

THE IMPACT OF MALE OUTMIGRATION ON WOMEN'S ROLES
IN AGRICULTURE IN THE YEMEN ARAB REPUBLIC

(Revised January 2013)

by

Najwa Adra, Ph.D.

najwa.adra@gmail.com

www.najwaadra.net



Prepared for the Inter-country Experts Meeting on Women in Food Production
Amman, Jordan, October 22-26, 1983

Sponsored by the Ministry of Social Development of the Hashemite Kingdom of Jordan and
The Food and Agricultural Organization of the United Nations

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	5
ACKNOWLEDGMENTS	8
INTRODUCTION	10
RESEARCH METHODS	12
THE SETTING	15
ECOLOGICAL DIVERSITY	15
The Highlands	15
The Tihama	15
The Eastern Plateau	16
ADMINISTRATIVE DIVISIONS OF THE YAR	16
DEMOGRAPHIC CONSIDERATIONS	16
Population of the YAR	16
Rural-Urban Population Distribution in 1983	17
WOMEN’S PROPERTY, INCOME AND SOCIAL STATUS	20
Women’s Property and Income	20
Social Status	21
Tribalism in Yemen	21
Diversity in Social Differentiation	22
Ambivalence Toward Women’s Work in Agriculture	23
PATTERNS OF OUTMIGRATION IN THE YAR	24
History of Outmigration in the YAR	24
Recent [1983] Shifts in Emigration Patterns	24
Who Emigrates?	25
THE ECONOMIC AND SOCIAL IMPACTS OF MEN’S	
OUTMIGRATION IN RURAL YEMEN	25
Economic Impacts	26
Rural Development	27
Rural Women as Beneficiaries of Remittance Income	27
Some Women are Left Behind	28
Effects on Traditional Status Hierarchies	29
Reduced Reliance on Subsistence Agriculture	29
The Formal Division of Labor	29
Fluidity in the Division of Labor	30
Changes in Household Composition	31
Dietary Changes and Increased <i>Qat</i> Consumption	31

Markets	32
New Limits on Women's Mobility	32
Effects on Women's Decision-Making	34
New Choices for Women	34
 SPECIFIC TASKS OF WOMEN AND MEN IN AGRICULTURE	
ANIMAL HUSBANDRY, AND FOOD PROCESSING, AND CHANGES	
IN THE DIVISION OF LABOR DUE TO MALE OUTMIGRATION	35
The Division of Labor on Spring Irrigated Land, 1960s - 1980s	35
Agriculture	35
Animal Husbandry	36
Domestic Tasks	37
Changes in Women's Workload on Spring Irrigated Land	37
Agriculture and Animal Husbandry	37
The Shift to Nuclear Households	38
An Increase in Women's Decision-Making Powers	38
Domestic Work	38
The Division of Labor in Rainfed Agriculture, 1960s - 1980s	39
Changes in the Division of Labor on Rainfed Land	40
The Traditional Division of Labor with Tubewell Irrigation, 1960s – 1980s	44
Changes in Women's Workload where Tubewells Have Been Introduced ...	45
The Traditional Division of Labor on Spate Irrigated Land, 1960s – 1980s ...	46
Changes in the Division of Labor on Spate Irrigated Land	47
 CASE STUDIES	49
Al-Ahjur	49
Rada'	52
Gharaba	54
 CONCLUSION FROM A 2013 PERSPECTIVE	56
 RECOMMENDATIONS	62
 MAPS	
Map 1: Population Distribution and Relief	63
Map 2: Administrative Divisions of the YAR	64
Map 3: The Republic of Yemen, Comprising the former YAR and PDRY	65
Map 4: Emigration Distribution	66
Map 5: Emigration Rate	67

BIBLIOGRAPHY	68
--------------------	----

LIST OF TABLES

Table 1: Population of the YAR by Governorate and Household Size	18
Table 2: Population of the YAR by Settlement Size	19
Table 3: Estimates of Emigration for the YAR between 1970 and 1980 (Showing a decline of long term emigration and an increase in the number of short term emigrants.)	26
Table 4: The Traditional Division of Labor on <i>Spring Irrigated Land</i> , 1960s - 1980s ..	41
Table 5: The Impact of Male Outmigration on Women's Workload on <i>Spring Irrigated Land</i>	42
Table 6: The Traditional Division of Labor on <i>Rainfed Land</i> , 1960s - 1980s	43
Table 7: The Impacts of Male Outmigration on Women's Workload on <i>Rainfed Land</i> , 1983	44
Table 8: The impacts of Male Outmigration on Women's Work on <i>Tubewell Irrigated Land</i> , 1983	46
Table 9: The Traditional Division of Labor on <i>Spate Irrigated Land</i> , 1960s-1980s ...	47
Table 10: The Impacts of Male Outmigration on Women's Workload on <i>Spate Irrigated Land</i> , 1983	48

Cover photo: Fields in al-Ahjur as seen from Bayt Garamani. Photo: Daniel Varisco, 1979.

EXECUTIVE SUMMARY

This is a digitized version of a report on the impacts of male outmigration on women's roles in food production in the former Yemen Arab Republic (YAR), written under contract with the Food and Agricultural Organization of the United Nations (FAO) in 1983. It is presented here, with minor edits and updates, as a baseline study. The aim is to provide a model for further research on the current workload and responsibilities of rural women and to aid Government and donor efforts in development programming for rural women in Yemen. Unless otherwise indicated the present tense in this report refers to 1983.

The 1970s and early 1980s were a time of rapid increase in outmigration from the Yemen Arab Republic (YAR) to the oil producing states of Saudi Arabia and the Gulf, with major impacts on Yemen's economy. Rural women historically played significant roles in Yemen's subsistence economy; their lives and agricultural work have been impacted by male outmigration. As the ones left behind, they have been among the major beneficiaries of remittances. As the rural economy has been transformed from one based on subsistence agriculture and a regional market system to an economy oriented toward cash crops and the world market, women have seen their economic and food production roles change accordingly.

In Yemen, rural women's roles in agriculture, livestock care and food production vary with region, available types of irrigation, social status and local attitudes. Correspondingly, the impact of male outmigration on their workload and decision making powers is also diverse. This report details rural women's workload and the impact of male outmigration for spring irrigated land, rainfed land, land that has benefited from tubewell irrigation, and spate irrigated land. Three case studies illustrate the diversity of agriculture, women's work and migration in the YAR.

Spring irrigated land yields multiple harvests each year. The labor inputs of men and women are most nearly equivalent on spring irrigated land, with their heavy labor requirements spread throughout the year. Although only about 5% of cultivated land in the YAR is spring irrigated, these lands are historically among the highest in productivity. Fewer men migrate for wage labor from these lands and farmers in ecological zones that permit the cultivation of the lucrative cash crop, *qat*, have shifted from grain to *qat* farming, which requires little input from women. The decline in grain cultivation has significantly decreased the availability of fodder, thus reducing the number of animals kept by most households. The investment of remittance wealth in the 1970s and 1980s into flour mills, electric generators, and automobiles, which make markets more accessible, have also helped reduce women's traditional workload. On these lands, remittance wealth has led to a decline in women's agricultural load, including time spent in animal husbandry.

On the other hand, a "modern" development that has added to individual women's workload has been the rise of nuclear households, composed of a man and wife and their children, rather than the traditional extended households. In extended households, domestic and agricultural tasks are rotated among the women in the family, decreasing each woman's daily burden. But a woman in a nuclear household is responsible for all domestic and agricultural chores.

In 1983, over 80% of cultivated land in the YAR was dependent on rainfall alone, with water runoff from nearby slopes directed onto strategically located fields whenever possible. Historically, women performed most agricultural tasks on rainfed land. With the outmigration of men from rainfed lands, most women simply added men's tasks to their own, thus increasing their workload. Animal husbandry continues to be important in rainfed areas. Women with sufficient remittance income can choose to employ laborers to perform agricultural and marketing tasks, but they are responsible for supervising and cooking for laborers, thus adding new time-consuming responsibilities. Nevertheless,

women living on rainfed land attest that their overall workload is not necessarily higher than it was in the past because fewer fields are cultivated and such time-consuming tasks as grinding grain, fetching water and collecting fodder have been made easier by new technology.

Where tubewells have been introduced for irrigation, cash crops are now cultivated on land that was formerly uncultivated or cultivated primarily in grains and legumes. These changes have led to significant increases in women's agricultural workload: lands that had been marginal or uncultivated have been transformed into intensively cultivated fields in regions where the majority of agricultural tasks are considered women's work. With the high rate of men's migration from these areas, most women take on responsibilities that were traditionally considered men's work or hire laborers who must be supervised and fed three meals per day.

The large fields along the wadis of the Tihama are irrigated by seasonal floods, which flow down from the highlands during the rainy season. In 1983, these lands accounted for approximately 8% of the cultivated land in the YAR. Wadi agriculture requires heavy seasonal labor inputs for irrigation and harvest. Historically, men and women from rainfed regions migrated to wadis during harvest season to work for wages, which were paid in kind or with cash. They worked in large teams, with men harvesting sesame, cotton and tobacco and women harvesting vegetables. Male outmigration, a relatively recent [in 1983] phenomenon in the Tihama, resulted in shortages of male agricultural labor and a heavier reliance on female labor. Yet available female labor is not sufficient to meet the demands of wadi harvests, and the introduction of tubewells in many parts of the Tihama now permit men and women to cultivate their own land with cash crops even in the absence of rain. They no longer need to migrate to the wadis for wages. Consequently, grain has gone unharvested in some wadis for lack of labor.

Male outmigration has led to other changes in rural women's lives. Almost everywhere, women whose husbands have migrated enjoy greater decision-making powers. Remittance income gives most rural women a choice to work in agriculture or not and the extent of their involvement. Women who do not enjoy agricultural labor can now hire laborers to do this work. Alternately, land may be sharecropped or rented while their owners obtain food from the market.

On the other hand, attitudes imported from host countries sometimes target rural women's mobility, participation in local politics and the traditional gender-mixing of rural Yemeni communities. Men who have migrated to the U.S.A. or Europe are more protective of their women and more likely to limit their access to education and/or economic activity than Yemenis from the hinterland who have had minimal contact with other countries. Some men who have migrated to Saudi Arabia or the Gulf have returned with conservative interpretations of Islam, such as Wahhabism, foreign to rural Yemen. They are likely to pressure the women of their households to stop frequenting local markets and object to women's wedding parties, which, like men's celebrations, traditionally lasted until dawn. If they can afford it financially, they may also discourage women's active participation in agriculture in favor of hired male labor.

Another force limiting women's mobility in some parts of Yemen is a decline in the local weekly market system in favor of larger regional roadside markets. Women are less likely to frequent the new markets because of the large numbers of strangers present. For similar reasons, the proximity of car roads to some communities has had the paradoxical effect of limiting women's travel. Poor and low status women, however, have no choice but to frequent markets.

While some rural women accept increased seclusion, others reject these new attitudes. They value their mobility and economic contributions. Although some women accompany their husbands who migrate to towns and cities within Yemen, others refuse to join their husbands, asserting that they do not want to give up their mobility and clean country air. They realize they would have more leisure time in urban communities, but they also know they would be largely confined to the house, leaving it only for

afternoon socializing. They would have to wear an urban veil, which is more enveloping than rural dress. They explain that in the village they are free to go and come as they please. Traditional safety nets and support by their male kin provide women further reasons to remain at home near kinsmen.

Migrants, whose wives continue to live in their home villages, are expected to return on a regular basis.

This report is based on qualitative data, gathered through ethnographic field studies, initially in 1978-1979 with follow-up research in 1983. Reliable statistical data on rural women's lives is scarce in Yemen, and appropriate solutions to problems in development are best designed with an understanding of the variables and constraints facing beneficiaries. These, in turn, are most thoroughly understood through small-scale, in-depth, qualitative methods of research.

This digitized version of the original report includes minor editing and some re-organization. Updates and comments from a 2013 perspective are placed in brackets. More recent bibliographic references have been added where they provide relevant information. Recommendations have been condensed and adapted to current conditions, and a new conclusion has been added. The original maps and tables are included here, but Tables 4 - 10 and a map of the current Republic of Yemen indicating the former borders of North Yemen (YAR) and South Yemen (PDRY) have been added.

ACKNOWLEDGMENTS¹

I would like to express my appreciation to all those who have helped shape this study. First, my deepest thanks to the rural Yemenis who hosted me, patiently responded to my questions and willingly shared their traditions. My greatest debt is to the people of al-Ahjur with whom I lived, with special gratitude to the family of Mr. Abdallah Abd al-Qadir. Others who kindly granted me interviews for this study are: Shaikh Abdallah Amir Muhammad al-Kawr and Mr. Rassam Muhammad al-Wadudy of the village of Maqraba, Ms. Amina bint Sufyan from Ujayn, Shaikh Ahmad Abd al-Wasi' Bashr and his family, Mr. Salih Muhammad Abd al-Rahman al-Haj al-Hamatim, Mr. Abd al-Karim Abd al-Nasir, Mr. Ali Ahmad Abdu al-Khasif, Hajja Mariam Abd al-Nasir, and Ms. Mariam Abdallah Amir, all from Jabal Sabr, and the residents of the villages of Byut Mahanna and Nakhila in the Tihama.

The YAR Ministry of Agriculture and Fisheries facilitated my research. Special thanks go to Mr. Ali al-Khawlani, Director of Rural Development. Thanks are also due to Mr. Samir Ali, Librarian. This project was sponsored by the Food and Agricultural Organization (FAO) of the United Nations. Dr. Elweya Elwy of FAO supervised this study. Dr. Omar Salih Ahmad, FAO representative in Sanaa, provided logistical help during my stay in Yemen. I thank Mr. Ibrahim Abu Dhahab, Program Officer, FAO, Sanaa, Mr. Muhammad al-Shamly, Director of the Agricultural Extension Project in Hodeida, Mr. Ben Aleya, and Mr. Fernando Salvatore of FAO, Cairo, for facilitating this research.

Several experts engaged in helpful discussion of my research, suggested villages to visit, and provided me information in their areas of expertise. At the FAO office in Hodeida, these are Dr. Rashad al-Mursy, Extension Supervisor, Mr. Hilal al-Adin, Horticulture Expert, Mr. Shankar Uprety, Extension Supervisor, Dr. K. Purchit, Animal Production Expert, Mr. Abu Bakr Muhammad Abu Bashar, Agricultural Economist, Mr. Issam Katkhada, Extension Supervisor, Dr. Izzat Qaddura, Expert in Irrigation, Mr. Muhammad al-Qadi, Expert in Cooperatives, and Ms. Nazira Badr al-Din Nabih, Home Economics Expert, who patiently accompanied me on field trips in the Tihama. Thanks also to Mr. Muhammad Salih al-Bakily, Director of the Wadi Mawr Project, Mr. Ibrahim Yousif, Expert in Agricultural Extension, and Mr. Dani'i Hamid, all of the Tihama Development Authority.

At the Agricultural Research and Development Authority in Taiz, my gratitude goes to Mr. Abd al-Rahman Sallam Qasim, General Director, Mr. Ali Abdallah al-Aghbary, and Dr. Ibrahim Abu Sharr. At the Southern UpLand Rural Development Project in Taiz, thanks are due to Dr. Ghazi Nasir Muhammad, General Director, Ms. Zaynab Ali Ali Muhammad, Home Economics Expert in Agricultural Extension, Mr. Muhammad al-Za'im, Expert in Agricultural Extension, and Mr. Muhammad Said al-Halaby, Expert in Statistics and Evaluation.

Ms. Nadia Salih Sayf, of the Rural Development Project at Rada', kindly spent many hours with me explaining the impacts of male outmigration on women's work in the area, and Mr. Muhamad Omar Hasan, Director of the Cooperative Office in Hodeida, accompanied me to two fishing villages in the Tihama. I owe a debt of gratitude to both.

¹ All official positions of people mentioned here date to 1983.

Dr. Cynthia Myntti, Program Officer, Ford Foundation, Cairo, and Dr. Hans Patrick Peterson, Agricultural Development Officer, Mr. Muhammad al-Harazy, Dr. Forrest Walters, and Ms. Susan Coleman, all from USAID, Sanaa, discussed this research in its early stages and provided helpful comments. Hajj Sa'd Ibn Yahya al-Muhandi, not only drove me to various field sites in the Tihama, he also explained women's agricultural work in Hajja. I very much appreciate his aid.

Mr. Muhammd Husayn al-Farah, Dr. Safi Muhammad, and Mr. Abd al-Latif Nu'man all read an earlier draft of this report in 1983 and gave me useful comments. I thank my son, Jihan Varisco, for his painstaking proofreading and editorial comments on the most recent draft of this report in January 2013. My husband, Daniel Martin Varisco, conducted field research in al-Ahjur with me in 1978-79. I thank him for sharing his extensive knowledge of Yemeni agriculture, leading me to important published sources on the subject and for his helpful critical comments on the various drafts of this report. His input has been invaluable.

INTRODUCTION²

The 1970s and early 1980s were a time of rapid increase in outmigration from the Yemen Arab Republic (YAR) to the oil producing states of Saudi Arabia and the Gulf³, with consequent major impacts on Yemen's economy. Rural women, who have historically played significant roles in Yemen's subsistence economy, have been impacted by men's outmigration. As the ones left behind, they have been among the major beneficiaries of remittances. As the rural economy has been transformed from one based on subsistence agriculture and a regional market system to an economy oriented toward cash crops and the world market, women have seen their economic and food production roles change accordingly.

This study was conducted in 1983 under contract with the Food and Agricultural Organization (FAO) of the United Nations, as part of a wider study on the Impact of Male Migration on Women's Roles in Food Production in the MENA region. A summary of research results was presented in Arabic at the Inter-Country Experts Meeting on Women in Food Production, Amman, December 1983. This report was digitized in 2012-2013 because it provides baseline data on women's roles in food production in the former YAR. Its aims are to provide a model for further research on the current work and responsibilities of rural women in a unified Yemen and to aid Government and donor efforts in development programming for rural women in Yemen. This report does not discuss women in the former PDRY because the research was conducted prior to Yemeni unification. It does not include urban women, many of whom have greater access to health care and educational and employment opportunities than most of their rural sisters yet face greater constraints to their mobility and economic and political participation than do rural women.

This report begins with a description of research methods, which are largely qualitative. They include, "extended interviews, case studies, observation, casual conversations, and personal involvement in the community" (Sajogyo, et al. 1979:365). Reliable statistical data on rural women's lives is scarce in Yemen, and appropriate development strategies must be based on understanding the variables and constraints facing individuals at the household level. The next two sections situate the work of rural women and men in Yemen. The first of these discusses ecological, demographic and cultural contexts. It includes information necessary for understanding the choices available to rural women and men. The second is a discussion of patterns of male outmigration in the YAR, which vary with region and with types of agriculture practiced. [All information refers to the situation in 1983.] The bulk of the report presents details on the division of labor within the household on spring irrigated, rainfed, tubewell irrigated and spate irrigated land, and the ways these have changed in response to the outmigration of men. Three case studies from divergent areas illustrate variations in patterns of emigration and the corresponding impacts on women's workload. Recommendations conclude this report.

² This report was written in 1983 based on field research conducted in various parts of the former Yemen Arab Republic. It does not include research in the former Peoples Democratic Republic of Yemen (PDRY).

³ The "Gulf" as used here refers to the countries on the Arabian [Persian] Gulf: Kuwait, Bahrain, Qatar, United Arab Emirates, and Oman. Yemeni migration to Oman, however, is primarily from the Eastern portions of Yemen.

The digitized version of the original report includes some editing re-organization. Updates and comments from a 2013 perspective are placed in brackets. Unless otherwise indicated the present tense in this report refers to 1983. Sections on women's property and income, social status, tribalism in Yemen and attitudes towards women's work in agriculture have been added to better contextualize rural women's work. More recent bibliographic references have been added where they provide relevant information. Recommendations have been condensed and adapted to current conditions, and a new conclusion has been added. The original maps and tables are included here, but Tables 4 - 10 and a map of the current Republic of Yemen indicating the former borders of North Yemen (YAR) and South Yemen (PDRY) have been added.

RESEARCH METHODS

Field research methods used in this study were largely qualitative and include long-term ethnographic research (participant-observation, immersion) as well as shorter periods of research involving informal and semi-structured interviews, focus group discussions, time-allocation studies, trend analysis, stakeholder analysis and beneficiary needs assessment. As with other qualitative studies, immersion and participant observation have led to an understanding of household economics and allowed the researcher to distinguish between cultural norms and the realities of rural women's lives (Sajogyo, et al. 1979:365; Moser 2009:267). Reasons for changing lifestyles and attitudes are elucidated. Further, the methodology has been effective in exposing the multidimensionality of women and men's lives in rural Yemen (cf Moser 2009:266). This kind of qualitative research can inform subsequent quantitative research by leading to the revision of categories often used in questionnaires (such as "housewife", which is not relevant to farmers – Boserup 1990:144), thus improving the reliability of data gathered through quantitative means. Data gathered through qualitative research can also help explain puzzling or otherwise unexplained results of quantitative research. Field research was supplemented by desk study. The researcher is a native Arabic speaker fluent in the dialect spoken in and around Sanaa.

