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VILLAGE WOMEN, WATER AND DEVELOPMENT:  
AN EVALUATIVE STUDY OF  
THE UPPER REGION WATER SUPPLY PROJECT  
IN BOLGATANGA DISTRICT,  
UPPER REGION, GHANA

by

Rose Mae Harkness, B.A.

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A Thesis submitted to the Faculty of  
Graduate Studies and Research in partial  
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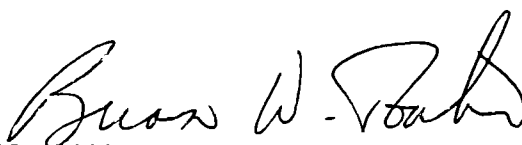
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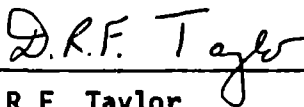


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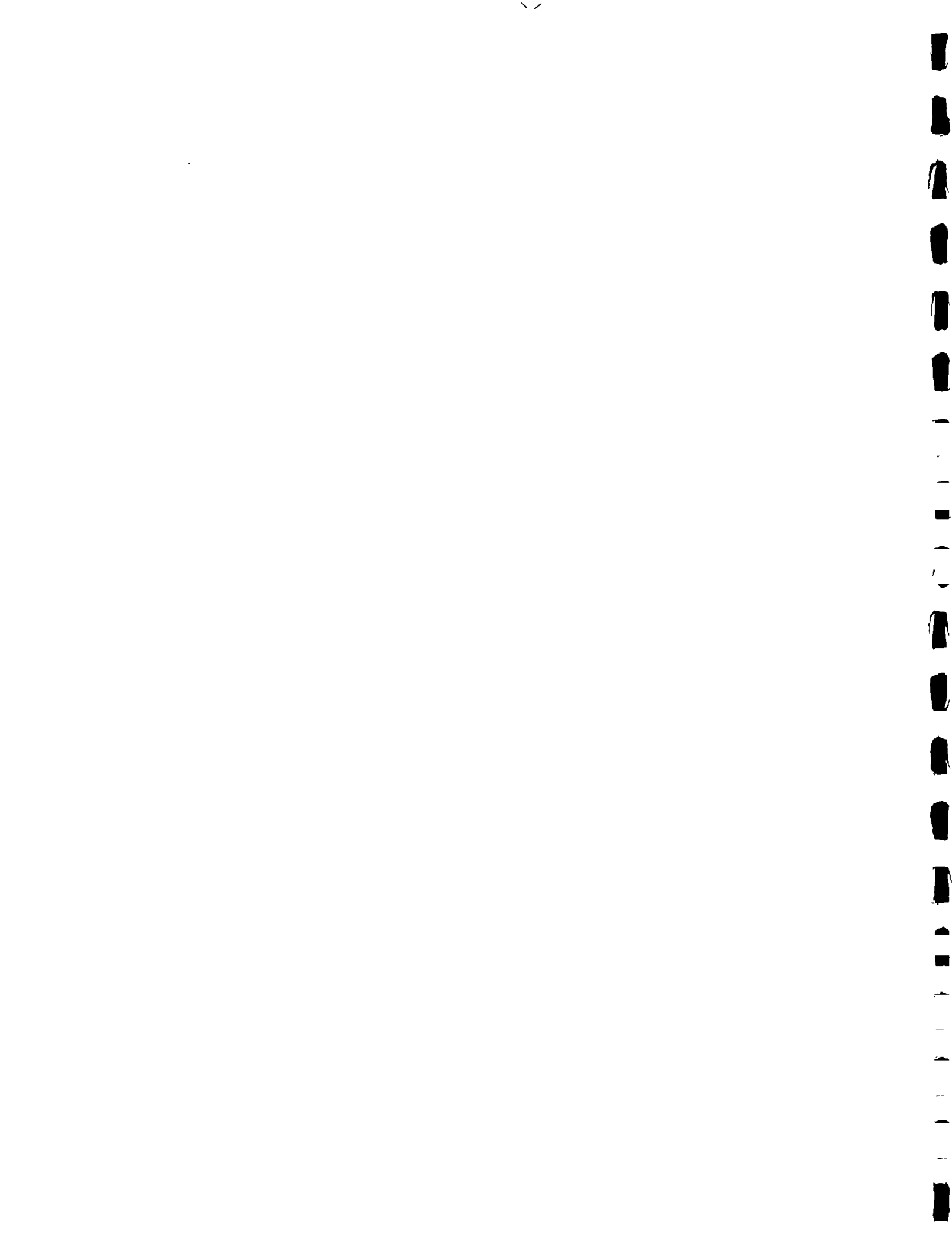
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## ABSTRACT

This paper examines the Upper Region Water Supply Project, Ghana, and its impact on village women. The project's development over a ten year period is outlined to illustrate the manner in which local communities were engaged in maintenance and in water utilization programmes. Using a framework derived from dependency theory of development and a patriarchal model, and data from research in Bolgatanga District, Upper Region, Ghana, an analysis of the underdevelopment of women beginning in the colonial period and continuing into the present stage of development is presented. The paper argues that the training of men in water supply, a traditional work area of women, and the failure to maximize the time-saving benefit to women undermine women's traditional status and their role as equal participants in development. Recommendations to inhibit the creation of a double yoke of patriarchy for Third World women during the development process are offered.





## PREFACE

The field research for this study, carried out in Bolgatanga District in the Upper Region of Ghana, was made possible by the Canadian International Development Agency Scholarship Programme.

The main feature of the field research was a panel survey in which information on overlapping sets of questions used with the same sample of women was collected on two occasions: January-February-March, 1980 and February-March, 1981. The panel survey is a useful instrument for measuring the degree of change following the introduction of an experimental variable, in this case study the drilled wells provided for Upper Region Villages.

