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SOCIO-ECONOMIC PROFILE

Local Resources for Development
AID Project 0045

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I. Introduction

This report summarizes the findings of an exploratory socio-economic survey in the governorates of Hajjah and Hodeidah during April and May, 1978. The objective of the research was to assess the prospects for an integrated rural development project in "sample" areas of northern Hodeidah and Hajjah governorates. Sample areas were selected on a judgement basis to represent four distinct ecological zones: the extreme coastal region, the mid-Tihama, the wadi and footfills region of the highlands, and the high mountains. The thrust of the research efforts was three-fold:

- To involve local officials in discussions about the problems and potentialities for development in their areas;
- To obtain an over view of prevailing modes of production and patterns of economic activity and interaction in the areas visited;
- To provide local input in the planning of specific sub projects which might be undertaken by USAID to help alleviate some of the more pressing development related problems in rural Yemen.

II. Methods of Research

Introductory visits were made to Hajjah and Hodeidah governorates during April, 1978 by two research teams (Pavich, Ponasik, Sweet, Mokamsh, Nadeem, and Afif, and Carapico and Afif) for the purpose of establishing contacts with the Coordinating Councils (CC) and Local Development Associations (LDAs) and other local authorities and obtaining their in-principle support for a project oriented research effort. During the month of May, Afif and Carapico returned to spend a week to ten days in each of the two governorates. This allowed lengthier, more informal, and more detailed conversations with area leaders about the functioning and financing of the LDAs and specific on-going or planned projects in the area, trips to villages, agricultural areas, and project sites outside the nahiyah and governorate capitals, and visits with ordinary working men and women in the locality. Although some comparability of data was insured by administration of short

questionnaire to LDA leaders from ten nahiyah in the two governorate area, (see Table 3) in general, questions asked were open-ended and every effort was made to get people to talk about what seemed important to them; thus in Luhiyyah, discussions centered on the decline of the town's trading function; in Dhohi, on agricultural marketing problems; in Zohrah, on taming the waters of Wadi Mawr; in Mustaba and 'Abs, on drinking water; and in most of highland Hajjah governorate, on roads.

The research schedule was constrained by access factors; road conditions made it impossible to visit some areas. In Hodeidah governorate, very little time was spent in the capital city, a major urban center and therefore beyond the scope of the project. Because of the flatness of the land and short traveling times between towns, it was possible to visit several areas and collect relatively intensive socio-economic data. In Hajjah intra-governorate communications is far more difficult, so more time was spent in the town talking to officials and on day trips to nearby locations. Data was, therefore, collected for more areas, but in less detail. The organization of the report reflects these differences.

III. General Description of the Areas

A. Ecology

The Tihama plain is a long narrow belt of low coastal land, stretch along 400 kilometers of Red Sea coast and extending inland from 30 to 60 kilometers, where it is bounded on the East by a mountain range running parallel to the coast. It is hot, mostly very dry region, with rainfall ranging from about 80 mm/year at seaside to a maximum of about 300mm/year near the foothills. The extreme coastal region is characterized by either sand dunes or mud flats, and the soils are highly saline. The approximately 30 seaside villages and towns rely primarily on fishing, or a combination of fishing and seafaring trade, for their economic base.

A few kilometers inland, the land becomes richer and more suitable for agricultural development; indeed, this central Tihama region has the potential to become the 'breadbasket' of Yemen. Numerous wadis, or flood

channels, cut the region. These fill after the April and August rains and provide irrigation to large parcels of land via a system of dykes and channels. Within the Tihama, regions are defined by wadi flood basins, the East-West area washed by a particular wadi is also a marketing area, within which trade is fairly endogamous, and there is relative homogeneity of settlement patterns, housing styles, dress, and agricultural practice. In some areas (for example around Wadi Surdud) a large number of private, YAR governmental and foreign-donor spate and pump-well irrigation projects have greatly enriched agricultural potential by allowing several cereal crops to be planted each year and increasing the range of fruit and vegetable crops which can be grown. In other areas, especially between wadi basins, sparse rainfall is the only source of irrigation, and only a single crop of sorghum or millet can be raised in a year. Here, many owners leave plots to scrub for grazing goats, sheep, and cows, to trees and shrubery which are pruned for wood, or to palm trees which yield straw for weaving. Agricultural income levels and standards of living are probably lowest among farmers in these rain-fed areas.

East of this central Tihama zone, the land begins to slope upwards towards the mountains. Although the ground is often strewn with rocks and gravel, cultivation is supported by a combination of spate irrigation from the wadis and rainfall. In the foothills region (elevation 300-500m) the numerous Westward flowing minor wadis and streams flow into the major wadis (Mawr, Surdud), which swell in the late spring and late summer. Where the wadis' beds are broad and flat, intensive cultivation of such tropical weather crops as bananas, papayas, and hot peppers along the edge of the stream is possible, but in many cases the stream bed is too far below the surrounding fields and terraces for its water to be utilized in irrigation. In the higher elevations, especially above 1500-1600 meters, rainfall is sufficient to support cultivation of sorghum, beans, qat, coffee, wheat, barley, and corn by runoff irrigation over narrow walled terraces on the steep mountainsides.

B. Settlement Patterns

Except in the extreme coastal region, villages and towns can be found every few kilometers in the Tihama, ranging in size from a small village of several hundred persons to principle towns (such as Dhohi, Qanawis, Zohrah) with populations of 5-6000. It is common to find a number of satellite hamlets surrounding the larger villages in more or less concentric circles. Hamlet residents rely on the facilities of the village or town for selling their surplus and buying necessary commodities. Every village, hamlet, and town has one or several wells from which drinking water is hand drawn by a simple pulley; the static water table throughout the region varies between 6 and 15 meters, and drinking water though salty near the coast, is rarely a problem.

'Bedu' (meaning "nomads", as they are called by the city folk), are still to be found in clusters of tents and lean-tos outside of coastal towns like Khobah and Luhiyyah, or anywhere else where they can be near a well. Usually these settlements are small (3-10 families) and scantily equipped, suggesting a temporary location; but occasionally in the larger camps more substantial huts are being built, presumably indicating the intention to spend some time. No opportunity was found to talk to these people, but they appear to eke out only the barest subsistence in agriculture (probably share cropping), or herding, or by using their camels for transport.

Typical housing in the Tihama consists of several straw or mud and straw huts in a compound. Particularly in the larger villages and towns, domestic privacy is assured by a straw wall around the compound, which may house one or several families. One or more huts within a compound, usually those used by the women, may be furnished and decorated; another serves as a kitchen; others may be designated for storage, or left relatively bare and used by the men when they entertain. Usually part of the compound is walled off for keeping animals at night, and one corner is screened for a bathroom facility. Most activity, including cooking and food preparation, socializing, and sleeping, takes place out of doors.

Table 1

Land Use

I. Cultivable Area by Type of Irrigation (1976-77)

(1000 Hectares)

	<u>Total</u>	<u>Rainfed</u>	<u>Flood</u>	<u>Perennial</u>	<u>Wells</u>
Hodeidah	235	102	100	5	28
Hajjah	130	115	10	5	--

II. Land Use (1976-77)

(1000 Hectares)

	<u>Total</u>	<u>Cultivable</u>	<u>Marginal</u>	<u>Forest & Shrubs</u>	<u>Other</u>
Hodeidah	3,500	235	500	450	2,315
Hajjah	1,700	130	250	50	1,270

In the uplands, settlements are located almost exclusively on non-arable hill or mountaintop land. Historically, these sites were selected first on the basis of defensibility and secondly for proximity to water sources. Highest population concentrations are along the mountain ridges overlooking wadis or streams. Both towns and villages are tight walled clusters of multi-story stone houses separated by narrow lanes and alleyways. Typically, animals are stored on the first floor, although in some instances there is a separate space for goats, sheep, and cows outside and the kitchen is on the ground floor. Living rooms for the family are on the upper stories. In the highlands of Hajjah governorate, only the capital city has a system for pumping water to the town. Other villages and hamlets take their water supply from streams or cisterns. Many streams and cisterns run dry during the rainless winters, however, and in some instances, whole villages may move to a location near a perennial stream during the dry months. In most highland areas, women spend most or all of the morning carrying water, and the amount of water available for family use depends on the number of women and girls in the family and the distances to be walked.

C. Socio-Cultural Characteristics

Despite differences between the northern and southern parts of the country, and even localized variations among villages in the same region, the major socio-cultural distinction in Yemen is between the Tihama and the highlands. Part of this difference, as discussed in the previous section, is related to the striking ecological contrast, but there are also ethnic and historical factors at play. Most of the highlanders are ethnic Arabs, many of whom can recount a long family history in Yemen or elsewhere in the Arabian Peninsula. The people of the Tihama are of mixed racial origin, presumably because their history has been one of close cultural and economic links with Ethiopians and Somalis across the Red Sea. The visitor to the Tihama, in fact, is often struck by a greater similarity of physical characteristics and life style to East Africa, than to highland Yemen.

Table 2

Predicted Trends in Population and Emigration, 1975-77,
for Selected Nahiyas in Hajjah and Hodeidah Governorates
 (Based on Swiss Team Population Figures, 1975)

<u>Nahiya</u>	<u>Inh.</u> <u>'75</u>	<u>Inh.</u> <u>'77</u>	<u>%</u> <u>Change</u>	<u>Emig.</u> <u>'75</u>	<u>% Emig.</u> <u>'75</u>	<u>Emig.</u> <u>'77</u>	<u>% Emig.</u> <u>'77</u>	<u>%</u> <u>Change</u>
Iuhiyyah	39202	41166	5 %	2647	6.7%	2779	6.7%	5 %
Zohrah	45174	47366	4.9%	1826	4 %	1915	4 %	4.9%
Dhohi	17901	18771	4.9%	322	1.8%	338	1.8%	5 %
Maghrabah	6544	6855	4.8%	263	4 %	275	4 %	4.6%
al-Gemimah	5713	5985	4.8%	163	2.9%	171	2.9%	4.9%
'Abs	26438	27709	4.8%	3629	13.7%	3803	13.7%	4.8%
Mustaba	12285	12870	4.8%	268	2.2%	281	2.2%	4.9%
Hajjah	22760	23855	4.8%	1018	4.5%	1067	4.5%	4.8%

Figures for Sharis and Wadhera not available

One of the more obvious cultural differences is the public behavior and appearance of women. In the highlands, the prevailing code of feminine modesty is that a woman should cover all parts of her body except the face and hands. Although not specifically stated in the Quran, this code is regarded as a principle of religion and an essential component of family honor. The degree to which women appear in public is, in fact, a strong social status indicator.