Eighteen months of ethnographic fieldwork in al-Ahjur in the central highlands (1978-79, 1983) provided the researcher with an in-depth understanding of a single area and established a comparative base.⁴ Information on other parts of Yemen was gathered through desk study. In September 1983, under the auspices of FAO, the researcher interviewed agricultural experts in Sanaa, Taiz and Hodeida. She conducted field research in Rada', southeast of Sanaa, interviewed women and men in three villages in the southern highlands (one village in Jabal Sabr and two villages with rainfed agriculture west of Taiz), as well as communities in the Tihama (two villages in Khabt zone, near Zohra, two fishing villages in Nakhila, and markets in the towns of Hays, Zabid and Mansuriyya). She also interviewed women and men working in the fields in the district of Luhayya. She collected information on the impact of male outmigration on women's work in Haraz and Hajja through interviews in Sanaa with men from these areas. Before visiting villages, the researcher interviewed extension agents and agricultural experts familiar with local economies.

⁴ These two periods of research focused on other questions, but information on agriculture and food production was gathered to further my understanding of daily life in this rural farming community. The first period of research was funded by a National Science Foundation Grant for Improving Doctoral Dissertation Research (Adra 1983a), and the second by a Middle East Award in Population and Development (MEAward) from the Population Council (Adra 1983b).

Interviews in villages were informal, and all questions were open-ended, giving respondents wide latitude to elaborate. Data gathered through interviews were supplemented with observations of women working in the fields, room furnishings, house styles, etc. These observations often led to additional questions. With each interview, the author first explained the goals of the research, then asked the following questions:

Questions about male outmigration:

- What proportion of adult men have migrated?
- When did large-scale outmigration begin?
- Where do most migrants from this community go in search of wage labor?
- How long do they remain in the host country?
- How often do they return and for how long?
- If they return permanently, what kind of work do they engage in at home?

Questions on agriculture and animal husbandry:

- Which crops are cultivated?
- What kind of livestock, and how many of these, are kept by each household?

In order to determine the extent of local dependence on the market for food:

- What do people in the village normally eat – for breakfast, lunch, evening snack?

To ascertain attitudes toward women's work, the researcher first asked:

- What do women do in agriculture?

In order to gain specific information on women's activities, more specific questions were asked, such as:

- Who plows?
- Who levels the land?
- Who sows seed?
- Who applies fertilizer?
- Who weeds?
- Who harvests?
- Who processes agricultural produce?
- Who owns livestock and who cares for them?
- Who cooks and cleans?
- Who cares for children, and what do parents do when the demands of child care conflict with the demands of work in the fields?
- Several women were asked to provide an account their activities on a typical day.

To assess the impact of male outmigration on women's work, two questions were asked:

- Before this wave of outmigration, who performed each of the tasks just discussed?
- Given women's usual activities, what does a woman whose husband is absent do? More? Less?

In order to understand the extent of remittance investment in the community, the following questions were asked:

- Do residents have access to electricity?
- Do residents have access to a flour mill?
- Is there a mosque in the village?
- Are there feeder roads to the village from Government-built roads?

Not all those interviewed responded to all of the questions asked. Many people who have not had formal education find answering such questions difficult, largely because they are not accustomed to responding to questions that may appear self-evident. Interviews with a variety of people in each community provided a composite picture of the impacts of male outmigration on women's roles in food production.

THE SETTING

ECOLOGICAL DIVERSITY

In spite of its small size (135,000 km²) the YAR is characterized by considerable ecological diversity, with three major geographic regions: the highlands, the coastal region (Tihama), and the Eastern Plateau (see Map 1).

The Highlands

Intensive terrace agriculture characterizes Yemen's highlands. Mountain slopes are often completely covered with terraces, and weary hikers are likely to find cultivated terraces even in seemingly inaccessible spaces dotting the tops of mountains. Terraces tend to be narrow, with broader fields found in the valleys of the central plains. In many parts of the highlands, dry farming is supplemented by water runoff harvesting, which provides an important source of additional water, especially in times of low rainfall. The major crops grown in the highlands are sorghum (*dhura*), maize (*rumi*), wheat (*burr*) and barley (*sha'ir*), at times intercropped with legumes. In areas of high rainfall or spring irrigation, cash crops such as coffee, *qat*⁵, Lucerne (*qadhb*), and some fruits are also grown.

The southern highlands have the most rainfall and highest population density. Cultural differences distinguish the tribally organized central and northern highlands from the southern highlands. The latter were historically characterized by larger landholdings and had comparatively greater status differentiation than the central and northern highlands. Another historical distinction is sectarian, with the central and northern highlands favoring the Zaydi sect of Islam (with pockets of Ismaili communities) and the southern highlands, along with the Tihama, adhering to the Shafi'i sect.

The Tihama

The Tihama is a coastal plain that extends inland approximately 65 km from the Red Sea. The rural Tihama is inhabited largely by farmers, fishermen living in small fishing villages, and itinerant herders. Fishing has benefited in recent years from improved transportation networks which allow fresh fish to be distributed to Yemen's major cities as well as Saudi Arabia.⁶ Livestock is important in the Tihama, which was once the country's main supplier of meat. [Today, the majority of Yemen's camels are found in the Tihama.] Date palms are also grown for distribution within Yemen.

⁵ *Catha edulis*, or *qat*, is a tree the leaves of which are chewed to provide a mild stimulant effect (Varisco 2012).

⁶ For details on the economy of fishing villages see Bornstein 1972b.

Historically, major agricultural activity in the area was confined to the seven major *wadis*⁷ irrigated by seasonal floods descending from the highlands. The traditional crops grown in these wadis included sorghum, millet (*dukhn*), sesame, and cotton. Other parts of the Tihama, which once depended entirely on rainfall for the marginal cultivation of crops (primarily sorghum, millet and sesame), have recently experienced increased agricultural activity as a consequence of the installation of tubewells. In addition to sorghum and millet, these well-irrigated areas now produce cash crops such as cotton, tobacco, tomatoes, okra, melons, papayas, bananas, and some citrus fruit. Development planners, however, question the availability of underground water reserves and the sustainability of tubewell irrigated agriculture in this area.

The Eastern Plateau

The Eastern Plateau is the least inhabited region of Yemen. Rainfall is minimal with most agriculture dependent on seasonal floods and wells. Cereals are the major cultivated crops. The recent introduction of tubewells has permitted the cultivation of cash crops: *qat* and fruit trees. In the past, most of the rural population in this region were transhumant and nomadic pastoralists. This has been one of the least secure parts of Yemen, with a thriving black market in items smuggled overland from Saudi Arabia and the Gulf. The Eastern Plateau is only briefly dealt with in this report because no field visits were made there.

ADMINISTRATIVE DIVISIONS OF THE YAR

[In 1983] the YAR was divided into 11 governorates: Sanaa, Taiz, Hodeida, Saada, Hajja, Mahweet, Marib, Jawf, Dhamar, Ibb and al-Bayda. Governorates were divided into districts, which were further divided into subdistricts (see Map 2 for YAR's administrative divisions in 1983. Map 3 is a more recent map of the Republic of Yemen.)

DEMOGRAPHIC CONSIDERATIONS

Population of the YAR

According to the 1975 census, the population of the YAR was 4,705,000, with a growth rate of 1.9 - 2.9%. An estimated 350,000 Yemenis lived abroad as short-term labor migrants and another 250,000 as long-term migrants in 1975. This number, added to the resident population of 4,705,336, brought the total *de jure* population to 5,305,336 (Steffen et al. 1978:I/92). Reliable figures on internal migration within the YAR are not available for 1983. Table 1 delineates the population of the YAR by governorate, household size, and number of outmigrants in 1975.

⁷ Often translated as "valley" or "flood plain", the term *wadi* in Yemen refers to "a major watercourse that only swells during the rainy season" (Varisco 1991:171 n.4).

Rural-Urban Population Distribution in 1983

In 1975, by far the greatest proportion (86.6%) of the YAR's estimated population of about 5 million was rural, living in small settlements of fewer than 1,000 inhabitants each. [By 2013, the population of the unified Republic of Yemen was estimated at 24 – 25 million with a rural population estimated at 70% of the total.] Only 7.5% of the population lives in the six largest towns and cities, which have upwards of 10,000 inhabitants. Another 5.9% live in settlements that may be called rural (secondary) towns. Their populations may be as small as 1,000 inhabitants. (Table 2 provides a breakdown of YAR's population according to settlement size in 1975.)

Many communities of over 1,000 inhabitants, and perhaps a few of those with 500 inhabitants or more [in 1983], are defined locally as towns. Among these are Mahweet, Thula, Amran, Turba, and Zabid. These are market centers as well as historic centers of learning and the arts. In 1983, they were typically inhabited by scholars, merchants, healers, artisans and low status service providers, along with small minorities of farmers who cultivated nearby land. Women who live in communities locally defined as towns are secluded and do not participate in agricultural activities. Most do not frequent the market, and their work is confined to the limits of their compounds or neighborhoods. This is the norm, but some women who live in communities defined as towns prefer to engage in agriculture and do so. Usually, the final decisions on women's seclusion are made by each family. The norm, however, is a cultural ideal that only wealthier women can maintain. Women from poor or low status families cannot afford to remain secluded; they participate actively in agriculture and the market, regardless of their preferences.

The residents of villages, usually with fewer than 500 inhabitants, are primarily farmers and herders. Houses in agricultural villages tend to be clustered together, often on top of large rocks or mountains surrounded by their agricultural land. Exceptions to this pattern are found in Marib and Jawf and parts of al-Bayda Governorate, where the population is largely pastoral. The Red Sea Coast is dotted with small fishing villages.

The traditional economy of villages is subsistence based, with the household as the main economic unit. Usually, all members of the household participate actively in food production and women play important roles in agriculture, animal husbandry, and other aspects of food production and processing. Historically, the vast majority of rural women, whether they were wealthy or poor, performed agricultural work, although the degree of their participation in the market varied by region and sometimes by village. This report focuses on the impact of outmigration on the women in small villages.

TABLE 1. POPULATION OF THE YEMEN ARAB REPUBLIC BY
GOVERNORATE ACCORDING TO THE 1975 CENSUS (Steffen and Blanc 1982:77)

Governorates	Population			Households		Number	Short-term P.s	
	Area km ²	No. of Inhabit.	Density per km ²	Proportions m/f	Inhabitants per household		Density per km ²	Proportion of the Population
Sana'a	20,310	831,949	41.0	0.95	137,099	41,675	2.1	4.7
Tai'z	10,420	882,063	84.7	0.84	178,074	75,289	7.2	7.8
Hodeida	13,580	695,631	51.2	1.03	150,817	35,052	2.6	4.7
Sa'da	12,810	176,606	13.8	0.90	32,595	13,692	1.1	7.1
Ha'jja	9,590	413,374	43.1	0.96	77,078	20,773	2.2	4.7
Mahwe'it	2,160	181,011	83.8	0.86	32,220	13,339	6.2	6.8
Marib	39,890	69,840	1.8	0.95	13,900	2,301	0.1	3.1
Dhamar	8,870	468,786	52.9	0.87	88,064	33,712	3.8	6.7
Ibb	6,430	813,203	126.5	0.88	157,891	73,385	11.4	8.2
Bayda	11,170	172,873	15.5	0.82	34,166	22,431	2.0	11.4
YAR	135,230	4,705,336	34.8	0.91	901,904	331,649	2.5	6.5

TABLE 2. POPULATION OF THE YEMEN ARAB REPUBLIC
BY SETTLEMENT SIZE IN THE 1975 CENSUS (Steffen and Blanc 1978:81)

Categories	Village and Urban Units		Population	
	Number of Units of Units	%	Number of Inhabitants	%
More than 50,000 Inhabitants	3	0.0	303,000	6.4
10,000-49,000	3	0.0	52,000	1.1
2,000-9,999	45	0.1	170,000	3.6
1,000-1,999	83	0.2	110,000	2.3
500-999	600	1.1	400,000	8.5
200-499	3,500	6.7	1,070,000	22.7
100-199	7,000	14.3	1,000,000	21.3
50-99	13,000	24.6	920,000	19.6
Les than 50 Inhabitants	28,000	53.0	680,000	14.5
Y.A.R.	52,234	100.0	4,705,000	100.0

WOMEN'S PROPERTY, INCOME AND SOCIAL STATUS

Throughout Yemen, private property is the rule. Even the smallest terrace or plot of land has a written deed which is kept with the owner or the local leader (*shaykh, aqil*).⁸ In the central and northern highlands, where plots are small, most people own some land which they cultivate, although small landholders may also cultivate land owned by others through sharing or rental arrangements. In conversation, farmers often refer to any land they cultivate as their own.

Where large tracts of land are feasible, such as in the Tihama and many parts of the southern highlands, cultivable land is owned by a few large landowners who hire wage laborers to farm their land. [The 21st Century has witnessed increasing consolidation of land holdings throughout Yemen (Akram-Lodhi n.d.).]

Women's Property and Income

Women may acquire personal income through inheritance of land, rooms in a house or jewelry.⁹ They can earn income through the care of someone else's cows on a share basis or by petty trade such as the purchase and resale of small livestock and chickens, the sale of fodder or vegetable crops, or the manufacture and sale of baskets (Destremau 1990). They may also help cook for large celebrations or sew clothes for others for a fee. The extent of women's participation in wage labor, either for cash payment or payment in kind, varies with region, social status, household income, and their own household responsibilities.

Even when owned by women, land is usually managed by men. Women often cede the right to manage their own land in return for assurances of lifetime support from their father or brothers. This practice is commonly perceived as an important safety net in case of divorce or widowhood. In much of the development literature, however, the practice is interpreted as an indication that rural women in Yemen do not inherit land. Although in some cases paternal uncles or brothers do disinherit women (and this is considered problematic even locally), women who insist on managing their own land are free to do so. Another common practice throughout the region is that the brother of the deceased manages the estate of the deceased if the latter has no sons. For this service, the uncle takes a fee, which is often substantial. Sometimes, when a man has daughters but no sons, he will divide his land among his daughters before he dies, thus forestalling his brother's managing, and possibly misusing, his lands.

Rural women have custody of the traditional forms of savings and liquid capital: they keep the key to the household's grain stores, care for cattle, and own the jewelry (Tutwiler and Carapico 1981:22).¹⁰ While men market livestock, decisions to sell or purchase livestock are usually made by women. Women make the decisions regarding the disposal of dairy products and their own wealth.

⁸ [The importance of land deeds was foregrounded when lands collectivized by PDRY were returned to their original owners after the two Yemens united into the Republic of Yemen in 1990. Farmers who had cultivated land defined as "state property" lost their rights to these. But where deeds to land had been given to cultivators, the land became legally theirs even after Yemen's unification.]

⁹ See Mundy (1979) for a discussion of women's inheritance and its management in a valley of the central highlands.

¹⁰ During a famine in the late 1960s, however, in at least one community of the central highlands men took control of the grain stores and apportioned each day's grain allotment for women to cook (Adra field notes).

A woman's income is considered her own and ideally does not contribute to the household budget. If the family is poor, however, and if the husband and wife get along, a woman may choose to contribute to the household purse from her own earnings.¹¹ Through control of their own wealth and of the family's liquid capital (cattle and livestock), women in rural Yemen control household economic decisions made during times of economic crisis (Tutwiler and Carapio 1981; Forrest Walters, personal communication.)¹²

Divorced and widowed women are guaranteed housing and support by their male kin. In most of rural Yemen, women and men of all social status groups are provided a place to live, minimally a room with access to a kitchen or a house with several rooms for a nuclear or extended family. This important livelihood asset is not as readily available for the urban poor in Yemen.

Social Status

Historically in Yemen there existed distinct, endogamous status groupings. The composition, names and specializations of these groups and the ways in which they were regarded by others varied by region. In general, a scholarly religious elite was considered the highest status and associated with towns and cities. A large grouping of tribes and/or "tenants" (*ra'iya*) in the southern highlands were primarily farmers, herders and fishermen. (Their urban counterparts were often artisans who self-identified as "Arab".) Historically, tribal men disdained wage labor and avoided marketing their own produce, preferring the employment of middlemen. Low status service-providers, who were not historically permitted to own land, provided services for wages, a portion of the harvest and, often, housing in return for performing tasks disdained by higher status groups. These typically included playing musical instruments and officiating during weddings and other celebrations, butchering, barbering, healing services and maintaining coffee shops for travelers.

Tribalism in Yemen¹³

The term tribe, as used in Yemen, does not indicate a level of economic development but is a translation of the Arabic *qabila* or *'ashira*. A Yemeni tribe is a territorial unit made up of villages that function as tribal subunits. It is best defined as a cooperative unit, an indigenous CSO made up of smaller subunits, each with its own elected leaders who mediate internal disputes and represent the community in its dealings with the outside world. Tribal membership implies a system of mutual reciprocity in which members owe each other services in times of need. Projects that will benefit an entire community, such as cleaning cisterns, building schools, mosques, and feeder roads, as well as road maintenance, are all accomplished according to traditional rules of cooperation. Larger projects will involve more than one village. Within each tribe, systems have long been in place that enable groups of varying size to mobilize quickly and effectively (Adra 1983a; see also Struben 2004:8). Traditionally, tribal leaders are elected. Within the tribe, they mediate disputes and organize community projects; they are also expected to represent the interests of the tribe or tribal section in its dealings with the outside world.

¹¹ Many of the women interviewed stipulated that women share their income with their husbands if the two get along but not otherwise.

¹² The impact of male outmigration on women's decision-making powers will be discussed below.

¹³ See Adra 1983a and Dresch 1993 for in-depth studies of tribes and tribalism in Yemen.

Tribal customary law is a set of principles and precedents which cover mutual responsibilities. A major component of customary law involves tribal obligations of protection, among these the protection of women, the scholarly elite, religious minorities, and service groups. Also protected by tribal law are markets and sanctuaries. Effective mediation is essential to customary law: every conflict outside the immediate family, whether between in-laws living together or two different communities or tribes, requires the involvement of a third party who acts as a mediator (Adra 2011). Historically, as well as currently, rural women are formally excluded from community political processes although they have considerable informal input, especially in dispute resolution (Adra 2011; Gingrich 1997). [However, in the 21st century, high percentages of rural women have voted in national elections.] In theory, women's access to justice equals that of men. In practice, women are represented by their male kin. Like access to land, their access to justice depends entirely on the integrity of their fathers and brothers.

The importance of rural women's social assets is highlighted by the vulnerability of married women who accompany their husbands to towns and cities but do not have kin nearby. Lack of a protective and supportive network combined with men's frustration with economic stresses have increased their vulnerability to domestic violence. [As Sheila Carapico argues, "Women in nuclear households in new suburban neighborhoods...are subject to unprecedented physical and emotional abuse" (1996:92).] Where tribal institutions have eroded due to wars or other causes, customary law may no longer protect the vulnerable, further threatening rural women's social assets.

The understanding of communities as cooperative units is so ingrained in Yemen that even communities not locally defined as tribal, such as urban squatter settlements, organize for mutual support following similar principles. These traditional institutions provide important social capital in rural areas and impoverished urban communities where government services are few and formal justice delivery barely exists.

In recent years, political unrest and warfare in the North have eroded many tribal institutions and their protections. Blood feuds have increased among poor tribes with little or no arable land and no government services. In the past, women often performed agricultural or herding tasks during feuds because women were protected by tribal law. With recent warfare, most of these social assets have broken down, depriving women of their traditional tribal protection. The co-optation of selected tribal leaders by the previous regime has also contributed to an erosion of social capital. These leaders have generally been more interested in accumulating personal wealth and consolidating their power than in representing their constituents. Current power struggles in Yemen, often glossed, "tribal," involve tribal leaders who wield political and economic power, along with their followers. [The vast majority of the rural population that self-identifies as tribal, however, has not been involved in the recent political struggles surrounding the fall of Ali Abdallah Salih.]

Diversity in Social Differentiation

Status differences were often understated in the rural central and northern highlands where small landholdings were the rule (Adra 1983a; 2006). Urban contexts were more highly differentiated, as were the Tihama and southern highlands, with important economic gaps between large landowners and laborers of all status groups. Significantly, many more groups of service providers were recognized in the Tihama and southern highlands (e.g., *akhdam*, *'abid*, *hujur*) than in the central and northern highlands (Walters 1987). Low status groups were historically associated with markets, with many specializing in itinerant trade. In some but not all regions, a large number of the women seen in markets belonged to low status groups. Some low status service providers specialized in cultivating and marketing the vegetables

that were staples of the traditional diet: Chinese chive (*kurrath*), white radish (*qushmi*), onions, and garlic (Walters 1987).

Job differentiation, often depicted as rigid, was flexible even in historic times. Tribal women and men from the central highlands reported having migrated for wage labor in harvests during the drought in the 1960s (Adra field notes). Tribal and *ra'iya* women with small landholdings and few household responsibilities often help in harvesting the crops of others for a proportion of the harvest, usually a sack of produce. (In contrast, a man is likely to receive the standard daily wage for the same work.) Even high status but poor women in the central highlands receive payment in cash for occasional services rendered without loss of status (Adra field notes). Only in the southern part of the country do women work for wages in construction (Myntti 1979:41). It is clear that such cultural rules are easily adapted to changing economic conditions. As will become apparent below, constraints against wage labor for men and women are changing rapidly. Since the YAR's 1962 Revolution officially abolished status distinctions, opportunities for upward mobility increased. Not all identification by traditional status has been erased, but outmigration has permitted some members of former low status groups to accumulate wealth and migrate to urban areas where they can escape local stigmas (Adra 2006).