The impact of the drilled wells on the lives of village women will be determined from the answers to two questionnaires used with women in ten villages, interviews with seven chiefs in the district and other primary data collected both in the field and at the Canadian International Development Agency, Hull.

The detailed description of the field research is in Appendix A, and includes the following:

Maps

Survey Procedure and Limitations of the Study

Testing and Refining Questionnaires

Research Area and Selection of Villages

Selection of Women

Questionnaires for Village Survey, 1980

Questionnaires for Village Survey, 1981

Interview Schedule for Chiefs, 1981.

I am indebted to the Canadian International Development Agency for the award which made this study possible.

I wish to express my gratitude to Dr. John Sigler, former Director of the Norman Paterson School of International Affairs, for his encouragement and sound advice.

My sincere thanks to Prof. D.R.F. Taylor, my supervisor, for his continuing guidance, and to Dr. Laketch Dirasse, my advisor, for giving so much time to critically appraising my efforts.

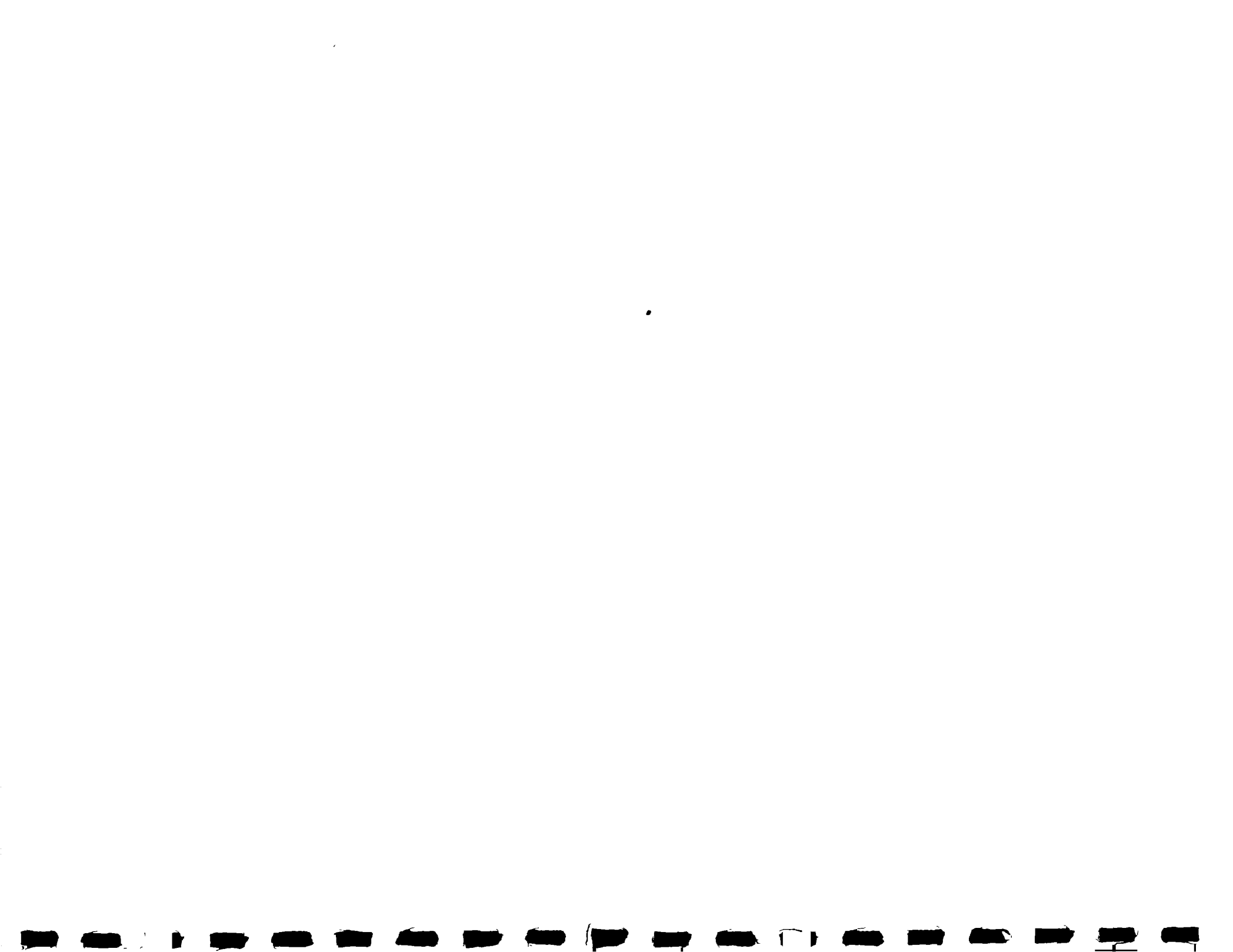
Although many people in Ghana were helpful during my periods of field work, I am particularly grateful to my friend and co-worker, Victoria Anamoo, for her constant and conscientious assistance in our daily treks to the villages. In addition, I am greatly indebted to all the village women who gave their time to speak to us about their lives.

Finally, to my children, who have taken up tasks I have had to relinquish in order to carry out this study, and to my husband, Peter, for his patience, faith and loving support, I express my very deep appreciation.