Tihama women are much bolder in their dress and their public behavior, and participate far more openly in public life and formal economic activities than elsewhere in Yemen. Like the highlanders, they maintain a separate social life from the men, but they appear much more casually in the streets and sometimes in tea shops. In general, they do not veil; the only exception to this is that in larger towns, middle-to-upper class women dress up for late afternoon women's parties and wear the 'shershif' (black, head-to-toe covering, frequently worn in the mountains) so as not to vainly display their finery. As a rule, though, women can be found, dressed for the very hot weather, in the souqs, the fields, or riding donkeys to get water or to market.

There are other differences, including some mentioned earlier: dialect, food, housing styles, parts of the folklore, etc. There is also some prejudice against the Tihama people, who are often perceived in the highlands as not completely Yemeni, weaker in their religious beliefs, and far less mindful of questions of honor. The servant 'caste', or Akhdam, who do low status jobs such as street sweeping in Sanaa, are associated with the low lands (although even in the Tihama, they represent a separate social group usually living in their own villages). Although income levels are difficult to calculate, there appears to be more poverty in the Tihama than in the uplands. Certainly large tracts of Tihama farmland are owned by absentee highlanders, and farmed by local people for a share of the crop.

For their part, the people of the Tihama resent what they see as the historical and on-going administrative domination of the highlanders. Government appointees are almost invariably from the uplands: this is particularly obvious at the level of the director of the Nahiyah, or amil. Amils are, by law, chosen from outside the area they administer, to insure that they do not represent any local faction or interest group, but it is a matter of custom, not law, that they are always highland natives.

D. Towns, Villages, and Markets

In addition to the ecological division between highland Yemen and the coastal plain, a major distinction can be made between life in the villages and life in the towns. Although the distinction is partially based on physical characteristics -- urban areas have more large public buildings and more extensive market areas -- it is not only a function of size. The population of the fishing village of Khobah is as large as that of neighboring Luhiyyah, for example, but the former lacks the variety of services, building styles, and economic activity of an urban center. The basic features of the urban-rural distinction may be summarized as follows:

- a. Occupational structure: Towns have a relatively proportion of their population employed in government, in workshops or the skilled trades, in retail and wholesale trade, and in transport; in villages, over 90% of the population works in agriculture.
- b. Communications: There is greater mobility in the towns. There are many more people coming and going, on both a daily and a permanent, or semi-permanent basis; there is much greater access to new commodities and to general information exchange -- even uneducated people are able to discuss a wider range of topics. Many villagers are unaware of people and places beyond their own immediate surroundings.

- c. The life style of women: Even among the poorer 'urban' families, women usually veil. Primarily housewives, their chores may include carrying water, grinding sorghum, caring for livestock, etc; but these are normally performed in or near the home, and finished by mid-day in time to attend women's parties (qat chews) in the late afternoon. Many, in fact, earn money by sewing, weaving, or other crafts, by carrying water for others, or by doing jobs like preparing the bride for her wedding or serving tea and fixing the water pipe at afternoon parties (the latter are likely to be unmarried and to have the widest circle of acquaintances of any women in town). But such activity is considered degrading and frequently denied (the hat she's crocheting is for her brother, the bride's assistant is her mother's cousin, etc.).

Rural women, by contrast, are publically involved in formal economic activities -- sharecropping and other agricultural labor, and selling their produce (handcrafts, chickens, goats, milk, and milk products, eggs, wood, sorghum stalks, etc.) in the souqs. They rarely veil, and do not participate in the same kind of formalized visiting and social schedule as urban women do.

- d. Services: Urban areas provide a far greater range of services. These are public (Schools, hospitals, electricity, water projects, roads) as well as private (barbers, pharmacies, tire repair, tea shops, private electrical generators to operate refrigerators and TVs etc.).

Marketing remains a dispersed function in rural Yemen, not tied to the urban areas. Although principle towns (Dhohi, Luhyyah, Hajjah) often feature a small number of shops which are open daily, the marketplace only really comes alive once or twice a week, on souq day.

The souq is a trading institution which has a long history in Yemen. A marketing area covers 2-3 nihiyahs, usually within a wadi flood basin or sub range of mountains. Within the marketing area, five to seven

separate locations are specified by the Governor's Office as 'souqs'. Souqs are not always located in towns, but (or because) the presence of a souq increases the town's regional importance. They are situated so that every villager in the area has access to at least one souq a week, and so that vendors can leave after Monday's souq and arrive at Tuesday's in time to set up shop. Major towns, such as Hajjah, may host the souq on a weekday plus Friday. The Friday souq is of special importance because shoppers and vendors pray and hear the sermon in town mosques.

Souqs have traditionally been places to which peasants brought their products, livestock, or handicrafts to sell or trade, and where they bought imported necessities such as sugar. With the coming of roads and auto traffic, this function has expanded tremendously. Twenty to twenty-four big trucks arrive each week from Hodeidah to Hajjah, and much more trade comes through Saudi Arabia.

Souq Al-Aman, located at the junction of the Hajjah road and Wadi Husayb, is an important market and truck stop in the upper foothills. It is a souq, not a town or village, of the kind that is typical in the Yemeni highlands -- it consists of stalls and shops at which thousands of vendors and buyers meet every week but has only a small residential population, mostly women who live above their shops. Souq Al-Aman has clearly grown dramatically over the past couple of years, and now supports over 100 establishments. Many of these are food shops, but there are also lumber and other building materials shops, 3-4 mechanical grain mills, tea shops, a bakery or two, a hotel, a brick maker, a gas station, and even a school. On the adjacent hillside is the livestock market. A large proportion of the traders are peasants or peasants' middlemen, selling local produce, but an increasing number are small truck drivers who bring merchandise from Sanaa, Hodeidah, or Saudi Arabia to the souqs in the area. This souq, and many others like it (though usually smaller), serves as a fueling and repair stop, and most importantly perhaps, as a trading center for residents of dozens of small villages within a couple hours' walk or donkey ride who would otherwise have virtually no access to commodities which are not produced locally.

IV. Hodeidah Governorate - Locality Profiles

A. The Coastal Region: Al-Luhiyyah and Khobah

Luhiyyah is a rather large town located on a small peninsula above Salif on the Red Sea coast. As a port and marketing center, it probably had its heyday over sixty years ago and locals say that it was flourishing as a trade center when Hodeidah was just a fishing village. The prominence of Luhiyyah during the period of the Ottoman Turkish rule in Yemen is attested to by a large number of half-ruined Turkish buildings in the town.

Although Salif and Hodeidah ports began to overshadow Luhiyyah over a quarter of a century ago, the real decline of the city can be traced to the advent of road and automobile transportation in the past 5-10 years. The town is isolated from its agricultural hinterland and the potential markets for fish and seafreight from the town, by mud flats, or sabakha which are difficult for cars to cross even at the best of times and which are sometimes so inundated with sea water that the town is completely cut off. Twenty kilometers of sabakha separate the town from the fishing village of Khoba, and the closest firm land is nine kilometers inland and slightly North-East. The well which provides drinking water for the town is located beyond this nine kilometer mark and water is piped from this spot to both Luhiyyah and Khobah. This is also the favored transport route, although there are more camels than cars crossing the mud flats. Most commodities arrive by sea from Jizan (S.A.), Aden, or Djibouti.

According to local estimates, the population of Khobah is as large as that of Luhiyyah, possibly larger; 6-7000 including men working elsewhere. Khobah has a far more rural character, however, partially because all of the 700-750 houses (compounds), including those under construction and repair, are built of straw. The fishing industry supports 90% of the population of Khobah; the remaining 10% are carpenters, government employees, or service people. There are no tea shops,

Table 3

<u>Nahiyah</u>	<u>Inhab.</u> <u>1977</u>	<u>Disg.</u> <u>1977</u>	<u>Terrain</u>	<u>Irrigation</u>	<u>Crops</u>	<u>Roads</u>	<u>Services</u>	<u>Land</u> <u>Tenure</u>
Ishiyah	4116	6.7%	Varies, mud flats, wadis, flat land	80% spate; 10% well-fed	Sorghum Sesame Cotton	Bad	School, one medical worker	Mostly share-cropping (50% in wadi; 25% on well fed) Some small holdings
Tohrah	47366	4 %	Flat, dry but cut by Wadi Mawr	Spate 25-75% irrigation dykes	Sorghum Sesame Cotton tobacco vegetables	Good access	6 schools, 30 other teachers, 2 health workers, some commercial services	large holdings, share cropper, 50%
Dhohi	18771	1.8%	Flat, dry Wadi Surdud	30-40% tube well some spate from Wadi Surdud	Sorghum Sesame Cotton Tobacco Fruits Vegetables	Good access	One school, another being built, one health worker	Large holdings, share on wadi land, 50%, tubewell irrigation, 30-50%
Maghrabah	6855	40 %	Terraces, steep mountains	Rainfed; very small % wadi	Sorghum Millet	Bad	None	Small holdings, owners farm land
al-Jemimah	5985	2.9%	Mountains; flat land in wadis	Rainfed; very small % wadi	Sorghum Coffee Qat Grapes Bananas	Good road from Ehamer Ruth	None	Small holders farm own land
'Abs	27709	13.7%	Flat, very dry	Rainfed; very small % wadi	Sorghum Millet Sesame Cotton	Truck stop on juncture 2 main rds.	one school	Small holders farm own land
Mustabah	22870	2.2%	Flat, dry but cut by springs & wadis	Rainfed; springs & wadis	Bananas Papaya Sorghum	North Tihama road	One modern school; 4 other teachers under trees	Small holders farm own land
Sharis	---	---	Mountains, wadis	Rainfed on terraces springs, wadi	Coffee Bananas Corn Sorghum	Main Amran Hajjah rd	None	Small holders farm own land some share-cropping
Hajjah	23855	4.5%	Mountainous	Rainfall adequate; some springs	Sorghum Coffee Qat	2 roads in- to town connect to Tihama, Amran	Schools, hospital, commercial services	Mostly small holders; some sharecropping and wage labor on larger holdings
Wadhrah	---	---	Mountains, wadis	Rainfed on terraces wadi cultivation	Sorghum Corn Millet Tomatoes & vegetables when rain-fall/wadi permit	Terrible	None	Small holders farm own land; some share-cropping, with farmer taking 50-75%