Ambivalence Toward Women's Work in Agriculture

There is some ambivalence in Yemen about women's agricultural activities, especially among tribal and elite women. On the one hand, rural Yemenis are likely to emphasize that agricultural activities are shared, and that husband and wife help each other in the fields. Most rural women participate actively in most agricultural tasks, and many value their participation along with the mobility this affords them. They pity secluded women in towns and cities who do not often leave their houses, and they assert that in the countryside they are "free to breathe" (*nitnaffas*). The high bridewealth (*shart*) commanded by rural women (YR40,000 – 100,000 in 1983)¹⁴ reflects social recognition of the valuable economic contributions of rural women.¹⁵

At the same time, women often complain of their difficult workload, especially compared to the perceived leisure of urban women. Moreover, women's agricultural work conflicts with the prevailing ideology that the man, as head of the household, should be the sole provider for all household members, and that a married woman is ideally secluded. These attitudes are found primarily among urban Yemenis and rural Yemenis who have had extensive contact with cities.

Ambivalence toward women's agricultural work becomes apparent especially when rural men and women are asked directly about women's work, through surveys or questionnaires. The most frequent response to, "What do women do?" is a re-statement of a cultural ideal: "Housework, child care, and care of livestock." It is only in response to specific questions, such as, "Who weeds?" "Who thins crops?" "Who sows grain?" and "Who harvests specific plants?" that the variety and importance of women's agricultural activities become apparent. These attitudes help explain conflicting reports of women's agricultural work in Yemen. They also lead to significant underestimation of women's participation in the informal labor force.¹⁶

¹⁴ This contrasts with bridewealth in urban areas that rarely exceeded YR20,000 in 1983.

¹⁵ Bridewealth must be distinguished from dowry. In the latter, the bride's father is effectively paying a groom to take his daughter. In the former, the father signals his reluctance to let his daughter leave by insisting on a high price. Bridewealth tends to be viewed negatively in development circles. Rural women, however, are proud of the high bridewealth they command and see this as recognition of their value to their own and their husband's families.

¹⁶ See Boserup 1990:144ff for a critique of the criteria used to measure female employment.

PATTERNS OF OUTMIGRATION IN THE YAR

History of Outmigration in the YAR

Outmigration is not a new phenomenon in Yemen. Historically, there has always been some emigration to East and North Africa, the Levant, the Indian subcontinent and Southeast Asia. With the establishment of the British colony in Aden, increasing numbers of Yemenis from the north began to migrate for work to Aden, and from there to Southeast Asia, East Africa, Europe, and the U.S.A. (Swanson 1979a, 1979b:34). They were primarily long-term migrants who remained abroad for periods of up to 30 years, living frugally and sending remittances to their families at home in Yemen. This trend was intensified in the 1930s.

Recent Shifts in Emigration Patterns

The 1970s oil boom in Saudi Arabia and the Gulf, with the subsequent demand in these countries for wage labor at lucrative salaries, precipitated a radical shift in Yemeni patterns of migration. Yemenis could now work for shorter periods in Saudi Arabia or, to a lesser extent, the Gulf countries, and earn previously undreamt of salaries. Moreover, because of the proximity of their new host countries, they could return home annually or bi-annually if they wished.

Three other conditions of the late 1960s and early 1970s contributed to this shift in migration patterns. First, a drought in the late 1960s led to famine in many parts of Yemen and resulted in the abandonment of numerous marginal agricultural land. This intensified pressure on Yemeni men to emigrate. Second, the 1967 Revolution in South Yemen and the formation of The Peoples Democratic Republic of Yemen (PDRY) led to a decline in trade and opportunities for work in Aden. Most North Yemenis in Aden returned home, either permanently or in order to emigrate anew to Saudi Arabia or the Gulf countries. Another demographic shift that occurred at about the same time was the return flow of earlier long-term emigrants after the conclusion of the civil war in North Yemen in 1969 (Steffen et al. 1978:I/93).¹⁷

The advantages of migration to Saudi Arabia and the Gulf countries were many. Salaries were high: in 1978-79, a semi-skilled laborer in Saudi Arabia could save at least \$10,000 per year. He was close enough to return home regularly for harvest and plowing if he wished to do so. Remittances could easily be sent to families at home with friends or relatives. Between 1970 and 1980 the number of long-term emigrants declined as the number of short-term emigrants nearly doubled (Table 3).

¹⁷ Other shifts occurred in response to political and economic changes elsewhere. In the early 1970s, some 500 Yemenis residing in Vietnam were evacuated to Yemen. More recently, large numbers of Yemenis have returned from Ethiopia.

Who Emigrates?

Almost 30% of Yemeni households included at least one member living abroad during the 1975 census, but regional differences are considerable. In some areas, 25% of the male work force, and in others, over half of the male work force, is living abroad as migrant labor. (Steffen et al. 1978:I/91. See Maps 4 and 5 for the distribution of emigrants and the rates of emigration by governorate in 1975.)

By far the largest number of outmigrants come from the Ibb and Taiz Governorates (73,385 and 75,289, respectively), but the area in which outmigrants form the highest percentage of the population is the Bayda Governorate. The Ibb and Taiz Governorates in the southern part of YAR include the most fertile areas of Yemen, those with the highest rainfall (up to 1500 mm per year), most intensive agriculture, and highest population densities. High population densities and proximity to Aden have stimulated emigration from this area. Residents of this area also tend to ascribe high outmigration rates to sectarian differences between them and the Imamate that ruled Yemen from 1904 to 1962 (Mitchell and Escher 1978:42; Myntti 1984).

The Bayda Governorate, where 11.4% of the population are outmigrants, is an area of low agricultural productivity and unstable conditions. Here, the reasons for outmigration can be ascribed to difficult economic conditions rather than the pressures of population density *per se*. Within the Bayda Governorate, most emigrants come from the Rada' area, which is discussed in a case study in this report.

The Saada Governorate in the northern part of the country also has a high proportion of outmigrants. Like Bayda, this is an area of low agricultural productivity and political instability. Its proximity to Saudi Arabia is an important impetus to migration; outmigrants can literally walk to their host country.

The outmigration rate from the Tihama was relatively low until the past five years [i.e., 1978] when outmigration from this region suddenly increased. An estimated 75% of the male work force is currently abroad as migrant labor in 1983. (See Map 4 for emigration distribution and Map 5 for emigration rates in the YAR).

THE ECONOMIC AND SOCIAL IMPACTS OF MEN'S OUTMIGRATION ON RURAL YEMEN

The outmigration of large numbers of the male labor force has made a considerable impact on rural life in Yemen. The flow and investment of remittances, agricultural labor shortages, and new attitudes have dramatically changed rural women's lives. A major transformation has been the shift from a subsistence-based household economy to a monetized economy. Traditional patterns of mutual reliance and the sharing of responsibilities within families have changed.

On the one hand, women have been the immediate beneficiaries of remittances, and many have experienced significant expansion in their authority over agricultural matters. The workload of some women has increased. Others find that they have more leisure. For still others, additional tasks have been counterbalanced by new labor saving devices and a reduction in the number of fields cultivated. On the other hand, new forms of wealth are increasingly controlled by men (Mundy 1983a; Myntti 1984). Where the need for women's agricultural labor has declined, rural women have been pressured to curb their traditional mobility and market activities in imitation of urban norms of female seclusion.

TABLE 3. ESTIMATES OF EMIGRATION FOR THE
YEMEN ARAB REPUBLIC BETWEEN 1970 AND 1980 (Steffen and Blanc 1978:99)

Dates	Total Yemenis Abroad	Emigrants		Active	Short-term Emigrants	
		Long- term	Short-term		Non-active	
					Men	Women
February.						
1970	478,000	328,000	150,000	144,000	4,000	2,000
1971	495,000	315,000	180,000	172,000	5,000	3,000
1972	513,000	303,000	210,000	200,000	6,000	4,000
1973	540,000	290,000	250,000	238,000	7,000	5,000
1974	580,000	270,000	310,000	295,000	9,000	6,000
1975	635,000	250,000	385,000	364,000	12,000	9,000
1976	700,000	230,000	470,000	448,000	13,000	9,000
1977	720,000	220,000	500,000	477,000	14,000	9,000
1978	733,000	203,000	530,000	505,000	15,000	10,000
1979	742,000	187,000	555,000	529,000	16,000	10,000
1980	750,000	175,000	575,000	548,000	17,000	10,000

Economic Impacts

The outmigration of recent years has had two significant economic impacts on rural Yemen: a shortage of rural labor and increased wealth due to the inflow of remittances. With one-third of the potential male workforce, aged 10 - 50 years, out of the country, labor shortages have led to the inflation of rural wages. Currently [in 1983] daily wages for male, unskilled agricultural labor range from YR40 - 50 per day in the Tihama, to YR80 - 100 per day in the southern highlands.¹⁸ Skilled workers, such as stone-cutters, builders, welders, and auto repairmen, may earn up to YR300 per day (Steffen et al. 1978:I/93; Tutwiler and Carapico 1981:127). The share of the harvest due to the sharecropper has increased from ¼ of the harvest in previous years to at

¹⁸ The exchange rate in 1983 when this was written was: YR 4.6 = \$1.00.

least ½ of the harvest, where the sharecropper is responsible for agricultural inputs. Migrants who have learned skills in Saudi Arabia may return to Yemen permanently to work for wages. If jobs are available locally (e.g., in house construction,) they will live at home. Or, they may migrate to one of Yemen's cities or towns in pursuit of wage labor.

Yemeni migrants send most of their earnings home as remittances. In 1970, the level of remittances was estimated at about \$40 million. By 1975-76, it rose to \$500 million. It doubled in 1976-77, and the level peaked in 1977-78 at over \$1.4 billion. By 1981 the officially recorded remittance level had declined to just under \$1 billion (Hogan et al. 1982:42). These are official government estimates; they do not include remittances brought home in the form of consumer goods or cash sent with relatives and friends but not officially recorded. The latter are estimated to vary from 33% to 100% of the official remittance figures (Hogan et al. 1982:43).

Rural Development

Rural areas have witnessed a tremendous increase in capital investment in bridewealth, house building, new mosques, schools, tubewells, electric generators, grain mills and rural infrastructure, including feeder roads to villages leading from government-built roads [Varisco and Adra 1984]. Tractors, cars, and trucks have been purchased with remittances. These investments have been financed by individuals (electric generators, mills, tractors, automobiles) or by joint community efforts (roads, mosques, schools). In most communities returning migrants have established small retail shops in or near their home villages. Some returning migrants have invested in commerce in the urban sector, with particular communities specializing in specific trades. For example, goldsmiths in Sanaa are often from the Hujjariyya district of the southern highlands (Myntti 1984), while many clothing shops are owned by families from the district of Haraz in the central highlands.

The USAID Agricultural Sector Assessment of Yemen summarized the economic impact of outmigration: "In the last decade [1972-1982] a large amount of development aid has poured into the country, but most of the economic change has resulted from remittances rather than specific donor projects" (Hogan et al. 1982:36-37). It is clear that remittance wealth has significantly impacted all aspects of life in Yemen over the past 15 years. Outmigration rates are expected to remain high. Rising expectations, high inflation, and a rapidly growing population are likely to increase pressures on men to emigrate for longer periods of time. [This prediction was made before the Gulf War in 1991, when most Yemeni workers in Saudi Arabia and the Gulf were forced to return home.]

Rural Women as Beneficiaries of Remittance Income

The majority of Yemen's total population is rural, as is the majority of the migrant labor force. Hence, in contrast to other developing countries where rural areas are among the last to benefit from external income, rural areas in Yemen have been the primary beneficiaries of remittance wealth (Hogan et al. 1982). Women are the immediate beneficiaries of remittances and usually make the decisions over daily expenditures in the absence of their husbands. As a consequence of remittance income, most rural women in Yemen are wealthier and have more money to spend than in the past. Older women are generally able to save more of their own income. They often utilize their savings to finance a pilgrimage to Mecca.

Younger women have benefited financially from increases in bridewealth, a consequence of remittance wealth.¹⁹ The major portion of the bridewealth is not given directly to the bride, but the increase in the portion of bridewealth given to the bride's father for wedding and other expenses (*shart*) is proportional to the increase of *mahr*, which is given directly to the bride on her wedding night, as are clothes and jewelry given to the bride as part of the marriage contract.

The continued inflation of bridewealth at a time when wages are decreasing in Saudi Arabia is preventing some men from getting married and leading others to marry wives from countries where bridewealth is cheaper. If unchecked, the inflation of bridewealth may eventually result in higher rates of unmarried men and women.²⁰

Some Women Are Left Behind

Not all rural women in Yemen are wealthier as a result of men's outmigration. Women who have traditionally worked for wages find that their wages have decreased relative to men's and to current inflation rates. Women who work in Tihama harvests receive YR15 for a day's work, or, if paid in kind, 1/10 of the amount they pick. Yet a man who works in the harvest may be paid up to YR50 per day or all of the grain he can carry home. In response to these low wages, some women of Yemen's Tihama have migrated to the Saudi Arabian Tihama to perform the same or similar seasonal labor for higher wages.

Small farmers on rainfed land who do not grow cash crops often find it difficult to accumulate the initial capital to emigrate, and when they do their remittances are quickly exhausted on consumer goods (See the Case Study of Gharaba below.) Women and men in these communities complain of greater relative poverty and say that they have less to eat now than they did in the past. Small landholders who grow *qat* instead of food crops are often cash poor between *qat* harvests and suffer from hunger during these periods (Adra field notes.)

Growing wealth disparities have been observed between farmers and urban traders and between women who own little land and a growing cash-based middle class (Myntti 1984:32-37. See also Carapico 1996; World Bank 2006). Women have been most affected by new economic forces. Mundy (1983:13) writes that "title for new forms of capital – from trading, urban land, tubewells and tractors – seem to lie more exclusively in the hands of men than did the title to older forms of property – cultivated land, livestock." (See also Chaney and Lewis 1980). Along with this change has been a new emphasis on the conjugal household as the proper sphere of women's work (Mundy 1983:13).

¹⁹ Bridewealth in a representative area of the central highland was YR1,000 (\$220) in the late 1960s, YR3,000 (\$660) in the early 1970s, YR50,000 (\$12,000) in late 1979, and YR100,000 (\$22,000) in early 1983 (Adra field notes). This inflation of bridewealth reflects high inflation and perhaps the increased value of women's labor. Bridewealth in Yemen's cities and larger towns is considerably lower (\$20,000 in 1983), partly in response to laws limiting the amounts of bridewealth permissible.

²⁰ Since 1981, residents of several villages and rural towns have met to limit bridewealth in their respective communities. These limits are based on local consensus and are usually respected. [By 2005, long after the effective cessation of remittance income in most areas, rural bridewealth again rose precipitously. This has led to a marked increase in polygynous marriages, as young women marry older, wealthy men. (In the 1970s and 1980s polygyny was rare in Yemen's central and northern highlands.) Community elders in a number of villages met again to limit bridewealth for women married locally and establish fines for fathers of women who contract marriages with men in other communities at inflated prices. (Most rural women prefer to marry locally in order to remain close to their kin.) (Adra field notes).]

Many members of low status groups who own no land are also placed at an economic disadvantage when they cannot emigrate (Walters 1987; Adra 2006). Members of these disadvantaged groups often migrate within rural Yemen in search of wage labor during harvest periods or to Yemeni urban centers to work in the service sector.

Effects on Traditional Status Hierarchies

Monetization and the expansion of income generating opportunities have altered traditional attitudes towards status-related occupations. Historically, the rural majority who self-identified as tribal considered themselves primarily farmers, herders or fishermen. They disdained wage labor, trade and service occupations. These have become so lucrative, however, that members of all status groups currently participate in them. Most Yemenis prefer to live in Yemen than abroad, thus providing additional incentives to engage in wage labor, trade or the service sector at home. Conversely, some members of traditionally low status groups have been able to improve their relative social standing by accumulating wealth through outmigration and by demanding high wages for services performed in Yemen (Adra field notes).²¹

Reduced Reliance on Subsistence Agriculture

The availability of remittance income has reduced Yemeni reliance on subsistence agriculture, leading to the abandonment of marginal agricultural land in many parts of the country.²² In many cases, the reduced reliance on subsistence agriculture has permitted farmers to experiment with new crops, sources of water and methods of cultivation (Hogan et al. 1982:82). Tubewells have been installed on previously rainfed agricultural land. This has increased yields of traditionally grown foods and encouraged the cultivation of cash crops, such as *qat*, vegetables (e.g., potatoes, tomatoes, okra) and fruit. Kopp (1983:12) describes the impressive results of the use of tubewells: between 1975 and 1980, vegetable production rose by 43%, fruit production by 35%, and potato production by 72%. On the other hand, the shift to tubewell irrigation resulted in the rapid draw-down of the water table in many areas. Commercial fertilizers, pesticides, and insecticides have also been introduced. Tractors, which can only be utilized on fairly level land, greatly reduce the time demands and expense of plowing. Tractors are not suitable, however, for use on steep mountain terraces or small plots of land (Varisco 1991).

The Formal Division of Labor

Traditional Yemeni patterns of labor allocation correspond to those observed elsewhere and discussed by Boserup (1970), although they also vary with region and social status. Except in the Tihama wadis, which are highly dependent on seasonal wage labor, most agricultural labor in the YAR is household based. Crop specialization is rare [in 1983], with most land holdings devoted to a grain-fodder-livestock cycle used for subsistence and the regional marketing of limited surplus. Landholders continue to devote some of their holdings to subsistence crops, even in areas where cash cropping is important.

²¹ [By the 21st century intermarriage between traditional status groups, although still uncommon, had lost some of its stigma. On the other hand, status is increasingly correlated with wealth, and many of the landless poor are now stigmatized along with traditional low status service-providers (Adra 2006).]

²² Marginal lands were also abandoned due to lack of rainfall during the drought that occurred in the 1960s.

Male outmigration has both increased and decreased rural women's work, depending on the types of irrigation practiced. Areas of intensive agriculture irrigated by perennial springs produce a variety of crops with several harvests each year. Although only about 5% of cultivated land in the YAR is spring irrigated, these lands are historically among the highest in productivity. They require heavy labor inputs from men and women throughout the year. In general, women's workload has grown lighter in areas with spring irrigation because fewer men migrate from these areas, and the traditional agricultural division of labor was most nearly equivalent.

In 1983, over 80% of cultivated land in the YAR depends on rainfall alone, although water runoff from nearby slopes is directed onto strategically located fields whenever possible. Rainfed and spate irrigated wadi agriculture requires heavy labor input only once or twice per year. In these areas men engage in agricultural activity at times of heavy labor requirements, but the bulk of agricultural responsibility falls on women. Rates of male outmigration are higher on rainfed land than on spring irrigated land. Migrants from rainfed land tend to remain abroad, periodically returning home for periods of up to one year. Frequently, a household's entire male work force has emigrated, leaving only women, children, and very old men in Yemen. With the emigration of large numbers of men, women's responsibility for specific tasks has increased. However, the amount of land cultivated is generally less than in the past, as are the numbers of animals kept. Here, women's workload have not significantly increased or decreased. Women have seen their greatest increase in work on land that is newly irrigated with tubewells, where many more lands are currently in cultivation than in the past.

The large fields along the wadis of the Tihama are irrigated by seasonal floods, which flow down from the highlands during the rainy season. In 1983, these lands accounted for approximately 8% of the cultivated land in the YAR. Important changes have occurred in the spate irrigated wadis of the Tihama. Male outmigration, a relatively recent [1983] phenomenon in the Tihama, has resulted in shortages of male agricultural labor and a heavier reliance on female labor. Details on specific tasks and how these have changed will be presented below.²³

Fluidity in the Division of Labor

In contrast to some other countries (Boserup 1990:154-180), the division of labor in Yemen is not rigid; tasks are allocated among the available household members who perform necessary tasks as needed whether or not the tasks conform strictly to culturally specified roles. Men may perform tasks considered "women's" and women may perform "men's" tasks as the need arises. For example, spring or well irrigation often requires the labor input of two people at a time. A man who does not share a house with his brothers or other male kin, and whose children are too young to help him, may ask his wife to help him although irrigation is usually considered men's work. Men whose wives are otherwise busy or in postpartum confinement may be seen feeding and milking cows, churning milk and washing clothes if there are no other women in the household to perform these "women's" tasks. Men often feed children and take over other child care responsibilities when their wives are working in the fields (Adra fieldnotes). Men may collect fodder or purchase cooking fuel to help the women in their households.

²³ See van Schoot 1989 for an informative description of a rural woman's day in the Dhamar Montane Plains. For reports on women's work in Yemen, see: Bornstein 1972a, 1974, 1975; Champault 1978, 1985, 1986; Destremau 1990; Hogan et al. 1982; Maarse and van Schoot 1989; Ministry of Agriculture and Fisheries 1983; Myntti 1979; and Tutwiler and Carapico 1981. For later works, see also Buringa 1992 and van Schoot 1995.

Changes in Household Composition

Historically the extended household, where brothers live together with their wives, children, parents and unmarried sisters was the norm in rural Yemen. Women in such households take turns performing domestic and agricultural tasks. The oldest women in the house are responsible for the care and feeding of the cow, but if none are available, the younger women will care for the cow. Although children usually take small livestock to pasture, adults may do so if they have no children or if their children are in school. Women in the latter stages of pregnancy or in the early months after childbirth are limited to tasks that keep them close to home. Grandmothers often take over the bulk of child care.