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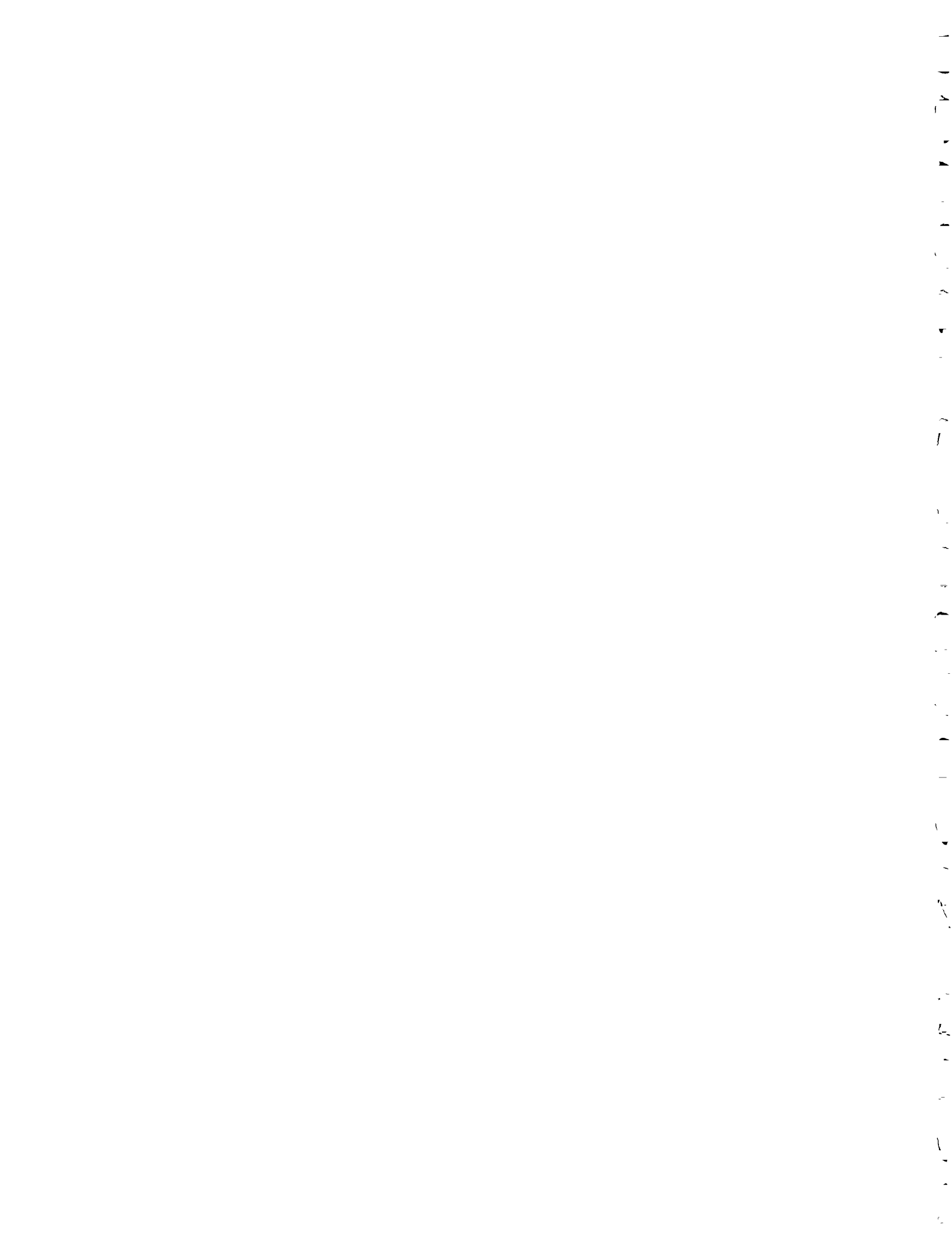
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## Chapter I

### INTRODUCTION

The purpose of this study is to describe the Upper Region Water Supply Water Project (URWSP) and to analyze its socio-economic impact on the lives of women in Bolgatanga District, Upper Region, Ghana.

The URWSP, initiated by the Ghanaian government early in the 1970s to answer what had "long been identified by the people of the region as their most urgent need" - potable water,<sup>1</sup> has supplied approximately 2500 drilled wells to villages across the Upper Region. It was assumed that the provision of pure drinking water would result in improved health for all villagers and increased agricultural productivity. It was also noted that the project would alleviate the burden of water-carrying for women for whom portage of water is a major time-consuming occupation.

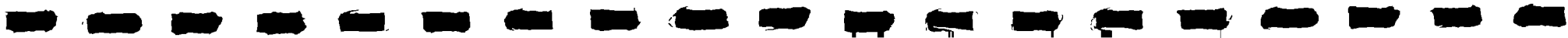
It is increasingly evident that rural development efforts that neglect the centrality of women cannot be successful. As models of development have undergone significant change from those focussing on industrialization and economic growth to those dealing with redistribution, basic needs and self-reliance, governments and international agencies have had to recognize the productive role of women in developing economies. It is no longer possible to



ignore women's contribution in models of development in which food production is of primary importance, since women are major food producers in many Third World countries, particularly in the region under study. But all development projects affect women's lives, and to maximize the beneficial results of projects, women must be involved at least to the extent to which they have been involved in that area of work within their traditional society. As Mickelwait has aptly argued, one of the most effective methods of integrating women into rural development and in producing desirable role changes is in the "examination of development efforts which are underway, to identify recent changes in society and the roles of women within that society. Such work will establish yardsticks for measuring further desired changes in the role of women and indicate the best way to accomplish these changes."<sup>2</sup> As such, the objectives of the present study are threefold.

First, it is intended to add to the knowledge of rural women by providing data on the lives of village women in Bolgatanga District, Upper Region, Ghana, and on the effect which a major development project has upon them.

Secondly, the study will illustrate that women in the Upper Region of Ghana, one of the least developed areas of the country, have played a subordinate role in the URWSP. I shall argue that historically, successive colonial and independent governments in Ghana have failed to involve women equally with men in the modern development



process, and that patriarchal structures and attitudes within both Ghanaian society and the Canadian International Development Agency have restricted the full involvement of women within projects such as the URWSP.