Table 4

Area and Production of Selected Crops,
Hodeidah and Hajjah Governorates
 (Area - 1000 Hectare - Production - 1000 Tons)

	<u>Hodeidah</u>		<u>Hajjah</u>	
	<u>Area</u>	<u>Production</u>	<u>Area</u>	<u>Production</u>
Sorghum & Millet	160.0	112.0	70.0	56.0
Maize	4.0	5.6	0.5	0.8
Wheat	---	---	0.5	0.4
Barley	---	---	0.4	0.2
Sesame	6.2	3.7	0.1	0.1
Tobacco	5.0	6.0	0.1	0.1
Cotton	4.5	4.5	0.1	0.1
Coffee	0.2	0.1	1.0	0.4
Grapes	---	---	1.0	4.8
Fruits	6.0	35.0	--	--
Potatoes	0.1	0.8	0.1	0.8
Vegetables	4.0	40.0	0.2	1.6
Legumes	<u>10.0</u>	<u>7.0</u>	<u>1.0</u>	<u>0.8</u>
	200.0		75.0	

(Total cultivated land 235) (Total cultivated land 130)

restaurants, or stores. In March, 1978, a request was made to the Governor's Office in Hodeidah for permission to open a weekly souq, but townspeople are awaiting approval of the request before starting to build shops. Currently, most 'stores' are located within family compounds, where women sell household items and canned foods to their neighbors. Other commodities are bought in Luhiyyah, which has a large number of shops selling food and ordinary household items, a Yamaha dealership and several other specialty shops and services. The government employs a lot of people in Luhiyyah because it is the nahiyah capital. Twelve to fifteen men make their living rescuing cars which get stuck in the sabakha during the wet season (and migrate to S. A. in winter). Probably fewer than 30% of the men are engaged in fishing.

Fishing The basic unit in the fishing industry is a boat and its crew. Although novice wage labor is occasionally employed (at the rate of 10-15 riyals/day), most boats are commonly owned by men who fish together, market the catch themselves, and split the profits.

There are about 50 boats in Luhiyyah, each with a crew of 3-4 men. Usually, boats are built by contract, but occasionally, owners buy wood and other materials and hire carpenters at a rate of 150 riyals/day. The average cost of a boat in Luhiyyah was estimated at 25,000 - 30,000 riyals, including the gas or diesel engine. In Khobah, there are about 150-200 boats, but they are generally larger, supporting a crew of 5-12 men and costing up to 100,000 riyals complete.

Fishing is done with nets, which are generally arranged offshore in the evening and dragged ashore in the morning, however, some boats stay out for a couple of days. A few fishermen who do not own boats utilize a mesbah, a simple maze of nets strung offshore on poles to trap the fish who come with the evening tide. Nets are handmade from nylon rope.

Marketing is the major problem in the fishing industry. Unlike agricultural produce, which is frequently sold to a middleman who transports it to the major cities for distribution, fish is marketed on an exclusively

retail basis. Probably because of the overland access problem, Luhiyyah fishermen generally sell in Jizan, Saudi Arabia. Ice brought by sea from Hodeidah is used to preserve the catch during the eight hour boat trip to Jizan, but what is not sold immediately after that, spoils and must be discarded. The Khobah market lies mainly in the hinterland. One or two days catch is salted or packed in ice and sent overland to Bajil, Zohrah, or elsewhere in the Tihama; only if there is an unusual surplus, does a boat go to Saudi Arabia. Most crews in both Khobah and Luhiyyah work only two to three days a week, and seem to feel that beyond that they quickly reach a point of diminishing returns because of the limited market, and because prices vary substantially according to supply.

Development Planning & Projects The town of Luhiyyah is the administrative seat of a nahiyah which extends inland and covers much agricultural land. The agricultural areas of the nahiyah are closely linked with Zohrah and will be treated under the mid-Tihama Section, following.

Offices of the central government represented in Luhiyyah include the ministries of the Interior, Justice, Education, Health, and Public Works, the Office of the Governor, and, of course, the Local Development Association. The LDA is a particularly active one, headed by the Secretary General of the Hodeidah Governorate Coordinating Council.

There is a hospital building in the town, but it lacks facilities or staff. A single health worker is employed by the LDA, but he can distribute non-prescription medicines only, and is not trained in diagnosis. This is of particular concern to the women of the town who complained they have no one to advise them on treatment of even simple maladies, such as skin allergies. It might be feasible to organize a course for women on treatment of childhood ailments, superficial wounds, swelling, and rashes, common menstrual and childbearing problems, and the proper usage of ordinary medicines and ointments; but what they would really like is a women doctor. There is a primary school, built by the LDA, which is attended by both boys and girls (though the former are in the clear majority). The teachers

seem especially innovative in using graphic instructional materials (large color maps and drawing on the school walls) and are operating a small experimental farming project outside the school using water from the public project.

The municipality tries to maintain urban sanitation and is interested in restoration and town planning, but is hampered by a labor shortage (they pay 400 riyals/month for street sweepers, etc.) and lack of equipment and vehicles. In fact, there are no vehicles owned by the Amil (nahiyah director), the Hakim (judge), the municipalities, or the LDA.

The same water project, built by an independent contractor for one million riyals, serves both Luhiyyah town and Khobah. The system currently pumps water to above ground storage tanks outside each town; below each tank are a series of taps. Water is sold by the LDA to donkey cart owners for one riyal per 400 liters. The donkey carts deliver the water to household storage tanks for ten riyals. Money has been laid aside for house-to-house connections, but local officials say they are having trouble getting technical advice from either CYDA or the Ministry of Public Works.

Both Luhiyyah and Khobah are anxious to improve the water delivery system and to build electricity projects. (At present, private generators serve homes and shops, especially to run refrigerators and televisions). Khobah authorities have spoken to a Saudi entrepreneur who is interested in building a private electricity company, but they would prefer a public, nationally or locally funded project. Everyone is interested in seeing the existing health facility put into operation, but attracting qualified personnel is a problem.

For the town of Luhiyyah, the major economic concern is trade/transport facilities: building of an all season road and dredging of the natural harbor, which presently can receive only small fishing craft. Of these, a connecting road to the planned Hodeidah-Saudi highway is the foremost concern.

With respect to the problems of the fishing industry, more research is clearly needed. A souq in Khobah might boost its sales to reduce transport costs to the fishermen. It might be worthwhile to investigate potential markets for seafood in Hajjah, Mahweit, and Sana'a. The prior problem, however, would seem to be packing and preservation of the fresh fish to extend the period during which they can be sold. Marketing coops are another possibility.

B. Tihama Agriculture

1. Al-Luhiyyah and Al-Zohrah Nahiyahs

The immediate hinterland of the town of Luhiyyah is characterized by rough sand dunes, with small plots of cotton and sorghum separated by larger areas of bush and scrub (some of which provide wood for fuel); this flattens out as it reaches the area around Zohrah, where cultivation is on larger, more contiguous plots. This is a reasonably well-watered area. At the mouth of Wadi Mawr where the water disperses into small channels flowing into the mud flats, natural vegetation provides ample grazing for goats, sheep, and cattle. Shallow hand wells provide drinking water (sometimes salty) for most villages and hamlets. Irrigation ditches and retaining wall channel the wadi water to planted plots during the floods. It appears that the land offers greater agricultural potential than is currently being realized.

Nearly 70% of the land in Luhiyyah nahiyah is planted followed by cotton. Until 1975/76, nearly 40% of all cultivation was in cotton, but landowners have found recently that the labor costs for raising cotton are too high to make it profitable. There is a high rate of migration in this area, and although many men return for planting and harvesting, women's participation in agriculture is high. With the increasing labor shortage, agricultural day wages have risen to 50 riyals/day. On the 80% of the agricultural land which is irrigated from the wadi, sharecroppers take 50%, but on the 10% or so of agricultural land which relies on the nahiyah's 100 pumps for irrigation, the share of the farmers is only 25%. Rainfed lands are only marginally productive, and are mostly owned by small-holders, many of whom don't bother to plant. There are perhaps four to five

tractors in the district, but the softness of the soil and the size of most plots make it particularly conducive to the utilization of bulls to prepare the land for planting.

The town of Zohrah lies directly east of Luhiyyah, some thirty kilometers inland, near the eastern edge of the agricultural belt (some 40 kilometers wide), near the juncture of Wadi Mawr with a smaller stream, Wadi Abbas. The major crops, in order of importance, are: red, white and yellow sorghum (maize), sesame, cotton, tobacco, and vegetables (tomatoes, okra, etc.).

At present, about one-quarter (25%) of all farm land is spate-fed through a system of dykes and channels from Wadi Mawr and Wadi Abbas. There are three dykes east of Zohrah town and three dykes west of town. The rest of the land is rain-fed and very few pumps are used for irrigation. If the dykes were repaired, officials estimated that the Wadi waters could be made to reach close to 75% of all farmable land in the nahiyah. At present there are three bulldozers (rented from the Ministry of Agriculture) working a short distance outside of the town, at a cost of 2700 riyals/day. They hope to finish repairs on a dyke which will bring water to 2000 ma'ad (ma'ad = 100 libna or approximately 4900 square meters) near Zohrah town before the spring floods; there is another dyke which, if repaired, will irrigate some 13,000 ma'ad.

Excessive flooding is sometimes a problem. In 1977, new wadi walls were constructed (using six old bulldozers rented from the MOA) to impede the spreading of the wadi bed, but these walls washed away in the flood. Repair of dykes and retaining walls is therefore a continuing project. Both wadis spread each year.

Though there are about eight tractors in Zohrah nahiyah, most land is prepared for planting using the traditional pair of bulls and locally-made plows etc. Most land is farmed by individual small holders. Where there is sharecropping, the farmer takes 50% of the crop.

Additional labor is often hired during harvest season, the most common system being for the landlord to contract with a worker for day work on a share basis of 50% of his day's harvest. Women are not hired separately, but when a man contracts to harvest, his wife and children are likely to work with him.

