbalances, Yemen entered the mid-1970s with substantial reliance on foreign aid and loans to acquire capital goods for development, offset trade imbalances and subsidize government expenditures.

Despite this dismal description, the situation is changing and Yemen has the potential for a productive and profitable rural sector. The country contains some of the most fertile land on the Arabian Peninsula and its people are hard working, energetic and entrepreneurial. Moreover, the ruling military coalition has a political and economic philosophy centered on Islam, pragmatism and free enterprise.

Given the situation in Yemen in the early 1970s the policy prescriptions of the new rural development model (described earlier) would seem to be as appropriate as for such countries as Kenya, Bangladesh or Peru. However, the rapid increase in employment opportunities in Saudi Arabia has changed two critical characteristics of the situation in Yemen: capital is relatively more abundant and labor is short supply.

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was recently created to collect the zakat, with revenues in mid-1970s reaching YR 30.7 plus 19.8 thousand tons of produce collected in kind. UNECWA, "Summary" p. 22. Gable reports that amounts of zakat revenue are increasing while percentage of total revenue declining: 1968 (YR 4 m 16%), 1971 (YR 7.2 m 9.8%), 1975 (YR 14.7 m 5%) and 1977 (YR 24 m/3.8%). "Government and Administration," p. 50. See Table 9 in Appendix III. As usual sources vary and definitions are unclear. On tax farming practices and use of in kind zakat in Manakha see Gerholm, Market, Mosque and Mafraj, pp. 40, 70, 92.

<sup>110</sup> Swanson, "Consequences of Emigration," pp. 53-4. Gerholm confirms "zakat paid under the Republic has been only a portion of that paid during the Imamate...the tax reform...a means of gaining the loyalty of a peasantry sorely tried during the regime of the Imam..." Market, Mosque and Mafraj, p. 77.

Changing Context in Yemen

As late as 1975 the characteristics of underdevelopment that summarized Yemen were typical of most LDCs: low levels of per capita income, saving and investment; limited industrial sector contribution to GNP; lack of indigenous capital formation because of low levels of savings; weak tax base; low labor productivity; inability to absorb modern technology because of high illiteracy rates and lack of trained, skilled manpower; and high proportions of youth in the total population.<sup>111</sup> The present five year plan, drafted in late 1975 and early 1976, tries to deal with such problems by focusing on: increasing use of local resources; building roads, ports, utilities and other infrastructure; improving education and manpower training efforts; promoting self-sufficiency in food production; mobilizing domestic savings, increasing government tax revenues; ending regional isolation and market fragmentation; improving government administration services and personnel; organizing a tourist industry; and otherwise raising the living standard for all citizens.<sup>112</sup> The plan is in keeping with the growing view of its time that agriculture could be a major engine for change in that it urges a concentration on food production and integrated rural development.<sup>113</sup> Yet in the last three years many of the structural and behavioral patterns underlying the analysis of these problems and proposed solutions have changed, often in ways not yet understood. The chief force of change is clear: labor emigration and resulting remittances.

Information on the effects of this new economic factor is difficult to come by although some helpful reports exist<sup>114</sup> which indicate that the

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<sup>111</sup> UNECWA, "Summary," p. 14.

<sup>112</sup> Ibid., pp. 27-8.

<sup>113</sup> This is only a tentative observation. Certainly there is much in the plan that promotes the industrial sector. The view is, however, buttressed by the Central Planning Organization's position that the country can overcome its economic problems by promoting self-sufficiency and surplus in agriculture. Serjeant notes Yemen's planners state that agriculture is the country's greatest asset. "Yemen," pp. 421-2.

<sup>114</sup> The analysis which follows is based on our research visits to Yemen in March and December of 1978 and such helpful fugative materials as: Lee Ann Ross, "Yemen Migration-Blessing and Dilemma" (Paper Presented to AID Seminar on Near East Labor Flows, Washington, D.C., 1977); James Keyser, "Trip Report - Yemen" (Internal Memorandum, USAID, Washington, D.C., March 14, 1977); UNECWA "Summary," IMF, "Yemen Arab Republic" and the supportive International Monetary Fund, "Yemen Arab Republic-Staff Report and Proposed Decision for the 1976 Article XIV Consultation" (Internal Memorandum SM/77/67, March 30, 1977).

increased demand for labor in Saudi Arabia has attracted some 600,000 males from Yemen, roughly 40 percent of the labor force.<sup>115</sup> The extent of migration from some areas is reflected in data from the Ibb-Taiz area where emigration from three villages ranged from 48 to 80 percent of adult males.<sup>116</sup> Most are unskilled when they emigrate, but they typically earn wages four times the prevailing levels in Yemen. The 1977 remittances from these workers totaled US\$ 1.5 billion. This inflow of funds has caused annual per capita income to increase from US\$ 80 before the oil boom to present levels of more than US\$ 500.<sup>117</sup> The money supply in Yemen has increased by a factor of more than 12 since 1972,<sup>118</sup> the riyal being a relatively hard currency and the government following liberal exchange and trade policies.<sup>119</sup> Incredibly, more than two-thirds of this money supply is held outside the formal banking system in the form of currency.<sup>120</sup>

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<sup>115</sup> 1975 figures put 400,000 Yemeni migrants in Saudi Arabia with total number of Yemeni living abroad at 0.8--1.2 million. Total domestic employment is estimated at about 1,165,800 workers. See footnotes 55 and 85 and Tables 2 and 3 of Appendix III. Hence, this percentage is only suggestive.

<sup>116</sup> Swanson, "Consequences of Emigration," p. 100.

<sup>117</sup> The rapid increase in these figures is reflected in Serjeant's 1978 report that in 1976 remittances, presumably from all sources was \$US 500 million. "Yemen," p. 423.

<sup>118</sup> Currency in circulation (outside banks) totalled YR 465.5 million at the end of 1973, reaching YR 3,189.3 million in 1977, with 1979 estimates well above YR 4 million. Money supply (currency in circulation plus demand deposits at commercial banks) rose from YR 540.9 million in late 1973 to YR 4,492.3 million in early 1977. Europa, "Yemen Arab Republic," 807-8.

<sup>119</sup> The Central Bank manages gold and foreign currency reserves, holds government accounts and controls currency and credit policies. The Yemen riyal is a solid currency, its value maintained by the Central Bank in a fixed ratio to the U.S. dollar. In July 1977 the rate was \$US 1 = YR 4.33 and a year later the rate was YR 4.526.

<sup>120</sup> Growth in liquidity is occurring primarily in form of currency. In late 1976 the ratio of currency in circulation to money supply was 84%. Part of public preference to hold currency is due to fact that many migrants with remittances go to rural areas where there are no banks. What increases in bank deposits have occurred have come from nonresident sources such as donors or international corporations. IMF, "Yemen Arab Republic," p. 11.

Yemen's change in fortunes is a direct result of the development boom in Saudi Arabia.<sup>121</sup> Yemeni political leaders and policy makers are concerned, however, with how long the current situation will last. Yemen enjoys a special relationship with Saudi Arabia, but workers from other Islamic countries do represent an increasingly important alternative and competitive source of labor. The pace of construction, a key factor in current levels of labor demand, may slacken as Saudi Arabia completes its current phase of development.<sup>122</sup> Finally a change in the world energy supply structure or in relations between Saudi Arabia and Yemen could bring abrupt changes in employment opportunities for Yemenis.

Opinion varies greatly, but the consensus suggests it would be dangerous for Yemen to assume that it can count on its currently extraordinary remittances for more than 20 years. Indeed, the unpredictable politics of the Middle East could cut them off much sooner than most observers predict.<sup>123</sup> Hence, it seems reasonable to suggest that Yemen recognize it is in a grace period, and use its time and resources to build rural institutions and infrastructure in anticipation of the day the migration opportunities decline.

The effects of these sudden changes are visible throughout Yemen, particularly regarding standards of living. Numerous indicators suggest that Yemenis have better nutrition and material conditions than a decade

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<sup>121</sup> See generally: Fred Halliday, "Migration and the Labor Force in the Oil Producing States of the Middle East," Development and Change, VIII (1977):263-91; Ray Vicker, "Expatriate Workers in Middle East Nations Pose Problems for the Economies They Support," Wall Street Journal (January 5, 1979), p. 26; The World Bank is undertaking a yet to be completed study "Labor Migration and Manpower in the Middle East and North Africa" (Ref. No. 671-63).

<sup>122</sup> See generally: Ragaei El Mallakh, et al., Capital Investment in the Middle East: The Use of Surplus Funds for Regional Development (New York: Praeger, 1977); Yusif A. Sayigh, "Problems and Prospects of Development in the Arabian Peninsula," International Journal of Middle East Studies, II (1971), pp. 40-58.

<sup>123</sup> In a recent survey Donald H. McClelland concludes that the peak to emigration may have been reached, the official statistics on worker remittances showing no growth and perhaps a decline for FY 1977/78. Yemeni workers are facing increasing competition from Pakistani and Indian workers who are willing to take lower wages. This has occurred while Yemeni wages have been raising. Moreover, the Saudi government is regulating Yemeni workers more carefully, requiring work permits. Finally, many Yemenis are in small construction industry, a sector negatively affected by the closing of the Saudi Arabian home mortgage bank. "Yemeni Worker Emigration and Remittances" (Report Prepared for USAID, Sana'a, June 7, 1978).

ago.<sup>124</sup> Another significant effect of large scale migration has been the development of labor shortages. These have been most pronounced in the nonagricultural sector, where wage levels increased an average of 50 percent in 1975/76.<sup>125</sup> Labor shortages and wage level increases have forced the government to raise wages for civil servants, take steps to control migration and allow domestic employment of foreigners, promote educational efforts to raise rural and vocational manpower skills, and consider development policies that are less labor intensive.<sup>126</sup> Beyond this, present rates of migration are increasing women's already dominant role in subsistence agriculture, a trend which is little understood yet can have long range effects on Yemeni society. For example, part of the reason for the failure to rebuild highland terraces or the abandonment of remote fields may be the result of overworked rural women lacking the stamina to complete such tasks. Beyond this, migrants should be learning new trade, construction and technical skills which could greatly benefit the country. No studies are yet available on the scope of these skills or how they might best be tapped. Indeed it may be that they learn few or inappropriate skills.<sup>127</sup>

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<sup>124</sup> Not only do official trade and import Statistics in Appendix III support this but visible unobtrusive indicators do as well. Swanson notes "...further evidence of the more affluent life style of the emigrant village and one which is almost as diagnostic as new housing is the nature and quantity of the garbage which accumulates around the village. Bits of cloth, old shoes, fruit and condensed milk tins all witness the higher levels of consumption..." "Consequences of Emigration," p. 107.

<sup>125</sup> Wages in the construction sector increased 80-100 percent during this period. IMF, "Yemen Arab Republic," p. 2.

<sup>126</sup> Ibid., p. 2. Recent policies include banning issuance of passports for employment abroad, relaxing restrictions on employment of foreign labor by contractors and regulating more closely labor recruiters for Saudi employment. Selling passports is a lucrative business and people can in any case slip over the border, hence controlling emigration will not be easy.

<sup>127</sup> Swanson suggests the hypothesis that migrants to the peninsula learn few skills due to low status of jobs while those who go to America learn inappropriate skills. "Consequences of Emigration," p. 101.

Steadily increasing remittances and the rapid rate of liquidity expansion against a narrow domestic production base and difficult supply constraints have led to strong inflationary pressures, rapid price rises and intense land speculation. Conservative estimates place recent annual inflation in the range of 30 percent.<sup>128</sup> Specifically, cost-push inflationary pressures result, from rising wages, port congestion, higher freight costs and general willingness to spend rather than save remittances. Expenditures on imported food stuffs and consumer goods have sky rocketed.<sup>129</sup> On the other hand, revenue collections have risen rapidly despite lack of fiscal reform in land or income tax areas. This is because of the rise in imports, the major source of government taxes,<sup>130</sup> and improvements in tax administration procedures coupled with several new tax measures designed to tap the rising level of economic activity in urban areas.<sup>131</sup> However,

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<sup>128</sup> See Table 15, Appendix III. Official estimates place consumer price increases at 45% in 1973, 25% in 1974, 25% in 1975 and 15% in 1976. Unofficial estimates of annual rate of inflation are as high as 40%. Europa, "Yemen Arab Republic," p. 808. The IMF estimates 1976 inflation rate conservatively at 30% with prices in certain sectors, such as construction, running much higher, and wages in the private sector increasing 50 to 100%. "Staff Report," p. 2.

<sup>129</sup> Typical imported food stuffs include ghee from Japan, dates from Iraq, cheese from Europe and canned fruit or juice from China. Increasingly vehicles, construction equipment, radios, TVs and watches are involved. Imports in 1975 were 7 times higher than those in 1970. Exports of salt, coffee, cotton and hides have decreased due to increased domestic consumption. A Yemeni Institute of Foreign Trade was established in 1976 to obtain food stuffs at favorable prices, since by price they make up over 50% of imports.

<sup>130</sup> The government policy of increasing domestic food production may in the end decrease the fiscal base of the government since customs duties are largely dependent on imported food stuffs. Changing import patterns in the last two years may have altered the extent of this dependence.

<sup>131</sup> Tax revenues are presented in Tables 8-11, Appendix III. A January 24, 1977 decree imposed a 10% tax on sales of residential land and all real estate in urban areas. Land registration procedures have been strengthened to ensure collection of this tax. In part these were designed to stem intense land speculation, the revenue potential still is uncertain. Another decree on January 25, 1977 transferred authority taxes and fees on such items as stamps, passports, drivers licences and identification cards to the Tax Administration. Other efforts have been made to speed up tax litigation cases and improve customs administration in order to limit smuggling. IMF, "Yemen Arab Republic," pp. 6-7; IMF, "Staff Report," pp. 7-8.

government revenue has been unable to support recent rises in expenditures, particularly for defense and expansion of public services. The deficit in the government budget is evidence by Tables 11 and 12 in Appendix III. It is currently met by Saudi Arabia which increases Yemen's dependence on that country. In addition, with the rush of economic activity rising per capita income, inflationary pressure, excessive domestic liquidity and other economic patterns, the government has been forced to develop a package of monetary, credit and fiscal measures to stabilize the rudimentary banking system and the economy.<sup>132</sup> Finally the effects of remittances and rising domestic demand, as well as the increase in world food and fuel prices and the inability of Yemen to mobilize its export performance, greatly widened the country's trade deficit.<sup>133</sup> However, private and official transfers have more than offset this deficit, so that the country's international reserves have steadily increased.<sup>134</sup> Trade and balance of payment data are presented in Table 16-17 of Appendix III. In particular it should be noted that exports, largely from the agricultural sector, covered only two percent of private import payment in 1975/76 and food stuffs were one of the largest import items.

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<sup>132</sup>These have largely taken the form of reducing credit expansion by commercial banks, demanding better information from banks for policy reasons, and requiring liquidation of outstanding loans from banks abroad. See generally, IMF, "Yemen Arab Republic," pp. 11-3. These steps do not appear to have lowered the profitability of banking. The advice of an IMF team in regard to exchange rate policy, demand management policies and financial programs, including budget and tax policy, are set forth in detail in IMF, "Staff Report," pp. 5-10.

<sup>133</sup>For details see: IMF, "Yemen Arab Republic," pp. 14-6. Yemen's trade deficit has increased steadily from RY 539 million in 1973 to YR 1.6 billion in 1975/76, driven by rises in oil and wheat prices as well as remittance driven demand for finished goods, vehicles, machinery and so on. Trading partners have shifted during this period, with Japan, India, China, Australia and Saudi Arabia the chief suppliers.

<sup>134</sup>Net private transfers of YR 2.5 billion and net official transfers (including aid) of YR 513 million in 1975/76 more than offset the YR 1.6 billion trade deficit. In addition, net capital inflow during this period ran YR 352 million. International reserves rose from \$1,253.3 million in early 1978. Europa, "Yemen Arab Republic," pp. 806-8.

These dramatic economic changes are having far reaching effects on structural and behavioral patterns in Yemeni society. These range from new consumption patterns and increased contact with the outside world to the evolution of new channels of social mobility, changing roles of women, altered patterns of land holding and the rise of new institutions at the local level, such as the increasingly active local development associations. Unfortunately for policy makers seeking to devise strategies for rural development, there is little data available on the nature or trend of such changes.

A recent workshop on Yemen noted a number of changes and possible effects.<sup>135</sup> In particular, there appears to be a transition occurring from a largely subsistence economy to one based primarily on money. This is seen largely in the decline in production of traditional subsistence crops such as sorghum and millet. The rapid inflow of cash remittances just described has led to demand for wheat, gat, potatoes and other profitable cash crops. In addition, the value of oxen and cattle has increased. As with labor shortages the extent to which farmers are moving to profitable cash crops or even withdrawing labor from agriculture varies from area to area. Obviously, if wage rates are increasing faster than grain prices and food preferences are turning away from traditional subsistence crops, which appears to be the case, then less fertile and remote farm land where such crops were formerly grown will be withdrawn from production.<sup>136</sup> The combination of declining production of subsistence crops plus emigration has led to higher prices for food stuffs, particularly meat.<sup>137</sup> The effect of declining food production has been quite pronounced

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<sup>135</sup> Observations which follow are tentative and based on impressions of researchers with Yemen experience as of 1976. Tutweiler, Workshop on Yemen, pp. 20-7.

<sup>136</sup> Much research is needed on this issue. Swanson reports in the Ibb-Taiz area agricultural wages increased 300% from 1975 to 1976 while Sorghum increased only 30%, in part due to importation of alternative cereals. "Consequences of Emigration," p. 126.