Thirdly, it is my hope that the study will make a contribution to the present small but growing research area of women, water and development.<sup>3</sup>

#### Women, Water and Development: A Literature Review

Water is an essential, basic, human need. Many rural development projects now have a water provision component. Consequently, a considerable body of literature on water and development is currently available. The literature specifically related to women, water and development is fairly limited, and the general literature rarely addresses the role and problems of women regarding water and development. Nonetheless, it is possible to draw some conclusions concerning women, water and development from the general literature.

The oft-quoted Drawers of Water devotes only two pages to women as water carriers. The justification for this approach may lie in the emphasis given to the fact that African women play a minor role in decision-making with regard to making water-carrying easier.<sup>4</sup> Chambers states that women's role in water-carrying should become more visible. He complains that traditional, domestic technologies for the extraction, transport, storage and use of water have been neglected in research. The reason for this, in part, is that



such technologies concern women more than men. He suggests that appropriate water technology may be developed by examining more carefully the techniques presently employed by women in water usage. <sup>5</sup>.

Social scientists are now realizing that investigating society from the male viewpoint alone will produce an incomplete image of society. In a traditional society where a distinct division of labour based on gender exists, it would be short-sighted to interview one sex about a particular type of work in which that sex is not engaged. <sup>6</sup>. Too often, research on water supply systems has been conducted through interviews with male heads of households who have no responsibility within the household for water supply or storage. <sup>7</sup>. Gradually, women are becoming visible in water studies. Their active participation in assuring the success of water development projects should be felt more positively as well. In this examination of some significant contributions of the last decade, particularly those related to social and economic impact of water systems, the increasing prominence given to women in domestic water supply and the importance of women to water development projects will be illustrated.

The major purpose in providing new or improved water supplies is to improve the health of people receiving the supplies. However, early studies indicating significant benefits to health from improved water supplies in developed countries have not been substantiated by results in





developing countries. There is difficulty in obtaining health-related data in developing countries to determine impact of water supplies. Regarding this problem, Gilbert White states, "Unless a specific investigation is designed, by the time statistical and medical services are adequate to provide sound data, the water supplies are adequate to obviate the need for the data." <sup>8</sup>. These same authors, nevertheless, devote considerable space to the health benefits of improved supplies, outlining the importance of water in various kinds of diseases (water-borne, water-washed, water-based and diseases with water-related insect vectors), and emphasizing that the quantity of water should be stressed as well as the quality of water.<sup>9</sup> Noteworthy in this text is the understanding of the problems arising in determining an economic accounting of health benefits accurately in rural areas where there is incomplete employment. Days lost to disease when a person is not employed may have a different social cost to days lost in a season of heavy labour. <sup>10</sup>.

The other social benefit described by White is energy saved to water carriers when improved supplies are made more accessible. In this East African study, the caloric cost of obtaining water at the traditional water sites was small for the majority of carriers; however, high caloric expenditure was required in steep areas and in dry areas where the distance to the source was great. Under these circumstances, over 25% of total daily caloric requirements were used for water fetching. (One woman



walking three hours on steep hillsides uses 1,930 calories.)<sup>11</sup>. Each woman carried an average of 14 to 16 litres (30 pounds approximately) per trip, but it was noted that at one site one woman carried a head load of 90 pounds in her water container. Surprisingly, no reference was made in this study to the physical harm done to the body by the daily carrying of such heavy loads.

In her book prepared for Habitat, the United Nations Conference on Human Settlements, Barbara Ward stated that the carrying of heavy water pots on the head by women is a primary cause of pelvic distortion and as a result death in childbirth.<sup>12</sup> That improved water supplies might result in a specific health benefit to women has been completely overlooked in the literature on water and development; the prime concern of developers and researchers has been with diseases related to the water itself which affect the population in general.<sup>13</sup>

While improved health continues to be the most significant benefit expected from improving water supplies, it is now well established that the provision of such a supply alone will not necessarily result in this benefit. The village environment, personal habits of hygiene of village people, the understanding of health implications, the level of service provided and the accessibility of the new supply are some of the factors inhibiting the attainment of improved health for village people.<sup>14</sup> The doubts raised about health benefits by Gilbert White echo through-



out the literature not only with regard to health, but also to other social and economic benefits.

One of the earliest critiques on benefits came from Tanzania where the government had pledged itself to rural water supply mainly as a social service though with some economic benefits anticipated. Heijnen and Conyers examined fourteen hypotheses related to the social and economic benefits of improved rural supplies. The list of hypotheses illustrates the high hopes that had been placed in improved water supply in rural development.

1. The distance travelled to obtain water decreases.
2. The quality of water used improves.
3. Time and energy expended decreases.
4. The quantity of water used increases.
5. Improved supplies are more reliable.
6. All people who do not live too far from the improved water supply will make use of it.
7. The additional time made available through improved water supply may be put to productive use.
8. Improved water supply means better health.
9. By providing more and better water for livestock, an improved water supply increases the returns from animal husbandry.
10. The economic benefits of water supply projects may be increased by using excess water for small scale irrigation.
11. The economic benefits of surface water resources may be increased by using them for fishing.
12. An improved water supply provides a stimulus for the development of secondary economic activities.
13. A new water supply will encourage the clustering of settlement around the water point.