Most people now drink from shallow hand-drawn wells. A couple of years ago, a group of experts came to look at Wadi Mawr, and during their tour, determined that twenty-four pump-operated wells were needed in Zohrah and Luhyyah nahiyahs for drinking water; this was never followed up on. More recently, the Tihama Development Authority, with the help of an American consulting firm, drilled some 60 test wells in the Wadi Mawr area, for experimental purposes, to measure the water table at various points in the region. After drilling, the wells were sealed. This seemed futile to the local authorities, who felt the wells ought to have been drilled outside the wadi bed and then, of course, left for use by the local people. An American irrigation engineer for the contracting firm reported later, however, that because the drilling was for research purposes, no pumps were bought, but that many of the wells stand ready to be equipped with pumps and used if/when the government or some other agency purchases and installs the pumps (some of the wells, however, were dry). Some other wells have been dug at local expense but failed to go into operation due to lack of funds to complete the project. The village of Muatarab drilled a well but ran out of money before it was outfitted with a delivery system, and four years ago the 'twin' villages of Naman and Kamalia participated in a project in which the government paid for the well and the locality provided the pump, but money was never raised for pipes and tanks, and the well and pump stand unused. The town of Zohrah has a working project, built by the LDA.

Aside from agriculture, there are some small-scale craft operations in the area of Al-Zohrah, including straw hats, mats, and camel saddles; clay pots (a very low-prestige operation), local sweets, and carved knives. Plows are also manufactured locally, and it was estimated that there are at least 50 blacksmiths and 50 carpenters in the nahiyah, about half of them in the town. There are also a number of mechanics, but all are self trained

and none have workshops. It is obvious that there has been an increase in the construction industry recently; people are starting to build cement and mud brick homes.

The town of Zohrah is strategically located on the North-South route through the Tihama, only one and a half hours' drive from Bajil on a straight road. There is a gas station outside of town, near the Tihama Development Authority Office and some large Syrian and Saudi trucks stop enroute. Local officials pointed out, however, that the town has so far failed to take advantage of the potentials for tourism and roadside facilities, and that there are no restaurants or hotels. This is also true, they said, of Luhiyyah. The relationship between the towns and nahiyahs of Zohrah and Luhiyyah, is a close one and there is cooperation on things like water and roads, presumably stemming from a long-standing trade and marketing relationship. formerly, the two nahiyahs were part of a single qada.

Development Planning and Projects The nahiyah has six new schools and one which remains unfinished, built by Saudi Arabia; there are additionally some 30 local teachers teaching in huts or under trees. There are only two health workers in the district, who bring medicine from Hodeidah city (there has been an eighth-month malaria epidemic). The Local Development Board has fairly ambitious projects planned, including an electrification scheme, but annual income from the Zakat amounts to only 300,000 riyals, and additional funds are needed for funding any substantial project.

The Tihama Development Authority Board in the area has available, some machinery and experimental crop varieties, but has not been active in outreach on extension programs. Top development priorities in the nahiyah are water related rural works; technical assistance in repair of dykes, flood water diversion and control, and equipping existing wells with pumps. Public services -- schools, hospitals, and electricity projects -- are also major concerns. Officials doubted that larger agricultural surpluses could be marketed. Local sorghum grains and stalks are mainly sold within the Wadi Mawr area, beyond which competition from imported grain makes marketing difficult. There are problems, as well, in the marketing of tomatoes and cotton.

therefore, any effort to improve agricultural productivity should be accompanied by serious consideration of distribution. The productivity of marginal lands might be boosted by grassing and afforestation (low moisture varieties) for grazing and fuel wood and to inhibit soil erosion.

2. Al-Dhohi Nahiyah

The town of Dhohi is located about 70 kilometers northeast of Hodeidah city along one of the most traveled north-south routes through the Tihama. It is the central town and district capital of Dhohi Nahiyah (district), a flat, arid area characterized by scattered trees, bushes and scrub on non-cultivated lands. Given the constraints of water and labor, in many instances it is more economic to leave the bushes and trees, which yield fuel wood and inhibit soil erosion by wind, than to clear the land and cultivate it. Wadi Surdud flows into the nahiyah and close to the town.

The principle economic basis of Al-Dhohi nahiyah is agriculture. Although productivity on lands which rely on rainfall for irrigation is low, Wadi Surdud provides spate irrigation through a system of dykes and channels which allows planting of thirstier crops after the spring and late summer rains. An additional 30-40% of all possibly farmable land is watered by approximately 120 pump-equipped wells in the nahiyah, all privately owned. A pump and well can irrigate 30-50 ma'ad, thus the smallest farm on which pumps and wells are used for irrigation is about 30 ma'ad. Capari pumps are most commonly used with Yanmar 23 horsepower engines, which are stronger than necessary and usually operate below capacity. The estimated cost of installing an irrigation system on 30 ma'ad is 40,000 riyals (pump and engine).

The major crop on rainfed land (which sells for about 3000 riyals/ma'ad) is sorghum. On rainfed land it is possible to plant one crop of sorghum a year after the spring rains, which are usually very sparse. Productivity per ma'ad is approximately 10 qadah of sorghum (480 kilos), which sells for about 50 riyals/qadah.

Table 5

18a

Tihama: Agriculture (al-Jhoji)
Agricultural Land-Use Practices

	<u>Wadi Land</u>	<u>Rainfed Land</u>	<u>Pump-irrigated Land</u>
Seasonal land-use:	One or two planting seasons depending on wadi flow (ie rainfall in uplands)	Cultivated one season a year only (depending on rainfall); more only if rainfall is unusually good	Cultivated all year round; 2-3 harvests of sorghum/year
Conditioning of land:	Some crop rotation; salt from wadis enriches land, but there is a danger of washout from floods, destruction of dykes when waterflow is heavy	Mono-crop cultivation; tends to deplete soil nutrients, leaving land uncultivated when productivity declines increases tendency for soil erosion	Crop rotation practiced to enrich soil and prevent erosion
Crops:	Sorghum (white & red) millet other crops as water supply permits	Sorghum (white & red) millet	Tomatoes Sesame Tobacco Watermelon Cantelope Millet Sorghum (red & white) Cotton Okra Papaya Bananas Oranges
Itinerary:	50/50 sharecropping; farmer supplies plow animals; farmer and owner share cost of seeds and other inputs, divide crop equally	2/3 sharecropping; farmer supplies plow animals; other costs divided; owner retains only one-third of crop (sharecropping on rainfed land fairly uncommon)	50/50 sharecropping; portion retained by farmer, has recently risen from 1/3 to 1/2 of crop. Owner pays all expenses; farmer contributes only labor. (Wage labor & rental arrangements also common)

On wadi land, which sells for 5000-6000 riyals/ma'ad and pump-irrigated land, the principle crops, in order of importance are: sesame, cotton, tobacco, vegetables, fruits, and flowers. These are mostly winter crops, planted in September-October. Sorghum is planted in the late spring for the hot season, and it is possible to raise two to three crops a year on wadi or well-irrigated land.

The problem crops this year are tomatoes and cotton, both of which require a heavy labor input at harvest time. In both cases, the problems stem from the combination of high labor costs for harvesting and difficulties in marketing. When farmers planted cotton this year, they did so believing that the Yemen Cotton Corporation would pay 40 riyals/faraselah (faraselah = 20 kilos), of which 10 riyals represents labor costs for harvesting (alone). The official government price for cotton was re-set during the season, however, at 26 riyals/faraselah. A ma'ad of cotton produces about 60 faraselah, so the difference between the expected and the selling price of the produce of one ma'ad of cotton is over 700 riyals.

During peak harvest time this year, the price -- from the middleman, or truck owner -- of a faraselah of tomatoes, fell to 5 riyals, the same as the labor costs to harvest it. This means that tomatoes are actually being sold at a loss, if they are sold at all. It was complained that part of the crop spoiled before it could be marketed and one farmer told of trying, unsuccessfully, to talk a truck driver into taking his tomatoes for free, just to get them off his hands. Attempts to get the government to guarantee a higher minimum price for tomatoes have failed. Currently, there is much enthusiasm for a canning industry, which is being tried in the Tihama district of Luwiyyah through a joint venture undertaken by CYDA, the LDA, and the local people with an Italian company. The people of Dhohi are waiting to see the Luwiyyah tomato canning factory before attempting a similar venture of their own; presumably to be organized under the auspices of an agricultural cooperative they hope to form soon.

Although there are small holdings of 20-50 ma'ad, much of the land is parceled in tracts larger than 1000 ma'ads (the largest is reportedly 7000 ma'ads). In some cases, the landlord is absentee, but even when he is present, most large landowners either rent or sharecrop their land. This is true even on medium sized holdings (100-1000 ma'ad).

The relationship between landowners and those who actually farm the land varies substantially, and there are several kinds of rental and sharecropping systems operating in the area. The principle variable in rental and sharecropping arrangements is the type of irrigation employed in agriculture. The most common patterns are as follows:

- a. Lands irrigated with wells and pumps
 - i. Sharecropping: The portion of the crop retained by the farmer has risen recently from $1/3$ to $1/2$. The owner of the land contributes all supplies and pays all expenses -- plow animals or machinery, seeds, fuel, spare parts for pumps, etc., -- the farmer is only obliged to supply his labor.
 - ii. Al-Qabal: A package consisting of 30 ma'ads plus a functional pump are rented outright. The pump is handed over to the farmer in good working order and the owner agrees to pay for replacement of any malfunctioning parts on the pump, or the engine; otherwise, all expenses of farming, fuel for the engine, and labor for mechanical repairs, are born by the farmer, who may make his own arrangements with other laborers to work the land. Currently, rent for the 30 ma'ads plus pump, ranges from 10,000 - 15,000 riyals annually, and it is part of the agreement that the land and pump will be turned back to the owner (in the same condition as they were received) at the year's end

b. Wadi-irrigated land

50/50 sharecropping: The farmer supplies the plow animals, and the farmer and the owner share the cost of seeds and other expenses; the crop is divided equally between them.

c. Rainfed land

2/3 sharecropping: The farmer supplies plow animals; other costs are divided, but the owner takes only one-third of the crop, and the remaining two-thirds goes to the farmer. Sharecropping on rainfed land is fairly unusual.

Finally, the option is available to landowners, or to those who rent land outright under the Qabal arrangement, to hire day laborers rather than to share-crop the land. Male farm workers hired on a daily basis are paid 20 riyals/day, and women 15-20 riyals/day, or else a pre-determined share of the harvest. Harvesting is the time when labor requirements are the highest. Depending on specific characteristics of the land, personal ties with those who usually work the land, and especially the kind of crops which are being raised, landowners and renter-managers, in some cases have terminated sharecropping arrangements and are choosing instead to hire labor only as it is needed on a daily basis. For crops which require attention throughout the season, however, it is still more economical for the landowner or renter-manager to use sharecroppers.