<sup>137</sup> Swanson notes meat in Ibb-Taiz area villages went from YR 18-20 per kilo in 1974 to YR 18 per pound in 1977. A kilo of lamb going from YR 8-9 in 1974 to YR 30 in 1977. Livestock inputs have greatly increased to meet this demand. Ibid., p. 124.

in areas suitable to qat production.<sup>138</sup> Remittance driven demand for qat raises labor wages in qat fields,<sup>139</sup> draws land and labor out of less profitable food grain production and replaces coffee in some areas.<sup>140</sup> These and other conditions appear to be causing a decline in traditional reciprocal mechanisms for exchanging labor and a movement of some farmers into casual or permanent agricultural labor activities. Alternatively, labor shortages may be benefiting sharecroppers, there being evidence of tenant share increasing from one-third to one-half in labor scarce areas.<sup>141</sup> One report suggests sharecroppers are

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<sup>138</sup> Consolidating points made elsewhere in paper on this important crop: qat has a sophisticated and effective marketing system because it must be consumed fresh each day. The importance of qat in social life is well illustrated by Gerholm's description of the mafraj in Market, Mosque and Mafraj, pp. 176-85. Also see Swanson's description, "Consequences of Emigration," pp. 63-7, where he notes individuals spend YR2 to YR60 per day (1974/75 prices); and qat production bring returns 5 times that. Little is known about qat's chemical properties though John Kennedy of UCLA completed an extensive medical study recently. It is not known what the demand level for qat is or whether supply is greater than demand. In the mid-1970s it was estimated to occupy 2% of cultivated area. Serjeant, "Yemen," p. 422. Nyrop estimates in 1976 qat was grown on 106,000 acres by 170,000 farmers with an output value of YR450, or 20% of total value of country's agricultural output with an average return per farmer of \$US 550. The Yemens, p. 180. By 1978 the production of this easy to grow, extremely profitable crop was clearly increasing, driven by remittance led luxury consumption. Apparently the government tried to discourage qat production with a 30% tax on sales being imposed in July 1975, Ibid., p. 191. However, given the important role of the mafraj in maintaining the social order of rural, small-town Yemen, as demonstrated by Gerholm, and the central role of qat to that daily ceremony, effective control may be quite risky. Market, Mosque and Mafraj, pp. 186-91.

<sup>139</sup> Ron Hart noted a qat laborer received YR25 per day in 1976 and a millet field worker YR8. Swanson commented that in Taiz area labor shortages led to abandonment of remoter fields on higher, less watered hill areas. "Consequences of Emigration," p. 22.

<sup>140</sup> Coffee demands more labor and care than qat and has a much longer growing period before yields. Qat is harvested gradually and does not demand large labor force. Gerholm notes that big men emerge from coffee rather than qat trade, that coffee is an aristocratic crop and qat a democratic one. Market, Mosque and Mafraj, p. 55.

<sup>141</sup> Swanson reports this in Ibb-Taiz area where in 1960s sharecropper's net return was 28% and now it is 45%. "Consequences of Emigration," p. 120.

demanding and getting access to more productive land as well.<sup>142</sup> Since so little is known about land tenure in Yemen it is difficult to estimate the effects of the country's economic conditions on land prices or consolidation patterns. It is known that land prices in urban and rural areas are rising dramatically.<sup>143</sup> One of the few studies suggests that rural land prices have risen because returning migrants wish to keep their land and if pressed financially can go abroad to work rather than sell it. This position plus the lack of investment opportunities in rural areas helps drive up the price of land.<sup>144</sup> Much work needs to be done in studying the effects of new economic conditions on land patterns and investment. Few observations are available on the effects of market penetration on labor allocation, division of labor in the household, rural-urban trading systems, wage and capital incentives or local social patterns. This is particularly the case with women.<sup>145</sup> It is thought that labor shortages and market opportunities are pulling more of them into farming activities with unknown effects on their roles in farm or household decision making, child raising, household work, handicraft production on farm maintenance. While some studies note

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<sup>142</sup>Ibid.

<sup>143</sup>Swanson reports good land in the Ibb-Taiz area in the early 1960s sold for YR100-200 per shakla or gasaba (unit 18.5 feet per side) and YR1,000 in 1974. One farmer sold 30 shakla in 1976 for YR75,000. He describes spectacular increases in urban land. For example, an investment of YR700 for one shakla of land at the edge of Taiz in 1974 was worth YR8000 in 1977, or one of YR1600 per shakla in Taiz was worth YR20,000 in 1977. "Consequences of Emigration," pp. 113, 130-1.

<sup>144</sup>Swanson found a strong desire to translate new wealth into the established symbol of land ownership. In his three villages land circulated less freely than before. Increased access to money led to difficult litigation problems when land was sold since tenures are often encumbered by rules which affect rights. In past lack of capital precluded exercise of such right, but this is not the case today. "Consequences of Emigration," pp. 112-16.

<sup>145</sup>For an extremely detailed survey of the status of women, the structure and organization of the rural household and work roles of women see Cynthia Myntii, "Women in Rural Yemen" (Paper Prepared for USAID, Sana'a, November 8, 1978). Another useful survey is Sheila and Sharon Hart, "The Sexual Division of Labor and Prospects for Integrated Rural Development: Report on Women's Economic Activities in Mahweit, Tawila and Jihana Regions" (Report Prepared for USAID, Community Development Foundation, Confederation of Yemeni Development Associations, June 1, 1977). See Carla Makhoulouf, Changing Veils: Women and Modernization in North Yemen (forthcoming, Aldine).

through economic logic that more women will move into agriculture, one study makes a strong argument that men have never participated in subsistence agriculture in a significant way, so that emigration hardly affects that sector of production.<sup>146</sup> It may even be that returned migrants are in fact avoiding former agricultural work thus contributing to what appears to be over investment in taxis, trucks and marginally profitable retail shops. If so, then some creative approaches to reaching the female farmer will need to be developed, for strong cultural forces greatly limit their capacity to operate in commercial markets for the purchase of inputs, hiring of labor or sale of produce.<sup>147</sup>

In recent years a very interesting system of local or village level development associations has appeared.<sup>148</sup> To some extent they result from

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<sup>146</sup> Myntii argues women have always played a critical role in subsistence agriculture. She argues they have dominant role in grain production, though men plow and thresh. Men do dominate cash crops, such as qat, coffee and grapes, however. Since men in cash crops are less likely to migrate, she argues there is less of a farm labor vacuum for women to fill. She notes women can and do plow. "Women in Rural Yemen," pp. 26-8, 37-43. Carapico and Hart tend to support this view while noting women are moving into more plowing activities. They find women play a major role in poverty and livestock rearing, water hauling, fodder and fuel gathering, craft manufacturing and marketing. They spend much time collecting green fodder and wrapping it in sorghum stalks for live stock. Agriculture would have declined greater than has been the case since the massive Saudi migrations had women not moved into the heaviest agricultural chores, including plowing. They found men and women proud that women have undertaken more plowing, planting and weeding chores. Apparently some women work as agricultural laborers at 3/4s men's wages. The major choice of women for LDA activities is water systems but their needs are not well understood by men. "Sexual Division of Labor," pp. 1-10.

<sup>147</sup> While women are not in control of means of production it does appear their ideas are taken into account. Some believe they are respected for their knowledge and managerial capacity while Carapico and Hart note that men do not understand women's activities and communications between the two sexes is minimal. If males in family migrate, wife will need a male relative to handle contacts with commercial sector. Male extension agents may not be able to reach them. Projects that seek to bring women into cash market (eg. poultry projects) may not work. Carapico and Hart recommend that more mobile women (usually divorced or widowed) be trained in poultry, husbandary, vegetable, cereal and health or nutrition skills and used to reach other women, primarily through existing female communications channels which they find to be quite workable. They also see a need for mother-child care clinics and efforts to help female craftsmen organize for supplies and sales. Ibid.

<sup>148</sup> Local Development Associations were created in 1963. Since 1968 they have been coordinated by the Department of Social Affairs and Labor and in 1973 the supportive Confederation of Yemeni Development Associations (CYDA) was formed. At present there are 143 LDAs in 10 governorates. Each LDA is

the decentralized propensity of Islam to allow grassroots community participation. Moreover, they may be essential to rural development given the limited government capacity to reach or serve the rural areas. Little is yet known about the political setting in which LDAs operate or the variables which affect their success.<sup>149</sup> They are supported primarily by their local constituencies and undertake in some areas significant development projects such as building roads or jeepable trails, constructing water systems, digging wells or cisterns, or building schools and clinics.<sup>150</sup> Some LDAs have drafted three-year plans at the request of CYDA and the central government. Finances for LDA activities come from the local zakat, voluntary contributions

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governed by a general committee of elected representatives. This ranges in size from 50 to 100 people depending on the population size. They elect a 7 to 9 member administrative committee, the head of which also serves at the governorate level on the LDA coordinating council. It elects officers for three-year terms. In addition, the local administrative committee heads attend an annual national assembly where officers are elected as well. Each governor is the honorary head of the coordinating council and the president of Yemen heads the national assembly. High turnover in committee membership appears to hamper some LDAs' developmental capacity.

<sup>149</sup>The relationship between LDA activities, land tenure patterns, local political conditions and other variables will be the focus of the Cornell study described in the preface of this paper. Evidence exists that LDAs can overcome opposition of powerful sheikhs and that corruption can be minimized. For a detailed case study of LDAs see: Green, Local Initiative in Yemen, passim and Richard Tutwiler, "Ta' awon Mahweet: The Social History of a Local Development Association in Highland Yemen" (Paper Presented to Conference on Strategies of Local Development in the Middle East, University of Maryland, September 1978). Tutwiler's study is more reliable and detailed, though care should be taken not to reify his LDA to a model for most LDAs.

<sup>150</sup>CYDA regulations authorize a broad range of activities: construction of feeder roads, development of handicrafts, establishment of centers for aged, disabled, youth or mothers with children, promotion of adult education, provision of schools, teachers or educational materials, formulation of agricultural cooperatives, building of wells, dykes or other water systems, work with reforestation and construction of health clinics.

and central government or donor sources, as illustrated by Figure 8 of Appendix II.<sup>151</sup> Generally the LDAs cover much of the cost of projects. Differences in the value of crops affect the zakat and lead to different funding capabilities. Whether they have sufficient funds or not they have trouble obtaining the technical advice necessary to successful use of the material resources raised.<sup>152</sup> Moreover, officials of LDAs often lack the administrative skill to oversee projects, and high turnover among elected members and the difficulties of completing projects can lead to demoralized local leadership. There is also the constant battle to maintain the LDAs identity and separation from the local authority structure. Politics also threaten LDA performance. The selection of specific projects and procedures for project approval allows substantial room for political manipulation<sup>153</sup> and there is some speculation that LDAs are town oriented, for few

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<sup>151</sup> Funding sources are unclear. It appears LDAs receive 75% of the zakit (agricultural only or all four, footnote 109, is unclear) in their area (up from 50% share), 25% of municipalities income, poll tax of one riyal from those who vote in LDA elections, one % of transportation and cinema tickets, 5 riyals from travelers who go abroad and one riyal from those traveling domestically. Self-help finds also come from local contributions. When land, equipment or skilled craftsmanship is contributed it may be deducted from the donor's zakat. Others contribute manual labor. Some local funds come from international donors or the central government. Sheikhs usually oversee the annual budget, which in 1977 may have averaged YR100,000 per LDA. Corruption appears to be low. This limited financial picture was supplied in a personal communication by Shelia Carapico. See Gable "Government and Administration," pp. 83-5.

<sup>152</sup> CYDA receives independent financial support from a 2% share of customs duties. LDAs pay CYDA annual membership fees of YR400 for governorate level, YR150 for gada level and YR75 for nahyah level LDAs. These may have been raised to YR1400, YR800, and YR400. There is said to be a formula for local-central shares of project expense (eg. if road less than 20 km then all local funds, if 20 to 30 km then 25% from center, if more than 30 km then 75% from center, etc.). Still, Gable concludes LDAs bear disproportionate share (based on review of Hodeidah governorate records where government provided only 30% of road costs and 0% of school, health clinic and water system project costs; note the government may have provided technical assistance). Ibid., pp. 85-6.

<sup>153</sup> Project selection can provide issues on which local power factions can test their strength. Tutwiler provides an excellent case study of such politics, "Ta'awon Mahweet," passim. Moreover, site selection and approval procedures allow potential for certain areas to be favored and others to be neglected. According to Gable, "Government and Administration," pp. 17, 81-2, the approval process, for example, is: (1) LDA decides it wants a school; (2) CYDA is notified as well as the governorate and Ministry of Education; (3) CYDA reviews the project according to its policies and priorities while

appear to be involved in agricultural related activities.<sup>154</sup> Increasingly this function is performed by a new organization, The Agricultural Society. Little is known about them, but they appear to have the capacity to sell seed-fertilizer inputs at low cost to members and to purchase collectively bulldozers for road work, dyke maintenance or land leveling.<sup>155</sup> For example, The Agricultural Cooperative Society of Al-Lawiah in the Tihama has in two years initiated a share capital enterprise that supplies agricultural inputs to the community, owns a gas station, owns and rents a bulldozer for land reclamation, and markets substantial quantities of okra in Saudi Arabia.<sup>156</sup> In this regard, it is essential to note that given the trends described above, the government might serve the agricultural sector well if it helped identify potentially profitable cash crop markets in the Arabian Peninsula and mobilized farmers to serve them.

Despite the lack of knowledge on the causes or effects of Yemen's new capital surplus, labor short economy on the rural sector, it seems clear that a long term rural strategy needs to be worked out soon. At present there appears to be no long term alternative to building Yemen's economy on the country's rural sector. While some promising drilling took place near Hoëidah during 1978 the country probably lacks the oil or gas reserves to allow it to follow the petro dollar models of its neighbors on the Saudi Arabian Peninsula. Industry might be one possible strategy<sup>157</sup> but little is known about how to initiate industrial development in a society

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other parties review plan and resources; (4) CYDA authorizes project to proceed or refers it to Committee for Economic Development and it may seek donor support; (5) Ministry may send technician to assist or oversee implementation; (6) bids for contractors may be let or CYDA might do the project itself.

<sup>154</sup>Gerholm argues the Manakha LDA is dominated by alliance of tribal and commercial elites, is the tool of the men at the top and allocates no money for activities outside the town. Market, Mosque and Mafraj, pp. 99, 190.

<sup>155</sup>Usually members buy shares for YR25 each with minimum investments of 4 to 6 shares per member. The private funds mobilized are then used to buy capital equipment such as a truck or bulldozer which might be rented to a shareholder at low cost or used to haul agricultural inputs or products.

<sup>156</sup>David Gow, "Narrative Case Study of the Agricultural Cooperative Society of Al-Lawiah, Yemen" (Preliminary Report, Development Alternatives Inc., Washington, D.C., 1978).

<sup>157</sup>The Central Planning Organization has argued that light industries should be introduced and traditional handicrafts which are threatened by cheap imported goods should be promoted. Serjeant, "Yemen," p. 422.

very short of physical infrastructure and institutions or how to formulate the kinds of protectionism needed for its achievement. Finally, while Yemen may be a sleeping giant of Middle East tourism political instability and the lack of adequate accommodations will keep this sector from earning significant sums of hard western currency.<sup>158</sup> Hence the issue of rural development models becomes critical to the country's long range future.<sup>159</sup>

#### Yemen: A Challenge to the Paradigm?

The theoretical guidelines proven useful in other poor, rural based countries are not particularly helpful in the Yemen context. There are two main elements to this problem. First, although the country has favorable agricultural conditions, potentially productive small scale farms and no progressive rural structure, the capital surplus/labor shortage situation appears to fall outside the accepted assumptions of the paradigm. Second, some of the functional relationships implied by the strategy do not seem to be borne out by the experience of Yemen over the last few years.

Assumptions. The model of Johnston, Mellor and others generally assumes that rural families have low incomes, and that rural poverty is a major problem. The rural population in Yemen, while not necessarily affluent does not fit the assumption very well. As noted earlier, there has been a dramatic increase in per capita income over the last few years, manifested by new construction and vehicles everywhere. In contrast with many developing countries this increase in gross national income has been rather equitably distributed among the population. Coming primarily from the export of labor in the form of earnings of individual emigrants, the incomes do not appear to have been concentrated in the hands of owners of capital or land. The typical pattern seems to be for a family to release one 15-30 year old son to go to Saudi Arabia.<sup>160</sup> Usually he works there for two to four years sending home remittances regularly. The majority of migrants are married and often arrive in Saudi Arabia without jobs. They are spread widely over the kingdom and try to live cheaply, sharing rooms with countrymen and doing their own cooking. Most return with appliances, consumer goods and bundles of cash. Some return

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<sup>158</sup> The central government has established a National Tourist Corporation, trained some tourist police abroad and created tax exemptions and grants to new hotels in order to stimulate tourism. Unrealistically it claims 16 first-class hotels in Sana'a (809 beds) and 8 second-class hotels (536 beds) in Sana'a, Taiz and Hodeidah. UNECWA, "Summary," p. 26.

<sup>159</sup> Other countries face such questions, see: M.A. Katouzian, "Oil Versus Agriculture: A Case of Dual Resource Depletion in Iran," Journal of Peasant Studies, V, 3 (1978), pp. 347-69.

<sup>160</sup> Based on profile in McClelland, "Yemeni Worker Emigration," Annex A, pp. 1-2.

after six months and others stay leaving other male relatives to migrate.<sup>161</sup>

The effect of this migration pattern and the associated remittances has been to place resources in the hands of a widely spread rural population. The government does not tax these remittances, and so has very limited funds of its own. In contrast with other developing countries, the rural population is the principal holder of the liquid financial resources needed for development. With more than two-thirds of the money supply being privately held outside of the formal financial system of the country, the government has relatively little direct control over its allocation and expenditure. This puts the government in a substantially different position from its counterparts in other developing countries where the discretionary financial resources are concentrated in the hands of the administration.