14. The input of improved water acts as an incentive to overall rural development.

While recognizing that insufficient data was available to test all these hypotheses, Heijnen and Conyers conclude that water alone is not enough to stimulate rural development; water must be provided as part of an integrated programme of development and local people should participate fully in the project from its inception.<sup>15.</sup>

These two concepts of the need to combine water supply with other components for rural development and the importance of the human factor in the success of such a supply may seem a normal aspect of rural development planning to-day. But many water projects have been conceived and implemented as technical services in isolation from other rural development projects and without much contact with the people for whom the service is provided.<sup>16.</sup>

Feachem's work in water supply and sanitation for developing countries stresses the importance of complementary inputs in order to realize the benefits of water supply improvements. Moreover, these benefits cannot be expected to accrue simultaneously, but only as the complementary inputs are successfully applied. In the following tables, Feachem's proposals are outlined. It can be seen that as the stages progress, the character of the inputs changes from the technology of the water supply itself (the hardware of water supply) to the users' habits and the educational components related to hygiene, agriculture





and marketing (software) to form aspects of a broader integrated programme.<sup>17</sup> Although the time and energy

Table 1.1

Aims and Potential Benefits of Water Supply Improvements

Immediate aims	Stage I benefits	Stage II benefits	Stage III benefits
Improve water: quality, quantity, availability, reliability	Save time Save energy Improved health	Labour release Crop innovation Crop improvement Animal husbandry innovation Animal husbandry improvement	Higher cash incomes Increased and more reliable subsistence Improved health Increased leisure

Note The horizontal alignment has no significance

Table 1.2

Complementary inputs necessary for the achievement of the various aims and benefits set out in Table 1.1

Aim or benefit (see Table 5.1)	Complementary inputs or prerequisite conditions
Immediate aims	Active community participation and support. Competent design. Adequate facilities for operation and maintenance. Appropriate technology utilized.
Stage I benefits	New supply used in preference to old. New supply closer to dwellings than old. Water use pattern changed to take advantage of improved quantity, availability and reliability. Hygiene changed to utilize improved supply. Other environmental health measures taken. Supply must not create new health hazards (e.g. mosquito breeding sites).
Stage II benefits	Good advice and extension services must be provided by government personnel concerned with agriculture, animal husbandry, cooperatives, marketing, education, credit etc.
Stage III benefits	Water supply development must be just a single component of an integrated rural development programme which has the active support of the local community.

Source: Richard Feachem et al, Water, Wastes and Health in Hot Climates, (Toronto: John Wiley & Sons, 1977), pp.77-78



saving, the labour release and increased leisure are benefits which normally accrue to women, no indication is made of this fact in Table 1.1. Similarly, no distinction is made in Table 1.2 on complementary inputs as to recipients of such inputs. The failure to specify women as recipients of certain necessary inputs frequently has meant that men only are the recipients. Thus, while recognition of water as a human problem as well as a technical one was established during the 1970s in development literature,<sup>18</sup> the important role of women in rural water supply was largely ignored until the latter part of the decade.

In 1978 concern about this shortcoming was expressed by David Henry:

One of the most glaring weaknesses in the rural water technology discussion thus far, has been that women have not been encouraged to participate in the dialogue. Women carry almost 100% of the water used for domestic purposes and, in many cases, spend more than 50% of their time doing so, This is a tremendous waste of time, energy and resources. 19.

Henry's interest in involving women in water development stems from the fact that inappropriate technology too often has been selected for rural water supply that results in a 50% failure rate of such systems. A more extensive knowledge of village technology and living habits would assist rural water supply planners in providing more reliable water supplies. Moreover, planners should ensure that village women form part of the research team. If a supply is inappropriate and not maintained, there are no benefits except to foreign contractors putting in the supply.



White's team certainly recognized the value of women water carriers' knowledge when they sought women correspondents in their water survey.<sup>20</sup> Water studies done in the 1970s in Tanzania, Ghana, and the Sudan contained questionnaires in which men only were respondents.<sup>21</sup> Towards the end of the decade, one finds the focus on women which was absent earlier, and women are used as respondents in conjunction with men,<sup>22</sup> or as sole respondents<sup>23</sup> in water questionnaires.

The significance of women in traditional water supply is now acknowledged, but rarely does the involvement of women in the modern technology of water supply take place. In Kenya, women have started and managed a number of water supply programmes,<sup>24</sup> but in most water projects, men are the ones to gain in expertise. In Tamil Nadu, India, "an interested and enthusiastic person who usually resides close to the hand-pump is selected by villagers...; he is given a two day orientation course and trained to attend to minor repairs and is supplied with the necessary tools."<sup>25</sup> (emphasis added) In Malawi, the concept of the barefoot engineer has been introduced to improve maintenance of new piped water systems. "Three week technical courses are conducted under tents for carefully selected, technically-oriented men with limited education."<sup>26</sup> (emphasis added) In Ethiopia, when a prototype hand pump was made in the project workshop from readily available materials, village men



soon imitated the design, making and installing these basic pumps themselves."<sup>27</sup> (emphasis added) These cases are cited to illustrate that while in the general literature on water development, women are recognized as important in traditional societies, not only in the demanding task of supplying water, but in decision-making regarding supply and management of water, this recognition has not led to women's involvement in modern water supply systems. Appropriately, in this paper the question will be raised whether or not the structures of dependency and patriarchy are factors in the establishment of such a situation.

Since the United Nations Water Conference at Mar Del Plata, 1977, a small number of papers have been written about women and water. One of the first of these was "Water, Women and Development," a United Nations report prepared as a contribution to the above conference.<sup>28</sup> In this report, women's traditional role in water supply and agricultural production is recognized; in addition, the importance of rural water supply as a focal point in integrated rural development projects is stressed. Water technology appropriate to women's needs could be a catalyst for this multi-sectoral development, thus benefitting women and accelerating their integration into development. The report emphasizes, as well, the important role women play in rural health and hygiene as mothers and caretakers. The need to involve women in decision-making





and participation in water supply schemes, and in training programmes and employment opportunities that may result from water projects is stressed. Improved water supply could result in increased agricultural production, increased employment and wages for men and women and perhaps increased chances for a better distribution of income. A report of this type is designed to promote discussion on policy and implementation, and two papers by Elmendorf and Roark move in this direction.