There are four tractors situated in the town and about eight in the entire nahiyah. In most instances, however, a pair of bulls pull locally made plows over the plot. In addition to the traditional storage technology of putting grains in underground bins, the town has warehousing facilities in which grains are stored either by being packed first in burlap sacks, or by being poured into the room from above.

Although they sometimes help during planting season, women work mostly on harvesting. Women who cut the sorghum heads and separate the grains take a quarter of the grain. For harvesting a faraselah of cotton (20 kilos) they are paid 10 riyals; for each 30 kilo box of tomatoes they pick, five riyals. In general, though, the men sharecrop or work for wages, and the women devote their attention to domestic or subsistence

activities. The most important of these are the collection of water, the care, feeding and milking of goats, sheep, camels, and cows, collecting eggs and taking care of chickens, and food preparation, which is probably the single most time-consuming chore. (Examples of labor requirements of two staple dishes: (1) Sorghum is mashed daily with a hand grindstone, 2-3 hours/day are required to prepare the grain and make rich dark sorghum bread. (2) Yoghurt, or sour milk is made in a large hollow gourd hanging from a tree, which is partially filled with goat's milk and then agitated by hand). Some women from the surrounding villages sell grains, sour milk, chickens, and eggs daily or weekly in the souq at Dhohi.

Dhohi is beginning to develop as a secondary urban center. Although originally all building was done in straw, now some 40-50% of the houses are made of stone or cement block or brick, mostly built by returned Saudi migrants. In addition to the weekly souq on Tuesday, there are a number of stores and shops open daily, including general food, cloth, and household item stores. In industry and handicrafts, there are a camel-operated grain mill, three carpenters, a cement block manufactory, male and female tailors, 6-8 pottery furnaces, 6-10 blacksmiths, silver and goldsmiths; and production of local sweets, crocheted caps, and straw mats. There is a gas station a little ways outside the town, and the local authorities are clearly hopeful that as traffic along the North-South road increases, so will the town's marketing and services sector.

Development Planning & Projects The Dhohi LDA was named by an employee of the Hodeidah Coordinating Council as one of the most active in the province, utilizing funds from the zakat tax and rents from the water from the LDA water project to finance new projects. However, like LDAs throughout the country, they are consistently short of funds. For example, they have raised 300,000 riyals from the LDA and local people for an electricification project for the town, and are now approaching the central government for assistance in raising an additional 900,000 needed to build the project (total cost: 1,200,000 riyals).

The water project provides a tap in each neighborhood; for household connections, a fee of 600 riyals is charged. They have built one school for boys and are building another for girls.

The main concern voiced by local authorities was to develop the productivity and profitability of agriculture, by organizing agricultural cooperatives, obtaining professional advice on seeds, fertilizers, and planting practices; improving marketing and transport facilities, including roads. In particular, they said that productivity per unit of land has been declining recently for reasons they do not understand, (probably inadequate fertilization) and that farmers have been unsuccessfully trying to compensate for this by planting additional fields. Other priorities listed were health, especially malaria, village water projects, schools, and electricity.

The Wadi Surdud basin, of which Al-Dhohi is a part, is an area of relative sophistication in agricultural techniques, as is indicated by the officials' list of development concerns. This is probably true for three reasons: (1) because of proximity to the Hodeidah - Bajil urban complex, (2) because of several rather large-scale experimental farms, mostly foreign donor efforts and often utilizing state lands, (3) because some of the area's large landowners are members of the wealthy, but fairly progressive, urban elite, and encourage experimentation on their land. Thus, the technologies are available and the examples present. Most ordinary farmers, however, demonstrate a clear disinterest in innovation, agricultural or otherwise.

V. Hajjah Governorate: Locality Profiles

Access to the city of Hajjah is either via a rough gravel, Ministry of Public Works road from the Tihama, which heads into the mountains below the town of al-Towr at Wadi La'ah, or along the shorter route -- coming from Sana'a -- through Amran on a road now being completed with the assistance of about 30 Chinese technicians and workers. The latter will connect Hajjah town with many of the villages and towns of the governorate, but is currently passable only by the small Japanese four-wheel drive vehicles popular in the mountains. Any village or town which does not lie on one of these roads has to rely on donkeys and/or camels for transport.

Although the AID vehicle used by the research team was the first car to reach Wadhrah along a newly cleared track, due to difficulties of transport in the highlands, much heavier reliance was put on conversations with government officials in the capital, than in the lowlands.

Fortunately, we were able to talk with a number of local leaders visiting the CC and the Governor's Office. Our first visit coincided with a CC sponsored meeting of 30 LDA representatives.

The Hajjah Coordinating Council named six areas which they felt were in particular need of development projects: The nahiyahs of 'Abs, Jemimah, Maghraba, Sharis, and Wadhrah and Hajjah city. Interviews were held in Hajjah town with LDA representatives of 'Abs, Jemimah, Maghrabah, and Sharis; visits were made to several localities in Hajjah nahiyah and to Wadhrah nahiyah.

A. Northern Tihama

1. 'Abs Nahiyah

The town of 'Abs (pop. 2,800), located at the edge of the northern Tihama foothills and along two major transport routes, is the administrative center for a large, flat, dry area of Hajjah province. It is acutely lacking in water -- a situation exacerbated by droughts over the past several years -- and the shallow wells which provide drinking water in much of the Tihama have gone dry. Rainfall permitting, sorghum is grown, together with small amounts of millet, sesame, and cotton. Wadi Qur provides some spate irrigation, and the town itself pumps water for drinking and domestic use from a deep well a few kilometers away. Most land is owned and cultivated by small holders (there is a very little bit of sharecropping, 50%), but with 50-65% of adult males working elsewhere, it must be women who do most of the farming.

'Abs itself is a truck stop with a regular market, and there are three other towns in the nahiyah with weekly souqs. The town has a school, built by the LDA and the local people, and a fifteen-year-old Egyptian-built

hospital building which has a director but no medical personnel and is completely nonfunctional. The worst health problems are TB, malaria, and infant mortality.

The over-riding development priority is for drinking water, and rigs may be needed to dig deep enough to draw water. Other priorities listed were agricultural equipment and technical assistance, and schools.

2. Mustabah Nahiyah

Mustabah is in the north-west Tihama land below the foothills. It is an area reasonably well watered by springs, and shallow hand wells and springs provide drinking water for most of the area. Principal crops are bananas, papaya, and red and white sorghum. There are no pumps; the springs and some light rainfall provide irrigation. There is a road traveled by all sorts of vehicles. Tractors are sometimes available for rent, but most farming is small-scale. Much of the population lives in medium-size villages in stone or straw houses.

The LDA has built one modern school in the town of Mukhafi, and another four teachers in the nahiyah hold class under trees or tents; there are no clinics. There is no permanent market, but the towns of Khadlan and Kharbi have weekly souqs. Local manufacture includes clay pots and straw hats. Priorities for development are roads, schools, and deep wells for drinking water in dry areas.

B. Wadi-Cut Mountain Regions

1. Al-Jemimah Nahiyah

Al-Jemimah Nahiyah is located in the north of Hajjah province, in a mountainous region cut by deep wadis, the biggest of which is Wadi Mawr. Agriculture is carried out both under rainfed conditions on the mountain terraces and on the flat lands along the wadi floors. The major crop is sorghum (red, white, and yellow), followed by millet, and small amounts of coffee, qat, grapes, corn, and bananas. One tractor arrived after the recent completion of the all-weather road from Khamer and Huth, but most plowing is done by bulls. Small holdings are predominant.

Most of the population lives in small-to-medium sized stone villages on the hilltops. In many areas, drinking water is carried from the wadis, but some open cisterns have been constructed recently. There are three weekly souqs in the nahiyah, and in the town of Bashares there are about 10 shops which are open daily. No local handicrafts or industries were named, and there are no schools or clinics. Development priorities were listed as schools, water, health facilities, and agricultural projects.

2. Sharis Nahiyah

Sharis is now accessible via the Amran-Hajjah road, although feeder roads are needed to reach some villages. Wadi Sharis, and the mountain springs which feed it, provide irrigation for most of the area's cultivation, although some hillside terraces are rainfed. Coffee, bananas, and corn are grown in the wadi and spring beds, and sorghum on the terraces. Much of the land is farmed by its owners, using bulls for plowing; there is little sharecropping, and the price of hiring occasional day labor is prohibitive. There are no schools, clinics, or permanent markets, though there is a souq on Sunday in Sharis; probably most people make occasional trips to Hajjah for shopping, or when they need medical attention. Malaria is the biggest health problem in this and other areas of Hajjah, especially near the wadis. Local manufacture includes nura (a whitewash) and clay pots. Development priorities include rebuilding of the wadi terraces, schools, and clinics.

3. Wadhrah Nahiyah

The medium altitude region receives less rainfall than the high mountains, but is cut by numerous wadis. On the rainfed hills, planting is usually done -- often by a man and woman team -- in late May. This year, early rains permitted planting in March, and farmers may hope for two sorghum crops. In the wadi beds, papaya, bananas, hot peppers, tomatoes, and okra can be grown, but the choice of annual crops is also determined by the spring rains. In wadi Marwah below the village of Wadhrah, sorghum and corn are the principal crops. Relying on rain alone, one crop can be harvested a year, but if the wadi rises two to three gain crops plus some vegetables can be raised.

Small holdings predominate in this area. Where there is sharecropping, the farmer provides all inputs and takes 75% of the crop. Until recently, the farmer's share was only 30-50%. On lands immediately around Hajjah city, the farmer's share may be as high as 90%. Agricultural workers earn 30-40 riyals/day.

Development Planning and Projects Wadhrah became a nahiyah and formed its own LDA only this year and has very little capital with which to initiate projects. A road to Wadhrah was listed by the Governor of Hajjah and the Coordinating Council, as one of the two most pressing project needs in the governorate -- the other is water projects in 'Abs. It now takes four hours to drive from Souq al-Amman -- the same time as it takes to walk -- over an extremely rough track, the last stretch of which lies in the narrow, boulder-strewn bed of Wadi Tafian. From the wadi bed, one must still climb to the village by foot. The track is only barely passable, though some improvement might be accomplished with the help of a hand-operated rock drill.

The second priority is a water project. At present, the only reliable all-year source of water is Wadi Mawr, a two to three hours walk from the village and/or a spring down by the wadi bed.