One consequence of remittance affluence is a tendency for families to divide their holdings, which transforms the basic economic unit from the extended household (composed of brothers, their wives and children, aging parents and unmarried siblings) to a nuclear household, containing only a man, his wife and unmarried offspring. Many women, especially in spring irrigated areas, pressure their husbands to split from the extended household in order to escape the authority of their mothers-in-law. For many women in nuclear households, however, the sharing of tasks with other women is not feasible; all domestic and agricultural tasks must be performed by one woman until her children grow old enough to help her. Thus independence from the authority of in-laws comes with high labor costs and at the expense of “household social capital” – the help and support of extended family (Moser 2009:137-156).

Dietary Changes and Increased *Qat* Consumption

With the availability of new foods, both grown locally and imported, additions to rural Yemeni diets include a greater variety of fruits and vegetables, rice, refined wheat flour, a variety of canned goods, and - especially in the Tihama and urban centers - fresh fish. Simultaneously, the production of traditional grain staples has declined in Yemen despite marked rural preferences for locally grown and produced foods.²⁴ Where cooked vegetables have been introduced into the diet, time spent cooking has increased because of the time demands of washing, peeling, and cutting vegetables. Vegetable washing and cooking also uses more water than traditional breads and porridges. Rural women will often refuse to prepare vegetables because of the increased work involved (Adra field notes).

New wealth has increased the demand for *qat* and improved transportation networks have made it possible to market this crop quickly throughout the country.²⁵ *Qat* requires little care and is highly lucrative, yielding profits of up to \$36,000 per hectare in 1983.²⁶ Increasingly, sorghum and other grain crops are being replaced by *qat* on irrigated land, while tubewell irrigation is frequently used to produce

²⁴ These preferences are indicated by the higher market prices of locally grown and produced foods as compared to their imported equivalents. For example, in October 1982, local sorghum and wheat cost YR3 - 5 per kg, while imported wheat cost YR1.4 per kg (Hogan et al. 1982:236). In Spring 1983, imported apples, oranges and bananas cost YR7 per kg, in contrast to locally grown apricots (YR15 - 20 per kg), figs (YR20 per kg), and grapes (YR15 - 30 per kg). Locally grown almonds and raisins are at least twice as expensive as imported almonds and raisins. (Adra field notes.)

²⁵ It is not practical to export *qat* to other countries because it must be consumed within 48 hours of being picked and international markets are limited.

²⁶ This is based on data from Rada' collected by Peter de Lange (personal communication).

qat on previously uncultivated land.²⁷ *Qat* cultivation allows many farmers to remain in Yemen rather than emigrating for work.

Markets

Marketing is ideally men's work throughout Yemen. It is considered men's duty to purchase the household supplies of food, clothing, furnishings, and other essentials. Moreover, local weekly markets are not just places for the exchange of goods and services, but venues where news is exchanged and, often, tribal decisions are made. Men attend local markets whether or not they have produce to sell.²⁸ When they do sell produce, this is usually agricultural surplus and cash crops.

It is a cultural value that no man should ask the women of his household to sell or purchase goods at the market in his stead. Yet there are important exceptions to this rule. Women of Jabal Sabr in the southern highlands realize important profits and gain a great deal of economic independence from harvesting and marketing *qat*. (Al-Huri 1981) writes that women are active in Tihama markets and in fishing villages north of Hodeida, and women traditionally market the fish caught by the men in their households (Adra field notes.) Elsewhere, women go to market to sell fodder they have collected, small livestock, chickens, eggs, dairy products, baskets or pottery, i.e., items of their own production (Myntti 1978:14; Tutwiler and Carapico 1981:93; Adra field notes). Where rural women's participation in the market is considered acceptable, it is voluntary and determined by personal preference (unless poverty or social status necessitates women's market attendance.)

The extent of women's participation in the market depends on the region and may vary with village and even by household. In some parts of Yemen, such as Rada' or the Hujjariyya, the only women seen at markets are low status service providers (Nadia Salih Sayf, personal communication; Myntti 1984; Walters 1987). In other parts of Yemen, e.g., the central and northern highlands and the Tihama, women from all status groups are represented in markets, especially at local weekly markets.

Some women are full time traders who travel from one weekly market to another, selling pottery, baskets and other goods. They are seen most often in Tihama markets, but they may also frequent the markets of the central and northern highlands. It is difficult to obtain accurate data on female professional traders because cultural values dictate against women's participation in full time trade. Professional women traders may be among traditional low status service providers who have specialized in trade, landless women forced by economic circumstances to market the produce of others. Alternately, they may be older tribal women whose agricultural and domestic responsibilities have been taken over by their sons' wives and who enjoy the bustle and activity of markets.

New Limits on Women's Mobility

As the need for women's labor in agriculture and animal husbandry decreases, there is a tendency to limit their mobility. The cultural ideal that women's work is properly domestic becomes a norm that overcomes the historic value of their economic productivity (cf Mundy 1983a; Tutwiler and Carapico 1981:161). Ironically, contact with other societies tends to reinforce a preference for keeping women within domestic boundaries. Men from some parts of Yemen who have migrated to the U.S.A. or Europe

²⁷ Not all agricultural land can be used for *qat*. In Yemen the *qat* tree can only be cultivated at elevations higher than 1,000m above sea level.

²⁸ Traditionally, men who self-identified as tribal did not sell their own produce. Instead, they sold their surplus to middlemen who then marketed the goods in local and urban markets. With the monetization of the economy, trading has lost its stigma and middlemen are usually dispensed with.

are more protective of their women and more likely to limit their access to education and/or economic activity than Yemenis from the hinterland who have had minimal contact with other countries (Nadia Salih Sayf, personal communication; cf Boserup 1990:142-143). Correspondingly, the areas which appear to value the seclusion of women most are in the southern highlands, which have had historic contact with the West through the port of Aden (cf Myntti 1984; Tutwiler and Carapico 1981:112).²⁹

Such attitudes are not limited to returned migrants from Western countries. Some returnees from Saudi Arabia, which propounds more conservative Wahhabi views of Islam than the religious views commonly held in rural Yemen, express a preference for limiting women's mobility. They are likely to pressure women of their households to stop frequenting local markets and object to women's wedding parties which, like men's celebrations, traditionally lasted until dawn. If they can afford it financially, they may also discourage women's active participation in agriculture in favor of hired male labor.

The tendency to seclude women is often presented as an expression of increased social status. It may also be expressed as a preference for "modernity" (i.e., "it is more modern/urbane/ sophisticated for women to be secluded.") As Sheila Carapico has observed,

One irony that emerges from studying gender relations in Yemen, is that the relative autonomy, participation, and self-reliance valued by Western feminists attaches to economic necessity and low prestige in the South Arabian context where (non-professional) working women tend to envy housewives. [1996:96]

Another force limiting women's mobility in some parts of Yemen is a decline in the local weekly market system in favor of larger regional roadside markets. Women are less likely to frequent the new markets because of the large numbers of strangers present. For similar reasons, the proximity of car roads to some communities has had the paradoxical effect of limiting women's travel (Elizabeth Gascoigne, personal communication).

While some rural women accept seclusion, others reject the new attitudes. They value their mobility and their economic contributions. Men and women in rural Yemeni society have historically admired women who successfully perform "men's" work. Although some women accompany their husbands who have migrated to towns and cities within Yemen, others refuse to join their husbands, asserting that they do not want to give up their mobility and clean country air. They realize they would have more leisure time in urban communities, but also know they would be largely confined to their house, leaving it only for afternoon socializing. They would have to wear an urban veil, which is more enveloping than rural dress. They explain that in the village they are free to go and come as they please. [I have heard this throughout Yemen, most recently in a 2005 focus group discussion of tribal leaders who have built beautiful villas in Sanaa and were lamenting the refusal of their wives to join them.]

Social assets, including the traditional support of women by their male kin, provide women further reasons to remain at home (Adra, field notes). For example, a woman who feels insulted or is assaulted by her husband or women in his household will go to her father or brother's house. This act initiates mediation procedures with the husband usually having to make some sort of formal apology. A woman who is really unhappy in marriage will pressure her father or brothers to insist on divorce. Women do not always get what they want through this process, but a woman's kin are expected to support her, and the institution is valued as an important safety net for women. Women who live at a

²⁹ Tutwiler and Carapico 1981:67-69 note: "Notables from Jiblah [a historic town in the southern highlands] estimate that the proportion of families keeping livestock has declined from 100% to 25% since the Revolution [1962], and cite declining profitability and a growing preference for the seclusion of women as the reasons."

distance from their kin usually sacrifice this important social asset. Migrants whose wives continue to live in their home villages are expected to return on a regular basis.

Effects on Women's Decision-Making

Female household heads clearly have greater decision-making powers than do women who are not household heads. Even when male labor is hired to perform the chores of men who are absent, most women have increased supervisory roles. The extent to which women may control major activities, such as house construction, in the absence of their husbands, is shown in the case study of Rada' below. Outmigration has served to enhance some women's decision-making powers in at least some contexts.

Other impacts of outmigration, such as limitations on women's mobility, however, have had a negative effect on women's decision-making powers. Historically in Yemen, women were conversant with local news and community affairs, and they had an unofficial though important voice in local politics, dispute resolution and the choice of spouses for their children (Adra 2008). Like men, women who frequented the market heard local and regional news and could participate in discussions of differing points of view. As they are increasingly confined to the vicinity of their homes, they lose access to the information that allows them to formulate informed opinions on these matters.

Where women's roles in agriculture and livestock production have declined, so have their inputs in decisions. Older women in areas where *qat* cultivation has replaced a substantial portion of grain production express resentment toward the production of *qat*. They complain that there is no longer sufficient fodder for their livestock, and that their current diet does not have the flavor of their tasty traditionally grown grains (Adra field notes). These women, who have lived through famine conditions, are more comfortable physically and economically than they have ever been. Their complaints initially seem spurious until one realizes they are lamenting the loss of a much deeper involvement in economic and political affairs.

Finally, one may have full decision-making powers over one's land holdings, but this is meaningless without adequate information on optimal methods of cultivation. Women in Yemen do not normally have access to technological improvements in agriculture. Donor projects on mechanization, the uses of fertilizer and pesticides, and the introduction of new crops and seeds have been, on the whole, directed at men. Thus, women alone are not usually in a position to improve productivity, particularly of newly introduced cash crops on tubewell irrigated land.

New Choices for Women

Perhaps the most important impact of outmigration is that remittance income gives most rural women a choice to work in agriculture or not, and if they do, the extent of their involvement. Women who do not enjoy agricultural labor can now hire laborers to do this work. Alternately, land may be sharecropped or rented while their owners obtain their food supplies from the market. Some women whose husbands have migrated to cities in Yemen have chosen to move with them to a life of greater leisure. Others refuse to migrate, preferring the greater mobility and "clean air" that rural life affords. Specific impacts of outmigration on women's roles in food production, standards of living, mobility and decision-making powers are detailed below.

SPECIFIC TASKS OF WOMEN AND MEN IN AGRICULTURE, ANIMAL HUSBANDRY, AND FOOD PROCESSING, AND CHANGES IN THE DIVISION OF LABOR DUE TO MALE OUTMIGRATION

Because the impact of male outmigration varies with type of agriculture and animal husbandry practiced, this section details the traditional division of labor and changes in women's workload separately for spring irrigated land, rainfed land, with tubewell irrigation and on spate irrigated land.

The Division of Labor on Spring Irrigated Land, 1960s-1980s³⁰ (See Table 4)

Agriculture

On spring irrigated land, men are primarily responsible for land preparation, terrace construction and repair and irrigation. They are largely responsible for sowing grain and cultivating fruit, vegetables, coffee and *qat*. Threshing sorghum and harvesting *qat* leaves are considered men's work.

Women's agricultural responsibilities are primarily in animal husbandry, collecting fodder, including lucerne, husking maize, processing grain, food preparation and carrying heavy loads. They may harvest coffee. Other tasks, such as harvesting cash crops other than *qat* or lucerne, threshing (other than sorghum), or winnowing may be performed by men, women or men and women together.

Crops traditionally grown on spring irrigated land include grains (sorghum, maize, barley, wheat), legumes (lentils, cowpea, fava bean) and cash crops, which vary with region. These may include coffee, *qat*, fruit (grapes, citrus, peaches, apricots, plums, pomegranates, quince, papaya), vegetables (tomato, potato, okra, onion, garlic, chili pepper, white radish, Chinese chive), and the important fodder crop, lucerne.

The Cultivation of Grain Crops: Grains are the staples of the rural Yemeni diet, consumed as breads baked in a tanduri oven (*tannour*) in the highlands or a shallow oven in the Tihama, and eaten as porridge flavored with meat broth, milk or clarified butter. The leaves and stalks of grain crops serve as fodder for domestic animals, and the lower parts of sorghum and millet stalks serve as fuelwood.

- Land preparation (plowing and leveling), constructing and repairing terraces, and irrigating are considered men's work. Women may participate in plowing by feeding the bull between runs. Sowing of sorghum and maize is a two-person operation, with one man pushing the plow and another man or woman walking behind, dropping seeds into the furrow. Wheat and barley are generally broadcast. This may be done by men or women.
- Weeding and thinning are often done by women but may be done by men. The thinned stalks and weeds of sorghum and maize are used as fodder or marketed locally. They may be carried by women on their heads, or they may be piled on the back of a donkey for transport home. Donkeys are often led by children.
- Stripping sorghum stalks. On many irrigated plots, the sorghum leaves are stripped (*sharf*) from the stalks over a month before the grain is harvested. This is a pleasant task in which the whole household participates, often accompanied by song. In some areas, everyone in the village works

³⁰ The division of labor described in this section reflects recent [1983] observations and descriptions of work in the past generation. One cannot assume that these patterns have not changed historically in response to shifts in climate or economic and political changes, such as the prolonged civil war (1962-1969), which disrupted traditional agriculture and marketing patterns (Varisco 1991).

together, sharing each family's holdings in turn. Each day's lunch is provided by the household whose sorghum is being stripped on that day. Friends and relatives with few land holdings may help with this task for wages.

- Harvesting sorghum stalks and the heads and stalks of maize is the work of the adult members of a household together, although in some places in the past entire villages would harvest together. As with *sharf*, household labor may be supplemented by wage labor. Usually, men cut the stalks, and women follow to cut off the heads of the fallen stalks. Men or women tie the stalks, which are then left to dry in or near the field or taken back to a threshing floor. In the coastal region and the southern highlands, the stalks are piled in large stacks or wedged between the branches of acacia trees. Women carry the dried stalks in bundles on their heads. The heads of sorghum and maize are usually placed in a sack and transported by donkey, which may be led by a child.
- Sorghum heads are threshed by flailing with a large stick. This task is usually performed by men. Maize is husked and shucked by hand, usually by women although men may help with this task.
- Wheat and barley are harvested by men and women. Once harvested, the grain is threshed on a threshing floor using animal power. This is usually a donkey pulling a flat stone. The donkey may be led by a man or woman. After it is threshed, the grain is winnowed by throwing it up in the air and letting the grain fall to the ground, allowing the chaff to disperse. Old men and women and young boys and girls perform this easy task.
- Adult women are solely responsible for cleaning the grain, grinding it into flour and preparing food. Traditionally, women ground flour on heavy stone hand mills. Women throughout Yemen explain that this was by far their most difficult task (Adra field notes).

The Cultivation of Legumes: Legumes are important to the traditional diet. Beans are dried and ground into flour and mixed with grain flour to form breads that are also complete proteins. Beans are also consumed as snacks: boiled, roasted or eaten raw when they are green. The pods are used for fodder.

- Legumes are often intercropped with sorghum and maize on irrigated land. They may be thinned and harvested by adults (women or men) or children – in other words, by anyone who has the time to do so.

The Cultivation of Cash Crops:

- Men are generally responsible for most tasks related to the cash crops of coffee, *qat*, fruit trees, potatoes and tomatoes. Women may help harvest coffee, fruit and vegetables.
- Lucerne, however, is usually weeded, thinned and harvested by women.

Animal Husbandry³¹

- Animal husbandry is relegated to women and children, with the exception of the care and feeding of bulls and the care and milking of camels, which are defined as men's tasks.
- Depending on the region, cows, usually owned by men, may be hand fed by women and girls or taken to pasture by young boys, unmarried girls, or old women and men.
- Cows are milked by women, who process their milk into clarified butter and a form of buttermilk (called in Yemen *laban* or *haqin*).

³¹ See Maarse and van Schoot 1989 for details of livestock production in the Dhamar Montane Plains.

- In an extended household, where several women share domestic and agricultural tasks, care of the cow and processing its milk is the responsibility of the older women of the house who are relieved of more physically demanding work.
- Women collect fodder, which may include weeds, thinned crops and grain stover, as well as lucerne.
- Sheep and goats are taken to pasture and cared for by young, unmarried boys or girls, or sometimes by older women.
- Chickens are owned and cared for by women of all ages.³²

Domestic Tasks

Women have major domestic responsibilities – housecleaning, child care, fetching water, washing clothes and cooking – in addition to their agricultural tasks.

- Women are responsible for collecting wood and making dried animal dung cakes, both of which are used for cooking fuel in the traditional tanduri ovens.³³
- The women in the house are responsible for providing food to the men and women of the household working in the fields and to any hired laborers.
- Men's only domestic duties involve house construction and repair.
- Men may feed or supervise children or help out with domestic tasks when their wives are busy with agriculture and animal husbandry (Adra field notes).

Changes in Women's Workload on Spring Irrigated Land (See Table 5)

Agriculture and Animal Husbandry

It would appear from traditional divisions of labor that women in spring irrigated areas would suffer most from male outmigration, since male participation in agriculture is greatest in these areas. This is not necessarily the case, however, because the rate of outmigration from spring-fed regions is not usually as high as it is elsewhere (Ministry of Agriculture and Fisheries 1983; Varisco and Adra 1984). In springfed areas, agricultural work remains a viable option, and cash crops, especially *qat*, provide economic incentives for men to remain at home. Generally, only one or two men from each household emigrate at a time from spring irrigated areas.³⁴ In these households the remaining men perform the tasks traditionally defined as men's and they leave marginal Land uncultivated. Women continue to perform the tasks defined as women's, but usually on fewer cultivated plots than in the past.

- Wherever *qat* has replaced grain crops, women's workload have declined considerably because their traditional role in *qat* cultivation was minimal. Women remove the grass that grows between *qat* trees.³⁵
- A decline in sorghum cultivation leads to a decrease in the amount of fodder produced. This, in turn, reduces in the number and productivity of cows and the time demands of animal husbandry

³² Young chicks are kept for their broth, which is considered beneficial for women who have recently given birth.

³³ Gathering sufficient wood for 4 - 6 meals may take anywhere from 30 minutes to 3 hours (Adra field notes.) See Champault 1978, 1986 for information on making dung cakes and cooking fuel.

³⁴ Typically, they emigrate for two or four years: two years to accumulate sufficient funds to pay for bridewealth and wedding expenses and, for some, another two years to accumulate funds to build a house.

³⁵ [In 2005 I was told that women whose households cultivate large amounts of *qat* were also expected to tie the small leaves of *qat* in bunches in preparation for marketing.]

and dairy production.³⁶ Thus, an increase in *qat* cultivation on land previously cultivated in grain indirectly results in declining women's agricultural loads and time spent in animal husbandry.

The Shift to Nuclear Households

Many women pressure their husbands to split from the extended household in order to escape the authority of their mothers-in-law. In nuclear households, each woman's share of agricultural and domestic work increases substantially because tasks are no longer shared with other women. This is particularly difficult in times of peak labor requirements, such as harvest or sowing, or when the family employs hired laborers to feed. This problem is exacerbated when the male head of the household emigrates. Although he often leaves behind a male representative (*wakil*) to oversee tasks, such as plowing, irrigation and marketing, the woman's daily agricultural tasks increase. Chores that were once shared by her husband become hers alone.

An Increase in Women's Decision-Making Powers

Because a *wakil* charges for his services, women may choose to dispense with a *wakil* and retain full control of the household's land holdings. In these cases, women either hire laborers to plow and/or irrigate, or women may choose to plow and irrigate their Land themselves. (Hired laborers must be fed three meals per day, thus increasing a woman's domestic workload.) Furthermore, a woman without a *wakil* must arrange for someone to market agricultural surplus. The choice to dispense of a *wakil* can lead to a considerable increase in women's agricultural labor input. The extra responsibility is compensated for, however, by an increase in women's decision-making powers in the management of household land and income.

Domestic Work

In general, domestic work has been made easier:

- The earliest investments of returning migrants were in diesel and electric powered flour mills, alleviating what was once women's most onerous task. Few women continue to use hand mills on a regular basis, and women I have interviewed in various regions assert that they "have no more hard work to do now that they no longer grind grain by hand" (Adra field notes).³⁷ Interestingly, the introduction of powered mills operated by men has transformed "women's work" into male wage labor.
- Consumer goods have reduced women's domestic chores. Kerosene stoves make it easier to cook snacks quickly or prepare hot dishes without having to stoke a fire. Easily available thermoses allow hot drinks prepared in the morning to remain warm all day. Aluminum cookware and dishes are not subject to breakage as were the traditional clay and stone pots.
- Fuel collection is one of women's most time-consuming chores. Historically, women traveled long distances, usually at night, to collect fuel wood. Increased conservatism has led to a reluctance to permit young women to travel these distances. Furthermore, with fewer domestic animals, less animal dung is available to make dung cakes for fuel. Many women now buy at least

³⁶ Epidemics of the cattle disease rinderpest have also reduced the cattle population.

³⁷ Women occasionally still grind small amounts of grain on hand mills to achieve desired consistencies or flavor.

some of their cooking fuel, or their husbands buy cooking fuel for them. Water pipes installed in some villages (and, rarely, in individual homes) have facilitated the task of fetching water.