Elmendorf emphasizes that women are the key factor in realizing the goals of water and health for all.<sup>29</sup> However, disparity exists between the necessary involvement of women and the present reality. Water supply without a well-functioning primary health care programme and responsible community participation will not result in the improved health for all that is desired. Women as socializers and teachers of children are essential in any health education programme and should be given a more effective role in the education of public opinion for needed change. Elmendorf stresses the importance of studying the sanitation habits of rural people, including children, to determine which ones require changing.<sup>30</sup> To change habits, additional equipment to that of the water supply is necessary. Bath houses, latrines and basic kits for cleanliness which may include adequate water carrying and storage containers, basins and soap are suggested. While women have had a few opportunities in planning and maintenance of water and sani-



tation projects, such projects with women playing a major role have not become the model used by planners of new water and sanitation projects. Another important point noted by Elmendorf concerns the short-lived aspect of women-oriented projects. A change in administration or the focus of private agencies can result in the end of women's involvement.<sup>31</sup>

Paula Roark's paper takes up the challenge of water and health for all as well. She states emphatically that women should be included in rural water supply projects, not for political expediency or social equity but for the success of such projects. Women are water carriers, water managers and family health educators. Moreover, "Women traditionally hold power in the learning process as teachers and purveyors. In rural water and sanitation projects, women's roles are especially strong in the specific local learning system pertaining to traditional water technology and health."<sup>32</sup> Seeing real development as a knowledge process, Roark emphasizes the need for community participation in development projects, and the critical nature of women's involvement particularly in water projects.

In order to examine rural water supply systems and to improve on their design and implementation, Roark has developed a Local Learning Systems Framework to synthesize the factors of technology, maintenance, local learning systems, community participation and the inclusion of women. Recognizing that the framework needs testing, Roark has provided a tool that is essential if women's involvement in water projects is to go beyond the discussion stage.

4



In the present analysis, certain aspects of Roark's framework are useful. Knowledge of the local society prior to project implementation, the involvement of the community including women in the project and the knowledge gained by the local community are features to be examined in relation to the URWSP and its impact on village women.

From this brief literature review, it is evident that the significant role of women in traditional water supply, health education and sanitation has become increasingly recognized. The literature also makes clear that the success of projects addressing water, health and sanitation needs of any community can be guaranteed only through the active involvement of women. Accordingly, some initial efforts have been made to delineate a method by which women will not only be recognized for their work, but also be fully integrated into projects related to that work.

Although the socio-cultural aspects of water supply are being advanced steadily, the literature generally remains highly technical in content. The need to involve women, the failure of many projects to do so and some exploration of the causes of this failure have been seen. The present study attempts to approach this problem within the broad socio-economic and cultural context of the Upper Region of Ghana, and to develop a theoretical framework for analyzing the role of women both within Upper Region society and within the water supply project as well.



### Analytical Framework

The nature of this study is empirical. The data from the Upper Region Water Supply Project will be examined in the light of certain paradigms or assumptions on women and development that have been formulated within the last twenty years. Dependency theory of development will be applied to the Upper Region of Ghana and to the position of women within that society. Patriarchal structures hindering women's participation in development projects like the URWSP will be examined.

Lacking a universally accepted theory on women and development, I am advancing the following assumptions that will be used in the case study in the Upper Region of Ghana:

Women are an important element in rural production.

Women have not been given attention in development projects proportionate to their contribution to rural society.

The neglect of women as participants results in less effective programmes and can lead to the underdevelopment of women.

"The ultimate end of development is to achieve a better quality of life for all, which means not only the development of economic and other natural resources, but also the physical, moral, intellectual and cultural growth of the human person."<sup>33</sup> When women lack opportunities for this kind of human growth, their position may be described as neglected or undeveloped. If men acquire income, skills





and education, even advancing into areas in which women traditionally had responsibility, the position of women whose status has been lowered by male progress, is underdeveloped.<sup>34</sup>

The concept of underdevelopment as an active undermining of a country's economy rather than a passive state was formulated originally by Latin American social scientists attempting to understand why policies based on conventional theories of growth and modernization had failed to produce a pattern of development already established in western industrialized states. Underdevelopment with its characteristic low income and slow growth, regional disequilibrium, instability, inequality, unemployment, dependence on foreign countries, specialization in the production of raw materials and primary crops, and economic, social, political and cultural marginality<sup>35</sup> was seen not as a temporary condition which could be overcome by economic growth and modernization, but a permanent one that would persist unless basic structural elements both internal and external were transformed. This model of Osvaldo Sunkel describes a polarization that has developed not only between developed and undeveloped countries, but between modern, dominant, and advanced economic activities, social groups and regions on the one hand and backward, marginal and dependent activities, groups and regions on the other within the undeveloped country itself. Tracing the development of external links



from early colonial days described as the age of mercantilism through a golden age of free trade or liberalism of the nineteenth century to the twentieth century age of neo-mercantilism, Sunkel illustrates how advantages in the international capitalist system accrue inevitably to the advanced members at the expense of members which are dependent, marginalized and underdeveloped.

The theory of dependency and underdevelopment does not differentiate the impact of development on men and women, yet it is clear that women may become even more disadvantaged than men as development within a society occurs. Nevertheless, dependency theory as outlined above is a useful instrument in explaining why the northern part of Ghana remains the least developed part of the country by almost any indicator of development.<sup>36</sup> Village men and women in the north of Ghana may be described as marginalized and backward relative to most other parts of the country; the extent of their dependency is a debatable point.<sup>37</sup> Because village production is only partially joined to the market economy, villagers can withdraw into a solely subsistence form of production and remain aloof from a dependent market position. However, because northern resources were not developed in the colonial era, the north is now dependent on southern Ghanaian financial and human resources for development in the north comparable to the south. Thus, it may be



argued that where the process of development is most advanced, underdevelopment of certain areas may be most acute; where traditional society remains relatively undisturbed, undevelopment rather than underdevelopment is more characteristic. This pattern describes frequently the situation of women in developing countries, especially the majority in rural areas.