Another discrepancy between the assumptions of the general model and the situation in Yemen is that the rural labor force does have an opportunity for obtaining high paying employment. Heavy emigration to Saudi has raised wages in the Ibb-Taiz area from YR8 to YR30 per day, and in Hodeidah the daily rate for common laborers has gone from YR5 to YR60.<sup>162</sup> Wages of skilled workers have also greatly increased, a stone mason's wage rising from YR30 per day in 1975 to YR250-300 in 1977.<sup>163</sup> To some extent this is due to the lack of investment opportunities in rural and urban areas so that investment in construction of houses or buildings creates artificial wage levels for certain labor. Limited data suggest there is relatively low unemployment in rural areas for reasons other than "self-absorptive" ability of

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<sup>161</sup> Much needs to be learned about emigration patterns. Periods are thought to range 6 months to two years. Historically, most Yemeni who left were tradesmen but the Saudi Arabia migrations seem to attract large numbers of the poor and unskilled. Limited expectations for land inheritance may be a major cause of immigration. Some may go to gain independence from their family or to achieve financial targets for determined future investments. Rain fed areas may contribute more to the migrant stream, particularly in low rain fall years. Swanson notes that despite "terrible living conditions, the absence of labor unions (they are illegal), and widespread prejudice and open discrimination in the receiving countries, the wages paid are high enough to attract Yemeni workers by the tens of thousands." "Consequences of Emigration," p. 89. For details of the agent and payment patterns see Ibid., pp. 91-4. For an overview of emigration and financial effects see McClelland, "Yemeni Worker Emigration," pp. 1-7. Two specific studies of migrant families and remittance transfers are found in Myntii "Women in Rural Yemen," pp. 19-21.

<sup>162</sup> IBRD, "Agricultural Sector Memorandum," p. 28, showed YR5 to YR25 increase. Swanson notes increase to YR60 for common laborers. "Consequences of Emigration," p. 130.

<sup>163</sup> Ibid.

rural economies. This phenomenon varies from one region to another depending on the degree of emigration, but it is sufficiently widespread that individuals rarely have to accept unemployment involuntarily.<sup>164</sup> Higher farm labor rates have had a particularly negative effect in cotton areas where third round picking has been abandoned in many fields.<sup>165</sup> Despite mechanization increases the wage effects are likely to continue since the informal network for sending laborers to Saudi Arabia and placing them in employment there is well established and apparently very effective. One Yemen expert predicts that migration will lead to a 25-50 percent decline in the rural population within little more than a decade.<sup>166</sup> An expert on emigration notes, however, that population growth will more than offset the migration of workers and their increasing tendency to take their families with them.<sup>167</sup> Better health care, nutrition, value of children for migration and cultural patterns of kinship as social security for the aged guarantees this. Still, another expert on women argues that the migration, separation of spouses and attitudinal changes about family planning will lead to a declining birthrate.<sup>168</sup> Whatever the outcome of the population debate, labor shortages will no doubt continue and this condition lies at the heart of a curious paradox. Specifically, while there appears to be a growing demand for wheat, vegetable oils and animal products, there also appears to be minimal pressure on agricultural land. The Tihama region is under-utilized, big sections lying vacant. In other areas, agricultural land is going out of use as rural people redirect their labor toward employment in Saudi Arabia. It should be noted that the lands falling into disuse tend to be of marginal quality. They often, however, represent a substantial past investment of capital in that they are typically terraced fields, and

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<sup>164</sup>In 1976 it was noted that no labor shortages were reported in Wadi Mawr but that shortages in the southern uplands led to productive land being left fallow. Tutweiler, Workshop on Yemen, p. 30.

<sup>165</sup>Other effects include a decline in sheep herding in villages because of the labor intensity involved, with a loss of wool and meat for villagers. Swanson "Economic Consequences," p. 57.

<sup>166</sup>Dr. Al-Iriani of the Central Planning Organization, Ibid.

<sup>167</sup>Swanson, "Consequences of Emigration," pp. 146-7.

<sup>168</sup>Myntti, "Women in Rural Yemen," p. 44. While she forecasts a "slight statistical lessening of the fertility rate" she notes elsewhere that while women know of family planning devices, they are preoccupied with fertility "because if they do not produce enough children they may be divorced or their husbands may marry a second wife." Ibid., p. 22.

when neglected for several years the supporting walls often deteriorate to the point that the terraces collapse and the top soil is eroded.<sup>169</sup> Another perhaps even more significant indicator of the decreasing pressure on agriculture land is the shift of its use from essential food crops into luxury crops, especially qat, for as noted earlier,<sup>170</sup> with growing per capita income, people can now afford to import more food, grow less at home and use the land to grow qat--an element important to the culture, but not to nutrition.

As a result of the substantial remittances from abroad, the domestic economy enjoys an abundance of foreign exchange. Unlike the situation encountered in many developing countries, Yemen has a vigorous system of local commercial activity. It is virtually unconstrained by either high duties on imports or shortage of foreign exchange. Residents of local towns are served by stores featuring the latest in imported Japanese stereo tape cassette players and cameras. They can also buy four wheel drive tractors from France and canned food from Eastern Europe. It should be noted that the network is primarily commercial in nature, and relatively undeveloped in terms of being able to service the products it sells or in helping the consumer select equipment appropriate to his needs. This is particularly true in the area of agriculture machinery. There has been a rapid advance in tractor use in recent years financed by remittances and loans.<sup>171</sup> Establishments selling tractors, for example, are often not in a position to advise customers on the appropriate selection of implements to be used with the tractor, nor are they organized to supply spare parts on a regular basis. Opportunities for tractors and other mechanized equipment may be limited to only a few level areas or hill sides with broad terraces. There is some evidence to suggest specialization in ox plowing services. If those renting services are making a profit they are less likely to migrate, so the bottleneck may not be as great as it now appears. Careful work needs to be done on the potential for mechanization and its long range effects on the country's possible artificial labor constraints. Interestingly, for reasons not yet understood, the use of commercial fertilizer is not expanding with rising per capita income as has been the case in other developing countries.

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<sup>169</sup>This is occurring at present on more remote, marginal terraced lands. As retaining walls collapse the cost of labor, which led to the lack of care that initiated collapse, becomes too high to repair them. This leads to erosion. What is needed are programs to plant tree crops or other useful plants so that these areas are given permanent protective covers. It is doubtful under present labor conditions the increased mechanization would release labor to repair terrace walls.

<sup>170</sup>See footnote 138.

<sup>171</sup>Official 1975/76 figures show 417 tractors but nearly 2000 were imported in 1976/77. IBRD, "Agricultural Sector Memorandum," p. 28. Swanson estimates tractor and driver rent at \$4.50 per hour with gasoline at 90 cents per gallon, perhaps an unattractive rate for most farmers. "Consequences of Emigration," p. 117. (Rates for mid 1970s.)

The high cash liquidity, rising inflation and rapid increase in urban land prices may be largely due to the lack of investment opportunities for returned migrants. After careful study of emigration in three villages near Ibb, Swanson concludes that there is a clear intention in the minds of migrants to translate hard earned remittances into productive wealth, but a dearth of investment opportunities makes this hard to achieve.<sup>172</sup> Ecological factors and diversity limit investment in agricultural machinery to replace labor lost to migration so wages go up. lands drop out of use and production declines. It has been estimated that construction, particularly small shops, and taxi, bus or truck transport account for three quarters of private small-scale investment. Among the few attractive rural based investments are private electricity generating systems, refrigeration services, packaged drinking water, bulldozers, and lime or stone mines.<sup>173</sup> Overinvestment is a constant threat, a situation illustrated by grain mills<sup>174</sup> and transport where excessive competition narrows profit margins.<sup>175</sup> Investment opportunities are equally hard to find in cities.<sup>176</sup>

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<sup>172</sup>The analysis here is drawn from Swanson, "Consequences of Emigration," pp. 140-7, conclusions which illustrate how valuable and needed research on rural Yemen is. Alternatively Tutwiler implies the problem in North-Central Yemen is one of lack of capital in an environment of numerous investment opportunities, "Progress Report," p. 7. Careful research needs to be given to this point. Perhaps the difference is due to Tutwiler's study being more recent.

<sup>173</sup>Islamic law precludes investment in private flowing water systems. Vehicles are a risky investment because of high accident rates. Donors could provide substantial assistance through a small business project that helps those with capital identify and successfully establish rural investment opportunities.

<sup>174</sup>Swanson reports that when the first power grinding mills were introduced in the Ibb-Taiz area they were profitable and popular. However, lack of alternative investments led to the emergence of too many mill operations, driving profits down to marginal levels. "Consequences of Emigration," p. 116. Gerholm notes the same over investment in Manakha, Market, Mosque and Mafraj, p. 69.

<sup>175</sup>Gerholm describes a number of reasons for this, Ibid., pp. 70-2.

<sup>176</sup>Major investments are in construction of a building with a shop on the first floor, retail trade, labor emigration agency work or transport. Retail trade investments suffer from low profits due to competition and fragmented markets. Agency investments are risky due to competition from long established firms. See Swanson, "Consequences of Emigration," pp. 131-6. Some investment is in gold and better dowery according to Myntii, "Women in Rural Yemen," pp. 43-4. Indeed, the government has had to set limits on the money transferred by bride wealth.

Yemni migrants are willing to face risk, but the opportunities are not present, thereby suggesting the need for government to promote local industrialization and limit emigration until investment alternatives increase. The alternative is the loss of critical capital through inflation and transfers to international corporations selling consumer goods. But as Swanson notes, such a policy would be politically unpopular and difficult for the current indecisive and unstable government to implement. Ironically, the key to stemming emigration may be the use of capital, technology and organization to build a rural small farm based prosperity.

As information emerges on the rural sector of Yemen, it becomes increasingly clear that the country has the land resources for a productive agricultural base. More importantly, it becomes obvious that the local community has shrewd, intelligent leaders, progressive community members, hard working people and a general instinct for profitable rural development activities. Given these opportunities and the constraints described, the major question is what kinds of policies the government should follow to capitalize on this potential? Answering this question raises difficult theoretical issues.

Functional Relationships. In effect, it appears that the remittances from abroad are a temporary but functional substitute for the increased income of Johnston and Mellor's highly productive small-scale farmers. Small towns are thriving commercially and a large percentage of the population has resources to spend on capital and consumer goods. The rural development strategy, however, is largely dependent on the viability of the small farm--the capacity of the small farmer to support himself through his efforts on his own land. Given the current price structure for imported food, the farmer in Yemen has difficulty competing.

The government would like to stimulate the development of institutions and infrastructure to support development of the rural sector, but with the exception of requests for roads and water systems and occasionally a school or clinic, there is relatively little spontaneous demand. With the purchasing power that exists in the rural sector there has been relatively little interest, for example, in agriculture credit. And, the government has done little to mobilize rural savings. Similarly there seems to be relatively little elasticity in the demand for traditional crops such as sorghum and millet. Families customarily produce only for their own needs, and government efforts to increase the output of these cereals have been only marginally effective.

The central tenet of the rural development paradigm tested here is the importance of increasing the income of the small farmer. In Yemen a significant proportion of the rural population already has substantially more money than it has ever had before. The rural commercial and manufacturing systems, however, do not seem to be serving the needs of a progressive rural structure. There does not appear to be a growing demand for locally produced agriculture implements, and there does not appear to be a supply of these implements which might stimulate a demand. However, as noted elsewhere, this may be because investment of remittances for mechanization is not attractive because of rugged ecological conditions or because little profit can be made. Still, a very sophisticated and effective marketing system has emerged for qat, and it demonstrates a capability for efficient economic response. Despite attractive

price differentials this type of response has not been widely duplicated, however, for other agricultural commodities.<sup>177</sup> In part this situation results from local inefficiencies, extremely high transportation costs, difficult road conditions and absence of storage facilities, increasing consumer preferences for western goods, seasonal fluctuation in price and demand, and government policies which favor urban consumers by allowing duty free import of most food stuffs. As a result western apples, oranges and bananas easily compete with local products in Yemen's cities. Still, a box of tomatoes, which sells for 10 riyals at the farm gate, can sell for 55 in a city less than two hours away,<sup>178</sup> and frozen, dressed chickens imported from Europe sell for \$US 2 per pound, cheaper than local birds.<sup>179</sup> In sum, one is left with a concern that although rural development is badly needed in Yemen the contemporary model may not be very helpful in offering effective policies or strategies.<sup>180</sup> Many of the concerns of the model are already being addressed--

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<sup>177</sup> As noted earlier, there has been some price response in wheat, maize, vegetables, potatoes and fruits. See Tables 14 and 15, Appendix III. However, these increases hardly reflect the potential.

<sup>178</sup> Tomatoes illustrate other problems. Shelia Carapico reports in a personal communication that during peak harvest the price of tomatoes can drop to very low prices, even lower than the cost for a laborer to sell them. Presumably this is because marketing takes place in thin corridors between major cities and there are no canning facilities. However, some Tihama communities have considered processing plants but decided there was not enough production to make the venture profitable.

<sup>179</sup> Imports are competitive despite two costly routes. Ports at Hodeidah and Mocha have limited capacity to load and numerous ships are usually found waiting long periods to unload. International firms are presently improving channel, dock and warehouse facilities and there are plans to turn the old port of Salif into the largest in the country. Improvements in air service with the formation of Yemen Airways and construction of better airport facilities at Sana'a and other major cities further opens this more costly import route. Should these port and air terminal improvements lower import costs, without reductions in local transport or production costs, Yemeni products may become even less competitive with imports.

<sup>180</sup> Nor, it must be added, do economists who study emigration and development come to grips with the Yemen situation. See, for example, Stanley Friedlander, Labor, Migration and Economic Growth (Cambridge: Massachusetts Institute of Technology, 1965); S. Castles and G. Kosack, Immigrant Workers and Class Structure in Western Europe (London: Oxford University Press, 1973); Suzanne Paine, Exporting Workers: The Turkish Case (London: Cambridge University Press, 1974); M.P. Miracle and S.S. Berry, "Migrant Labor and Economic Development," Oxford Economic Papers, XXII, 1 (1970), pp. 86-108; W.R. Bohning, Basic Aspects of Migration from Poor to Rich Countries: Facts, Problems, Policies (Geneva: International Labor Organization, WP 6, 1976); Keith Griffin, "On the Emigration of the Peasantry," World Development, IV, 5 (1976), pp. 353-61; and Saskia Sassen-Koob, "The International Circulation of Resources and Development: The Case of Migrant Labour," Development and Change, IX, 4 (1978), pp. 509-45.

people have a substantial increase in income, yet the private sector elements of a progressive rural structure which should be emerging have not begun to materialize. Increases in income have not been matched by progress in promoting a capital resource base in agriculture or industry. The country appears less economically self-sufficient and the government unable to respond with needed policies. In this regard, a fundamental question is how can the basic small-farm strategy be modified to create a modernizing agriculture that will be viable when migration and high remittance levels are no longer possible and the economy has to rest on its potentially productive agrarian sector?

APPENDIX I

Maps of Yemen Arab Republic

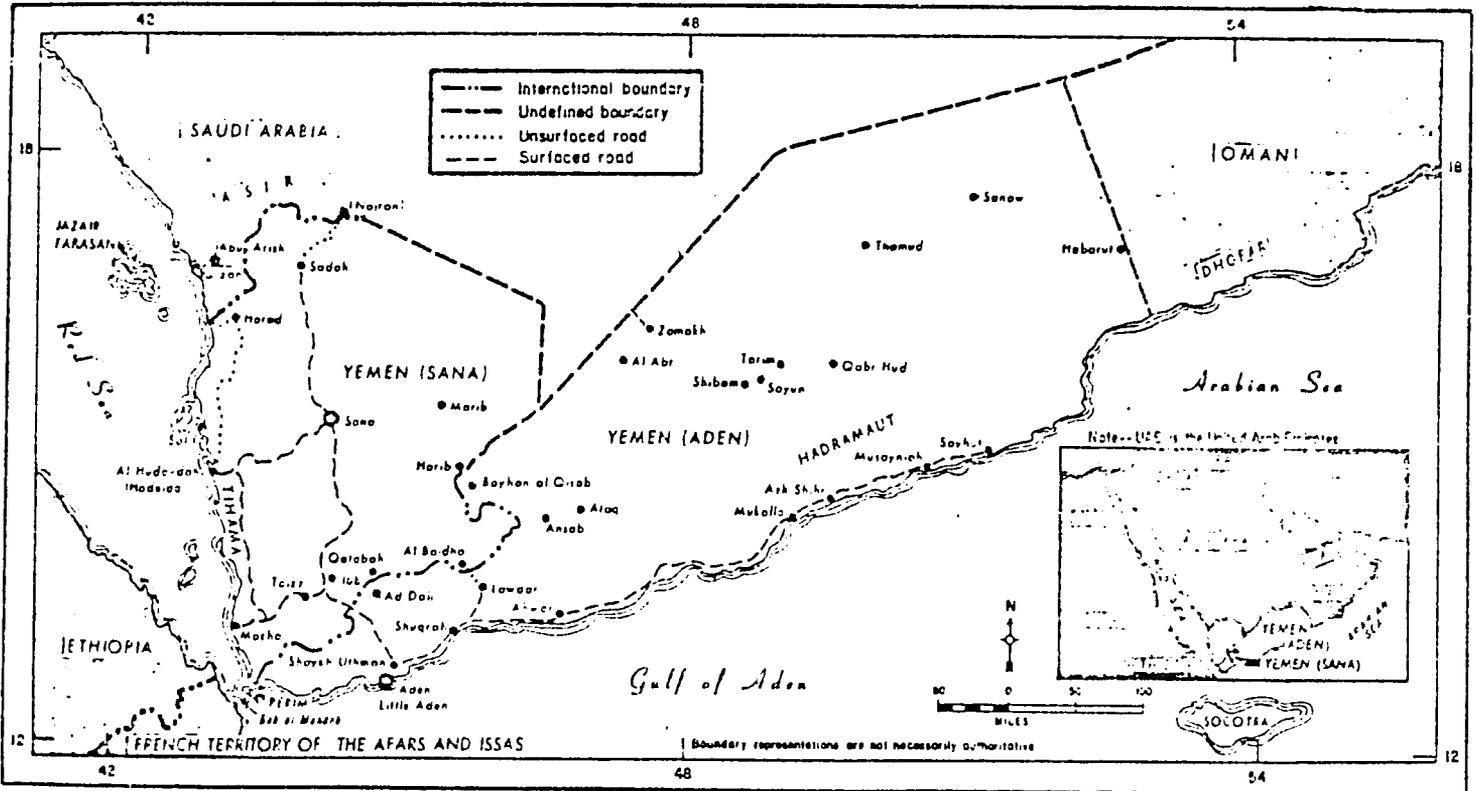


Figure 1: The Yemens 1976

Source: Richard F. Nyrop, et al. Area Handbook for the Yemen. (Washington, D.C.: U.S. Government Printing Office, 1976), p. xii.