- The installation of electric generators in villages (with homes powered for a fee) saves women the chore of lighting oil lamps.
- The very absence of men reduces women's domestic tasks. Women often say that their chores of fetching water, cooking and cleaning are lighter when the men of their households are away. A proverb heard in the central highlands humorously refers to women's tendencies to slack off when there is no man in the house: "If a woman's husband is away, she will even eat cow's meat raw."

In some cases, however, women's domestic load has remained unchanged or become more onerous:

- Women in the millet (*dukhn*) consuming areas of Yemen have not benefited from flour mills. Millet is customarily wet before grinding, which reduces the grain's bitterness. But available flour mills cannot grind wet grain, leaving mill-ground millet with a bitter taste. Hence, women in the Tihama and other millet producing areas continue to grind millet by hand (Adra field notes).
- Women interviewed for this project complain that laundry is consuming more of their time. In the past, they had fewer clothes to wear and would wash these every two weeks. With more clothes owned and new standards of cleanliness, women complain that they now wash clothes daily (Adra field notes).
- Women also complain about the time and water demands of cooking vegetables, compared to their traditional diet of grain and legumes.

The Division of Labor in Rainfed Agriculture, 1960s-1980s (See Table 6)

The most commonly grown crops on rainfed land are grains (sorghum, millet, wheat, barley) and legumes (lentils, cowpea, fenugreek, fava bean). Sesame is grown in parts of the highlands and the Tihama, and pressed into edible oil. Dates are grown on rainfed land in parts of the Tihama, although they usually require some irrigation. Rainfed agriculture is primarily for subsistence, but surplus grain and legumes may be marketed locally or exchanged for maize, lucerne, or other irrigated crops grown in neighboring areas.³⁸ Methods of sowing, cultivating, harvesting and processing agricultural products are similar to those described for spring irrigated agriculture. In contrast to spring irrigated land, however, rainfed land usually yields only one harvest per year.

- Women tend to carry a greater share of agricultural responsibilities in rainfed agriculture than on spring irrigated land. Men are responsible for land preparation (plowing and leveling) and repairing terraces. A man and a woman often sow together. The man pushes the plow, while the woman walks behind dropping the seed into the furrow.
- Depending on the region and the availability of male labor, men may thresh sorghum, and they may participate in the sorghum harvest by cutting off the stalks before women cut off the heads. But the total time men spend in harvesting grain on rainfed land is considerably less than the time men spend on harvests on spring irrigated land.
- In contrast to spring irrigated land, where legumes are usually intercropped with grain crops, whole fields may be planted with legumes on rainfed land. In some parts of the central highlands, men cultivate and harvest legumes. Often, however, these tasks are performed by women.
- Women are responsible for all other tasks related to the cultivation of legumes such as weeding, thinning, and the processing of harvested crops.

³⁸ Ties of marriage or other alliances often form the framework for such exchanges.

- Stripping sorghum, which is only feasible on some rainfed varieties, is accomplished by groups of women together.
- Women usually do the harvesting and threshing.
- Winnowing is the work of women and children, as is chasing away birds and constructing scarecrows.
- Women are responsible for sowing sesame. Men harvest sesame, but women may help them tie the stalks together.
Where dates are grown, they are harvested by men and often dried by women.
- As on spring irrigated land, livestock feeding and care are the responsibility of women, as is milking cows and processing their milk.
- Sheep and goats are more economically important on rainfed land than on irrigated land. These are traditionally taken to pasture by children or, if their number is large, by young unmarried men and women.
- Chickens are owned and cared for by adult women.

Changes in the Division of Labor on Rainfed Land (See Table 7)

Rates of male outmigration are higher on rainfed land than on spring irrigated land. Frequently, a household's entire male work force is abroad, leaving only women, children, and very old men at home in Yemen. Migrants from rainfed land tend to remain abroad, periodically returning home for periods of up to one year. The proportion of abandoned agricultural fields and terraces is also highest in rainfed areas.

Women's large share of agricultural responsibilities on rainfed land increases further with male outmigration:

- Women must arrange for plowing and terrace repair or perform these tasks themselves.
- They level the land themselves.
- They arrange for the marketing of agricultural surplus and for the purchase of household needs. These tasks are added to their traditional responsibilities as outlined above.
- A marked increase in decision-making powers accompanies their increased workload. Decisions on changes in methods of cultivation or crops cultivated are theirs alone.

Nevertheless, women living on rainfed land attest that their overall workload is not necessarily higher than it was in the past because fewer fields are cultivated and such time-consuming tasks as grinding grain, fetching water and collecting fodder have now been facilitated by new technology (Susan Coleman, personal communication).

- On rainfed, as on spring irrigated land, fewer cattle and small livestock are kept than in the past because of a decline in fodder production combined with the effects of rinderpest in the late 1970s.
- In some places fewer sheep and goats are kept because the children who would normally take these animals to pasture are now enrolled in school.

	Women's Tasks	Men's Tasks	Tasks Performed by women and/or men
General	Carry agricultural loads (in some places, these are carried by donkey). Prepare lunch for workers in the fields.	Construct and repair terraces. Level land. Irrigate. Plow (2 men or a man and a woman).	
Grain crops: sorghum, maize, wheat, barley	Weed and thin. Clean harvested grain. Grind grain into flour.	Thresh sorghum.	Sow. Harvest. Husk and shuck maize. Thresh wheat and barley. Winnow.
Legumes	Grind grain into flour.		Sow. Thin. Harvest.
Vegetables	Only in Tihama: sow, cultivate, harvest, pack for market.	All other areas: men cultivate and harvest vegetables.	
Fruit		Plant. Cultivate.	Harvest.
Coffee		Plant. Irrigate. Harvest.	
<i>Qat</i>	Usually women's role is minimal, except in areas like Jabal Sabr.	Plant. Irrigate. Harvest.	
Lucerne			Harvest.
Animal Husbandry	Care for and feed cows. Milk cows. Process milk products. Own and care for chickens.	Own and care for bulls and camels. Own cows. Butcher.	Own and graze small livestock.
Markets	Market fodder, small livestock, chickens, eggs, dairy, crafts.	Market agricultural surplus, cash crops.	
Domestic	Collect fuel wood and make dung cakes. Fetch water. Cook. Clean. Wash clothes. Child care.	Construct and repair houses. May help with child care or other domestic tasks.	

Table 4. The Traditional Division of Labor on *Spring Irrigated Land*, 1960s - 1980s.

TASKS	HOW WOMEN'S WORK HAS CHANGED
General	<ul style="list-style-type: none"> • Women now choose whether to hire agricultural labor, lease cultivable land and rely on the market for consumables, or take on tasks traditionally considered men's work. • Fewer plots are cultivated, reducing workload • Where <i>qat</i> has replaced grain crops, women's workload in grain cultivation and animal husbandry has been reduced.
Decision-Making	Wives of outmigrants have greater control of the management of agriculture, hence an increase in decision-making powers.
Terrace construction and repair; leveling land; irrigation, plowing	If no men are available, women may either hire agricultural labor or take on these tasks themselves.
Grain crops: sorghum, maize, wheat, barley, legumes	Fewer fields are cultivated in grain and legumes - a reduction in women's workload.
Grinding Grain	Flour mills have replaced women's most onerous task (except where millet is the staple.)
<i>Qat</i>	Women have limited roles in <i>qat</i> production, but they may bundle <i>qat</i> leaves in preparation for market.
Lucerne	Decreased cultivation – less work for women.
Livestock	Lack of fodder (associated with grain cultivation) leads to a decline in the number of livestock kept – less work for women.
Markets	Decline in local markets in favor of larger roadside or urban markets, combined with imported religious conservatism, have limited women's participation in markets.
Fuel Collection	Wood collected by women is supplemented by fuel wood purchased by men in the market, decreasing their workload.
Domestic	<p>Access to electricity and small appliances have decreased some of women's tasks.</p> <p>Other domestic work has increased:</p> <ul style="list-style-type: none"> • Women who hire laborers have to cook meals for them. • More clothes are worn and washed more frequently, increasing women's work by several hours per day. • Trend away from extended families to nuclear families increases each woman's workload.

Table 5. The Impact of Male Outmigration on Women's Workload on *Spring Irrigated Land*, (These are areas with limited male outmigration - 1983)

	Women's Tasks	Men's Tasks	Tasks Performed by women and/or men
General	Women are responsible for most agricultural work on rainfed land. They carry agricultural loads. (In some places these are carried by donkey).	Construct and repair terraces. Level land. Plow (2 men or a man and a woman).	
Grain crops: sorghum, maize, wheat, barley	Harvest. Thresh. Weed and thin. Clean harvested grain. Strip sorghum leaves. Winnow. Grind grain into flour.	Sometimes thresh sorghum. Sometimes help with harvest.	Sow. Harvest. Husk and shuck maize. Thresh wheat and barley. Winnow.
Legumes other than sesame	Usually cultivate and harvest. Grind legumes into flour.	In some parts of the highlands, men cultivate and harvest legumes.	
Sesame	Sow	Harvest	Tie stalks after harvest in preparation for market.
Dates	Dry dates after harvest.	Plant. Harvest.	
Livestock (Sheep and goats are more economically important on rainfed land than on irrigated land)	Care for and feed cows and small livestock. Milk cattle and process milk products. Graze small livestock in the absence of young men and women. Own and care for chickens.	Own and care for bulls and camels. Own cows. Butcher.	Own and graze small livestock. Young unmarried men and women graze sheep and goats.
Domestic	Cook. Collect fuel wood and make dung cakes. Fetch water. Clean. Wash clothes. Care for children.	Construct and repair houses.	

Table 6. The Traditional Division of Labor on *Rainfed Land*, 1960s-1970s

TASKS	HOW WOMEN'S WORK HAS CHANGED
<p>General</p> <p>A higher percentage of the male workforce outmigrants than in irrigated areas, leaving only women, children and very old men at home.</p> <p>Long term outmigration is common.</p>	<ul style="list-style-type: none"> • High proportion of abandoned agricultural fields, reducing agricultural workload. • Women can choose to hire agricultural labor, lease cultivable land and rely on the market for consumables, or take on tasks traditionally considered men's work.
Decision-Making	Wives of outmigrants have greater control of the management of their agricultural Land, thus enhancing their decision-making powers. They decide on any changes in methods of cultivation or crops cultivated.
Markets	Women arrange for the marketing of agricultural surplus and for the purchase of household needs.
Terrace construction and repair. Land leveling. Irrigation. Plowing.	If no men are available, women may hire agricultural labor or take on these tasks themselves. If they choose the first option, they must supervise laborers and feed them.
Other agricultural work	All other agricultural tasks are unchanged.
Grinding grain, fetching water and collecting fodder	These time-consuming tasks have been made easier with new technology.
Lucerne	Decreased cultivation – less work for women.
Livestock	Lack of fodder (associated with grain cultivation) and fewer children to take livestock to pasture (because they now attend school) leads to a decline in number of livestock kept – less work for women.
Domestic	<ul style="list-style-type: none"> • Women who hire laborers have to cook meals for them. • More clothes are worn and washed more frequently, increasing women's work by several hours per day.

Table 7. The Impact of Male Outmigration on Women's Workload on *Rainfed Land*, 1983

The Traditional Division of Labor with Tubewell Irrigation, 1960s-1980s

The proliferation of tubewells is largely a result of remittance investment. With the introduction of tubewells for irrigation, cash crops are introduced on land that was formerly uncultivated or cultivated primarily in grains and legumes.

- Historically, wells were manually operated and limited to small gardens, usually in or near cities. Wells were also used to supplement spate irrigation during the dry season or in seasons with little rain. Water was usually lifted by a pulley system, using a donkey or camel. This was considered the work of men and boys. Women appear to have had a limited role in irrigation from manually operated wells.

- Hydraulic pumps were introduced to the YAR after its 1962 Revolution. Well irrigation has since spread fast. The USAID 1982 Agricultural Sector Assessment of Yemen reported that wells were being drilled at the rate of 1,500 per year (Hogan et al. 1982). By 1983 it was estimated that well irrigation covered 4 - 5% of cultivated land. Much of this was in the Tihama, with an estimated 6,000 wells.³⁹

Changes in Women's Workload where Tubewells Have Been Introduced (See Table 8)

Qat is cultivated on the newly irrigated land wherever climatic conditions permit.

Elsewhere, lucerne, maize, jasmine, fruits and vegetables, including tomatoes, potatoes, okra, melon, chili pepper, green pepper, onions, white radish, Chinese chive, carrot, sweet potato, and, in the Tihama, papaya, are introduced. The yield on tubewell irrigated land is estimated to be five times greater than that on rainfed land (Rashad al-Mursy, personal communication; see also Kopp 1983:12).

- The tubewell is usually installed by an individual (almost always a man) who rents water turns to other farmers. Sometimes, several farmers share the cost of sinking a tubewell which is expected to benefit all of them. In terms of labor inputs, tubewell irrigation involves directing water to the cultivated fields. This can be done by a single irrigator or well-operator.

For women, tubewell agriculture has led to the greatest increases in their agricultural workload:

- Land that was once marginal or uncultivated has been transformed into intensively cultivated fields in regions where the majority of agricultural tasks are considered women's work.
- Men usually operate the pump, but a female head of household must arrange to have water directed to her fields.
- With the exception of plowing, all of the tasks involved in vegetable production are performed by women. Cultivation, harvest and the packaging of vegetables are all women's responsibilities.
- If no men are available to market these crops, women must market these or arrange for middlemen.
- Men tend to remain at home to cultivate *qat*, but women are responsible for removing the grasses growing between *qat* trees. They use these grasses for fodder.
- Some women do not engage in major agricultural work but hire laborers. They must then oversee the labor and feed the laborers three meals per day, which is time-consuming.
- These new responsibilities are added to women's traditional agricultural, livestock and domestic duties.

³⁹ [By 2005 there were an estimated 52,000-55,000 wells in Yemen pumping 1.5 billion m³/yr, but only 1,000 were licensed. In the Sanaa basin the water table declined from about 20 m in 1956 to 60 m in 1982, and up to 700 m in 2005. Some estimates indicate the basin's fossil water supply will be depleted between 2015-2020, since the annual usage far outreaches the annual recharge (Daniel Varisco, personal communication.)]

TASKS	MEN'S WORK	HOW WOMEN'S WORK HAS CHANGED
<p>General</p> <p>Traditional hydraulic wells were manually operated and limited to small urban gardens or to supplement spate irrigation. Proliferation of tubewells for irrigation is largely a result of remittance investment.</p>	<p>Operate traditional wells and irrigate.</p> <p>Install tubewells and direct water to specific fields.</p>	<p>Female head of household arranges to have water directed to her fields.</p>
Cash crops introduced on Land that were uncultivated or cultivated only in grain and legumes		<p>Because most agricultural activity is defined as women's work, this change results in a major increase in women's workload. If women choose to hire laborers, they oversee the labor and feed the laborers.</p>
Vegetables introduced to previously marginal Land	Plow	<p>Cultivate, harvest, package vegetables. Female head of household arranges for marketing or markets produce herself.</p>
<i>Qat</i>	Cultivate	<p>Women remove the grasses that grow between <i>qat</i> trees and use these for fodder.</p>
Other		<p>These tasks are performed in addition to their traditional agricultural, livestock and domestic duties (see Table 3).</p>

Table 8. The impact of Male Outmigration on Women's Work on *Tubewell Irrigated Land*, 1983

The Traditional Division of Labor in Spate Irrigated Land, 1960s-1980s (See Table 9)⁴⁰

The large fields along the wadis of the Tihama are irrigated by seasonal floods which flow down from the highlands during the rainy season. Crops grown on spate irrigated land include sorghum, millet, maize, cowpea, sesame, banana, dates, papaya, melon, sugarcane, cotton, tobacco and vegetables (tomato, okra, chili pepper, green pepper, sweet potato, eggplant, zucchini). Henna and jasmine are also grown for the market (Mundy 1983a).

- Wadi agriculture requires heavy seasonal labor inputs for irrigation and harvest. Flood waters are channeled to irrigate cultivated plots by means of temporary diversion dams. Irrigators must be present at the time of the flooding to oversee the irrigation of these lands and to repair dams when necessary (Varisco 1983:374). This is usually the task of men.

⁴⁰See Farouk-Sluglett (1993) for more information on problems of agricultural production in the Tihama and the role of unpaid family labor.

- Harvests are large, also requiring heavy labor inputs. Historically, men and women from rainfed regions migrated to wadis during harvest to work for wages, which were paid in kind or with cash. They worked in large teams, with women and men harvesting sesame, cotton and tobacco but only women harvesting vegetables (Mundy 1983a).

	Women's Tasks	Men's Tasks	Tasks Performed by women and/or men
Large fields along wadis irrigated by seasonal floods require heavy seasonal labor inputs for irrigation and harvest		Channel floodwaters by means of temporary diversion dams. Repair dams when necessary.	Men and women migrate to wadis to harvest for wages.
Cotton, tobacco		Men harvest, dry tobacco leaves	
Sesame	Women sow	Men harvest	Women may help in harvest or help tie harvested stalks
Vegetables	Women harvest		

Table 9. The Traditional Division of Labor on *Spate Irrigated Land*, 1960s - 1980s.

Changes in the Division of Labor on Spate irrigated Land (See Table 10)

Important changes have occurred in the spate irrigated wadis of the Tihama. Male outmigration, a relatively recent phenomenon in the Tihama, has resulted in shortages of male agricultural labor and a heavier reliance on female labor:

- Women currently perform tasks that were once reserved for men, including irrigating fields during seasonal floods and preparing land for cultivation.
- Many harvesting tasks traditionally performed by men and women together are now performed by teams of women.
- Currently [in 1983] women are the primary harvesters of grain.
- Cotton is now cultivated and harvested primarily by women, although cotton harvesting was historically considered the work of men.
- Tobacco is currently harvested by women. Men, however, continue to dry tobacco leaves in preparation for marketing.
- Women now thresh sorghum, an arduous task elsewhere considered men's work.
- As is the case with tubewell irrigation, vegetable cultivation, harvesting and packing are women's work.
- These new roles are performed by women in addition to their traditional agricultural, animal husbandry and domestic tasks.

Women who work for wages in wadi harvests (and sometimes in sowing) may be farmers from rainfed land who are unable to cultivate their own holdings because of low rainfall and whose husbands have emigrated. These women's daily agricultural tasks are limited to animal husbandry and dairy production. They rely primarily on the market for their food needs. Yet the amount of wage labor they undertake at peak season is greater than it was in the past. Also working for wages in wadi harvests are landless women from various parts of the Tihama.

Still, available female labor is not sufficient to meet the demands of wadi harvests. The introduction of tubewells in many parts of the Tihama now permit men and women to cultivate their own land with cash crops even in the absence of rain. They no longer need to migrate to the wadis for wages. Sharecroppers who cultivate the land of others can also now afford to remain at home as long as at least one member of their household is a migrant and sends home remittances. (As a consequence, grain has been known to go unharvested in some wadis for lack of labor (Mundy 1983a:10)).

TASKS	HOW WOMEN'S WORK HAS CHANGED
	Shortage of male agricultural wage labor and a heavier reliance on female labor.
Irrigating fields during seasonal floods and preparing land for cultivation	Formerly men's tasks, now [1983] performed by women.
Harvest	Tasks formerly performed by men and women together now performed by teams of women.
Grain harvest	Primarily by women.
Sorghum	Threshing sorghum, formerly men's work, now performed by women.
Sesame	Women sow and harvest
Cotton cultivation and harvest	Formerly considered men's work, cotton is now [1983] cultivated and harvested primarily by women.
Tobacco	Harvested by women. Men continue to dry tobacco leaves in preparation for marketing.
Wages	Women command lower wages than men for the same work.

Table 10. The Impact of Male Outmigration on Women's Workload on *Spate Irrigated Land*, 1983

CASE STUDIES

The three case studies in this section detail the impacts of male outmigration in three diverse communities in the YAR. Al-Ahjur is a spring irrigated valley in the central highlands. Rada', southeast of Sanaa, is primarily an area of rainfed agriculture and has one of the highest outmigration rates in the YAR. Gharaba is located in a small wadi near Taiz in the southern portion of the country. It is the poorest area covered in this research.

Data on al-Ahjur were collected during 14 months of ethnographic fieldwork in 1978-79, followed by four months of fieldwork in 1983. Research on Rada' and Gharaba was conducted in September 1983 on contract with FAO. [The use of the present tense in the case studies below refer to the situation in 1983.]

Al-Ahjur⁴¹

Al-Ahjur is a fertile basin, approximately 40 km NW of Sanaa. It is almost completely covered with terraces, most of which are irrigated by approximately 20 major springs located around its northern arc. Irrigation and cultivation are continuous, with the planting and harvesting of major crops spread throughout the year. The major food crops grown [in 1983] are sorghum, maize, barley and wheat, all of which are ground into flour; and vegetables such as white radish, onion, Chinese chive, garlic and chili peppers. Cowpea and fava beans are often interplanted with sorghum. The major cash crops are *qat*, coffee, sorghum leaves and stalks (used as fodder), and lucerne. Onions are sometimes grown to be sold at the local markets, and tomatoes have recently been introduced as a cash crop.⁴²

Most families in al-Ahjur own some land which they cultivate. Farmers with holdings too large to be cultivated entirely by their own households may rent some of their lands or lease them to sharecroppers. Or, they may hire local laborers during periods that require intensive labor. The number of laborers employed in such cases rarely exceeds four or five. Hired laborers are often relatives or neighbors. Conversely, farmers with few landholdings may rent or sharecrop the land of others to supplement their income.