In traditional African societies, various patterns of a collaborative interdependence of men and women existed and continue to exist in specific areas.<sup>38</sup> Recent studies indicate that as men are absorbed into the cash economy, the interdependence of men and women is eroded, and women and children suffer from the loss of male labour and support. Increased work loads for women and poorer nutrition may also result.<sup>39</sup> Jette Bukh's study of a village in the Volta Region of Ghana illustrates the unfortunate effects of development that focusses only on men, leaving women to produce food crops alone, and in addition to earn a meagre income to meet family needs. She describes traditional structures such as the land tenure system which assure for women a basis for subsistence, but keep them in a secondary position in the society. The stress of this situation has resulted in increasing marriage breakdown with two out of three women experiencing divorce, and one-third of these more than once.<sup>40</sup>



The development process described in this southern village in the Volta Region has made an impact as well on the villages in the north of Ghana from which much labour was drawn for the expansion of cocoa farms, mines and infrastructure in the south.<sup>41</sup> Originally, men were drawn off on a seasonal basis from villages of the Northern Territories (present Upper and Northern Regions of Ghana) for work in the south. While this seasonal migration permitted men to return to the north for their own farming season, migration tended to become more permanent in nature as time went on. The colonial policy in the Northern Territories differed considerably from policies in the Gold Coast; the preservation of traditional society by the colonial administration in the north meant that development in social and educational fields was slow. Thus, while the wage economy was spread by migrant men throughout the north, the lack of development within the Northern Territories made the impact marginal.<sup>42</sup> The post independence period showed considerable achievements in government efforts to bridge the gap between the developmental levels of the north and south. Nevertheless, the north continues to trail in development. As a result, the impact of development on village women in the north has not been the same as on women in southern villages. Must future development in the north result in adverse effects on village women?





Dependency theory indicates that without structural transformation, the polarization described above between developed and underdeveloped states and parts of states is inevitable. But even when radical, political and economic structural transformation occurs, women may not be equal beneficiaries with men in the new economy and society.<sup>43</sup> There are other structures and attitudes within a society which work against women's equal and just participation in development, and the most striking is the system of patriarchy. "Society's acceptance of male domination has pervaded development work", and none of the models of development in widespread use, whether mainstream or marxist has addressed the problem of patriarchy.<sup>44</sup> Therefore, the position of women in development has too often been ignored and marginalized.

In order to understand how patriarchal attitudes and structures can affect a development project like the Upper Region Water Supply Project, I have selected a model of patriarchy advanced by Lynne B. Iglitzen which will be used for analysis of village society in the Upper Region and in Bolgatanga District in particular. In making the analysis relevant to the implementation of this development



project, I shall determine to what extent patriarchy influences Canadian policy makers and field workers as well.

Iglitzen traces patriarchal attitudes from four sources; when there is a confluence of the biological, cultural and anthropological, religious and economic justification for the assumption of male superiority/female inferiority, then there is an ideological support for the model of patriarchy. Her model categorizes a society as patriarchal when most of its members hold the following attitudes:

1. Sexual division of labour reflects natural differences between men and women.
2. Women's identity comes through their relationship with men.
3. Women achieve their highest fulfillment as wives and mothers.
4. Women are childlike, and need protection of males.
5. Women are apolitical, preferring the private sphere to the public.<sup>45</sup>

Iglitzen emphasizes that her model can be used to determine the presence of patriarchy in any society. A closer examination of patriarchy as it affects the relations of production at the household level in the African peasant society, indicates the limitations placed on women if men alone own the means of production, control the labour process and benefit most from the product of labour.<sup>46</sup>

Village women may be constrained not only by their



own society's patriarchal system, but also by patriarchal attitudes of western development planners who either do not see the important role village women have in the village economy<sup>47</sup>. or if they see it, seek to transform it into a more domestic role which has persisted in the developed world in spite of the recent women's liberation movement.<sup>48</sup>.

In sum, this impact study will analyze the effect of a major developmental input on the lives of village women as members of their traditional local society and as members of a wider area, in this case the northern part of Ghana. The value system regarding women which is tied to the foreign technological innovation, the drilled well fitted with a hand-operated pump, also will be a factor to be considered in the study.

The study will test the hypothesis that the Upper Region Water Supply Project has brought socio-economic benefits to women. The independent variable, the water supply, may affect women in a number of ways. Recognizing that I possessed neither the resources, expertise nor time to examine the elusive health benefit in this study, I selected as the major dependent variable, time-saving for women. It follows that time-saving could result in increased leisure, increased agricultural production, improved nutrition and childcare, improved homecare, improved hygiene, increased income-earning activities, increased training programmes and opportunities for women in modern



water technology development, depending on how women use their released time and what options are available to them. Women's decisions about use of time are based on the women's needs and on the expectations of the society in which they live. In addition, when time-saving results from an innovation introduced by external agents (in this case by the Ghana Water and Sewerage Corporation and the Canadian International Development Agency), women's decisions on the use of time may be affected by these agents as well.

The participation of women in the new water supply is also a major concern of this study. Water projects have the potential for human development as well as technical innovation. Local communities may be involved in preliminary discussion and planning, implementation, maintenance and management of new water supply systems. Women, traditionally responsible for water supply, may have particular skills and knowledge useful to planners. Moreover, if women remain responsible for household water supply, they have a greater interest in the maintenance of the system. The extent to which women become participants in the water project depends on both the external agents and the attitudes within their own society to women's involvement in more modern activities.

#### Organization of the Study

This chapter has outlined the purposes of this particular study of the Upper Region Water Supply Project, Ghana: to determine the impact on the lives of village





women and to test the hypothesis that the URWSP has resulted in socio-economic benefits to women, specifically in time-saving. In the literature review, the importance of women in water supply and management in traditional societies has been illustrated. Moreover, we have seen the growing concern that women not be overlooked in improved water supplies, if their successful implementation and proper maintenance are to result, and proposed benefits are to accrue. The theoretical framework provided by the dependency theory of development with the addition of a model of patriarchy has been outlined and will be employed in analyzing the position of women in the Upper Region of Ghana and the impact of the URWSP on their lives.