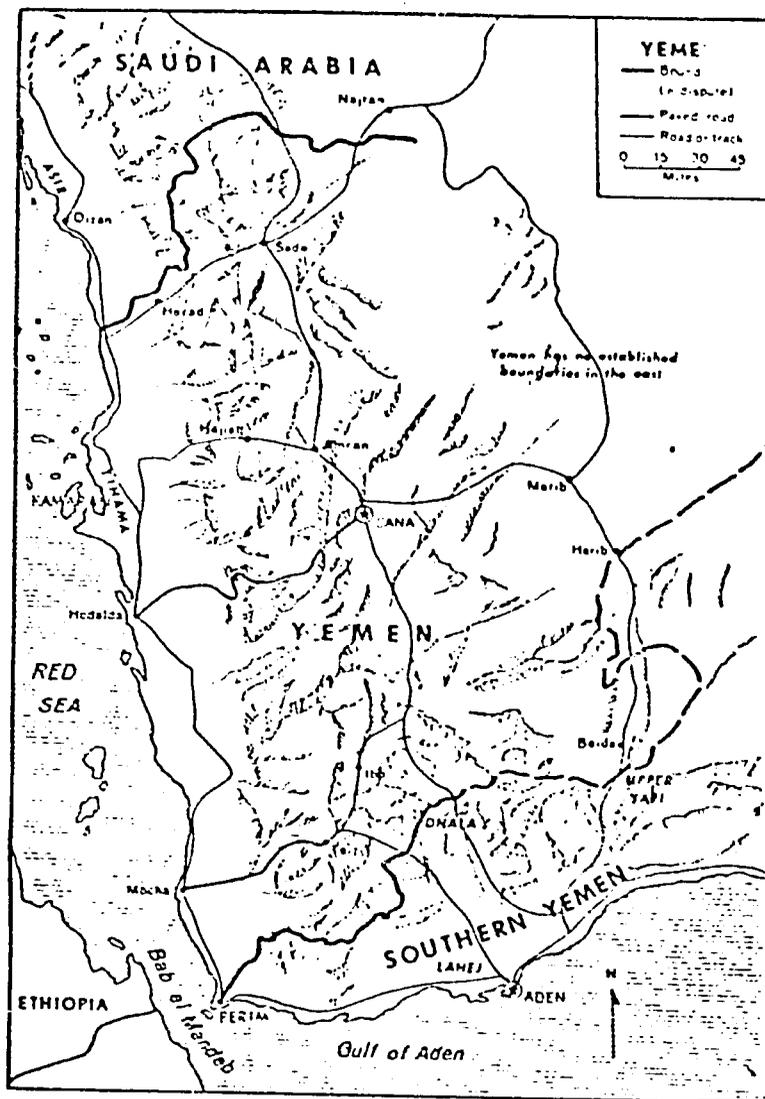


Figure 2: Topography of Yemen

Source: Stanford Research Institute, Area Handbook for the Peripheral States of the Arabian Peninsula (Washington, D.C.: U.S. Government Printing Office, 1970), p.37.

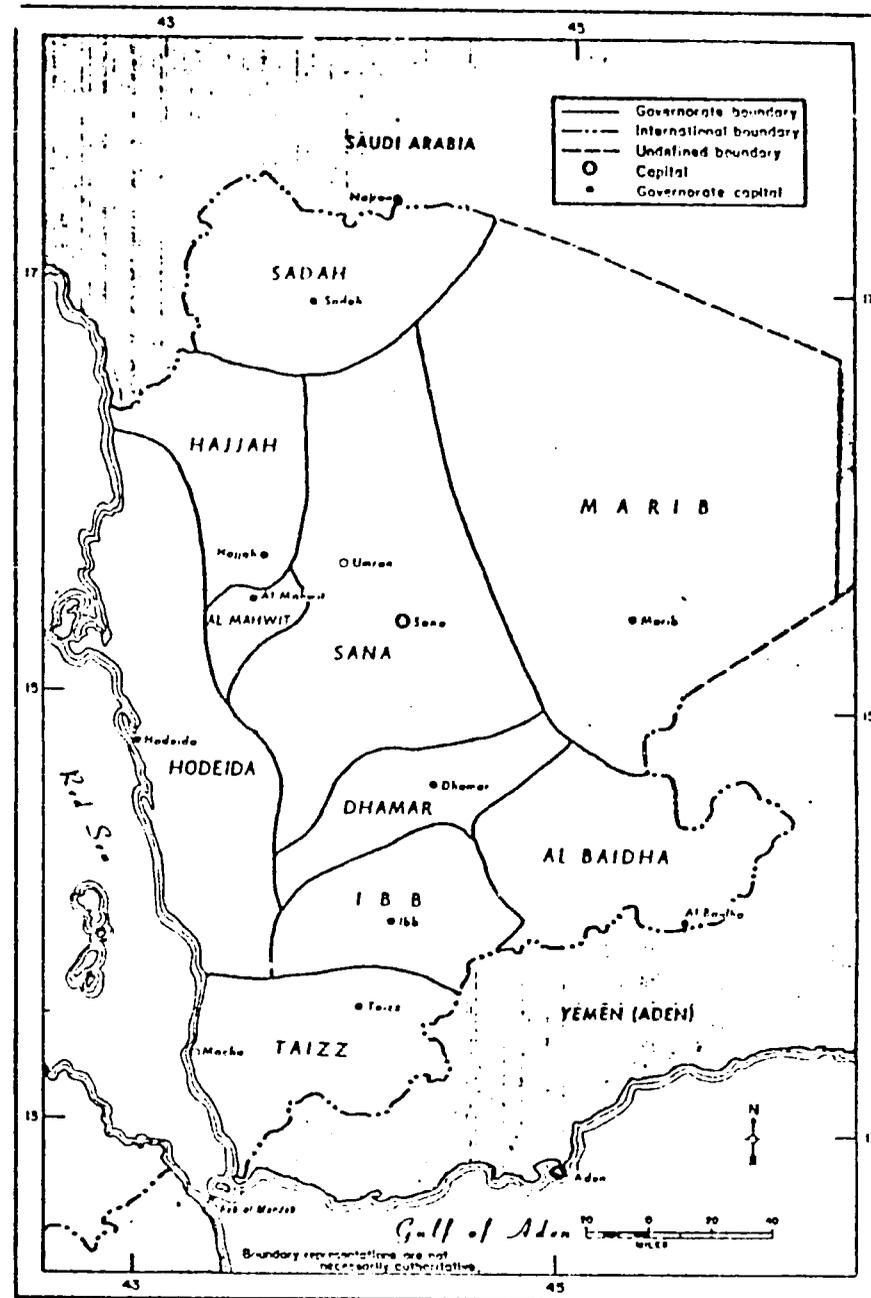


Figure 3: Governorates of Yemen Arab Republic: 1976

Source: Richard F. Nyrop, et al. Area Handbook for the Yemen (Washington, D.C.: U.S. Government Printing Office, 1976), p.162.



APPENDIX II

Tentative Outline of Rural Local Government

Since rural local government plays a critical role in the formulation of rural development programs it is essential to consider it. Unfortunately, little solid work has been done on this topic. The following summary, tables and figures are based on currently available information. The primary source on this topic is Manfred W. Wenner "Local Government in (North) Yemen" (Paper Prepared for USAID Yemen, May 1978), pp. 6-14, which pieces together information from a variety of sources, and which constitutes the basis of this tentative outline. Wenner was a member of the March 1978 Cornell team visit to North Yemen.

In 1976 the country was divided into five levels of local government, each responsible for specific though unregulated administrative duties. These, are: (1) governorates (muhafazah, also known as liwa); (2) sub-provinces (qada), centered on major cities or governorate centers; (3) districts (nahiyah), generally centered on towns within the jurisdiction of cities; (4) sub-districts (uzlah), sets of villages whose majority population belong to one tribe headed by a paramount sheikh; and (5) villages (qaryah).\* The system is generally traditional and decentralized though de jure form is given by at least two government laws. Republican Decrees No. 8 of 1964 and No. 55 of 1973 require the establishment of councils to govern the governorate (muhafazah) and sub-province (qada) levels. These are to be made up of officials from both the central government and the next lower levels of administration. This proposed structure has in part been adopted in only three major governorates, Sana'a, Taiz and Hodeidah. There the councils tend to be dominated by paramount sheikhs. Councils have not been formed at the district (nahiyah), sub-district (uzlah) or village (qaryah) levels. At these levels traditional patterns of authority and responsibility are still intact.

The government lacks the resources and personnel needed to create a modern local government system and it can not make the mistakes of an earlier reform based on the Egyptian system of local government which retained no role for tribal leaders and organizations. Changes are coming with the increasing presence of government offices in such medium sized population centers as Ahamar, Ibb, Amran and Bajil. Where governorate councils exist they ideally include: the military chief (the de facto governor), a director of security from the Ministry of Interior who heads a small police force; a director of tribal affairs responsible for liaison with tribes of area; chief ministerial field agents present in area; and 3 to 7 people's representatives. The district is the next important area, there being some evidence the sub-district may eventually be abolished. It is de facto the lowest level to which authority of the government penetrates. There both local notables and central officials share responsibilities. Each district is centered on a town and includes an amil who represents the central government appointed by the president, a hakin

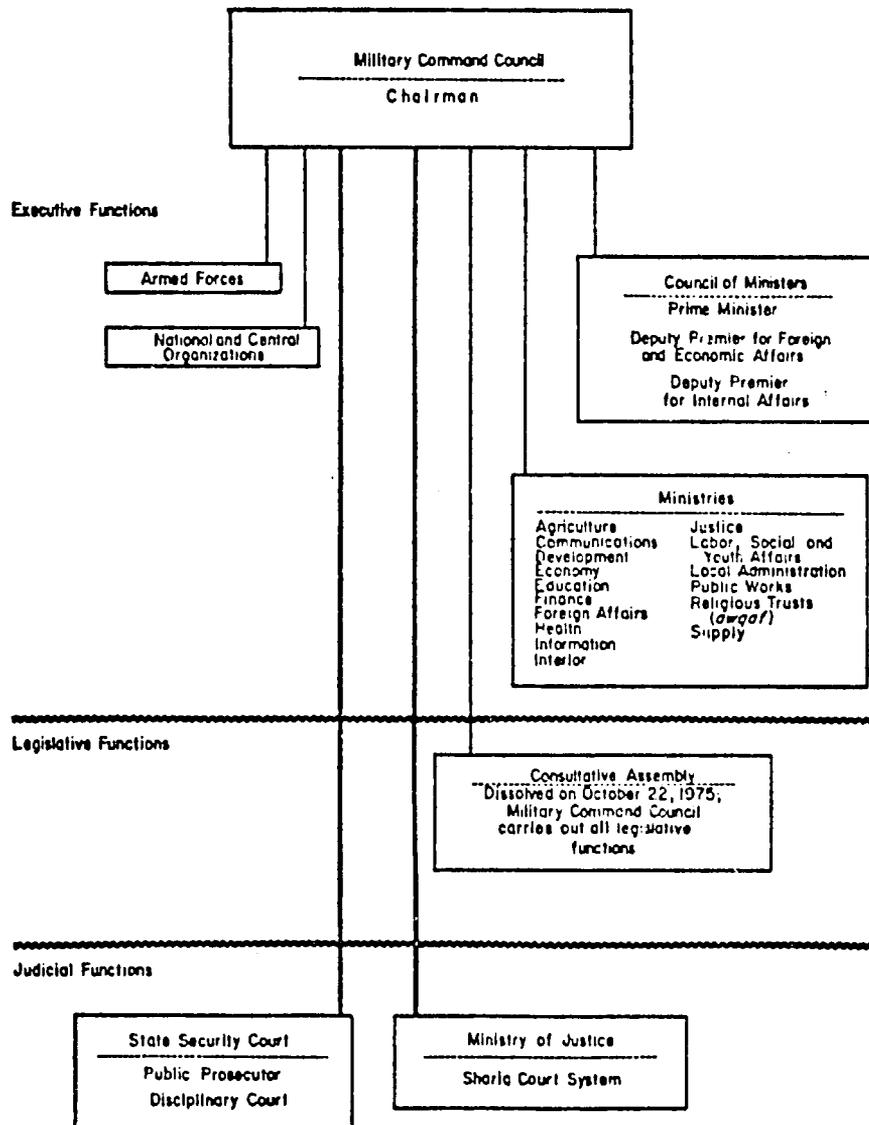
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\*Gable reports that qada are no longer recognized as separate levels of government. See text.

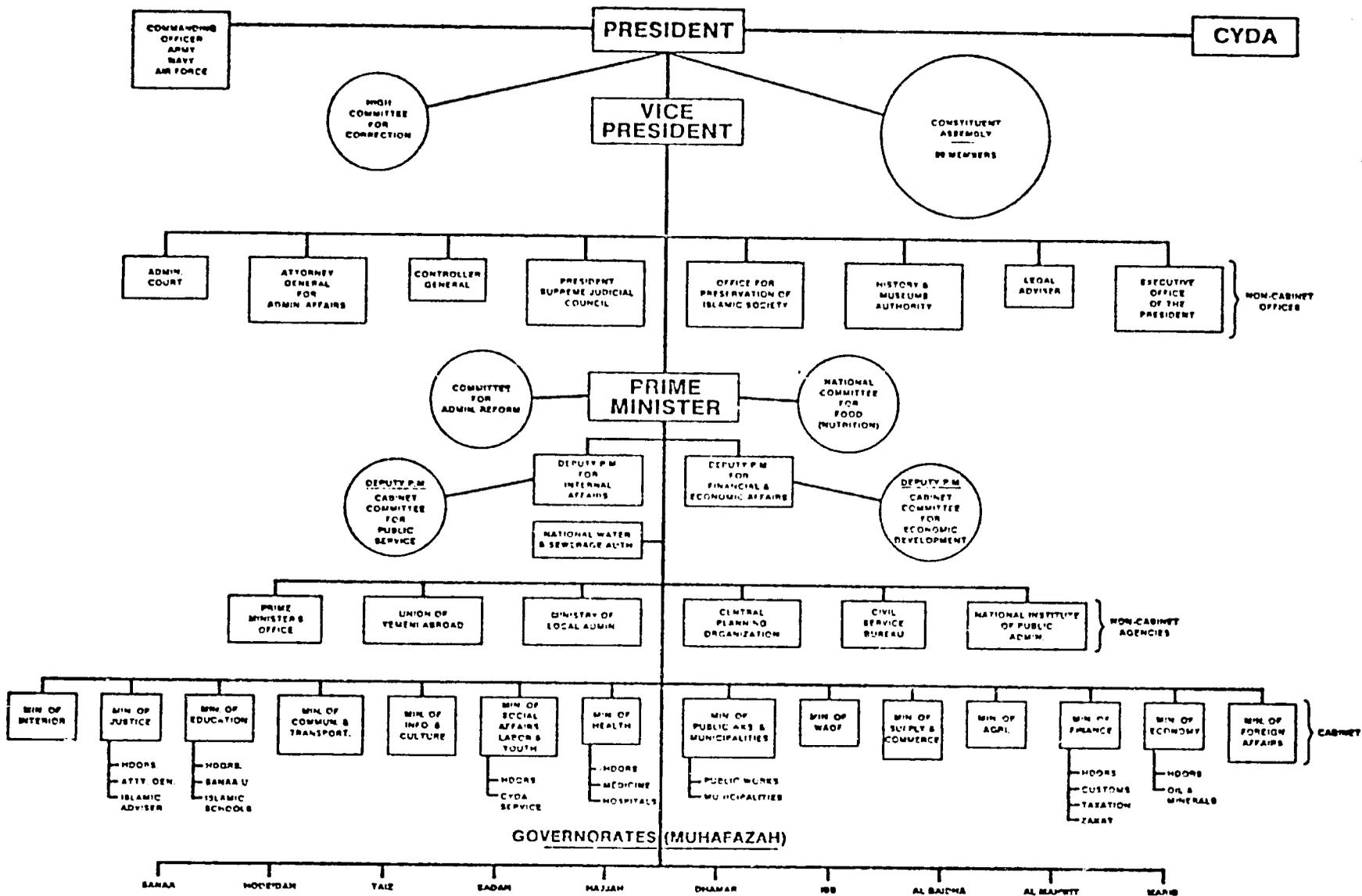
who is a religious judge appointed by the Ministry of Justice, a mudir al-mal who administers land taxes and directs a local tax overseer known as the ma'mur, and an amil al-awyaf who administers religious endowments in the area. The sub-district is an artificial unit based on a set of villages whose major inhabitants belong to one tribe headed by a sheikh. There is paramount sheikh and a council of amins and aqils; in the area primarily perform conflict resolution functions. Finally, at the village level, extended families known as inahallah, predominate. Together they form a group of respected authorities known as the thugat. This group elects an aqil who knows tribal law (urf) and can apply it fairly and wisely. His major functions are to represent the village to higher authorities and oversee the administration of taxes. An amin is also elected from among those educated in Islamic schools. He keeps records of taxes, vital statistics, land sales and transfers and oversees collective village efforts. For this he receives as salary some of the taxes-in-kind collected at the local level.