Both men and women work hard in agriculture in al-Ahjur [in 1983]. Yet in response to direct questioning, men and women assert that women's participation in agriculture is minimal. What they mean is that it is not mandatory and not part of the marriage contract. Women who enjoy working in the fields and who are not tied down with domestic responsibilities do engage in agricultural work. Nevertheless, women are expected to help out when there is a shortage of labor.

Usually, men are responsible for terrace repair, irrigation, preparing the land, and threshing sorghum. They often thin crops, weed, sow seed and help with the harvest. Women will feed the bull during plowing, help sow seed, collect fodder, strip sorghum leaves, help with the harvest and take food to workers in the fields. Frequently, they will also help in irrigation and with threshing and winnowing wheat and barley.

⁴¹ For an in-depth study of irrigation and agriculture in al-Ahjur, see Varisco 1982, 1983, 1991, 2003.

⁴² [Since this study was conducted in 1983, *qat* has replaced most grain cultivation in large parts of the valley, i.e., wherever *qat* will grow. Most families no longer keep cows or small livestock. Women may help with bundling young *qat* leaves, but their agricultural work has dwindled.]

Most households keep one or two cows. Although cows are owned by men, their care and feeding are the responsibility of women. Cows are hand fed, a chore that takes four to six hours per day. They are only occasionally taken to pasture. Older women, who have been relieved of other household duties, often take responsibility for feeding and herding cows and for processing milk products. The cattle population has dwindled in al-Ahjur due to rinderpest epidemics and because many households no longer produce sufficient grain crops to provide fodder for a cow. Al-Ahjur was historically known for its export of clarified butter (*samn*), but local residents complain that cows do not give nearly as much milk as they did in the past.

Men and women own sheep and goats which are herded on the mountain slopes by young children. These are kept primarily for their meat. In the past, their wool was used to weave carpets and items of clothing. A number of women own chickens, the eggs of which they market locally to generate personal income.⁴³

The rate of outmigration is relatively low compared to other parts of the country. In 1978-79, only one-fourth of adult men were short-term migrants, and in early 1983, the proportion had increased to approximately one-third. Most outmigrants are young, unmarried or recently married men. They emigrate for two years to accumulate bridewealth in order to get married. Some return for another two years to accumulate additional funds to build a house.⁴⁴

Remittance wealth has been invested in mosques, schools and local feeder roads to villages.⁴⁵ In addition, entrepreneurs have introduced electric generators to supply village houses for a fee as well as diesel-powered flour mills that grind grain for a fee. In 1983 there were five generators serving al-Ahjur's 24 villages and approximately one mill for every two villages. Other returned migrants invest in a car or truck, which can be rented as a taxi; still others establish a small shop in the village or in the nearby town of Shibam. Two returned migrants have invested in tractors which are utilized in the lower reaches of the valley, but steep terraces do not allow the use of heavy machinery on most of al-Ahjur's agricultural land. There have been two unsuccessful attempts to sink tubewells to irrigate fields that are currently rainfed. Finally, remittance capital has been invested in house building, gold jewelry and various other consumer goods (Varisco and Adra 1984).

On their return, migrants resume agricultural activities, which may be lucrative if they grow *qat*. In any case, the relatively low outmigration rates from this area leave most men available for agricultural work. In addition, the combined wealth from *qat* production and remittances ensures sufficient funds to hire male agricultural labor when necessary. The simultaneous decline in grain cultivation (a direct consequence of *qat* cultivation) and the reduction of cattle have led to a decrease in women's agricultural load in al-Ahjur.

Women can now afford to purchase fuel to supplement the fuel they collect. The use of imported flour, which is mixed with local flours in bread, lightens the work involved in processing grains. Women in al-Ahjur compare today's workload with the recent past in which they ground flour daily by hand and assert that they have comparatively more leisure now.

⁴³ [By 2005, very few households in the *qat* growing areas of al-Ahjur owned cows or small livestock. Residents blamed disease and a lack of fodder. Also in 2005 people in al-Ahjur complained of lower water tables and depleted agricultural land.]

⁴⁴ Historically village houses were clustered together on the top of promontories, away from agricultural land. New houses are built at lower elevations, on agricultural land that is no longer cultivated.

⁴⁵ The initial investments for community projects were organized according to traditional tribal cooperative methods (Adra 1983a; Varisco and Adra 1984). They preceded the formation of the local development association of al-Ahjur (Carapico 1984, 1985).

Simultaneously, there is a clear trend away from extended to nuclear households. Most young couples are either building a house for their own use or aspire to one. The daily workload for women in nuclear households is considerably heavier than that of women living in extended households, a fact which women recognize. Yet they are willing to sacrifice leisure for the independence that living in a nuclear family provides them. Increasingly, women in nuclear households refuse to keep cows because of the heavy time demands of feeding cows by hand.⁴⁶

Women's mobility has been impacted by recent economic changes, fueled largely by male outmigration. Historically, men and women attended a local weekly market to sell produce, make purchases and exchange news with friends from other villages.⁴⁷ Al-Ahjur's local weekly market at Bab al-Ahjur is beginning to die out for several reasons. It is not located on a major thoroughfare; it is now relatively easy for men to drive to the larger weekly market in Shibam; and local village shops now stock most goods that were once only available at this market. The local market has been replaced by a new roadside *qat* market. Women are rarely seen in this market presumably because it specializes in *qat*, but also because it is frequented largely by strangers to the area.⁴⁸ Women from al-Ahjur continue to attend the market in Shibam to sell fodder, produce or baskets of their own manufacture, but they do so less often. Shibam is much further than the local market and they have to walk 45 minutes or pay for automobile transport.

Some returned migrants do not permit the women of their households to frequent markets, while others do not object. Not many of al-Ahjur's women appreciate such limitations on their mobility. With one exception, attitudes toward women's participation are idiosyncratic. They do not vary consistently with income level or religious orthodoxy but appear to depend upon the individual migrant's personal reactions to his experiences abroad. One village that strives to emulate urban behaviors, however, limits resident women's travel on car roads, effectively banning them from attending markets.

Women and men are fond of comparing these days of relative comfort, when everyone has food to eat and owns many more consumer goods, to their poverty during the Imamate which ended with the 1962 Revolution. Older women remember a time when they owned only one dress, and when the brides of a village shared a single wedding dress. Now each bride receives a dozen expensive dresses as part of her marriage contract. Hunger during the drought of the late 1960s is also recalled.

Although food is plentiful, energy levels are not necessarily higher than they were in the past. Men often complain that they have less physical energy than they used to have. Watching young women dance, one realizes that younger women tire more easily now than they did even five years earlier. This may be due to a decrease in physical activity or low blood sugar levels, a consequence of radical dietary changes (Ted Greiner, personal communication).

In sum, women of al-Ahjur are more comfortable than they have been in living memory. Food is more abundant, although new foods are not necessarily more nutritious than traditional foods. Most women's agricultural workload are lighter than they were in the past because outmigration rates from al-Ahjur are relatively low and large portions of land are now cultivated in *qat*. While most women welcome these developments, they resent the concomitant declines in their decision-making and new limits on their mobility.

⁴⁶ There are families who divide their land holdings but continue to live in a single house or in neighboring houses. They do this to facilitate the sharing of tasks among women and men.

⁴⁷ Before the Revolution and to a certain extent today, women and men also walked to the towns of Kawkaban (1½ hours uphill) and Shibam (45 minutes) on market days or to visit friends and relatives.

⁴⁸ [By 2005 this market had grown into a bustling market selling food, produce and consumer goods.]

Rada'

The district of Rada' boasts one of the oldest and highest outmigration rates in the YAR. Men began to migrate to Aden, and from there to Europe, the U.S.A., and East Africa, circa 1940. They were primarily long-term migrants. Emigration destinations shifted north with the oil boom in Saudi Arabia and the Gulf States. The sons of earlier migrants now [in 1983] travel primarily to Saudi Arabia and Abu Dhabi for shorter periods of time. Major drivers of outmigration include insufficient rainfall for intensive agriculture, the dearth of local opportunities for wage labor, and political instability at home. Approximately one-half of the male labor force of the district of Rada' is currently [1983] out of the country as migrant labor. Rarely do migrants from this region return to live and work the land, as they do in spring irrigated areas like al-Ahjur. Migrants send remittances regularly to support the household. These are usually sent with a friend or relative and given directly to the migrant's wife who then decides on how to spend the funds.

Today's [1983] migrants earn an estimated YR100,000 – 150,000 per year [\$22,222 - \$33,000 at 1983's exchange rate]. As is the case elsewhere in Yemen, bridewealth and wedding expenses are high priority expenditures. Remittances are also invested in the purchase of land on which to build a house and in expenses related to house building. The most common pattern in such a case is for the man to buy the land on a trip home. On his return to the host country he sends his wife funds -usually YR20,000 – 30,000 [\$4,444 – 6,666 in 1983] at a time, with which to purchase stone, hire laborers and rent a truck to deliver the materials for house building. His wife decides whom to employ, what kind or color of stone to purchase, and the design of the house. Women may help to carry stones to the building site, but they do not cut or shape the stones. Women are also responsible for feeding laborers three meals per day and supplying them with hot drink (tea or *qishr* –a drink made of coffee husks), *qat* and cigarettes while they are employed by her. These tasks can keep a woman busy in the kitchen the entire day. After the house is built, finishing its inside walls is women's work. The tasks of feeding laborers and finishing the walls are made easier when several women in the household take turns. Unlike the trend in al-Ahjur, new houses in the area of Rada' are built sufficiently large to house extended families.

Remittance wealth is also invested in flour mills, tractors, tubewells and taxis. Tractors are rented for plowing and have completely replaced traditional animal-drawn plows on the relatively flat terrain near the town of Rada'. The owner of a tubewell can make a profit by renting out water turns for agricultural use. Water for domestic consumption is given freely. Men who invest in agricultural machinery and tubewells remain at home to operate them.

Crops

The crops grown in this area are primarily grains and fruit trees, grown for home consumption and marketing. Grains include sorghum, maize, wheat and barley. These are cultivated primarily for home consumption and fodder. Fruit trees include pomegranate, figs, peaches, apricots and some grapes. Depending on the number of fruit trees a family owns and their yield, surplus may be marketed. Vegetables, largely cultivated by local low status specialists, include tomatoes, potatoes, carrots, white radish, Chinese chives, onions and cilantro. *Qat* is increasingly grown as a cash crop on tubewell irrigated land. In the past three years [that is, since 1980], the Ministry of Agriculture and Fisheries Rural Development Project has encouraged women to cultivate small household gardens for their own consumption. Zucchini, cauliflower, cabbage and eggplant are grown in these gardens. These vegetables are new additions to the local rural diet.

Livestock

Most households own one or two cows. Goats and sheep are common in this area. An average household in the vicinity of the town of Rada' owns 5-7 head of small livestock. Farmers from the eastern portions of the district may own many more goats and sheep. Bulls are used for plowing, although tractors have largely taken over this function. A few camels, used for plowing or transport, may still be seen in this area. Donkeys are kept for short-distance transport and for threshing barley.

Women's Work: Agriculture

There has been a marked decline in agricultural production in Rada', with only half of cultivable land currently [1983] under cultivation. Historically, women in this rainfed area take on the brunt of agricultural production. Women are responsible for leveling land, sowing, weeding, harvesting and threshing. In short, they are responsible for all agricultural tasks with the exception of plowing. Any of the tasks defined as women's work may be performed by men if they are available and willing to work in agriculture. Men may be seen working in the fields, sowing, weeding, or threshing, but they constitute a small minority of the agricultural labor force.⁴⁹ Modern agricultural technology in Rada' is owned and operated by the few men who choose to remain at home.

Conversely, if no man is available to perform "men's" duties, women may take them on. A woman whose husband is abroad may be seen plowing a field with a traditional plow drawn by a bull or camel, or she may harvest *qat* (normally a woman's role in *qat* cultivation is limited to weeding.) Alternately, a woman may employ laborers to perform traditional men's tasks. She will rent a tractor and hire someone to operate it. If her land is irrigated by a tubewell, she will arrange to rent water turns and see that water is directed to her fields.

Women's Work: Animal husbandry

Animal husbandry is almost entirely the responsibility of women. Young, unmarried girls herd small livestock. In the past, boys would herd livestock; now most of them attend school instead. Boys continue to herd livestock in areas where livestock is more economically important, and schools are scarce. As is the case elsewhere in Yemen, cows are fed, milked and their milk processed by the oldest women of the household who are relieved of most agricultural duties. Most women keep chickens for home consumption and for the sale of chicks and eggs. As in al-Ahjur, chickens are the property individual women.

Marketing

As a rule, women in Rada' do not market agricultural produce. The few women who are seen in the markets of this region are either very old or very poor. They engage in itinerant trade in fabrics, clothes, or cosmetics, often buying goods in the market to sell in villages. Men market *qat*, grains and vegetables in nearby urban centers and in Sanaa. They market fruit only if yields are high. If the household yield of fruit is small, women will distribute surplus among friends and neighbors. Old men and young boys are

⁴⁹ Men from this area, who do not emigrate, usually work in small retail trade, construction or as taxi drivers.

usually given this responsibility. If no men are available to market agricultural produce, it is sold to intermediaries who then resell the produce in urban markets.

Wage Labor

With the exception of low status service providers, women in this district do not work for wages. They acquire personal income by inheritance, as brides, from raising chickens or small livestock, and from spinning wool. As is the case throughout Yemen, women also receive gifts regularly from their male kin and continue to do so even after they marry. Spinning, traditionally a woman's job, has declined because it is considered too time consuming. The Ministry of Agriculture and Fisheries Rural Extension Project has introduced imported spinning wheels with some success.

The Impacts of Male Outmigration

Because women in Rada' have always had the major responsibility for agriculture, increased male outmigration has not significantly increased their workload. Most rural women of this area say they enjoy agricultural work and will work in the fields even if they can afford to hire labor (Adra field notes). Where remittance wealth has been invested in tubewells, new cash crops, such as *qat* and vegetables, have been cultivated. *Qat* cultivation encourages men to stay at home and engage in farming. These men are likely to perform other tasks as well, relieving women of some of the agricultural burden. Vegetable cultivation adds income that may be controlled by women. There has been a marked decline in agricultural production in Rada', with only half of cultivable Land currently [1983] under cultivation. This may be due to a decline in rainfall, a shortage of labor, or both.

Agricultural Extension

There is an active rural extension service in this district. It includes literacy classes for women, the introduction of household gardens, new breeds of goats that provide greater quantities of milk, and new varieties of chickens.

Gharaba

Gharaba (a pseudonym) is a small village west of Taiz on the slopes of a shallow wadi. Most village Land are privately owned small holdings, in contrast with other wadi areas in the southern highlands. Most crops are cultivated for subsistence and grown on rainfed land.

This village is self-sufficient in food with very little food bought from the market. No cash profits are made from agriculture. Residents say that the grain harvest barely covers domestic needs and the cost of tractor rental for plowing. In calculating profits, however, those I talked with were not taking into account the fodder value of their grain crops or the value of their livestock and livestock products (Forrest Walters, personal communication.)

Crops

Crops on rainfed land include two varieties of sorghum, millet, white radish, Chinese chive, and pepper. Maize, which in the past was irrigated by a single spring flow (*ghayl*), was cultivated at the bottom of the wadi until two years ago [i.e., 1981]. Drainage problems in the past two years, however, have made

maize cultivation impossible. There are numerous date palms in this valley, but they are not highly productive. Acacia trees dot the landscape. These are favored for firewood throughout Yemen. Neither altitude nor available water resources permit the cultivation of *qat* in this valley, and other cash crops have not been introduced.

Women's Work: Agriculture

In Gharaba, men are responsible for preparing and plowing the land. After the shoots come up, all further agricultural work is done by women. Women irrigate, harvest and thresh grain. Women say that crop cultivation has always been women's work, but there was a brief period about 10 years ago [circa 1973] when high agricultural yields prompted men to help women in agriculture (Adra field notes). Since then, a decline in rainfall and increased male outmigration have restored farming responsibilities to women.

Livestock

Livestock is important to the village economy; each household owns 2-4 cows. Cows are not handfed but taken to pasture by young girls, following common practice in the southern highlands. Only three households in the village keep small livestock. Village residents say that there were more cows, sheep and goats in the past, when young boys could take them to pasture. Now, however, there is no one to do this job, since young boys all attend school.

Male Outmigration

Currently, few adult men are left in Gharaba. They migrate for 2-4 years if they are single, or up to two years if they are married. Outmigration from this village is relatively recent. There were a few migrants about 15 years ago [i.e. in the late 1960s], but most current migration is less than 10 years old.

One returned migrant has invested in a tractor, which he rents for plowing and sowing. Gharaba's residents say that the tractor is not an effective tool for sowing, but it costs too much to employ a man with a traditional plow. Both tractor and plow driver are paid the standard hourly wage but a tractor is faster, hence cheaper to rent. There is a flour mill in the village and a small shop. A new mosque is the only other sign of remittance investment.

Endemic Poverty

Gharaba is not a wealthy village and presents a striking contrast to other areas of conspicuous remittance affluence. Houses are small one-story structures of roughly-shaped stone, unlike the expensive new houses typically built with remittance income. There is no electricity in this village. Few imported foods are in the diet. Brideprice, at YR40,000 (\$8,888.00) is among the lowest found in rural Yemen.

Remittances here are spent almost entirely on consumer goods, such as clothes, blankets, tape recorders and thermoses, all of which have become necessities in Yemen. Without cash crops, villagers are unable to raise their standard of living above subsistence levels. With high inflation in Yemen, this village is experiencing increased poverty, rather than remittance affluence. Clearly, not all of rural Yemen has benefitted substantially from remittances.

CONCLUSION FROM A 2013 PERSPECTIVE

Defying statistics on Yemeni women's lack of participation in productive labor, rural women supply most of the agricultural labor and livestock care in Yemen. Even as the economy monetized in the 1970s and 1980s, women's work kept agriculture alive. Given that a large majority of Yemenis still live in small rural communities, women's contributions to agriculture and animal husbandry have significant implications to development.

Large scale, mostly male, outmigration in the 1970s and 1980s had considerable (and diverse) impact on rural lives, agriculture and rural women's workload. In Yemen, the investment of remittance wealth in local roads, schools and mosques fueled rural development in the late 20th century. Remittances also subsidized agriculture through investments in tractors where these were practical, automobiles that helped move crops to market, and cash crops in irrigated areas (Varisco 1991; Varisco and Adra 1984). The increased availability of cash, together with remittance investment in electrification, diesel powered mills and automobiles often served to reduce women's workload in various ways. For example, flour mills eliminated women's most arduous task of grinding grain on heavy stone mills (except where millet is grown and available mills are not practical.) Where cash crops were introduced, men often remained at home to work in the fields. This sometimes reduced women's workload. Where tubewells were sunk on previously rainfed land, however, women faced an increased agricultural load because more land came into production in places where the majority of agricultural tasks were considered women's work. Not all rural communities benefited from remittance income, however. Yemenis who were too poor to raise funds for male outmigration suffered from increased poverty relative to the rest of the population.

For women who enjoy working in the fields, agriculture and animal husbandry provide viable options for active participation in the local economy. This participation, in turn, allows them a degree of mobility and voice in community affairs that most urban women in Yemen do not share. For the rural poor who have access to cultivable land through ownership, rental or sharecropping arrangements, women's agricultural contribution provides a hedge against food insecurity. Remittance income also provides rural women new choices. Those who are not interested in agriculture can use remittances to hire wage laborers. Since this report was first written in 1983, many women who do not enjoy rural life have moved to urban centers with their husbands who have established family businesses or joined the formal labor force. On the other hand, families without land or remittance income have also migrated to Yemen's cities, often to join the unemployed or underemployed urban poor (2006).

In 1991, an estimated 800,000 Yemeni migrant workers were "expelled" from Saudi Arabia and Gulf countries for geopolitical reasons.⁵⁰ This not only deprived the population from much needed sources of cash income but added the need to create wage labor for the returned migrants. Many were unskilled laborers; almost half had no formal education; and 61% were born in Saudi Arabia (Hashem 1996:77-78). Some returned migrants came home to work in agriculture or join other family enterprises. Others, who returned with capital, invested in housing and commercial enterprises in Yemen's cities and small towns fueling the growth of secondary towns (Bonfiglioli 2005). Everywhere, the numbers of returned migrants increased demands for basic services.

⁵⁰ Technically, they were not expelled, but major hurdles to their remaining in their host countries forced them to return.

Growing urban populations have put a strain on service delivery systems leading to declining government capacity to deliver services to rural communities, with the consequent progressive marginalization of rural communities. Currently, rural communities far from urban centers lack roads that would connect them to markets, on the one hand, and services crucial to development, such as schools and health centers, on the other (Adra 2006). Even villages near urban centers are largely excluded from social programs. According to the Higher Council for Motherhood and Childhood, “Almost all social programs are urban-based and tend to benefit the better-off” (2003:12). Thus, illiteracy rates for rural women, at 78.2%, are almost double those of urban women (39.9%) and double those for men (32.5% in rural areas and 15.4% in urban areas). In an increasingly literate world, adult women’s illiteracy has serious consequences on family health and the attainment of the MDGs. While educational services are lacking, rural health care facilities are abysmal. Although 87% of the urban population has access to an active health facility, only 33% of the rural population is served by health services. Since the withdrawal of government subsidies for medicines, rural farmers who travel to towns and cities for health care can no longer afford medication. Illnesses that were uncommon in most of rural Yemen, such as typhoid and cholera, are now endemic. The MMR is 351 per 100,000 live births. This dearth of health services severely limits women’s productivity and economic contributions.