Also clearly needed in this area, like most areas off the main roads, are health and educational programs of almost any description. The state of health and sanitation seems to be extremely poor, although it is not clear to what extent this is obvious to most local people because of the equally low level of education. Lack of understanding of health problems and the causes of disease are not, of course, peculiar to Wadhrah, or even to the rural areas, but are certainly far more acute in the remoter villages. Similarly, the ignorance of women may be more striking than that of men. This is important because women are responsible for sanitation, nutrition and health care; for both their families and their livestock. Men in a village of Dhohi nahiyah said the cattle were sick, and then died, but make no connection between the two events; the relationship between contagion from water or flies and disease is even more obscure. Moreover, shots, pills, and other treatments may be sought by the visibly ill, but preventative measures such as inoculations and sanitary practices are likely to be viewed as foreign superstitions.

C. The High Mountains

1. Maghrabah Nahiyah

Maghraba is in north-central Hajjah province, a six hours' car ride from Hajjah city, via a road in Wadi Sharis and Wadi Moli, which washes out when it rains. An all-weather road is planned. The area relies on rainfed terrace agriculture, the major crops being white sorghum, red sorghum, and millet. Terraces are constructed to maximize utilization of runoff from the mountains after a rain, but planting is only possible once a year after the spring rains. Land is farmed almost exclusively by small holders, each farming their own land, and there have been no capital inputs in agriculture (no pumps or tractors). Bulls are used to prepare the land for planting and the harvested crop is stored underground.

The out-migration rate is fairly high; it was estimated that some 25% of the men are in Saudi Arabia, but that this is a lower percentage than before and that many men are returning and that many others are choosing to go instead to the town of Mahabasha, (in another nahiyah) as agricultural workers, masons, or in road construction. Many returning migrants from Saudi buy cars, but they are ruined within three to four months on the area's rough roads.

There is no permanent souq in the area, but there are weekly souqs in four villages. The majority of the population live in hamlets of a few stone houses; there are only Quranic schools. Local crafts include the manufacture of dynamites, straw mats, and clay pots (the last being a lower class occupation). Development priorities, in order of importance, were listed as roads for cars (now use donkeys), water (probably cement cisterns for areas which do not yet have them), schools, and medical facilities.

2. Hajjah City and Environs

Hajjah city is the commercial and administrative center for a large region in north-north-east central Yemen. Though a mountain town like Manakh, Tawila, and Mahweit, its size, location and historical political function have fostered links with the northern Tihama and the north-western inter-mountain plans.

Hajjah has had historically, and retains, a distinctly urban character. A major administrative center during the period of Imamic rule, it has a large number of old public buildings, including the Republican Palace (formerly the Imam's Hajjah residence), and several more recently constructed public buildings which house military and local administrative and public services functions. Residential areas are scattered over several adjacent hilltops and slopes, which at some time probably represented discrete villages, and each of which still retains some individual character. Women are heavily veiled and appear on the streets only to fetch water or go visiting in the afternoons. Cars are used extensively for intra-city transportation, and students are brought to the schools in buses.

Agriculture surrounds the town, and there are a few neatly plowed terraces actually in the city. At this altitude, sorghum, coffee, and qat are the principle crops, cultivated on narrow walled mountainside terraces. Terraces are watered by a combination of direct rainfall and mountain runoff. Nonagricultural activities are becoming increasingly important to the urban economy. The government sector is the largest employer, but the town also supports some 20 carpenters, 10 blacksmiths, 4 welders, 4 butchers, several mechanics, a gas station, metal door manufacturers, numerous food and household goods stores, and a rapidly expanding construction industry.

Development Projects and Planning Education is provided through the secondary level (Yemeni and Egyptian teachers), and a World Bank or UN financed technical school is under construction. A hospital, staffed by Egyptian, Sudanese, and Yemeni health personnel, provides medical services but is beset by shortages of staff and equipment.

The city water supply comes from Wadi al-Ayen, eight to nine kilometers below the town. Before the present system was built, the town relied on a system of cisterns to collect drinking water. A couple of cisterns are still used for backup water storage and one is a swimming pool for young children. The system now in use pumps water from the wadi to a pumping station four kilometers uphill, and then to the town. The pumps are Semins submersible pumps. The system was built four to five years ago at a cost of 4,000,000 Yemeni riyals with all labor supplied voluntarily by the townspeople.

The same system of cooperative voluntary labor contributions is being used in the construction of roads connecting the town with small neighboring villages. The central government has no financial obligation in the construction of roads under 20 kilometers, but CYDA provided an army engineer to plan the roads. The routes necessarily cross mountainside terraces; all land was contributed voluntarily. For the feeder roads under construction in Hajjah nahiyah, the LDA employs three equipment operators and three local site supervisors, and the head of the LDA, who has some experience on road building, oversees the operation.

Each household in the villages the road is to serve, sends one or two volunteers a day (depending on the size of the household). The result is an impressive example of community cooperation, with some 50 men (plus a few women and some boys) clearing the path of the road by hand, to the accompaniment of drums and much chanting. It appeared, however, that additional technical advice on problems such as grade and drainage would be useful. The main Tihama-Hajjah road washes out in several places after a heavy rain and is in need of frequent repairs.

The town of Hajjah's intra-city routes (especially the main street leading to the upper town of Al-Dhahrain and the "ring road" behind the city) are also in need of repairs. The government gave the town cooperative (LDA) a "package" consisting of two trucks, a front loader, and a bulldozer to be used by the town and lent to neighboring LDAs, but officials are concerned about operation and maintenance. There are some experienced operators in town but the LDA has trouble keeping them on the job. There are two dozen bulldozers in the government but the nearest maintenance facility is in Hodeidah. Officials would like to see a workshop and teaching facility for heavy equipment located in town. With the current expansion of the city, the LDA is also interested in initiating an urban planning project in conjunction with the Municipalities.

VI. Investments, Savings, and Migration

Quite logically, it is the areas where the land tenure system is one of large holding where the greatest capital inputs have been made in agriculture, especially pumps and wells, but also tractors. Obviously, large landlords have available the capital necessary to make such improvements; furthermore, the incentive to install a well and pump is/was particularly high under a system whereby the share of the crop left to the growers was/is much lower (25%-30% vs. 50%) than the proportion taken by sharecroppers on rainfed or wadi land. This system is changing -- sharecroppers on all kinds of land are now able to demand (probably because of the labor shortage) 50% (or more) of the crop, but at the time the wells were installed, it probably meant that although the overall productivity of the land increased, the absolute amount of produce in the hands of the sharecropper declined. Now some large landowners are abandoning sharecropping arrangements in favor of hiring wage labor, which is more economical because workers are hired only as they are needed. This requires a reserve supply of labor which is available for seasonal employment. For the farm laborers, it will probably hasten the transformation from reliance on subsistence to dependence on cash.

On the basis of the information available, it would seem that migration rates are higher in areas where small holders farm their own land (usually rainfed) than in areas where sharecropping on large farms predominates. The richest agriculture land in the areas surveyed, i.e. the mid-region of the Tihama, is also the area in which land tends to be parceled into large holdings and sharecropped and consequently where major capital investments have been made to improve productivity. Migration rates are higher, on the average, in regions of small holdings, especially on small holdings of rainfed land (see Table 3). Does this mean that sharecroppers are relatively better off than small independent farmers? Possibly, but there may also be extra economic ties holding them to the land, or other kinds of independent variables. Nonetheless, there is no evidence so far to suggest that returning migrants spend what they have saved on capital investments in agriculture, be it land or water systems; they seem inclined rather to pay a brideprice, build a house, buy a car, or nickle-and-dime it away on televisions, clothes, and household goods.

Migrants are those whose expected inheritance, or share of an inheritance, will not support them in the future. Landless peasants go if they can afford the initial costs (primarily transport), but so do sons of large, middle and upper income families. An example given in Hajjah is that if a man has three sons and 200 libna of farm land, he will send one son abroad to work. The migrant in this case inherits and retains his share of the family holdings. His contribution to the "family farm" will be supplemental cash for seed, the rental and purchase of equipment, and the like; his brothers manage and farm the land. Thus the decision for one son to migrate is a family decision. Another example, given in Dhohi, was of the estranged son of a very wealthy merchant, who hopes to gain the means of financial independence from his father.

If the "family business", be it agriculture or trade, will not support a man, there is little alternative to migration. In the countryside, an unskilled agricultural worker makes 30-40 riyals/day; in Saudi Arabia, the same man can earn 100 Saudi riyals (approximately 120 Yemeni riyals), plus food and beverage. (Consequently, of course, it is becoming increasingly difficult to find a man to work for 30-40 riyals/day). A man working for nine months in Saudi Arabia is likely to save 25,000-35,000 riyals.

This money is spent in various ways. The first order of business is usually to repay loans on money borrowed to cover the costs of getting to Saudi Arabia, transport, visa and employment fees, etc. Of great importance is the brideprice, the most major expenditure of a young man's life. (Brideprices vary regionally, from a low of 5,000 riyals, to a mean between 15,000 and 40,000 riyals, and are rumored to be as high as 100,000 riyals in some cases). It is fairly common for a man to work abroad for about a year, return, marry, and leave again after two to four months (often the bride stays in her parent's home). A large proportion of migrants' earnings are clearly spent on consumer items, especially gifts bought abroad for the wife and children, parents, sisters, and in-laws. Many returnees to towns invest in a new room or story in their parents' home or a new house for them and their wives to live in.

In one way or another, then, most of the money earned abroad goes towards the satisfaction of family obligations, and is not "saved" in the sense that it is available for investment. By the same token, however, after several years the migrant is usually pressured by his family to return closer to home.

Though some migrants remain unskilled, others do learn a skill or trade. The problem is that acquired skills (such as the kind of construction practiced in Saudi Arabia) are rarely applicable to technologies used in the countryside. Indeed, whether he has money to invest or a skill to sell, opportunities in his home village are probably not much greater than when he left. Therefore, many migrants "return" not to their village, but to the cities (Sana'a, Taiz, Hodeidah), and towns (Dhohi, Zayaliyyah, Hajjah) where there is the possibility of either opening a shop, buying a car, or finding a salaried position. The choices are varied. Those who have learned a construction related skill, masonry, carpentry, door-making, can earn 150-200 riyals/day in the towns. Many others open small shops, and many more buy cars, which they either drive themselves or hire a nephew to drive. Especially in Hajjah town (because it is a governorate capital and the public sector is large), many returned migrants take government jobs and supplement their salaries with other jobs in the afternoon or with income earned from cars and shops. Investments are often serial -- a man buys a car, drives it for several months, sells it to buy a shop or some land, which he then resells, and so on. High rates of inflation make such speculation profitable.