Figure 1

Government Structure of Yemen Arab Republic



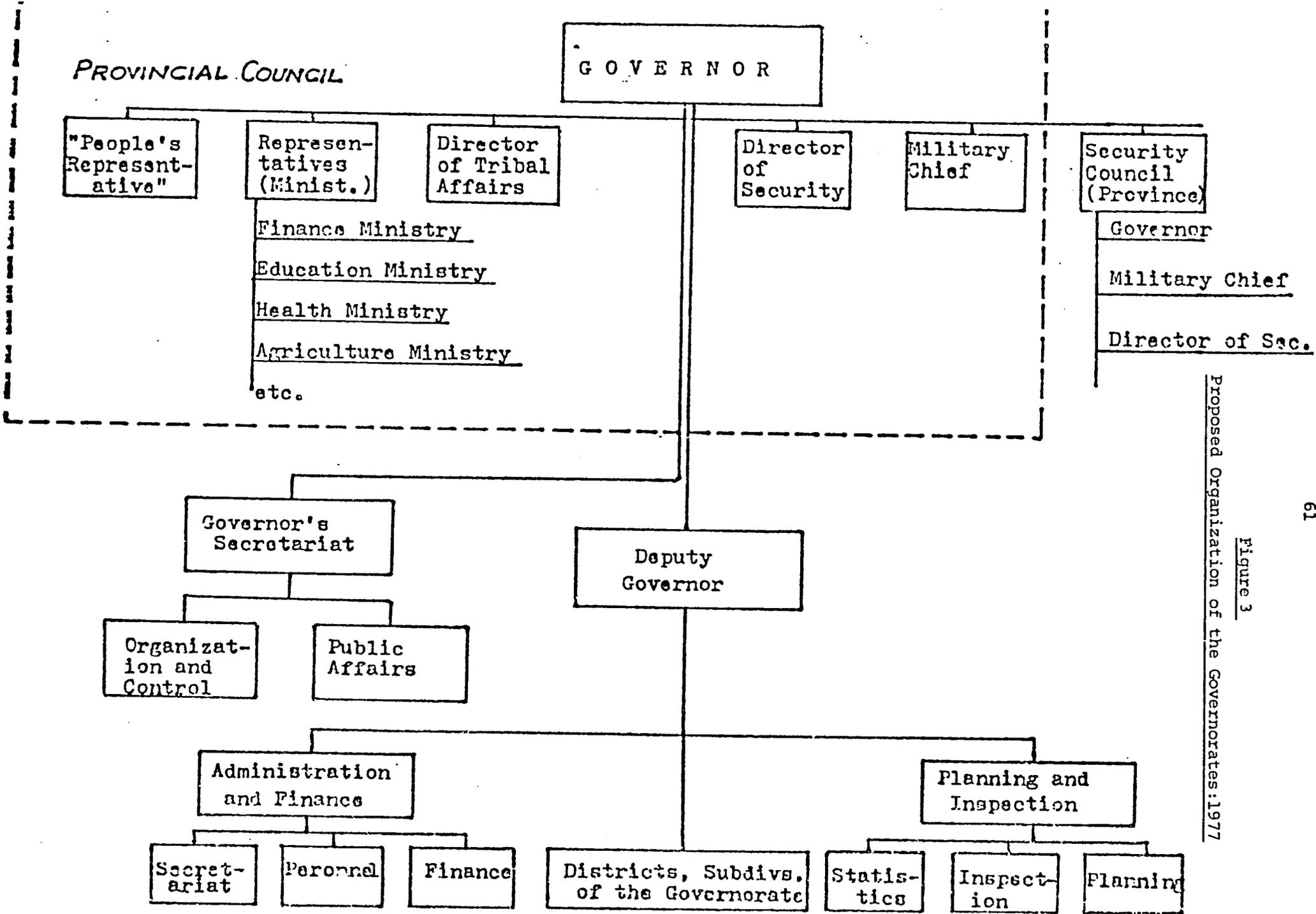
Source: Richard F. Nyrop, et al. Area Handbook for the Yemens (Washington, D.C.: U.S. Government Printing Office, 1976), p. 218.



Structure of Government, December 1978

Figure 2

Source: Richard W. Gable, "Government and Administration in the Yemen Arab Republic" (Paper Prepared for Office of Rural and Administrative Development, USAID, University of California, Davis, January 1979), p. 22.

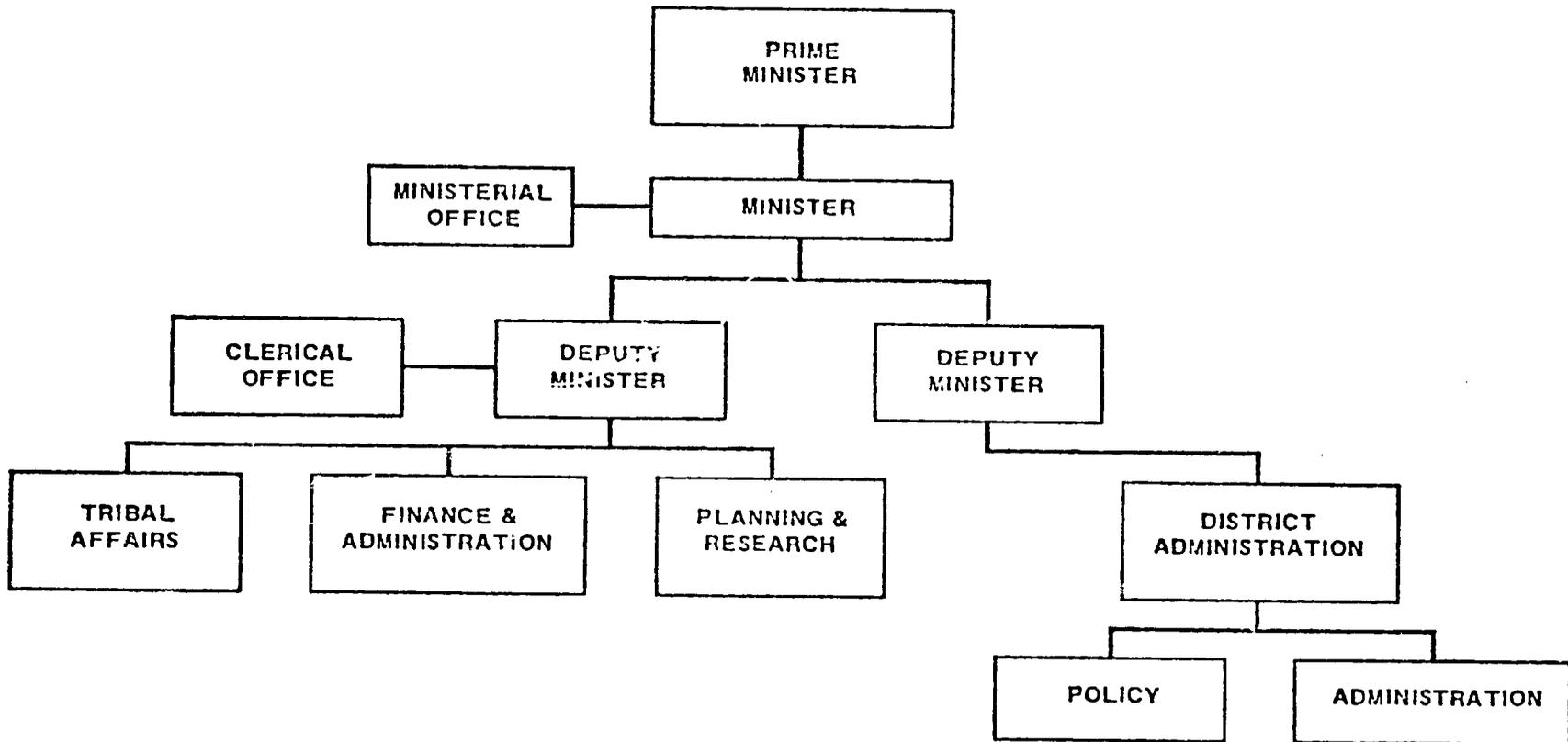


Proposed Organization of the Governorates: 1977

Figure 3

Source: Manfred W. Wenner, "Local Government in (North) Yemen" (Report Prepared for USAID Yemen, May 1978), p. 6a.

ORGANIZATION OF THE MINISTRY  
OF LOCAL ADMINISTRATION

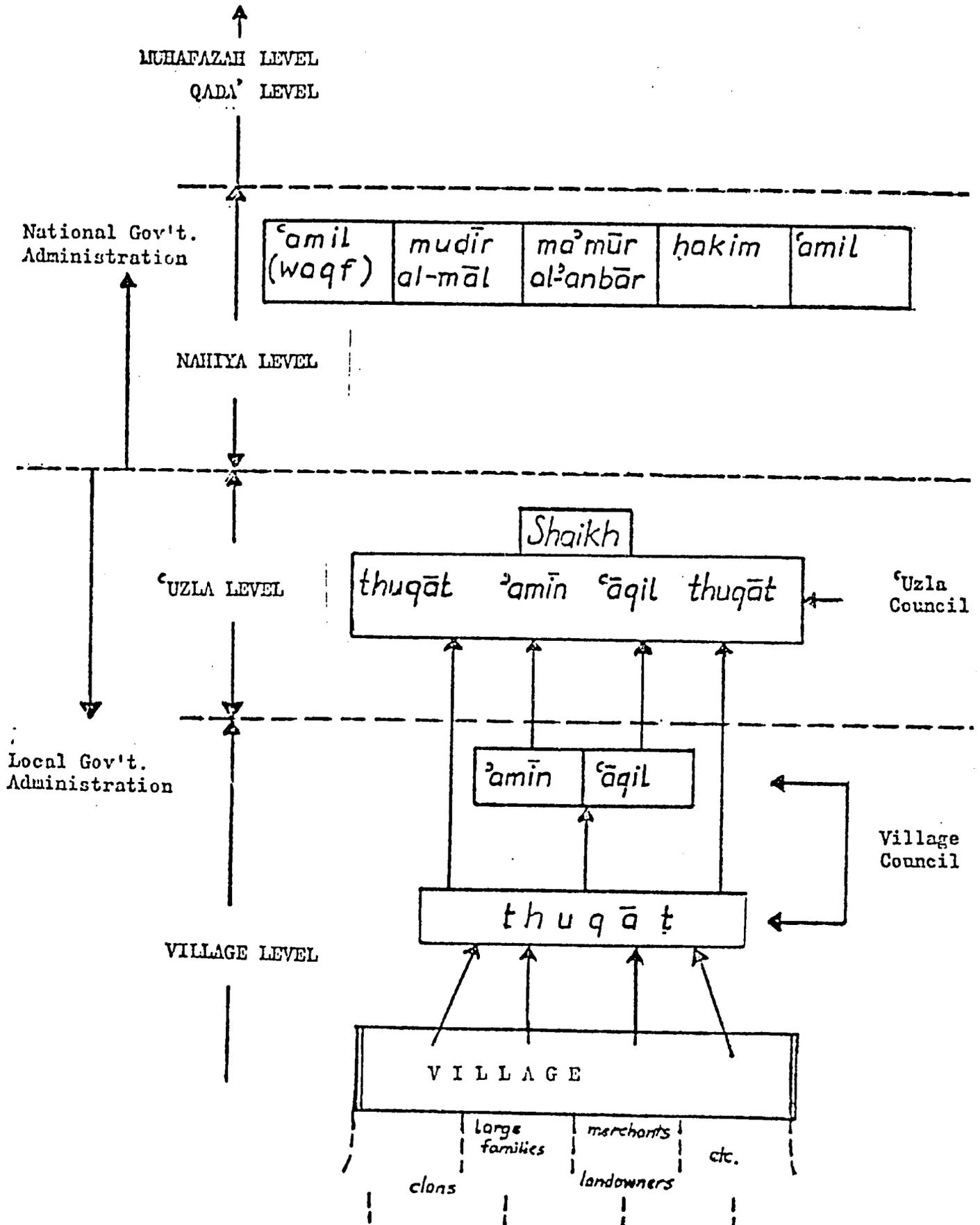


Organization of Ministry of Local Administration

Figure 4

Source: Richard W. Gable, "Government and Administration in the Yemen Arab Republic" (Paper Prepared for Office of Rural and Administrative Development. USAID, University of California, Davis, January 1979), p. 44.

Ideal Organizational Structure of Local Self-Government: Model 1



Source: Manfred W. Wenner, "Local Government in (North) Yemen" (Report Prepared for USAID Yemen, May 1978), p. 8a.

Table 1

Administrative Subdivisions in Yemen: 1977

ADMINISTRATIVE LEVEL		ADMINISTRATIVE AUTHORITY	
Arabic	English	Arabic	English
Muhafazah	Governorate	Muhafiz	Governor
Qada	Sub-Province	(None)	(None)
Nahiyah	District	Mudir al-Nahiyah	District Director
Uzlah	Sub-District	Shayakh (+ Thuqat)	Tribal Chief
Qaryah	Town or Village	Aqil, Adil, Amin, etc.	(None)
Mahallah	Hamlet; Extended	Aqil, Adil, Amin, etc. (Thuqat).	(None)

Source: Manfred W. Wenner, "Local Government in (North) Yemen" (Report Prepared for USAID Yemen, May 1978), p. 16.

Table 2

Administrative Subdivisions by Governorate: 1976

Governorate	Quada <sup>1</sup>	Nahyah <sup>2</sup>	Ozlah <sup>3</sup>	Village
Sana .....	6	33	289	2,089
Hodeida .....	5	19	106	2,054
Taizz .....	4	18	258	1,566
Sadah .....	5	12	110	1,546
Hajjah .....	5	26	170	1,570
Dhamar .....	2	9	311	2,185
Ibb .....	6	20	271	2,559
Al Baidha .....	2	8	47	320
Al Mahwit .....	2	7	109	1,073
Marib .....	3	7	9	456
TOTAL .....	40	159	1,680	15,418

<sup>1</sup> Quada—major cities; governorate centers.

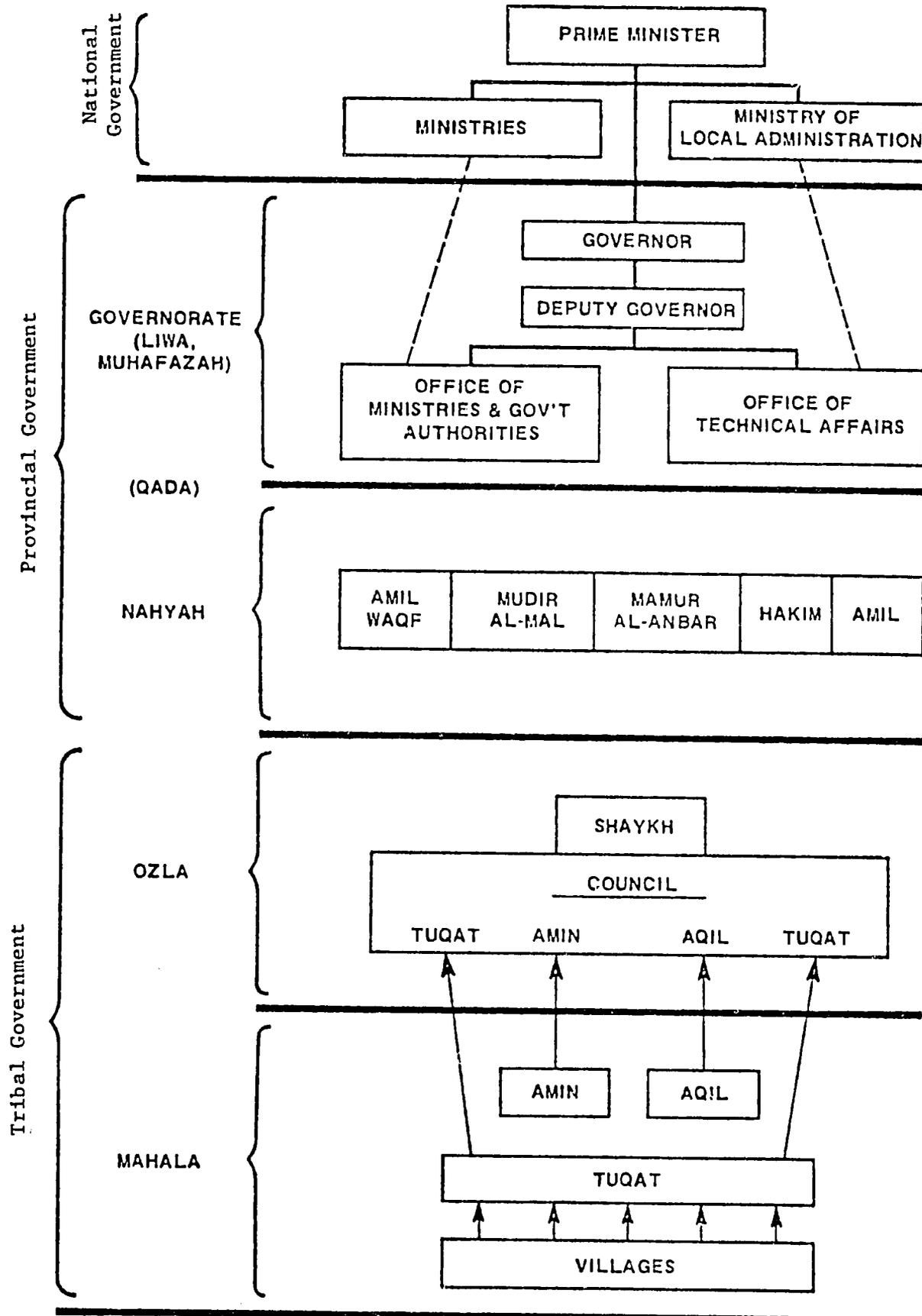
<sup>2</sup> Nahyah—towns within jurisdiction of cities.