A major hurdle to the provision of services for rural areas is widespread misperception of rural lives and livelihoods, which limit NGO and CSO capacities for effective interventions. The vast majority of NGOs in Yemen, as elsewhere, are staffed with urban elites who do not understand rural life and share an urban disdain for what they consider “backward institutions”. Donors, following the practice of many urban Yemenis, classify small secondary towns, such as Mahweet, Amran, Thula, Abs, and Turba as rural. These become the beneficiaries of “rural” projects, thus further excluding rural villages and the vast majority of the rural population. All of these practices reinforce the increasing exclusion of rural areas from services that are available in urban spaces.

Despite these problems, and although many families have moved to urban centers, a significant number of rural women still refuse to join husbands in cities, primarily to avoid urban seclusion, but also in order to benefit from the safety nets afforded them when they live close to their male kin. An estimated 70% of Yemen’s population continues to live in small rural communities, down from an estimated 86.6% of YAR’s population in 1983.

Yet rural women, whose labor in a subsistence economy was highly valued, and who attained some economic independence from animal husbandry, are increasingly excluded and disempowered in a monetized urban centered economy. Illiterate women who continue to work in agriculture and animal husbandry cannot access information relevant to agricultural practice and cannot read the instructions on fertilizer and pesticide containers. Their unfamiliarity with standard Arabic hinders their comprehension of televised extension messages. NGOs concerned with women offer urban skills, such as sewing, rather than agricultural and livestock extension, which would be more productive and relevant to rural women’s lives, especially given the widespread food insecurity in Yemen. The invisibility of rural women’s needs severely limits their potential contributions to economic and political growth.

Rural invisibility negatively impacts education as well. Although the proliferation of rural schools serving boys and girls is undeniably a positive development,⁵¹ the staffing of schools and supervision of teachers remain problematic for poor communities and remote villages, prompting parents to take their children out of school and arrange for their participation in opportunities for wage labor or child trafficking (Adra 2006, Yemeni Center for Social and Labour Studies, 2004). A fundamental problem everywhere is the school curriculum which is designed with a clear urban bias. At best, rural lifestyles and contributions are ignored; often, they are scorned. In 1984, students who received the lowest grades in school were directed toward agriculture (*Qat* chew focus group in Zabid; see also Myntti 1979:25). As a result, rural secondary school graduates rarely show an interest in agriculture. With the dearth of urban employment opportunities, most remain idle at home. Furthermore, the academic calendar presents serious hurdles for most rural Yemenis who participate in agriculture. Harvest, the most labor intensive period, occurs during the months of September – November. This is the period of highest school drop out rates. Students - children and adults - find it difficult to catch up when they do return to school in December, and many simply do not return. This is not a problem in the Tihama where harvest and the major fishing season occur during the summer months.

In another hurdle to rural development, agriculture and animal husbandry have suffered from droughts and rapidly shrinking aquifers. Migrants who return to communities that cultivate *qat* or other lucrative cash crops usually remain at home to engage in agriculture. Yet they complain of declining water tables and depleted soil. As rainfed terraces are abandoned, the important runoff water harvesting system is neglected (Varisco 1991).

Traditional local weekly markets, which redistributed rural produce and allowed for only a trickle of outside products, have given way to dependence on market towns which currently stock more imported goods than local produce. Although towns continue to provide markets for agricultural produce when conditions permit, urban remittances now subsidize agriculture as had earlier remittances from Saudi Arabia and the Gulf, thus reversing historic urban dependence on the rural economy.⁵² The overall economic relevance of rural communities in Yemen has declined as dependence on imported foodstuffs has accelerated.

The decline in an agricultural tradition dominated by women has had important repercussions on women's status, their participation in local politics and their voice. Historically in Yemen, rural women's mobility, political participation and assertiveness were admired and provided a model for urban women.⁵³ Today, young rural women who are not tied to agricultural labor are less mobile, less likely to be entrepreneurial and less assertive than their mothers (Adra field notes 2005). They are more likely to accept ideological messages that support limiting their work to the conjugal household (see Mundy 1983:13). Without control over land, livestock or other productive work, reproductive rates have soared among young rural women, some of whom aspire to bear upwards of nine children (Adra field notes 2005).

⁵¹ Villages which contain primary schools serve boys and girls. Secondary schools have increased. A significant number of secondary school graduates attend universities. In al-Ahjur in 2005, for example, there were 12 women university graduates from one village alone.

⁵² For a history of urban-rural relations in North Yemen, see Adra 1983a.

⁵³ In 1984 the farmer with the highest productivity in the area near Zabid was a divorced woman who cultivated her father's and brothers' land as well as her own. She was highly respected.

Imported conservative interpretations of Islam (e.g., Wahhabism, Salafism) present further serious hurdles to rural women's empowerment, especially to illiterate women who cannot refute these interpretations by quoting relevant passages from the Quran. Urban media and school curricula, with their Wahhabi and Salafi bias, have pressured women to curb their traditional mobility, participation in local politics and even their songs through which they often expressed their opinions (Adra 2008). This mirrors increased pressure on urban women to veil and curb their voices. Although many urban educated women did not veil in the 1970s, Yemeni women face increasing pressure to veil.⁵⁴ The black *sharshaf*, introduced to Sanaa in the 1950s and increasingly a sign of urban cosmopolitanism, has grown progressively longer: reaching just below the knees in the early 1960s and currently touching the ground (see Mundy 1983b).

In the Western media, the suppression of women's voices in Yemen is often attributed to "a conservative, tribal, patriarchal society," but ethnographic data suggest that these are new attitudes, initiated in towns and cities and spread to the countryside through religiously conservative media and school curricula. These attitudes are often perceived in rural Yemen as signs of an urbane modernity. Given these ideological imports, supporting women's agriculture and their traditional active participation in the community become effective ways to temper pressures to seclude women. As this report has shown, women's mobility and participation are undeniably rooted in Yemeni traditions and cannot be labeled "Western imports".

Today, Yemen suffers from unprecedented insecurity, poverty and unemployment. The return of migrant workers occurred only a year after the creation of the Republic of Yemen, formed by the union of YAR and PDRY. The country lived through a damaging civil war in 1994, with destructive after effects that still plague this young nation. Yemen's population has skyrocketed to 24 - 25 million from an estimated 6 -7 million in 1983. Rates of poverty have increased. The current estimate is that 40% of the population lives below the poverty line.⁵⁵ The urban labor market has not been able to absorb even the relatively modest levels of rural-urban migration, and available water resources are not sufficient to fuel larger cities or extensive rural industries. In 2011-2012 political protests finally brought an end to the three-decade rule of Ali Abdallah Salih. Most recently, power struggles at the top levels of government and the army, and between Yemen's transitional government and members of the deposed regime, have exacerbated poverty and food insecurity and have obstructed efforts to restore peace to the war-torn northern and southern portions of the country. Government services are all but non-existent.

Yemen's widespread poverty, unemployment, underutilized resources, the marginalization of the rural population and of women justify a strategy to support labor-intensive agriculture and animal husbandry (Boserup 1990:130, 190; IFAD 2010). Although shrinking water tables threaten irrigated agriculture, rainfed agriculture and runoff harvesting remain a viable resource (Varisco 1991). In addition to helping alleviate food insecurity, interventions that support rainfed agriculture and animal husbandry would give back to women productive work and a control over resources that many rural women have

⁵⁴ Women's dress is one of many symbols of the seclusion of women, with implications to women's rights.

⁵⁵ A few rural communities that continue to receive remittances, and others with viable springfed agriculture, are not suffering the levels of poverty reported for much of urban and rural Yemen. Even in relatively wealthy communities, however, small landholders who only cultivate *qat* and depend on the market for food, are cash poor between *qat* harvests and suffer from hunger during these periods.

lost. It will counteract recent pressures to seclude women and limit their participation and their voice. It could also provide women and men options for investing in agricultural technology, thus opening new entrepreneurial opportunities (cf Tutwiler and Carapico 1981:167).

Supporting the cultivation of grains and legumes on rainfed land can reduce dependence on food imports for cash-poor families (Akram-Lodhi n.d.:17-18; Chaney and Lewis 1980, IFAD 2010). It would also produce fodder to support small livestock production which, “may be the only viable commercial outlet for the vast majority of households whose rainfed land is suitable for grasses and grains, or for those many areas where the agricultural labor force is predominately female” (Tutwiler and Carapico 1981:179). As Hogan et al. write, “Small ruminants (sheep and goats) are the most suitable type of livestock in Yemen’s environment” (1982:171). To improve sustainability fodder must be locally grown rather than purchased in the market. Where chickens are introduced for household consumption, these should be chickens that eat scraps, not imported feed which most rural families cannot afford to purchase. Interventions aimed at improving livestock production and the prevention and treatment of animal diseases must recognize that women are the primary caretakers of most livestock. Although men often “own” and market animals, the decisions on whether to buy or sell particular animals, and the decisions involved in the care and feeding of animals, are all made by women. Women’s control over livestock production provides them with a major source of income and enhances their decision-making powers within the household.

Government and donor recognition and affirmation of the importance of rainfed agriculture are likely to alleviate at least some of Yemen’s high unemployment rates through encouraging young unemployed rural men to participate in labor-intensive agriculture. They can be trained to repair and build terraces, along the lines of the Social Fund for Development’s (SFD) cash for work projects, or contribute other agricultural work (Boserup 1990:276). Ester Boserup has argued that supporting “labor-intensive [agricultural] techniques ... may induce savings which would not have been forthcoming if capital-intensive techniques had been used” (1990:276). This is not to suggest that attention be diverted from the industrial sector; only that the rural economy should be included in the government’s development strategy in order “to avoid further deterioration of conditions in congested urban areas (Boserup 1990:190, 274).

Support of rainfed agriculture and animal husbandry can help reduce food insecurity but will not suffice for asset accumulation without the outside inputs of adult literacy, primary health care and roads connecting rural communities to each other and to markets. The positive impacts of adult literacy to income generation and health care are well documented in the development literature, yet adult literacy has been ignored by the MDGs. Adults are the decision makers. They determine when and if their children attend school, go out to work or marry. Literate adults are much more likely to value formal education and delay their children’s marriages than illiterate adults (Adra 2008). Moreover, given the young marriage age favored in Yemen, only older adults are free to engage in entrepreneurial activities. Without literacy skills and their attendant comprehension of standard Arabic, most adults cannot follow extension messages in the media. Conversely, literate adult women, with more experience and free time than younger women, can be trained as rural extension agents.

Yemen's high MMR and IMR rates make primary health care throughout the country a major development priority. Health services are still not available in most of rural Yemen, even in relatively wealthy communities. Given the expansion of formal education, there are cadres of unemployed secondary school graduates who can be trained to deliver health services. The provision of rural roads is consistently given highest priority by rural Yemenis. Roads make it possible to transport children to school, laborers to employment opportunities, goods to market and the ill to medical care. The Social Fund for Development and the World Bank's Labor Intensive Works Program, paying communities to build roads of stone, appears to be best practice (Struben 2004). It not only provides income and marketable skills to the poor but builds on traditions of self-help. Rather than employing urban contractors to maintain the roads, however, it would be more sustainable to train local labor in road maintenance and contract with the local communities, which are already organized as cooperative units, to maintain these roads.

In sum, rural women in Yemen have been asking for agricultural and livestock extension services, reading and writing skills, and accessible health care since the 1970s (Adra field notes).⁵⁶ Although a number of publications and development reports highlight women's important contributions to Yemeni agriculture or recommend agricultural and livestock support for rural women (e.g., Al-Huri 1981; Al Jundi 2009; Champault 1978, 1985, 1986; Destremau 1990; Farouk-Sluglett 1993; Fouad 1991; Maarse and van Schoot 1983; Mundy 1979, 1983, 1995; Tutwiler and Carapico 1981; World Bank 1989; YAR Ministry of Agriculture and Fisheries 1983) little has been done for rural women other than home economics extension or the sale of handicrafts.⁵⁷ A major problem appears to be an information gap between farmers, on the one hand, and government officials and decision makers, on the other (Al Jundi 2009:24).

This report recommends enhancing rural women's empowerment by supporting rainfed agriculture and animal husbandry, adult education, primary health care and the building of roads in rural areas. Basic to these recommendations is a focus on exploiting existing physical assets (such as labor, land, livestock and housing) and social assets (such as the support of kin, safety nets and indigenous methods of self-help and conflict resolution) in order to promote asset accumulation and use in rural areas. Intensive cultivation of rainfed lands would alleviate food insecurity and relieve some of Yemen's current unemployment (cf Boserup 1990:125; Moser 2009). It is also likely to lead to a reduction in fertility rates (Boserup 1990:23). Improved food and health security, along with literacy skills and roads, are likely to create new assets that future generations can build on (cf Moser 2009:257, 259). Focusing on effective traditional agricultural methods and relying on existing community cooperative mechanisms will improve the sustainability of development interventions. Such an approach is especially germane in rural Yemen's current situation with its growing population and strong traditions of social capital. It can relieve widespread hunger and unemployment, high birth rates, reduce the impact of declining water tables, and compensate for the lack of remittances and government services.

⁵⁶ Women were regular visitors to a model livestock farm connected with the Ibb Secondary Agricultural Institute in the 1980s. They came to buy milk or inseminate cattle, but remained to ask questions related to agriculture and animal husbandry (Dr. Awadallah, personal communication).

⁵⁷ Yemeni officials have also recommended agricultural education for women in Yemen (e.g., Muhammad al-Iryani, Director of Extension Services, Ministry of Agriculture and Fisheries, and Abd al-Malik al-Mu'allim, Director of Vocational Education, personal communication, 1983, 1984).

RECOMMENDATIONS [Revised in 2013]

Support Labor Intensive Rainfed Agriculture and Animal Husbandry

- Agricultural and livestock extension services should be directed to women and men; include education in the prevention, identification and treatment of crop diseases; train women and men in the utilization of agricultural equipment. (Rural women drive pick up trucks and tractors in many parts of Yemen, and some operate tubewells;) and teach fruit and vegetable preservation techniques where these are cultivated.
- Veterinary services in rural areas.
- Introduce small time- and labor-saving devices, e.g., small corn huskers and sorghum threshers, hand operated machines to churn butter and hand operated straw choppers for fodder (Hogan et al. 1982:171). Spinning wheels for herders of goat and sheep.
- Encourage the study of agriculture and incorporate agriculture in school curricula by including, topics relevant to Yemeni agriculture. Use examples from Yemeni agriculture to illustrate principles of biology and astronomy. This intervention is likely to affirm the value of Yemen's agricultural heritage, thus encouraging some secondary school graduates to work in agriculture.
- Avoid the temptation to introduce new seed. USAID funded research in the 1970s on native sorghum varieties concluded that native grains are highly drought resistant and more productive than imported hybrids (University of Arizona 1981:v). A GTZ funded study documented effective traditional methods of crop protection (Varisco 1989). These can be re-introduced, along with newer methods (See also Akram-Lodhi n.d.:45).

Adult Literacy

- Provide appropriate training in reading, writing and numeracy skills for rural adults. Most rural adults in Yemen are not interested in a glossy text or a school diploma. When interviewed, adults say they want the skills that will allow them to read labels on food, medication, and pesticide containers; to find their way around the city when they visit; to read letters from distant kin and to read Quran (Adra 2008).
- Adapt the adult education academic calendar to the needs of rural adults. With the exception of the Tihama, major harvests in Yemen occur September to November. Most rural adults simply cannot take the time to attend school during this period. (This is also the time of greatest drop out rates from primary and secondary schools.)

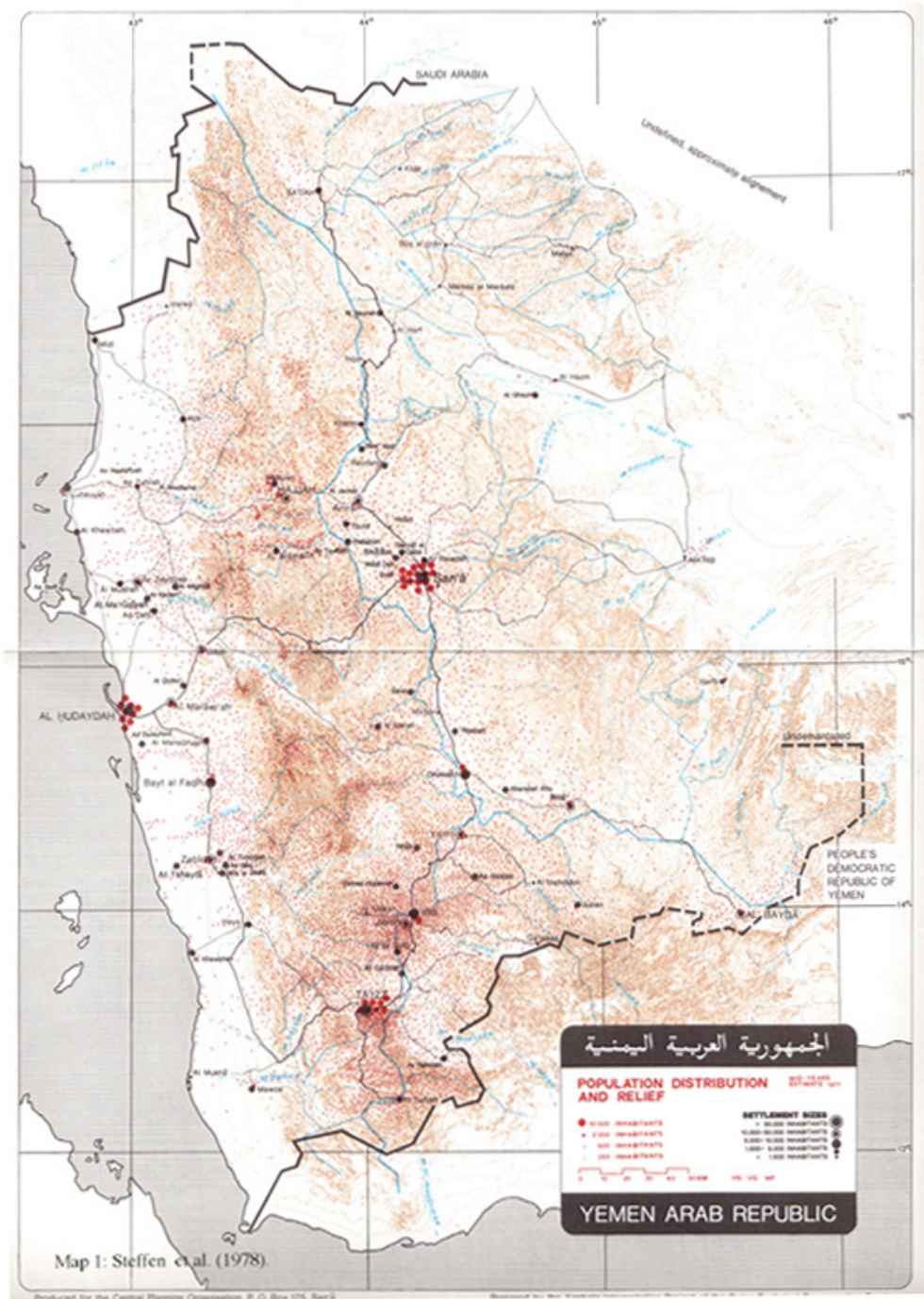
Primary health care

- Provide primary health care services in rural areas.
- Train local secondary and university school graduates to deliver health services.
- Direct health extension messages to men as well as women.