The high cost of labor and heavy turnover in most jobs (both probably attributable to the general labor scarcity) are strong disincentives to investing in any kind of enterprise which will need hired labor. The Coordinating Council in Hajjah, for example, said that there are plenty of experienced heavy-equipment operators in town, but that it is difficult to get one to stay on the job, and they are concerned that their equipment will go underutilized for this reason. A privately owned bulldozer in Wadhrah was being operated by a fourteen-year-old boy. Even the high wages offered to most experienced tradespeople will not keep them long on the job; most people prefer to be self-employed. The exception to this seems to be white-collar government jobs, which sometimes attract even skilled people who could earn much higher salaries practicing their trade.

VII. Local Government and Development Association

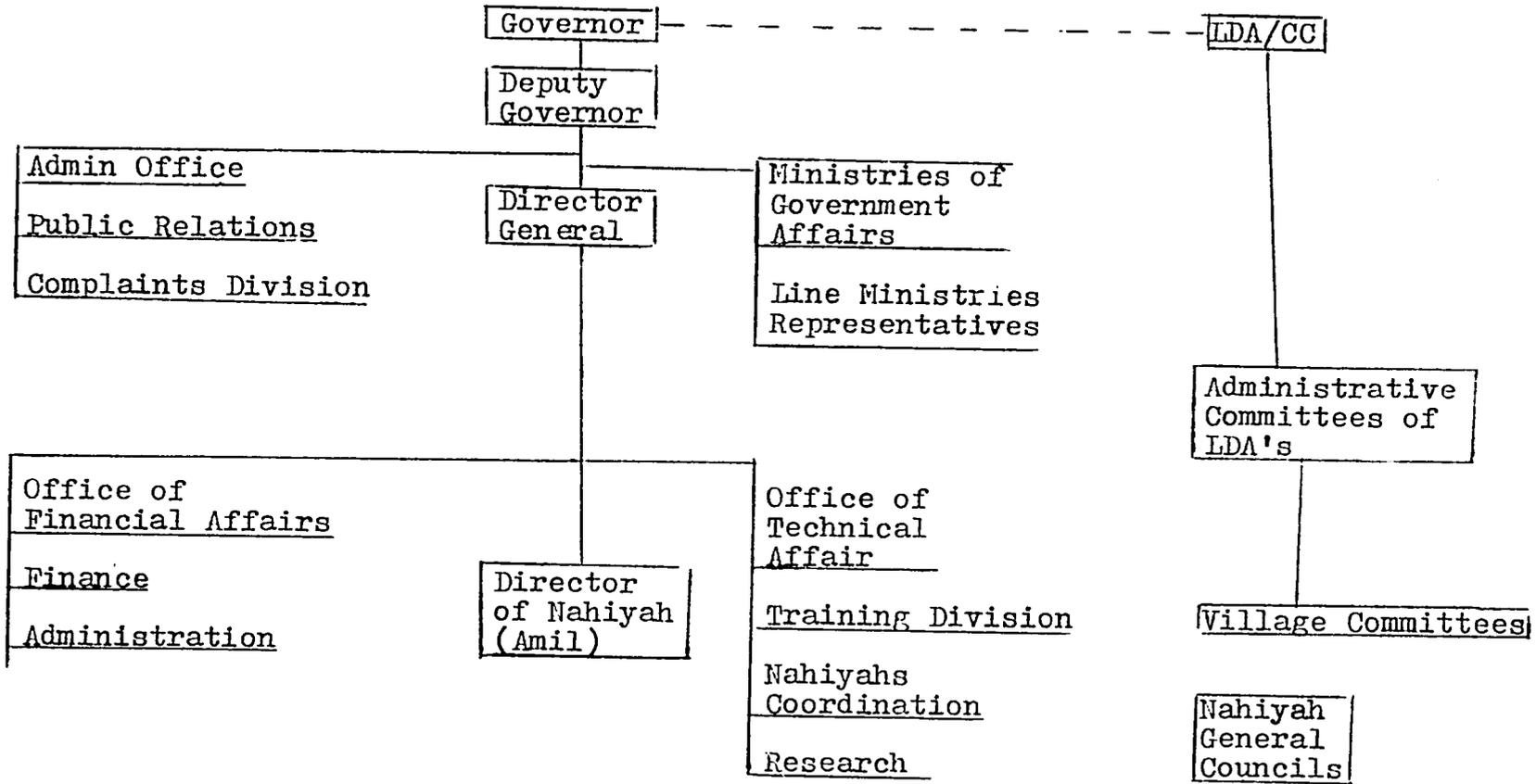
The system of local government operating in contemporary Yemen operates, in general, in the manner of traditional (pre-revolutionary) village organization, rather than as an extension of national public administration. The traditional form of local organization has worked effectively over the years to deal with the rudimentary questions relating to land and water rights, settling intra-communal disputes, and marshalling local resources to support works of various kinds. Traditionally, though a major issue might be brought to the governor through his local representatives, most localities preferred to retain autonomy from national level authorities. Under the Imamic system, the national administration was generally viewed as an entity separate from local political organization.

The traditional organization has proven rather limited in response to the demands of modernization which have arisen since the 1962 revolution. Administrative reforms and institutional modernization, at the same time, have been largely confined to the central level, with only moderate changes taking place at the lower echelons, principally at the governorate level.

The most significant change at the village level has been the evolution of the Local Development Association (LDAs also called cooperatives), which were created by law in 1963. Five years later in 1968, the Department of Social Affairs and Labor was established to provide national-level organizational support for the LDAs.

As the number of LDAs grew, they saw a need for collective action to assert their claims to national resources with which to finance their local development, and successfully lobbied for relinquishment of a portion of the local tax on agriculture (Zakat) to the LDAs. The organization which evolved to support these efforts was the Confederation of Yemeni Development Associations (CYDA), which was formed in 1973. Today there are 143 LDAs in 10 governorates. The number of LDAs varies from governorate to governorate, but usually there is one LDA for each nahiyah (district). The LDA is a General Committee of representatives elected from the populace; it has between 50 and 100 members, depending on the

Table 6
Organization of the Governor's Office



population of the district. From the General Committee, seven to nine members are elected to an Administrative Committee, which runs the affairs of the LDA. The Administrative Committee elects one of its members as its head. The heads of local Administrative committees make up the LDA Coordinating Council (LDA/CC) which has offices in the governorate capital and meets regularly to attend to LDA affairs. The LDA/CC elects a Secretary General, Deputy Secretary General, and Financial Director for three year terms. The governor presides over the LDA/CC, though his position is honorary; administrative responsibilities are delegated to the Secretary General.

The LDA Administrative Committee Heads make up the national Local Development Association Assembly Committee. The Assembly meets annually and the President of Yemen is the honorary head, or President. The Assembly elects a Secretary General, Deputy Secretary General, and other officers. The Secretary General of the Assembly is the head of CYDA.

The goals of the LDAs are, as outlined by CYDA, as follows:

1. Economic Sector

- a. To start development projects.
- b. Construct secondary roads to villages and towns.
- c. To coordinate with the Highway Authority for construction of primary roads.
- d. To encourage to develop local handicrafts.

2. Social Sector

- a. To encourage establishment of local cooperative organizations.
- b. To establish rehabilitation centers for the aged and disabled.
- c. To participate in establishment of mother-child centers.
- d. To participate in the establishment of social and sports clubs.

3. Educational Sector

- a. To identify appropriate methods of adult education and occupational rehabilitation.

- b. To participate in construction of schools and provide teachers, books, and equipment, in cooperation with the Ministry of Education.
- c. To establish dormitories where necessary, in cooperation with the Ministry of Education.
- d. To encourage all efforts in the education sector, including provision of specialized education for local cooperative workers, either locally or outside, with cooperation of the Ministry of Education.

4. Agricultural Sector

- a. To stimulate creation of agricultural coops to develop crops and marketing, prevent diseases, etc., coordinating with the Ministry of Agriculture to procure experts and agricultural engineers; and to obtain credits from the Agricultural Credit Bank. Special attention should be given to coffee, vegetable, and fruit cultivation in the suitable areas.
- b. To discover sources of irrigation, including channels, wells, and drains.
- c. Afforestation and reforestation.
- d. Animal husbandry.

5. Health Sector

- a. Build clinics, health centers, and staff them with assistance from the Ministry of Health.
- b. Locate suitable sources of drinking water.
- c. To encourage medical professionals to work in the area and assist them in their work.
- d. To try to provide portable health centers to reach remote places.

LDA funding comes from a variety of local and central sources:

1. Local Sources

- a. After its collection by the national duties authority, 75% of the Zakat (religious taxes) should be returned to the LDAs (see Table 7).
- b. 25% of municipalities' income.
- c. Local donations.
- d. Poll tax of one riyal per voter in LDA elections.

Table 7 (A)

ZAKAT: A Religious Tax

- a) "Honesty" ZAKAT: Tax at the rate of 2.5% of value of gold, silver, and other jewelry.
- b) Petraah ZAKAT: Tax paid yearly on each individual, equal to the cost of 5.5 lbs. of grain.
- c) Animals ZAKAT: Tax on animals, levied per head.
- d) Wealth ZAKAT: Tax on capital assets of merchants and traders at the rate of 2.5%.
- e) Agriculture ZAKAT: 10% of the total cost of crops on rainfed land and 5% of the total cost of the crops in wadi or pump fed land. (including qat). Zakat is paid before the division of the crop between owner and sharecropper.
- f) Other incomes: Contributions by wealthy people during Islamic feasts.

Table 7 (B)

<u>Governorate</u>	<u>Total ZAKAT</u>	<u>Honesty ZAKAT</u>	<u>Fetrah ZAKAT</u>	<u>Animals ZAKAT</u>	<u>Wealth ZAKAT</u>	<u>Agriculture ZAKAT</u>	<u>Other Incomes</u>
Sanaa	6,740,078	4,253,745	845,960	287,640	734,714	475,162	142,857
Taiz	3,516,318	1,230,284	1,310,761	235,712	299,107	425,920	14,534
Hodeidah	3,003,590	1,909,171	359,256	6,819	694,664	33,680	-----
Ibb	3,416,514	519,956	1,166,043	400,355	13,946	1,316,214	-----
Sa'adah	1,352,694	740,738	138,955	435,685	4,472	32,360	484
Hajjah	6,707,879	5,256,645	742,793	617,460	48,474	35,479	7,028
Al-Bay-Dha	1,241,057	247,458	338,628	331,712	73,702	83,978	165,579
Maareb	353,761	54,156	59,235	46,660	9,000	19,130	165,580
Dhamar	6,783,631	5,517,006	6,527	61,669	424,196	27,496	
Mahweet	2,948,877	1,194,527	74,763	5,443	10,670	50,594	1,612,880
TOTAL	36,064,399	20,923,686	5,783,131	2,374,013	1,901,944	2,896,713	2,136,438

Figures collected from Duties Office

- e. 1% of transportation and cinema tickets.
- f. Five riyals from each traveler abroad, and one riyal from each domestic traveler.