<sup>3</sup> Ozlah—sets of villages headed by a tribal shaykh.

Source: Richard F. Nyrop, et al. Area Handbook for the Yemens (Washington, D.C.: U.S. Government Printing Office, 1976), p. 219.

Figure 6

## Ideal Organizational Structure of Local Self-Government: Model 2



Source: Richard W. Gable, "Government and Administration in the Yemen Arab Republic" (Paper Prepared for Office of Rural and Administrative Development, USAID, University of California, Davis, January 1979). p. 43.

Table 3

## Glossary of Local Government Terms

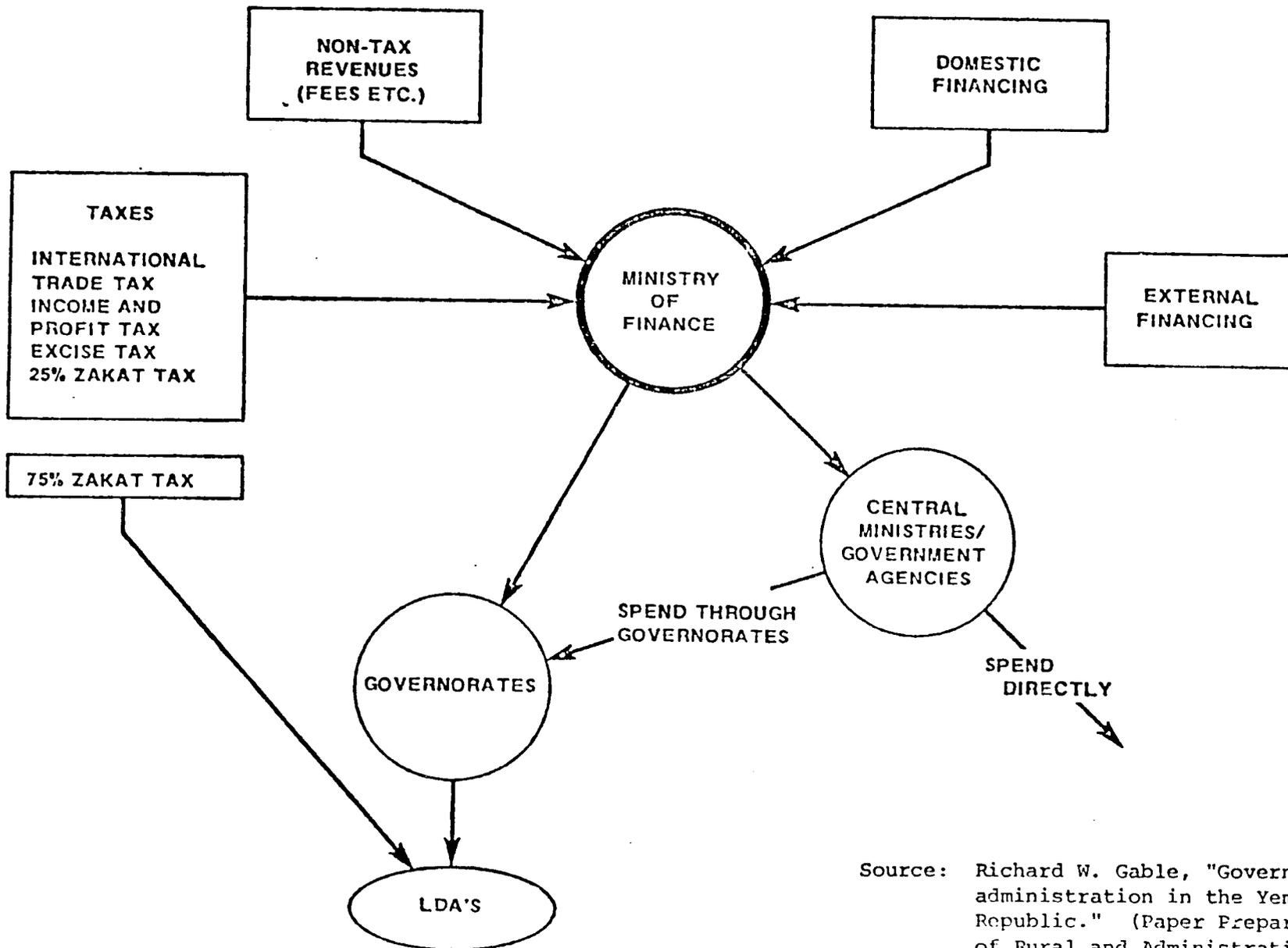
ENGLISH	ARABIC	MEANING / COMMENTS
Adil	عدل - عدول	Honest, honorable person; impartial individual. Usually used to refer to a person who is an assistant to an Islamic law judge, but in Yemen is sometimes used as a title synonymous with <u>aqil</u> ;
Amil	عامل - عوامل	Originally an Islamic institution; the Ottomans transformed it into an administrative office with more extensive duties than simply tax-collection; in Yemen used of the official who represents the central government at the <u>nahiyah</u> level;
Amin	امين - أمناء	Reliable, trustworthy person or guardian, i.e., the records-keeper or "secretary" as in Secretary of State; in Yemen, elected by the <u>thuqat</u> and confirmed by the <u>hakim</u> of the <u>nahiyah</u> ; must have had some education (Islamic);
Aqil	عاقل - عقلاء	Wise man, prudent and intelligent individual; in Yemen, elected by the <u>thuqat</u> because of his wisdom, good judgment and knowledge of <u>urf</u> ;
Hakim	حاكم	In Yemen, unlike the rest of the Arab world, refers to a government-appointed judge who administers the <u>shari'a</u> ;
Liwa	لواء	Province
Mahallah	محلة	Hamlet, or residence area of an extended family, e.g. a clan; also refers to smaller areal subdivisions of villages and towns of somewhat larger size;
Muhafazah	محافظة	Governorate
Muhafiz	محافظة	Governor
Nahiyah	ناحية	District
Qabilah	قبيلة	Tribe
Qada	قضاء	Sub-province, or Sub-governorate, i.e., the next subdivision of a <u>muhafazah</u> ;

(Cont.)

Table 3, (Cont.)

Qadi	قاضى - فضاة	In Yemen, used primarily of educated and influential individuals, the overwhelming majority of whom were entitled to the honorific because of an Islamic education; does <u>not</u> refer to a <u>shari'a</u> judge as in the rest of the Arab world;
Qaryah	قرية	Village
Shaykh	شيخ - شيوخ	The head, chief, of a <u>qabilah</u>
Shari'a	شريعة	Islamic law
Thuqat	ثقة - ثقات	In the singular, a trustworthy person or trusted agent or representative of one's interests; in the plural, equals the English word "the authorities;" in Yemen, each major family has individuals who are the <u>thuqat</u> ; sometimes an elective post;
Urf	عرف	Tribal law; this is <u>not</u> equivalent to the Islamic law, and frequently takes no cognizance of the existence of the latter
Uzla	عزلة	Village; sub-division of <u>uzlah</u> ;

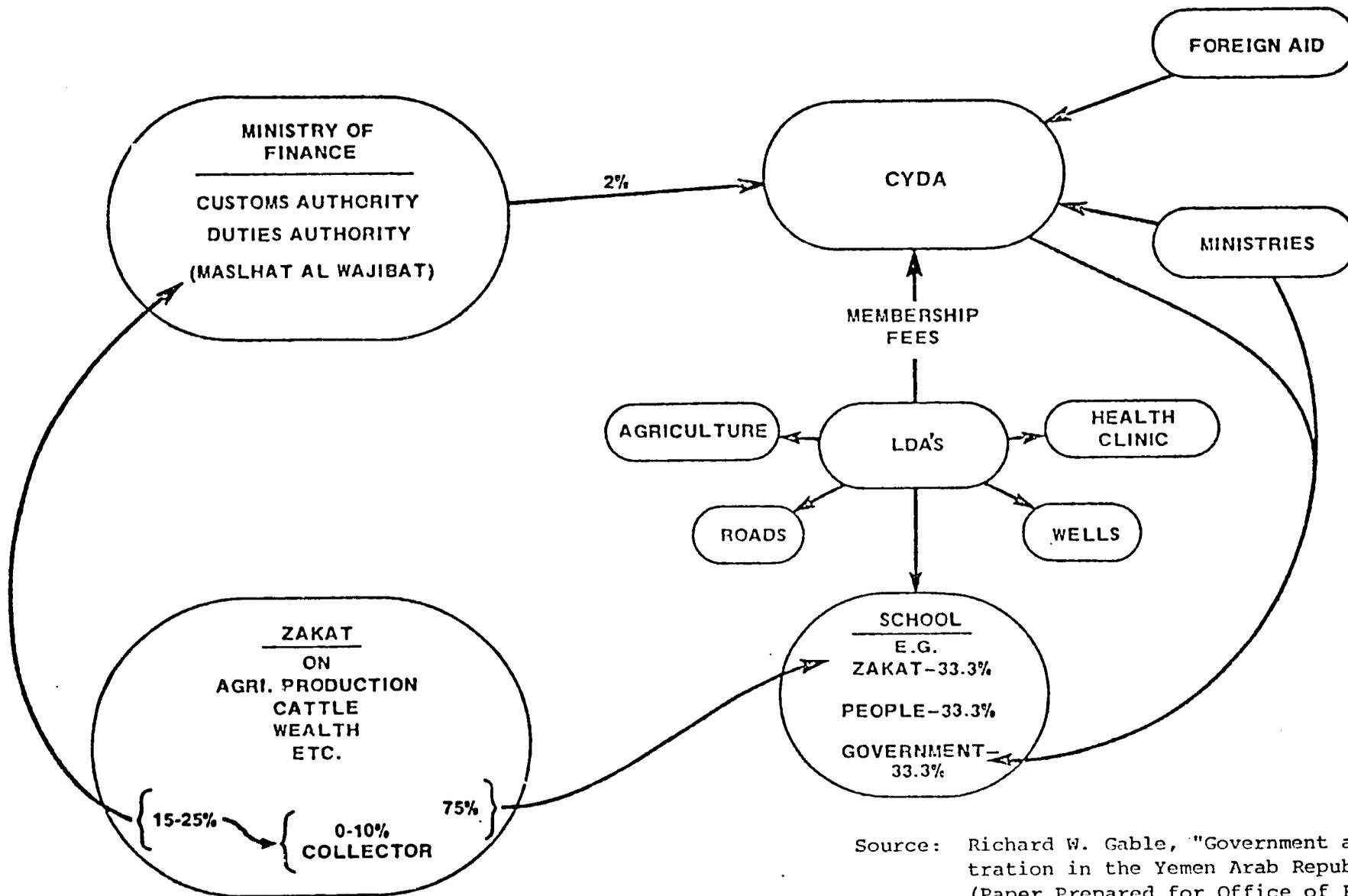
Source: Manfred W. Wenner, "Local Government in (North) Yemen"  
(Report Prepared for USAID Yemen, May 1978), Appendix II.



System of Government Revenue and Expenditure

Figure 7

Source: Richard W. Gable, "Government and administration in the Yemen Arab Republic." (Paper Prepared for Office of Rural and Administrative Development USAID, University of California, Davis, January 1979), p.62.



Source: Richard W. Gable, "Government and Administration in the Yemen Arab Republic." (Paper Prepared for Office of Rural and Administrative Development, USAID, University of California, Davis, January 1979), p. 84.

Figure 8

APPENDIX IIISelected Tables and Figures on Rural Yemen

The following tables and figures help expand the brief analysis in this working paper. As with all data on the Yemen Arab Republic this information should be approached with caution. In places two tables on the same indicators are presented to illustrate data problems.

Table 1Estimated Area and Population: 1975

AREA	TOTAL* (1975)	SANA'A (capital) (1975)	TAIZ (1975)	HODHIDA (1975)
200,000 sq. km.	6,471,893	447,895	320,323	147,952

\* Provisional census result.

Source: "Yemen Arab Republic," in The Middle East and North Africa: 1978-79 (London: Europa Publishers, Ltd., 1978), p. 808.

The Swiss Technical Cooperation Services verification of the 1975 Yemen census showed a resident population of 4,705,336 and an emigrant population of 331,649. Report No. 5: Data Bank of the Population Census 1975 (Zurich, STCS, May 1977).

Table 2

Population, Manpower and Labor Force By Governorate: 1975

Governorate	SEX	مجموع السكان Total Pop.	القوة البشرية Manpower		القوة العاملة Labor Force		
			النسبة من السكان % of total Population	عدد No.	النسبة من القوة البشرية % of Manpower	النسبة من مجموع السكان % of total Population	عدد No.
Sana'a	M	393806	61.9	243740	77.2	47.3	188117
	F	413463	65.3	269929	6.4	4.2	17317
	T	807269	63.6	513669	40.0	25.5	205434
Damar	M	212193	61.1	129647	79.1	48.3	102543
	F	242934	66.9	162634	4.1	2.7	6648
	T	455132	64.2	292281	37.4	24.0	109191
Ibb	M	370342	60.0	222007	74.8	44.3	166014
	F	419176	66.3	278033	2.6	1.7	7123
	T	789518	63.3	500100	31.6	21.9	173142
Taiez	M	397801	56.5	224749	69.7	39.4	156644
	F	476075	65.9	313039	5.5	3.5	17369
	T	873876	61.6	537388	32.3	19.9	174013
Hodeida	M	342039	62.6	214003	81.0	59.7	173292
	F	334654	65.8	220169	16.1	10.6	35334
	T	676693	64.2	434172	48.1	30.3	208676
Mahweet	M	80601	59.5	47940	84.0	50.0	40271
	F	94038	66.1	62205	23.6	18.9	17815
	T	174639	63.1	110145	52.7	33.3	58086
Hajja	M	193995	58.6	113754	30.1	47.0	91171
	F	202133	65.2	131800	6.3	4.4	8925
	T	396178	62.0	245562	40.8	25.3	100096
Saada	M	73311	61.9	45370	90.5	56.0	41054
	F	81050	66.5	53835	42.4	23.2	22324
	T	154361	64.3	99255	64.4	54.3	63378
Ma'reb	M	20277	57.7	11704	73.3	42.6	8635
	F	20619	60.7	12511	13.7	8.3	1713
	T	40896	59.2	24215	42.7	25.3	10348
Al-Bieda	M	70364	51.2	38332	73.7	42.6	20216
	F	86900	65.2	56681	4.7	3.1	2649
	T	157264	60.3	95013	34.6	20.3	22865
Total	M	2155234	59.9	1291356	77.3	46.3	927957
	F	2371092	65.9	1561494	3.3	5.8	137772
	T	4526326	63.0	2852850	39.3	25.1	1135729

Source: Prime Ministry Office, Housing Statistics in the Yemen Arab Republic (Sana'a: December 1976).

Table 3

Employment By Occupation: 1975

Occupation	النسبة من المجموع % of total	عدد المتغلبين No. of workers
Professional, technical and related workers	1.6	16653
Administrative and managerial workers	0.5	5273
Clerical and related workers	1.3	13714
Sales workers	5.0	53238
Service workers	5.6	60273
Agricultural, animal husbandry and forestry workers, hunters and fishermen	72.9	781530
Production and related workers, transport equipment operators and Labourers	13.1	140833
T O T A L	100	1072169

Source: Prime Ministry Office, Housing Statistics in the Yemen Arab Republic (Sana'a: December 1976).

Table 4

Gross Domestic Product by Sector:Selected Years 1969-74

(in millions of Yemeni riyals)

Sector	1969	1971	1973	1974
Agriculture .....	1,592	2,054	2,277	3,231
Industry .....	51	86	130	152
Construction .....	66	86	145	151
Transportation .....	51	70	87	94
Trade .....	287	349	590	853
Government services .....	55	91	257	352
Other services .....	113	159	224	259
TOTAL .....	2,215	2,895	3,710	5,092

\*For value of the Yemeni riyal—see Glossary.

Source: Based on information from *Statistical Year Book, 1975-1976*, (Sixth Year.), Sana, 1976, pp. 180-182.Source: Richard F. Nyrop, et. al. Area Handbook for the Yemens (Washington, D.C.: U.S. Government Printing Office, 1976), p. 187.

Table 5

Estimated Average Rate of Growthof Real GDP: 1969/70-1976/77

	69/70 73/76 actual %	72/73- 75/76 actual %	76/77- 80/81 planned %	GDP at Constant Prices of Base Year			
				Base year 75/76		80/81	
				Mill. YR	%	Mill. YR	%
Agriculture	6.6	4.9	5.5	2,305	44.5	3,010	39.2
Industry	11.8	8.6	11.7	302	5.8	526	6.8
Building and Construction	8.0	5.2	14.4	227	4.4	445	5.8
Transport and Communication	12.0	8.0	11.3	151	2.9	238	3.4
Trade	70.0	10.4	10.1	1,220	23.6	1,970	25.7
Finance	29.9	35.4	9.5	141	2.7	222	2.9
Real Estate	3.2	3.0	3.6	199	3.8	235	3.1
Government Services	10.5	11.0	10.0	509	9.8	820	10.7
Other Services	7.1	7.1	7.5	127	2.5	152	2.4
Total	7.7	7.0	8.2	5,181	100	7,671	100

Source: *The Times*, London, 17 November 1977.Source: Tamar Yegnes, "The Yemeni Arab Republic," in Middle East Contemporary Survey, edited by Colin Legum (New York: Holmes & Meier Publishers, Inc., 1978), p. 665.