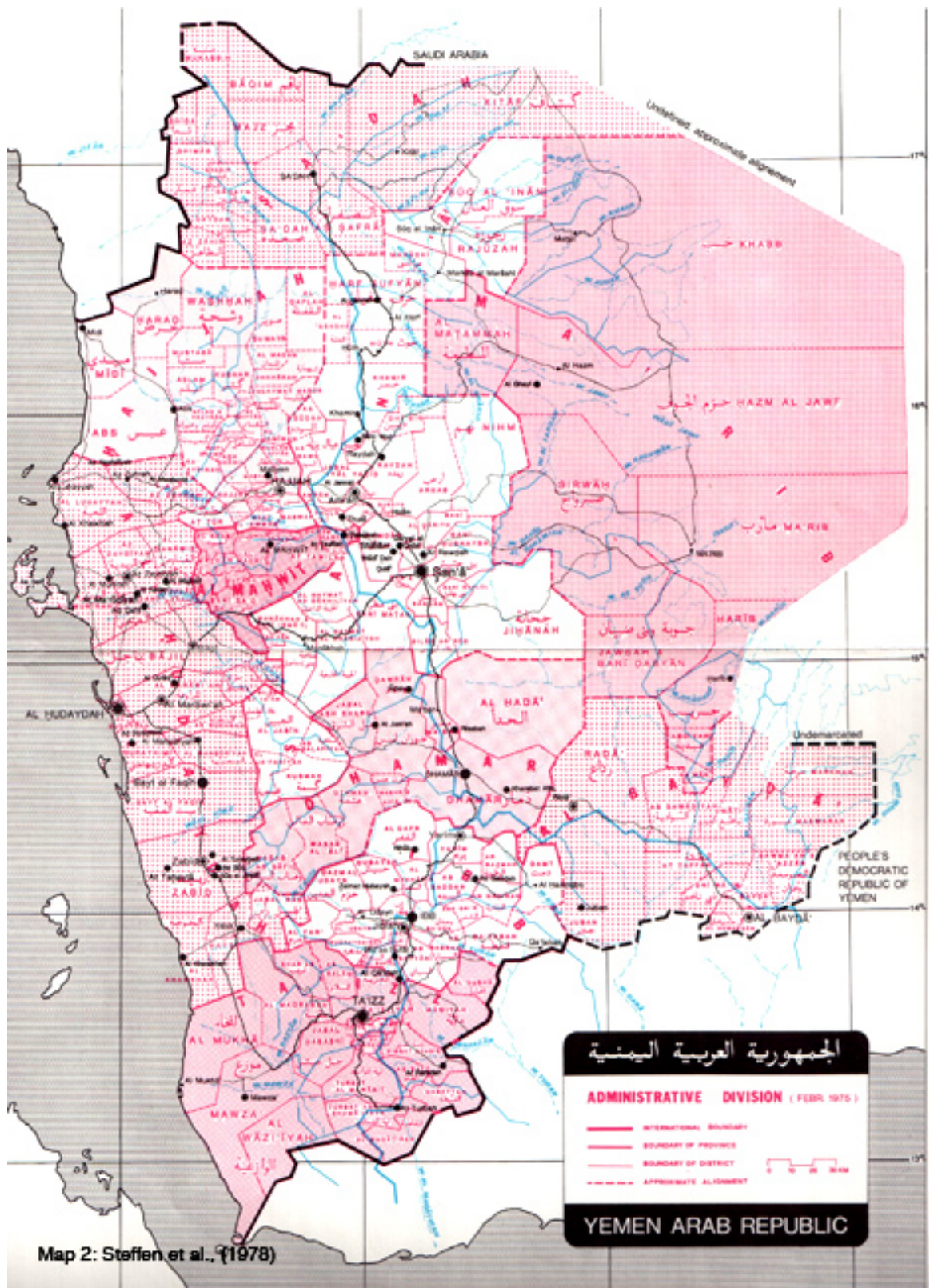
Rural Roads

- Utilize community self-help institutions to build and maintain roads connecting their villages to major roadways.

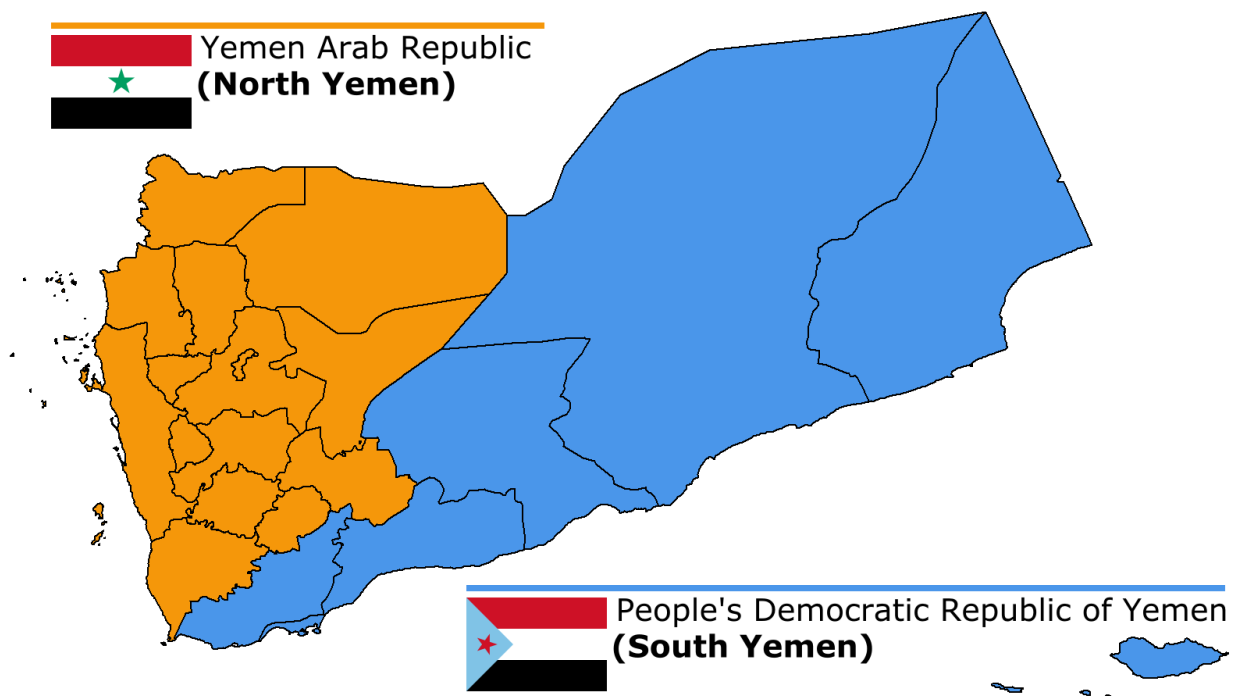
MAPS



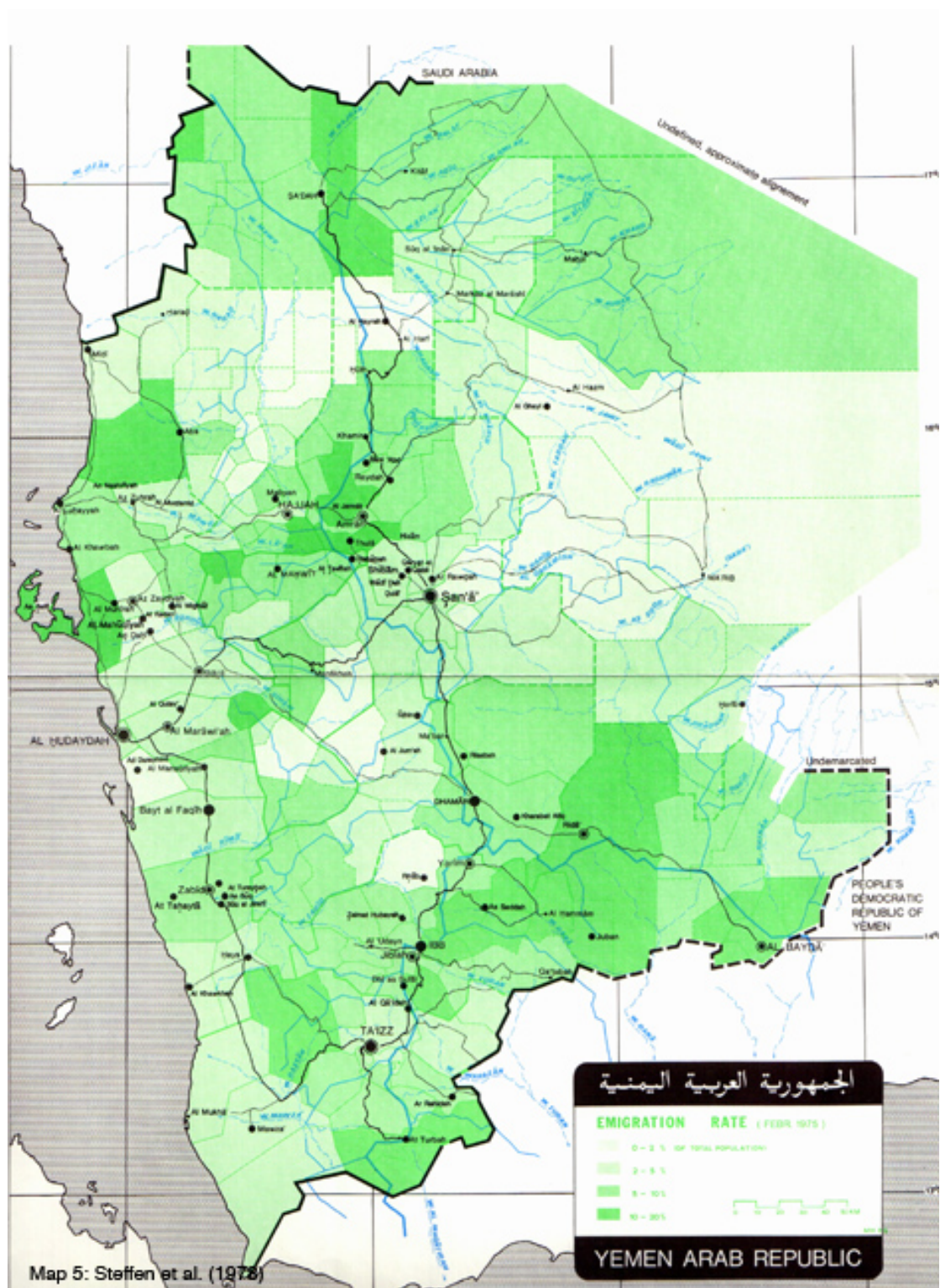
Map 1: Population Distribution and Relief, YAR (Steffen et al. 1978)



Map 2: Administrative Divisions of the YAR (Steffen et al. 1978)



Map 3. The Republic of Yemen Comprising the Former YAR and PDRY
http://fr.wikipedia.org/wiki/Fichier:Map_of_North_and_South_Yemen.png,
accessed November 27, 2012



Map 5: Emigration Rate (Steffen et al., 1978)

BIBLIOGRAPHY

Adra, Najwa

1983a Qabyala. *The Tribal Concept in the Central Highlands of the Yemen Arab Republic*. Ph.D. Dissertation in Anthropology, Temple University, Philadelphia.

1983b Local Perceptions of Breastfeeding, Fertility and Infant Care in al-Ahjur, Yemen Arab Republic. Unpublished field report for Middle East Research Awards in Population and Development.

2006 Social Exclusion Analysis – Yemen. Unpublished report for the Joint Social Exclusion Analysis for DFID Yemen CAP and World Bank CSA.

2008 Learning through Heritage, Literacy through Poetry. *Adult Education and Development*, 70. Available online in English, French and Spanish:

http://www.dvv-international.de/index.php?article_id=731&clang=1

2011 Tribal Mediation in Yemen and Its Implications to Development. AAS Working Papers in Social Anthropology, 19:1-17. Available online: <http://epub.oeaw.ac.at/wpsainhalt?frames=yes>

Akram-Lodhi, A. Haroon

n.d. Agriculture and Livelihoods in Rural Yemen. Bureau of Development Policy, United Nations Development Programme. Available on google.com as Yemenv3.pdf.

Al-Huri, Nuriyya Ali Humad

1981 *Al- 'Awamil al-Mu'athara 'ala al-tanmiya al-ijtima'iyya fi al-qarya al-Yamaniyya*. Ph.D. Dissertation in Sociology, Ayn Shams University, Cairo.

Al Jundi, Rasha

2009 Gender and Urban Agriculture: The Case of Sana'a, Yemen. Beirut: Environmental and Sustainable Development Unit, American University of Beirut.

Bonfiglioli, Angelo, with Abdo Ali Othman

2005 Urban Livelihoods in Yemeni Secondary Towns. World Bank.

Bornstein, Annika

1972a Al Zohrah – An Agricultural Village in the Tihama. FAO Food and Nutrition Programme, Yemen 13.

1972b Al Homrah and Ibn Abas: Two Fishing Villages in the Tihama. Food and Nutrition Programme, Yemen 71/513.

1974 Food and Society in the Yemen Arab Republic. Rome: Food and Agricultural Organization of the United Nations.

1975 Sorghum and Millet in Yemen. In *Gastronomy: The Anthropology of Food and Food Habits*. M. L. Arnott, ed. Pp. 287-295. The Hague: Mouton.

Boserup, Ester

1970 *Women's Role in Economic Development*. New York: St. Martin's Press.

1990 *Economic and Demographic Relationships in Development*. Baltimore: The Johns Hopkins Press.

Buringa, Joke

1992 *Bibliography on Women in Yemen*. Yemen Development Series, No.2. Westbury, NY: American Institute for Yemeni Studies.

Carapico, Sheila

1984 *The Political Economy of Self-Help: Development Cooperatives in the Yemen Arab Republic*. Ph.D. dissertation in Political Science, The State University of New York at Binghamton.

1985 *Self-help and Development Planning in the Yemen Arab Republic*. In *Public Participation in Development Planning and Management: Cases from Africa and Asia*. Jean-Claude Garc a-Zamor, ed. Pp. 203-234. Boulder: Westview Press.

1996 *Gender and Status Inequalities in Yemen: Honour, Economics, and Politics*. In *Patriarchy and Economic Development: Women's Positions at the End of the Twentieth Century*. Valentine M. Moghadam, ed. Pp. 80-98. Oxford: Clarendon Press.

Champault, Dominique

1978 *L' conomie du lisier: Une technique feminine au Nord-Y men*. *Objects et Mondes*, 18(2):79-84.

1985 *Espaces et materials de la vie feminine sur les hauts plateaux du Y men*. In *L'Arabie du Sud: Histoire et Civilisation*. J. Chelhod, ed, 3:185-231. Paris: G. P. Maisonneuve et Larose.

1986 *Feu et femme (hauts plateaux du Y men du Nord)*. *Techniques et Culture*, 8:137-158.

Chaney, Elsa M., and Martha W. Lewis

1980 *Women, Migration and the Decline of Smallholder Agriculture*. An Exploratory Study. Office of Women and Development, USAID.

Destremeau, Blandine

1990 *Femmes du Y men*. Paris: Peuples du Monde.

Dresch, Paul

1993 *Tribes, Government, and History in Yemen*. Oxford: Clarendon Press.

Eide, Wenche Barth, et al.

1979 *Women in Food Production. Food Handling and Nutrition with Special Emphasis on Africa*. FAO Food and Nutrition Paper, No. 8.

Farouk-Sluglett, Marion

1993 *The Problem of Agricultural Production in the Yemeni Tihama with Special Reference to the Role of Unpaid Family Labour*. *Cahiers du GREMAMO*, 11:45-83.

Fouad, Monira Y.

1991 *Women and Agricultural Development in Yemen*. Review Mission. The World Bank. Agriculture Operations Division – Country Department III – EMENA 3.

Gingrich, Andre

1997 Inside an Exhausted Community. In *The Ethnography of Moralities*, Signe Howell, ed., Pp. 152-177. London: Routledge.

Hashem, Mouna H.

1996 Goals for social integration and realities of social exclusion in the Republic of Yemen. Geneva: International Institute for Labour Studies, ILO.

Harris, Grant A.

1979 Procedure for Establishing an Integrated System of Watershed Management in Yemen Arab Republic. Draft paper. CID Design Team, USAID, Sanaa.

Higher Council for Motherhood and Childhood (HCMC), The Social Fund for Development, World Bank.

2003 Yemen's Disadvantaged Children. Sanaa.

Hogan, Edward, et al.

1982 Agricultural Sector Assessment, Yemen Arab Republic. Washington, DC: USAID.

IFAD

2010 Enabling Poor Rural People to Overcome Poverty in Yemen.

<http://www.ifad.org/operations/projects/regions/pn/factsheets/ye.pdf>

Kopp, Horst

1983 Land Usage and Its Implications on Yemen Agriculture. Paper presented at the Conference on Contemporary Yemen, Exeter University, Exeter, UK.

Maarse, L. M., and C. M. E. van Schoot

1989 Rural Women in Livestock Production and Rangeland Use. Observations in Five Selected Villages of the Dhamar Montane Plains. Project Communication No. 34. Yemen Arab Republic. Range and Livestock Improvement Project (Ministry of Agriculture and Fisheries, Agricultural Research Authority, Kingdom of the Netherland, Directorate of General International Cooperation.)

Ministry of Agriculture and Fisheries. Yemen Arab Republic.

1983 Report on Farming Systems Research Survey in Wadi Tha. Rada' Integrated Rural Development Project. Technical Note no. 9. ILACO.

Mitchell, Brigitta and Hermann Escher

1978 *A Baseline Socio-economic Survey of the Taiz-Turba Road Influence Area*. 2 volumes. Washington, DC: The World Bank.

Moser, Caroline O. N.

2009 Ordinary Families, Extraordinary Lives: Assets and Poverty Reduction in Guayaquil, 1978-2004. Washington, DC: Brookings Institution Press.

Mundy, Martha

1979 Women's Inheritance of Land in Highlands Yemen. *Arabian Studies*, 5:161-187.

1983a Agricultural Development in the Yemen Tihama: The Past Ten Years. Paper presented at the Exeter Conference on Contemporary Yemen, Exeter University, Exeter, UK.

1983b Sana'a Dress, 1920-75. In Sana'a. An Arabian Islamic City. R. B. Serjeant and Ronald Lewcock, eds. Pp. 529-541. London: The World of Islam Festival Trust.

1995 Domestic Government: Kinship, Community and Polity in North Yemen. London: IB Tauris Publishers.

Myntti, Cynthia

1979 Women and Development in Yemen Arab Republic. German Agency for Technical Cooperation.

1984 Yemeni Workers Abroad: The Impact on Women. *Dirasat Yamaniyya*, 17:28-42.

Sajogyo, Pudjiwati, Endang L. Hastuti, Syarifah Surkati, Winati Wigna, Krisnawati Suryanata, and Benjamin White

1979 Studying Rural Women in West Java. *Studies in Family Planning*, 10(11/12):364-370.

Steffen, Hans, et al.

1978 Final Report on the Airphoto Interpretation Project of the Swiss Technical Cooperation Service. Zurich.

Steffen, Hans, and O. Blanc

1982 La Démographie de la République Arabe du Yémen. In P. Bonnenfant, ed. *La Péninsule Arabique d'aujourd'hui*. Vol. 2, Pp. 72-106.

Struben, Willem

2004 Case Studies in Scaling Up Poverty Reduction: The Yemen Social Fund for Development. The International Bank for Reconstruction and Development/The World Bank. Available in pdf:

<http://info.worldbank.org/etools/docs/reducingpoverty/case/91/fullcase/Yemen%20Social%20Fund%20Full%20Case.pdf>

Swanson, Jon

1979a Emigration and Economic Development: The Case of the Yemen Arab Republic. Boulder: Westview Press.

1979b Some Consequences of Emigration for Rural Economic Development in the Yemen Arab Republic. *The Middle East Journal*, 33(1):34-43.

1981 Socio-economic Conditions and Development. Bani 'Awwam, Hajja Governorate. Preliminary Field Report. Local Organization, Participation and Development in the Yemen Arab Republic. Working note 9. Ithaca: Cornell University.

Tutwiler, Richard, and Sheila Carapico

1981 Yemeni Agriculture and Economic Change. Sanaa: American Institute for Yemeni Studies.

University of Arizona, College of Agriculture

1981 National Sorghum and Millet Crop Improvement Program, Yemen. Final Report. Available online at: http://pdf.usaid.gov/pdf_docs/PDAAJ679.pdf

van Schoot, Chrisje

1989 A Day in the Life of Birdis Bint Mohammed Abdallah. In *Rural Women in Livestock Production and Rangeland Use. Observations in Five Selected Villages of the Dhamar Montane Plains*. L. M. Maarse and C. M. E. van Schoot. Pp. 10-17. Project Communication No. 34. Yemen Arab Republic. Range and Livestock Improvement Project

1995 Annotated Bibliography. Yemeni Women in Agriculture and Rural Development

1975-1995. Agricultural Research and Extension Authority, Ministry of Agriculture and Water Resources, Agricultural Sector Management Support Project, Extension and Training Component.

Varisco, Daniel Martin

1982 *The Adaptive Dynamics of Water Allocation in al-Ahjur, Yemen Arab Republic*. Ph.D. dissertation in Anthropology, University of Pennsylvania: Philadelphia.

1983 Sayl and Ghayl: The Ecology of Water Allocation in Yemen. *Human Ecology*, 2(4):365-383.

1989 Indigenous Plant Protection Methods in Yemen. *GeoJournal* 37(1):27-38.

1991 The Future of Terrace Farming in Yemen: A Development Dilemma. *Agriculture and Human Values*, 8(1-2):166-172.

2003 Indigenous Knowledge and Traditional Yemeni Irrigation. In *Savoirs locaux et agriculture durable au Yémen*. Amin al-Hakimi and Frédéric Pelat, eds. Pp.115-120. Les Cahiers du CEFAS N° 3. Sanaa: Centre Français d'Archéologie et de Sciences Sociales.

2012 *Qat* and Traditional Healing in Yemen. In *Herbal Medicine in Yemen*. H. Schöning and I. Heymeyer, editors. P. 69-102. Leiden: Brill.

Varisco, Daniel Martin, and Najwa Adra

1984 Affluence and the Concept of the Tribe in the Central Highlands of the Yemen Arab Republic. In *Affluence and Cultural Survival*, R. F. Salisbury and E. Tooker, eds. Pp. 134-149. Washington, DC: The American Ethnological Society.

Walters, Delores

1987 Perceptions of Social Inequality in the Yemen Arab Republic. Doctoral Dissertation in Anthropology, New York University.

The World Bank

1989 Yemen Arab Republic: Utilizing Womenpower for National Development. EM3PH. Unpublished report prepared for the World Bank.

2006 Republic of Yemen. Country Social Analysis. Water, Environment, Social and Rural Development Department, Middle East and North Africa Region.

Yemeni Center for Social and Labour Studies

2004 Rapid Assessment of Child Trafficking in Yemen: Case Study of Hajja and Al-Mahweet Governorates. Sanaa: Yemeni Center for Social and Labour Studies.

[Report prepared for UNICEF and Ministry of Social Affairs]