2. Central Sources

- a. Foreign aid granted to CYDA is distributed to individual LDAs on the basis of need and population.
- b. Direct grants from the YAR government.
- c. 2% of the net total of customs duties (which in 1977 amounted to 53,000 riyals per nahiyah).

VIII. LDA Development Problems and Priorities

When viewed in the light of local needs, the sources of funding for LDA projects are extremely limited. Frequently, the largest share of project costs are raised from individual contributions. (See Table 6). The proportion of the local Zakat to which LDAs are entitled has recently been raised from 50% to 75%, but inefficiencies in collection and redistribution usually mean that the actual percentage is far lower. Moreover, since the Zakat is a production-related tax, areas of lowest wealth and productivity are also those of lowest Zakat incomes. For some of the other taxes and duties listed, there is no operating system of collection. Funding difficulties are probably the single greatest constraint on LDAs in executing development projects.

The second major constraint is the acute shortage of all kinds of skills. This is a problem nation-wide, but especially in the rural areas where teachers, doctors, nurses, engineers, heavy equipment operators, technicians, and para-technicians are all in very short supply. This is related to the lack of technical and outreach capability on the part of the line ministries, whose links with local government and ability to reach the LDAs are similarly constrained. Thus, the vacuum in technical skills at the local level is not filled by the line ministries.

Although these generalized needs are common to all LDAs in their efforts to implement development programs, specific local needs vary regionally, according to ecological and social factors and the level of existing infrastructure. Within a given community, however,

Table 8

Local Development Project in Hodeidah and Hajjah Governorates 1975-76
(amounts in thousands US)

<u>Governorate</u>	<u>No. Projects</u>	<u>People</u>	(Contributions)		<u>Total Cost</u>
			<u>LDA</u>	<u>Govt. (Other)</u>	
Hajjah Total	346	2,375	1,343	369	3,994.00
Roads	50	1,869	763	309	2,848.00
Classrooms	80	204	264	38	506.00
Water	210	274	271	5	550.00
Health	6	28	45	17	90.00
Hodeidah Total	188	567	1,245	0.5	1,812.50
Roads	8	226	98	0.5	324.50
Classrooms	138	315	762	---	1,077.00
Water	34	21	322	---	343.00
Health	8	5	63	---	68.00

Footnote: 1 CYDA Records

Source: CYDA Records 1978

37(b)

Table 9

<u>Nahiyah</u>	<u>Inhab.</u>	<u>Crops</u>	<u>Roads</u>	<u>Services</u>				<u>Agricultural Problems</u>
				<u>Water System</u>	<u>Schools</u>	<u>Health</u>	<u>Elect.</u>	
Luhyyah	41,166	Sorghum Sesame Cotton	Bad	Delivery to 2 main towns	One in main town	Hospital but no staff; 1 health worker	None	Marketing of fish & crops irrigation & soil fertility
Zohrah	47,366	Sorghum Sesame Cotton Tobacco Fruits & Vegetables	Good access	Delivery to main town	Six	2 Health workers	None	Marketing, irrigation & flood control soil erosion
Dhoni	18,771	Sorghum Sesame Cotton Tobacco Fruits & Vegetables	Good access	Delivery to main town	One	1 Health worker	None	Declining productivity marketing, animal diseases
Maghrabah	6,355	Sorghum Millet	Bad	None	None	None	None	Irrigation, terrace maintenance, marketing
Jemimah	5,985	Sorghum Coffee Qat Grapes Bananas	Fair	None	None	None	None	Irrigation, declining productivity
'Abas	27,709	Sorghum Millet Sesame Cotton	Juncture 2 main roads	Delivery to main town	One	Hospital but no staff	None	Drought & erosion, soil fertility, lack of equipment
Mustaba	22,870	Bananas Papaya Sorghum	Good access	None	One	None	None	Marketing & irrigation
Sharis	---	Coffee Bananas Corn Sorghum	Fair	None	None	None	None	Terrace maintenance, irrigation & soil fertility
Hajjah	23,355	Sorghum Cotton Qat	Good	Delivery to main town		Working hospital	In main town	Terrace maintenance, soil fertility
Wadhrah	---	Sorghum Corn Millet Tomatoes & Vegetables	Terrible	None	None	None	None	Terrace maintenance irrigation, marketing

there is usually a fair unanimity of interests, based on a common assessment of community needs. Every locality, for example, wants a delivery system for potable water; if a reasonably convenient system exists, then the first priority may be for roads. After these two, electricity, schools, medical facilities, and agricultural technology (equipment, irrigation systems, and professional advice) follow closely, their relative weight depending on specific local conditions.

Water is wanted everywhere, but like the rest, comes first to communities large enough to raise money for a system, or to those already located near adequate water sources. Except for water, everything on the list is likely to serve first the central town: schools and clinics are built there, the road arrives there, agricultural extension facilities are likely to be located there. Electricity becomes a need when the village or town has industry, shops, a hospital, or other facilities requiring power. By that time, shopkeepers and wealthier homeowners already have private generators (and are therefore the least beneficiaries).

Moreover, water, electricity, and roads are needed to support schools and clinics. Everyone knows that it is next to impossible to get teachers and health personnel to live in a town without them, and that all three are necessary for the successful operation of a clinic. Many schools and hospitals have been built, but stand empty for lack of staff and equipment. There is, then, a fairly pronounced tendency for infrastructural innovations to be concentrated in the central towns, both because it is there that demands and fund-raising possibilities are the greatest and because of the complementarity of services. In the northern part of Yemen, virtually all essential services are lacking outside the governorate capitals. In fact, whereas most towns women can discuss local needs for water, health and educational facilities, in the remoter villages many people say with conviction, "There is nothing from outside this place that I want", or name only water as a need.

Thus, even agricultural development efforts, which ought logically, to be in greatest demand in the poorest areas, may be met with greater receptivity in the central areas,

around towns and along roads. Poverty and low population densities have presented problems in the formation of coops in Midi, a north-Tihama nahiyah of Hajjah province, and in Hajjah nahiyah. According to CC members, the difficulties are: (1) that the poor and landless can neither donate land nor buy a share in an agricultural coop, and (2) that plots donated are often so widely dispersed that cooperative techniques are difficult to implement. Thus, the LDAs and the LDA/CCs are now searching for new organizational, training, and other non-technical approaches to rural development problems.

IX. Methodology for a Project-Oriented Research Program

One fundamental problem in the design of area development projects is the collection and analysis of data, on the basis of which decisions can be made so that appropriate inputs are channeled into a project area in ways that are most efficacious for achieving a positive development impact. This means identifying problems which are of most immediate concern to the local population; consulting with them in an attempt to generate solution ideas; devising a program which is appropriate in terms of both cost and level of technical sophistication, and selecting local mechanisms and organizations which are capable of directing the inputs to targeted beneficiaries. The research component in project design and implementation was a focal point of discussion during the Rural Development Workshop conducted by the Cornell University team in Sanaa March 25th through 27th, and it was the consensus of both expatriate experts and technicians and YAR participants that what is needed is an on-going research program, both to provide a reasonable and realistic basis for initial project formulation and to help in sub-project design, implementation, and evaluation during the life of the project. The experience of both Yemeni and expatriate rural development workers has been that without sufficient prior and continuing research programs, there is a far lower chance of success for all sorts of programs -- agricultural extension, women's education centers, even water projects, which are effected by a wide range of variables: topographical and soil conditions, land tenancy and cropping patterns, and cultural values regarding family life and the 'potential' status of women.

Citing the lack of information about most facets of life in rural Yemen, and the great ecological and cultural variations between areas, some conference participants argued for a long prior-to-project research effort on the basis of which specific programs could be designed. Others pointed out that changes may outdate the data before the actual project goes into operation, and that local people may quickly grow impatient with a project which bears no visible fruit.

The consensus was that research is a necessary and integral aspect of project design and implementation, and that it is necessary to develop the knowledge base for specific projects and overall rural development strategies through continuing and progressive applied research. Regarding the magnitude of the prior-to-project research effort, the maximizing solution would seem to be to initiate an early research effort; a) to generate an information base for initial project formulation, which will also serve as a standard for project evaluation in the future; b) to continue the research activity, especially on a program specific basis (i.e. for sorghum extension, technical training), throughout the life of the project; and, c) to develop a library of materials produced by other foreign donors, social and scientific researchers working in the country, and the various YAR ministries, The Central Planning Organization, and the Confederation of Yemeni Development Associations. The continuing research activity will enrich the baseline profiles developed during the pre-project phase; contribute directly to sub-project development; and, together with materials collected from outside sources, facilitate design of later programs to extend and replicate successful project models. Thus, for the duration of the project, research will be stimulated by specific sub-project requirements and progressively 'feed back' into the on-going process of project refinement, implementation, and evaluation.

To correctly identify regional needs, and to devise and implement appropriate solutions to local problems, it is necessary to enlist the assistance of area officials and citizens. This is especially true where the goal of the project is not only to provide specific inputs -- town water system, a technical training center, or an inoculation program -- but also to increase the capacity of local institutions and development associations to implement development policies and fully utilize

the resources available to them. Thus, the 'research' effort is also a continuing dialogue between project participants (or beneficiaries) and expatriate planners and experts.

In the initial, exploratory phase of the research program, the focus has been on getting local officials to articulate their problems clearly; involving them in discussions and analysis of potential solutions; asking them to identify obstacles to project implementation at the local level; encouraging them to describe successful local projects and why they have been successful; etc. If there are problems with this approach, they are that prolonged discussions tend either to raise local expectations or to tax the time and patience of busy administrators; but virtually all the officials contacted in Hodeidah and Hajjah governorates have been friendly, helpful, and quite willing to discuss their area and its development problems.