Table 6  
Origin and Growth of Gross Domestic Product at Constant Prices: 1970/71-1975/76

(1971/72 prices: in millions of riyals)

Year ended June 30	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76
Agriculture	1,091.3	1,112.7	1,208.3	1,091.0	1,401.2	1,304.8
Industry	98.5	109.0	126.4	148.3	153.0	164.7
Construction and building	93.8	101.5	114.7	137.0	112.8	134.4
Trade	336.6	359.5	385.8	393.9	411.5	511.2
Government	169.2	185.2	201.5	211.6	247.1	271.4
Finance and banking	25.6	25.0	31.6	40.9	58.9	75.2
Transport and communication	52.7	68.4	72.7	88.4	87.4	90.6
Housing	80.6	83.2	85.7	88.5	91.5	93.8
Services	<u>45.0</u>	<u>46.4</u>	<u>50.4</u>	<u>52.9</u>	<u>57.6</u>	<u>60.8</u>
Gross domestic product	1,993.3	2,090.9	2,277.1	2,252.5	2,621.0	2,706.9
<u>Rates of growth (in per cent)</u>						
<u>Gross domestic product</u>	<u>20.3</u>	<u>4.9</u>	<u>8.9</u>	<u>-1.1</u>	<u>16.4</u>	<u>3.3</u>
Agriculture	31.2	2.0	8.6	-9.7	28.4	-6.9
Nonagriculture	9.3	8.4	9.3	8.7	5.0	14.9

Source: Central Planning Organization.

Source: International Monetary Fund, "Yemen Arab Republic - Recent Economic Developments" (Internal memorandum, March 30, 1977), p.3.

Table 7

Budget Revenues: 1968, 1973 and 1975  
(in millions of riyals)

Category	1968	1973	1975
Taxes on incomes and profits .....	1	7	17
Religious taxes (zakat) .....	4	12	15
Taxes on international trade .....	17	113	222
Taxes on goods and services .....	2	22	38
Other taxes .....	1	4	9
<b>Total Taxes .....</b>	<b>25</b>	<b>158</b>	<b>301</b>
Nontax revenue .....	5	41	79
<b>Total Current Revenue .....</b>	<b>30</b>	<b>199</b>	<b>380</b>

<sup>1</sup> Fiscal year ends June 30. These are official estimates of actual receipts, although the latest year was subject to revision.

Source: Richard F. Nyrop, et. al. Area Handbook for the Yemens (Washington, D.C.: U.S. Government Printing Office, 1976), p. 197.

Table 8

Government Zakat Revenue  
(in millions of riyals)

Type Zakat	1970/71	1973/74	1975/76	1976/77 <u>est.</u>
Agricultural	4.7	8.0	13.5	15.0
Cattle	0.6	1.1	1.0	2.0
Wealth	0.3	2.1	1.7	3.0
Poll	1.6	4.5	4.8	4.0
<b>Total</b>	<b>7.2</b>	<b>15.7</b>	<b>21.0</b>	<b>24.0</b>

Source: Richard W. Gable, "Government and Administration in the Yemen Arab Republic" (Paper Prepared for Office of Rural and Administrative Development, USAID, University of California, Davis, January 1979), p. 51.

Table 9

Government Budget by Item: 1968, 1973 and 1975<sup>1</sup>(in millions of riyals)<sup>2</sup>

Category	1968	1973	1975
Current Revenue .....	30	199	380
Current Expenditures			
General administration .....	n.a.	101	123
Defense and security .....	38	137	256
Education and health .....	4	26	44
Information and other services .....	n.a.	n.a.	8
Economic services .....	n.a.	7	25
Other .....	29	1	4
Total Current Expenditures .....	71	272	460
Capital Expenditures <sup>3</sup> .....	18	58	185
Total Expenditures .....	89	330	645
Budget Deficit .....	59	131	265
Financed by foreign aid <sup>4</sup> .....	45	117	549
Financed internally .....	14	14	-284 <sup>5</sup>

n.a.—not available.

<sup>1</sup> Fiscal year ends June 30. These are official published data; data for FY 1975 subject to revision.<sup>2</sup> For value of the Yemeni riyal—see Glossary.<sup>3</sup> Almost all are the Yemeni riyal counterpart of foreign loans.<sup>4</sup> Comprises loans for commodities and projects, cash credits, and monetary grants, mainly from Arab countries.<sup>5</sup> A residual figure. The Central Bank figure was YR231 million, indicating some additional financing requirement of about YR53 million. The minus sign indicates a buildup of deposits or unspent aid.

Source: Richard F. Nyrop, et al. Area Handbook for the Yemens (Washington, D.C.: U.S. Government Printing Office, 1976), p. 198.

Table 10

## Government Budget: 1975/76 - 1977/78

('000 riyals, year ending June 30th)

	REVENUE	EXPENDITURE
1975-76 . . .	569,000	779,000
1976-77 . . .	836,000	1,197,600
1977-78 . . .	1,550,000	2,053,000

Source: Ministry of Treasury and Central Bank of Yemen.

Source: "Yemen Arab Republic," in The Middle East and North Africa: 1978-79 (London: Europa Publications, Ltd., 1978), p. 810.

Table 11

## Government Finances: 1973/74 - 1976/77

Fiscal year ended June 30	Actuals			Budget Estimates	
	1973/74	1974/75	1975/76	1975/76	1976/77
<u>Domestic revenues</u> <sup>1/</sup>	<u>276.6</u>	<u>381.1</u>	<u>564.5</u>	<u>486.2</u>	<u>781.2</u>
Tax revenue	227.4	301.1	498.3	360.8	637.7
Nontax revenue	49.4	80.0	66.2	125.4	143.5
<u>Current expenditures</u> <sup>1/</sup>	<u>322.5</u>	<u>472.3</u>	<u>603.5</u>	<u>571.6</u>	<u>819.7</u>
Defense and public order	187.1	269.3	363.1	303.1	403.6
Health and education	30.7	43.8	68.7	76.3	107.3
Other	104.7	159.2	171.7	192.2	308.8
Deficit on current operations (-)	<u>-45.7</u>	<u>-91.2</u>	<u>-39.0</u>	<u>-85.4</u>	<u>-38.5</u>
<u>Development expenditures</u>	<u>139.3</u>	<u>184.7</u>	<u>339.9</u>	<u>352.7</u>	<u>599.9</u>
Financed by external loans <sup>2/</sup>	125.6	115.4	213.1	165.0	350.0
Budgeted	13.7	69.3	126.8	187.8	249.9
Overall deficit (-)	<u>-185.0</u>	<u>-275.9</u>	<u>-378.9</u>	<u>-438.2</u>	<u>-638.4</u>
Financing of deficit	<u>185.0</u>	<u>275.9</u>	<u>378.9</u>	<u>438.2</u>	<u>638.4</u>
<u>External financing (net)</u>	<u>238.5</u>	<u>536.3</u>	<u>609.0</u>	<u>587.0</u>	<u>788.0</u>
Commodity and project loans	125.6	115.4	213.1	165.0	350.0
Cash loans	18.8	48.9	30.4	--	60.0
Less: repayments	-15.1	-16.9	-14.1	--	-90.0
Cash grants <sup>3/</sup>	109.2	388.9	379.6 <sup>4/</sup>	422.0	468.0
<u>Domestic financing (net increase in deposits -)</u>	<u>-32.0</u>	<u>-231.3</u>	<u>-245.0</u>	<u>-148.8</u>	<u>-149.6</u>
Central Bank	-46.8	-210.4	-257.7		
Commercial banks	14.8	-20.9	12.7		
Statistical adjustment <sup>4/</sup>	<u>-21.5</u>	<u>-29.1</u>	<u>14.9</u>		

Sources: Ministry of Finance and the Central Bank of Yemen; see also Appendix Tables 7, 8 and 9.

<sup>1/</sup> Revenues exclude grants for budgetary support and expenditures exclude external loan repayments.

<sup>2/</sup> Comprising the Yemen rial counterpart of commodity and project loans.

<sup>3/</sup> Differs from the figures given in the balance of payments as some grants were allocated to agencies other than the Central Government.

<sup>4/</sup> Reflects lags in recording, exchange rate valuation adjustments associated with external financing and other errors and omissions.

Source: International Monetary Fund, "Yemen Arab Republic - Recent Economic Developments" (Internal Memorandum, March 30, 1977), p. 8.

Table 12

## Basic Data on Yemen Arab Republic

Indicator	Dates			
	1973/74	1974/75	1975/76	1976/77
<u>Crop output</u>	(In thousand metric tons)			
Cereals <sup>2/</sup>	875.0	1,228.0	1,058.0	1,076.0
Cotton	20.4	27.2	13.6	
	(In millions of Yemen rials)			
<u>Public finance</u>				
Domestic revenue	276.8	381.1	564.5	860.0
Current expenditures	322.5	472.3	503.5	820.0
Deficit on current account (-)	-45.7	-91.2	-39.0	40.0
Capital expenditures	139.3	184.7	339.9	600.0
Overall deficit (-)	-185.0	-275.9	-378.9	-560.0
External financing	238.5	536.3	609.0	786.0
Domestic financing (net deposit increase -)	-32.0	-231.3	-245.0	-226.0
Statistical adjustment	-21.5	-29.1	14.9	--
	(In millions of Yemen rials)			
<u>Money and credit (end of period)</u>				
Money	639.5	964.0	2,028.4	2,786.9
Currency outside banks	(543.4)	(794.0)	(1,680.5)	(2,329.1)
Demand deposits	(96.1)	(170.0)	(347.9)	(457.8)
Quasi-money	116.8	177.9	480.7	691.0
Net claims on Government (increase in deposits -)	69.7	-161.6	-406.5	-498.1
Net foreign assets	392.4	1,182.3	2,606.8	3,382.2
Claims on nongovernment sector	237.5	394.2	566.1	969.0
Credit to public entities and mixed enterprises	(64.8)	(108.7)	(102.5)	(95.8)
Credit to private sector	(172.7)	(285.5)	(463.6)	(873.2)
	(In millions of SDRs)			
<u>Balance of payments</u>				
Exports, f.o.b.	11.2	10.4	10.3	6.2
Imports, c.i.f.	-158.2	-208.5	-322.3	-280.8
<u>Balance of trade</u>	<u>-147.0</u>	<u>-198.1</u>	<u>-312.0</u>	<u>-274.6</u>
Services and transfers (net)	133.5	253.1	518.0	401.1
Official nonmonetary capital (net)	23.4	26.4	37.3	13.8
Errors and omissions (net)	11.9	12.9	33.1	10.6
<u>Overall balance</u>	<u>21.8</u>	<u>94.3</u>	<u>276.4</u>	<u>150.9</u>
<u>Monetary movements (increase in assets -)</u>	<u>-21.8</u>	<u>-94.3</u>	<u>-276.4</u>	<u>-150.9</u>
Central monetary authorities	-27.9	-81.4	-242.2	-170.4
Commercial banks	6.1	-12.9	-34.2	19.5
<u>International reserves (gross) (end of period)<sup>2/</sup></u>	<u>72.6</u>	<u>149.2</u>	<u>407.1</u>	<u>570.5</u>

Notes: 1 = projected; 2 = sorghum millet, wheat, barley, maize.

Source: International Monetary Fund, "Yemen Arab Republic - Recent Economic Developments" (Internal Memorandum, March 30, 1977), pp. iii-iv.

Table 13

## Estimated Agricultural Production Data

**AGRICULTURE**  
**PRINCIPAL CROPS**  
(July 1st to June 30th)

	1973/74		1974/75		1975/76	
	Area ('000 hectares)	Production ('000 metric tons)	Area ('000 hectares)	Production ('000 metric tons)	Area ('000 hectares)	Production ('000 metric tons)
Sorghum and millet	95.2	6.39	1,215	1,008	1,145	859
Wheat	70	71	50	56	50	52
Barley	77	85	73	80	68	80
Maize	52	80	50	79	50	72
Pulses	65	64	71	71	76	76
Potatoes	5.9	64	6.5	71	6.8	76
Vegetables	16	150	8	168	20	183
Grapes	8.5	31	8.5	40	8.8	42.4
Coffee	4.5	3.5	4	3	4	3
Cotton	20	20	28.3	27.2	15	13.9
Tobacco	4.2	5	4.2	5	4.6	5.6

**LIVESTOCK**  
('000 head, year ending September)

	1974	1975*	1976*
Horses	4	4	4
Asses	600	640	640
Cattle	900	950	1,000
Camels	100	120	120
Sheep	3,000	3,100	3,200
Goats	7,000	7,400	7,400
Poultry	3,050*	3,110	3,170

\* FAO estimate

Source: FAO, *Production Yearbook*.

**LIVESTOCK PRODUCTS**  
(FAO estimates, '000 metric tons)

	1974	1975	1976
Beef and veal	14	14	14
Mutton and lamb	12	12	12
Goats' meat	36	37	37
Poultry meat	1	2	2
Cows' milk	56	60	60
Sheep's milk	49	49	49
Goats' milk	128	128	128
Cheese	16.0	16.2	16.2
Butter	3.5	3.7	3.7
Hen eggs	2.6	2.7	2.8
Cattle hides	2.1	2.2	2.2
Sheep skins	2.1	2.1	2.1
Goat skins	6.0	6.1	6.1

Source: FAO, *Production Yearbook*.

**SEA FISHING**  
('000 metric tons, live weight)

	1970*	1971*	1972*	1973*	1974	1975
Indian mackerel	3.1	3.6	3.8	4.2	4.8	3.5
Other fishes	4.5	4.8	5.5	5.8	6.7	6.2
<b>TOTAL CATCH</b>	<b>7.6</b>	<b>8.4</b>	<b>9.3</b>	<b>10.0</b>	<b>11.5</b>	<b>9.7</b>

\* FAO estimate.

Source: FAO, *Yearbook of Fishery Statistics*.

Source: "Yemen Arab Republic," in The Middle East and North Africa: 1978/79 (London: Europa Publications, Ltd., 1978), p. 809.

Table 14  
Consumer Price Index for Sana'a

(1972 = 100)

Period averages	Weights	Calendar Years				Fiscal Years			July-Dec.	
		1973	1974	1975	1976	1973/74	1974/75	1975/76	1975	1976
<u>General index</u>	<u>10,000</u>	<u>143</u>	<u>181</u>	<u>224</u>	<u>261</u>	<u>154</u>	<u>203</u>	<u>237</u>	<u>234</u>	<u>273</u>
<u>Foodstuffs</u>	<u>6,500</u>	<u>142</u>	<u>166</u>	<u>203</u>	<u>226</u>	<u>145</u>	<u>187</u>	<u>210</u>	<u>212</u>	<u>242</u>
Cereals	1,735	147	176	172	160	156	185	169	176	167
Dry vegetables	130	126	175	245	325	142	209	280	281	343
Meat, fish and eggs	1,205	129	159	245	323	155	199	264	262	348
Vegetables	447	160	152	220	248	142	173	215	243	306
Dairy products	301	122	158	174	177	140	164	177	191	191
Oils and fats, edible	295	189	232	297	359	206	257	343	326	364
Fruits	513	175	123	205	237	123	169	221	216	247
Sugar and sweets	382	117	224	271	204	151	272	226	258	214
Soft drinks	148	123	175	185	228	140	179	202	192	246
Tobacco, etc.	967	133	137	148	176	134	141	158	152	188
Other	377	132	163	226	253	139	204	240	238	263
<u>Clothes</u>	<u>581</u>	<u>126</u>	<u>210</u>	<u>249</u>	<u>280</u>	<u>155</u>	<u>229</u>	<u>263</u>	<u>257</u>	<u>288</u>
<u>Dwelling</u>	<u>1,946</u>	<u>155</u>	<u>227</u>	<u>299</u>	<u>391</u>	<u>186</u>	<u>259</u>	<u>337</u>	<u>313</u>	<u>419</u>
Furniture	206	103	142	188	210	131	167	196	189	217
Durable goods	407	121	174	209	232	143	186	219	220	234
Rent and water	609	128	185	256	319	138	203	286	268	334
Fuel and lighting	724	212	318	421	593	266	374	487	444	630
<u>Miscellaneous</u>	<u>973</u>	<u>132</u>	<u>169</u>	<u>196</u>	<u>219</u>	<u>152</u>	<u>180</u>	<u>206</u>	<u>202</u>	<u>226</u>
Transportation	326	125	172	223	260	147	193	238	233	276
Education	87	121	155	180	213	143	170	205	199	215
Medical costs	268	156	177	185	193	166	181	188	185	195
Household cleaning items	166	123	168	181	199	153	172	191	185	202
Personal cleaning items	126	130	156	173	196	139	160	187	181	197

Source: Central Planning Organization.

Source: International Monetary Fund, "Yemen Arab Republic - Recent Economic Developments" (Internal Memorandum, March 30, 1977), p. 13.

Table 15

## Exports and Imports: 1972/73 - 1975/76

PRINCIPAL COMMODITIES  
('000 riyals)

IMPORTS	1972/73	1973/74	1974/75	1975/76
Food and live animals . . . . .	176,337	364,377	418,631	741,569
Beverages and tobacco . . . . .	14,136	13,069	29,113	44,375
Crude materials (inedible) except fuels . . . . .	883	1,364	3,100	6,599
Mineral fuels, lubricants, etc. . . . .	18,316	32,625	35,964	81,118
Animal and vegetable oils and fats . . . . .	5,366	2,833	3,565	7,852
Chemicals . . . . .	25,773	48,540	66,154	82,834
Basic manufactures . . . . .	77,279	132,986	193,114	310,679
Machinery and transport equipment . . . . .	56,539	85,936	149,585	280,561
Miscellaneous manufactured articles . . . . .	34,370	61,218	79,642	140,413
Unspecified items . . . . .	1,667	2,032	2,136	1,894
<b>TOTAL . . . . .</b>	<b>410,666</b>	<b>744,980</b>	<b>981,004</b>	<b>1,706,894</b>

EXPORTS	1972/73	1973/74	1974/75	1975/76
Cotton . . . . .	10,785	35,180	28,188	24,221
Coffee . . . . .	5,469	6,461	4,972	7,588
Hides and skins . . . . .	3,325	6,241	4,404	8,040
Cotton seed . . . . .	2,036	1,873	2,766	362
Biscuits . . . . .	636	1,315	1,131	2,093
Dried fish . . . . .	382	781	736	325
Live animals . . . . .	768	643	443	6
Potatoes . . . . .	394	195	141	135
Rock salt . . . . .	27	26	1	1
Oat . . . . .	247	—	—	395
Cotton fabrics . . . . .	—	—	1,193	775
Cotton sheets . . . . .	317	325	257	609
<b>TOTAL (incl. others) . . . . .</b>	<b>25,269</b>	<b>55,382</b>	<b>52,966</b>	<b>50,063</b>

PRINCIPAL COUNTRIES  
('000 riyals)

IMPORTS	1972/73	1973/74	1974/75	1975/76
Australia . . . . .	26,941	29,601	44,172	133,298
Belgium . . . . .	4,147	27,254	19,593	26,758
China, People's Republic . . . . .	21,465	30,874	114,095	139,358
Ethiopia . . . . .	5,215	40,323	28,348	34,065
France . . . . .	25,236	49,591	29,583	56,064
French Territory of the Afars and the Issas . . . . .	20,404	39,554	28,216	77,126
Germany, Federal Republic . . . . .	25,635	38,514	59,417	80,254
India . . . . .	9,249	15,101	27,062	146,950
Japan . . . . .	59,985	96,746	170,712	239,590
Netherlands . . . . .	9,742	35,927	37,424	105,801
Saudi Arabia . . . . .	29,624	36,300	56,750	118,850
U.S.S.R. . . . .	10,465	21,077	50,900	29,366
United Kingdom . . . . .	22,022	26,747	49,673	89,661
Yemen, People's Democratic Republic . . . . .	36,830	42,427	47,243	84,299

EXPORTS	1972/73	1973/74	1974/75	1975/76
China, People's Republic . . . . .	11,721	2,999	22,092	24,625
France . . . . .	21	2,786	316	688
Italy . . . . .	908	4,956	4,340	8,693
Japan . . . . .	666	26,960	7,258	150
Saudi Arabia . . . . .	3,409	3,591	2,542	4,592
Singapore . . . . .	315	5,932	512	124
U.S.S.R. . . . .	1,671	1,235	1,012	—
Yemen, People's Democratic Republic . . . . .	4,483	3,833	6,349	8,423

Source: Central Bank of Yemen.

Source: "Yemen Arab Republic," in The Middle East and North Africa: 1978-79 (London: Europa Publications, Ltd., 1978), p.811.

Table 16

Balance of Payments: 1973/74 - 1975/76  
(in millions of riyals)

BALANCE OF PAYMENTS (millions of Riyals)			
	1973-74	1974-75	1975-76
Current Accounts	- 83.7	306.7	1,100.4
Imports	- 873.3	- 1,163.4	- 1,721.3
Exports	61.9	58.5	55.3
Balance of Trade	- 811.4	1,104.9	- 1,666.0
Services:			
Government receipts (incl workers' remittances)	875.7	1,655.5	3,219.3
Government payments	- 148.0	- 243.4	- 452.9
Net visible account	727.7	1,412.1	2,766.4
Capital accounts:			
Government receipts (commodities and cash loans)	144.4	164.3	213.1
Government payments (loan statements)	- 15.1	- 16.9	- 14.1
Net capital accounts	129.3	147.4	199.0
Private investment, errors and omissions (net)	+ 37.4	+ 37.5	+ 123.0
Balance of Payments	+ 83.0	+ 491.6	- 1,422.4

Sources: *Middle East Annual Review 1977*, The Economist Intelligence Unit, Central Bank Yemen, *Financial Statistical Bulletin*, January - March 1977.

Source: Tamar Yegnes, "The Yemeni Arab Republic," in Middle East Contemporary Survey, edited by Colin Legum (New York: Holmes G. Meier Publishers, Inc., 1978), p. 664.

Table 17

Industrial Production: 1973/74 - 1975/76

		1973/74	1974/75	1975/76
Cotton textiles	million yards	11.1	10.1	8.4
Electricity	million kWh.	25.6	31.6	34.3
Aluminium products	tons	200.0	200.0	200.0
Paints	'000 gallons	48.0	51.0	60.0
Mineral drinks	million bottles	27.2	27.5	27.8
Cement	hundred tons	50.0	55.0	63.0

Source: Central Bank of Yemen.

Source: "Yemen Arab Republic," in The Middle East and North Africa: 1978-79 (London: Europa Publications, Ltd., 1978), p. 810.

Table 18

Development Plan: 1976/77 to 1980/81  
(proposed expenditure in million riyals)

Transport and communications	1,500
Industry and mining	1,500
Electricity and water	2,000
Housing	2,000
Agriculture	2,000
Other	1,000
<b>TOTAL</b>	<b>10,500</b>

Source: "Yemen Arab Republic," in The Middle East and North Africa 1978-79 (London: Europa Publications, Ltd., 1978), p. 810.

Table 19

## Balance of Payments: 1973/74 - 1975/76

(in millions of riyals)

Fiscal year ended June 30:	1973/74	1974/75	1975/76	July-Dec. 1975/76	Jan.-June 1975/76	Prel. July-Dec. 1976
<u>Trade balance</u>	-811.4	-1,105.4	-1,666.0	-726.9	-939.1	-1,444.1
Exports, f.o.b.	61.9	59.0	55.3	34.1	21.2	32.7
Imports, c.i.f.	-873.3	-1,163.4	-1,721.3	-761.0	-960.3	-1,476.9
Government imports	(-158.5)	(-163.4)	(-268.9)	(-89.4)	(-179.5)	(-171.6)
Private imports	(-714.8)	(-1,000.0)	(-1,452.4)	(-671.6)	(-780.8)	(-1,351.3)
<u>Services and private transfers (net)</u>	588.5	993.2	2,253.2	805.8	1,447.4	1,968.6
Services (net)	64.7	134.6	195.9	63.4	132.5	94.8
Private transfers (net)	523.8	858.6	2,057.3	742.4	1,314.9	1,773.8
Receipts	(594.6)	(1,013.0)	(2,363.3)	(821.3)	(1,542.0)	(2,987.4)
Payments	(-90.8)	(-154.4)	(-306.0)	(-78.9)	(-227.1)	(-313.6)
<u>Balance on goods, services, and private transfers</u>	-222.9	-112.2	587.2	78.9	508.3	424.4
<u>Official transfer receipts</u>	148.2	118.9	513.2	235.7	227.5	241.2
<u>Balance on current account</u>	-74.7	326.7	1,100.4	364.6	735.8	665.6
<u>Official capital (net)</u>	129.3	147.4	199.0	52.5	146.5	72.5
Drawings of loans	144.4	164.3	213.1	61.2	151.9	87.5
Repayments of loans	-15.1	-16.9	-14.1	-8.7	-5.4	-15.0
<u>Errors and omissions (net)<sup>1/</sup></u>	65.7	72.1	176.5	119.7	56.8	55.7
<u>SDR allocation</u>	==	==	==	==	==	==
Overall balance	120.3	526.2	1,475.9	536.8	939.1	793.8
<u>Monetary movements (increase in assets -)</u>	-120.3	-526.2	-1,475.9	-536.8	-939.1	-793.8
Central monetary authorities	-154.2	-454.1	-1,293.4	-140.3	-653.1	-696.5
Change in net foreign assets	(-116.8)	(-417.7)	(-1,243.7)	(-419.9)	(-823.8)	(-878.0)
Valuation adjustment <sup>2/</sup>	(-37.4)	(-36.4)	(-49.7)	(-20.4)	(-29.3)	(-18.5)
Commercial banks	33.9	-72.1	-182.5	-96.5	-86.0	162.7
Change in net foreign assets	(33.5)	(-72.2)	(-180.8)	(-94.8)	(-86.0)	(102.7)
Valuation adjustment <sup>2/</sup>	(0.4)	(0.1)	(-1.7)	(-1.7)	(--)	(--)

Sources: Central Bank of Yemen; see also S/4/77/46, Table 16.

<sup>1/</sup> Includes private capital movements.<sup>2/</sup> Adjustment offsetting the effects of net valuation losses and gains on net foreign assets reflected in banking data (see Appendix Tables 9 and 10).

Source: International Monetary Fund, "Yemen Arab Republic - Recent Economic Developments" (Internal Memorandum, March 30, 1977), p. 15.

Table 20

Planned and Actual Expenditures Under Three Year Development Plan: 1973/74 - 1975/76

(in millions of riyals)

Expenditures financed from	1973/74		1974/75		1975/76		Total Program	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
<u>Domestic sources</u>	<u>54.2</u>	<u>18.7</u>	<u>81.2</u>	<u>79.3</u>	<u>98.1</u>	<u>141.8</u>	<u>233.5</u>	<u>239.8</u>
Government	40.7	13.7	60.2	69.3	76.6	126.8	177.5	209.8
Other local sources <sup>1/</sup>	13.5	5.0	21.0	10.0	21.5	15.0	56.0	30.0
<u>External sources</u>	<u>202.9</u>	<u>217.6</u>	<u>262.4</u>	<u>227.4</u>	<u>236.8</u>	<u>361.1</u>	<u>702.1</u>	<u>806.1</u>
Loans	...	125.6	...	115.4	...	213.1	...	454.1
Bilateral	...	92.0	...	112.0	...	148.0	...	352.0
Total	<u>257.1</u>	<u>236.3</u>	<u>343.6</u>	<u>306.7</u>	<u>334.9</u>	<u>502.9</u>	<u>935.6</u>	<u>1,045.9</u>

Source: Central Planning Organization.

<sup>1/</sup> These include funds of public enterprises and cooperatives not included in the government budget.

Source: International Monetary Fund, "Yemen Arab Republic - Recent Economic Developments" (International Memorandum, March 30, 1977), p. 19.

Table 21  
Government Employees by Ministries, Governorates and Sex

	Sanaa	Taiz	Hodeidah	Ibb	Damar	Hajja	Saada	Beida	Mahweet	Mareb	TOTAL		
											M	F	T
Offices of the President & Prime Minister	700	-	-	-	-	-	-	-	-	-	582	18	700
Interior 1/	11,615	-	-	-	-	-	-	-	-	-	11,615	-	11,615
Justice	364	128	83	112	61	126	62	22	-	-	936	-	936
Education	1,452	934	639	373	221	521	76	81	28	-	4,147	291	4,438
Health	907	581	381	144	79	70	17	20	86	55	1,783	416	2,199
Agriculture	189	68	158	13	-	-	-	-	-	-	429	9	438
Public Works	592	413	292	19	4	15	-	1	-	-	1,321	14	1,335
Municipalities	826	319	608	146	56	64	13	47	18	-	1,833	269	2,102
Communications	816	264	181	124	47	45	29	7	-	-	1,484	29	1,513
Local Administrations	187	178	78	199	67	102	96	34	34	18	976	2	978
Information	291	75	11	6	3	2	1	3	-	-	385	7	392
Foreign Affairs	187	-	-	-	-	-	-	-	-	-	176	11	187
Economy	123	14	13	3	-	-	-	-	-	-	150	3	153
Finance	1,186	500	426	275	148	305	159	75	56	24	3,141	13	3,154
Supply	87	39	42	10	11	15	3	3	9	-	217	2	219
Social Affairs	190	15	8	6	-	-	-	-	-	-	129	-	129
Waqf	75	46	30	74	13	9	11	-	-	-	258	-	258
Central Planning Org.	140	-	-	-	-	-	-	-	-	-	128	12	140
Central Bank of Yemen	240	54	53	15	10	5	7	4	-	-	323	60	383
<b>TOTAL</b>	<b>20,077</b>	<b>3,628</b>	<b>3,003</b>	<b>1,510</b>	<b>714</b>	<b>1,279</b>	<b>474</b>	<b>297</b>	<b>231</b>	<b>102</b>	<b>30,159</b>	<b>1,156</b>	<b>31,315</b>

1/ No regional distribution of employment available

Source: CPO, 1975 Manpower Survey.

Source: Richard W. Gable, "Government and Administration in the Yemen Arab Republic" (Paper Prepared for Office of Rural and Administrative Development, USAID, University of California, Davis, January 1979), p. 69.

Table 22

Health and Education Facilities by Governorates

Facilities	Governorates									
	Sana'a	Hodeidah	Taiz	Ibb	Dhamar	Hajjah	Sa'ada	Al Beidha	Al Mahweet	Mareb
Hospitals	5	3	7	4	1	1	1	2	-	-
Dispensaries	1	4	3	1	-	3	-	-	1	-
Health Centers	6	2	3	1	-	2	-	-	1	1
Health Sub-centers	-	8	3	-	-	-	-	-	-	-
Rural Health Units	15	16	16	6	6	6	3	3	4	4
Pharmacies	7	4	5	-	-	-	-	-	-	-
Drugstores	44	31	62	13	6	1	3	6	-	-
Primary Schools	294	151	316	119	170	210	106	65	62	35
Preparatory Schools	19	12	34	11	7	5	1	4	1	3
Secondary Schools	3	3	9	5	1	1	-	2	-	-
Teachers' Training Institutes	4	4	4	4	-	1	-	-	-	-

Source: Richard W. Gable, "Government and Administration in The Yemen Arab Republic" (Paper Prepared for Office of Rural and Administrative Development, USAID, University of California, Davis, January, 1979), pp. 26,32

APPENDIX IVWorking Bibliography on RuralDevelopment in Yemen

The Yemen Arab Republic may be the most understudied country in the developing world. Despite an extremely interesting cultural context, a rich historical heritage, diverse typography and good agricultural potential the literature on this complex country is limited, thin and of uneven quality. As economic planners, project designers and other rural or urban specialists begin to tackle problems of development in the country they are plagued by a lack of information on basic physical, biological or social variables which are well documented in other less developed countries. What data is available is often unreliable. Representative of this dilemma is the existence of a questionable census publication that informs the researcher that 202,183 women live in the Governorate of Hajja of whom 8,925 are in labor force and the fact that no detailed or accurate study exists on the organization of the central government or the processes by which traditional and imposed local government systems function.

Many of the books, monographs, articles and papers on North Yemen focus on history. Frequently these are the products of archive work by historians and political scientists who read Arabic and function well in the large Middle Eastern collections of western research libraries. Perhaps this explains why their studies center on Ottoman history, the period of the Imams and the 1962-1967 civil war while tending to superficial treatment of current history or the patterns of politics and government in the country during the last twenty years.

For a closer sense of the country one must turn to travelers' notebooks. Unfortunately, these reports lack the analytical rigor and empirical base that political scientists and historians could but have not provided on current issues related to the political economy of the country. Here the researcher must rely on journalist reports in the western press. Given the remoteness of Yemen and the scarcity of Arabic speaking reporters this source of information is rarely distinguished. As a result, the researcher interested in rural development in Yemen comes to rest much analysis on the work of a handful of anthropologists who have done solid field work in various parts of the country. The problem with this literature is that the diversity of Yemen makes generalization in the formation of national level models of traditional politics, local government, rural or urban economies and so on extremely risky. The alternative the limited census materials now available, is even more risky.

The bibliography which follows is in every sense a working one. Important studies no doubt have been overlooked. However, in general it presents most of the available materials which relate to Yemen's rural development problems

and opportunities. As noted, such studies comprise only a small part of the literature on Yemen. For an introduction to the larger body of literature the following bibliographic sources should be consulted:

Kalander, Sulaiman, et al. Selected and Annotated Bibliography on Yemen. Kuwait: Kuwait University Library Department, Bibliography Series No. 6, 1973.

Macro, Eric. Bibliography on Yemen and Notes on Mocha. Coral Gables, Fla: University of Miami Press, 1960: 1-30.

Mondesir, Simone. A Selected Bibliography of the Yemen Arab Republic and Peoples Republic of Yemen. Durham: University of Durham, Center for Middle Eastern and Islamic Studies, 1977.

Nyrop, Richard F., et al. Area Handbook for the Yemens. Washington, D.C.: Government Printing Service, 1977: 241-9.

Wenner, Manfred W. Modern Yemen, 1918-1966. Baltimore: Johns Hopkins Press, 1967: 234-47.

Yemen: A Selected and Annotated Bibliography Since 1960. Washington, D.C.: The Library of Congress, 1965.

Reports, internal memorandums and other staff papers of a number of international donors and Yemen Arab Republic ministries or agencies are available which shed considerable light on the society and economy of North Yemen. While not cited here, researchers should be aware of such documents, many of which can be obtained through a number of government channels. These focus on such topics as demography, development and financial statistics, agricultural and industrial production, country programs and development projects, and statistics on education, health, housing or child welfare. The principle organizations whose publications should be checked are: (1) Central Bank of Yemen; (2) Central Planning Organization of Yemen; (3) International Bank for Reconstruction and Development; (4) International Monetary Fund; and (5) United Nations Agencies such as UNDP, UNESCO, UNESOB, WHO and UNICEF. Additional data and analysis can be obtained through various development project papers done by international donors or government ministries. For example, rich details are presented in: Yemen Arab Republic, Ministry of Agriculture and Sir William Halcrow and Partners, Wadi Surdud Development: Preliminary Report, 2 vols., April 1977. In the bibliography which follows a number of United States Agency for International Development reports are included. Reports of other donors are not set forth because we have not had time to meet with them and check their archives. It is anticipated that these will be as full of helpful materials as the American Mission's, and researchers should not overlook them. Additional resources are available in Yemeni Governmental archives for those researchers who read Arabic.

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