The second chapter will provide the historical background of the study. An analysis of the historical development of acute disparities between the northern and southern parts of Ghana through the use of dependency theory of development will be undertaken. A discussion of traditional societies of the Upper Region will emphasize male/female sex roles, and the importance of the productive role of women. Because I am arguing that women must be included in development projects at least to the extent that they participate traditionally in affected work areas, women's participation in the household economy and in other productive activities must be clearly understood. Finally, the patriarchal nature of traditional societies and the effect on women will be determined.



The URWSP will be the focus of chapter three. The initial goals of the project and the evolution of additional goals as the project was implemented will be described. It will be argued that women were peripheralized and neglected in training programmes that arose in the project. Evidence of male bias stemming from Canadian patriarchal structures that affected the project will be presented in a general manner prior to analyzing the findings of the survey study.

The analysis of the empirical data from the field research on the socio-economic impact of the URWSP on the lives of village women will be made in chapter four.

In the concluding chapter, theoretical and policy implications of the major findings will be analyzed and presented.



## Notes

1. Peter Harkness and Paul Ladouceur, "Ghana, Upper Region Water Supply Project", paper presented at North-South - World Bank Conference, Montreal, 1978. p.2.
2. D. R. Mickelwait et al, Women in Rural Development, (Boulder, Colorado: Westview Press, 1976), p.101.
3. Paula Roark, "Successful Rural Water Supply Projects and the Concerns of Women", (Washington: Office of Women and Development, USAID, 1980), p.8.  
She notes that apart from the three papers following, there is little else dealing with women and water as a major topic.  
  - United Nations Water Conference, "Women, Water and Development", Mar del Plata, (New York: United Nations, 1977).
  - Mary Elmendorf, "Women, Water and Waste: Beyond Access", (Equity Policy Center Mid-Decade Workshop, 1980).
  - H. Whiting and A. Krystall, "The Impact of Rural Water Supply Projects on Women", (Nairobi: CARE, no date).
4. Gilbert F. and Anne U. White and David J. Bradley, Drawers of Water, Domestic Water Use in East Africa, (Chicago: The University of Chicago Press, 1972), pp. 62-63.
5. Robert Chambers, "Identifying Research Priorities", in Carl Widstrand (ed.) The Social and Ecological Effects of Water Development in Developing Countries, (Oxford: Pergamon Press, 1978), p. 396.
6. The problem is that men are interviewed about women's work; rarely does the opposite occur. Barbara Rogers complains about this questioning of male relatives by male researchers on issues of women's work. She concludes that such research will not produce any answers to questions related to the degree to which women's work is a constraint on agricultural production.  
  - Barbara Rogers, The Domestication of Women, Discrimination in Developing Societies, (London: Kogan Page, 1980), p. 161.
7. Two studies on water supply systems done in Ghana illustrate this shortcoming:  
  - J. A. Norwood and R. C. Hughes, "Ghana Rural Water Sup-



plies. Evaluation Study of Impacts of Improved Water Supplies", (Ottawa: Evaluation Division, CIDA, 1979).

P. A. Twumasi et al, "A Sociological Study of Rural Water Use", Project Report for Ghana Water and Sewerage Corporation, (Legon, 1977).

8. Gilbert F. White et al Drawers of Water, p. 189.
9. Ibid., P. 110.
10. Richard Feachem et al, Water Health and Development, (London: Tri-Med Books Ltd., 1978).

While some studies have tried to calculate a monetary value for time or energy saved by carriers when new water systems are established, Feachem et al point to the difficulty in such attempts in subsistence economies, because such value comparisons are not made by the people themselves. (If tied to monetary earnings of women, the economic benefits of time saved tend to look very meagre; they underline the very poor economic position of rural women when they enter the market system.) Moreover, if time saved could be shown to be of direct opportunity value to agricultural labour, this value would depend on the circumvention of other constraints on agricultural production such as shortage of land or credit. In addition, other benefits such as increased leisure could be of equal significance to any likely increases in production. Therefore Feachem et al conclude, "The valuation of rural people's time is thus essentially a political decision." p.215.

11. Gilbert F. White et al, Drawers of Water, p.106.
12. Barbara Ward, The Home of Man, (London: Andre Deutsch, 1976), p.215.
13. Richard Feachem et al, Water, Health and Development  
While Feachem et al stress that time savings to women are of value when so much of women's lives are spent in arduous domestic tasks, no relationship is made between the time-saving benefit and health. p.191.
14. Village Water Supply, A World Bank Paper, (Washington: World Bank, 1976), p.55.
15. J.D. Heijnen and Diana Conyers, "Impact Studies of Rural Water Supplies", in Gerhard Tschannerl (ed.) Water Supply, Proceedings of the Conference on Rural Water Supply in East Africa, Dar es Salaam, 1977, p.62.





16. Richard Feachem et al, Water, Health and Development, p.4.
17. Richard Feachem et al, Water, Wastes and Health in Hot Climates, (Toronto: John Wiley & Sons, 1977) pp.77-78.
18. Han Bantje, "Sociological Aspects of Improved Water Supply in the Coast Region", Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam, Research paper No.31, 1978.
19. David Henry, "Designing for Development: What is Appropriate Technology for Rural Water and Sanitation?" in Carl Widstrand (ed.) The Social and Ecological Effects of Water Development in Developing Countries, p.365.
20. Of twelve people trained as interviewers in this study, only one was a woman. White states that men were chosen because it was felt that women respondents would expect women interviewers to know all about water problems. However, the one female interviewer seemed to have no trouble getting information. White et al, Drawers of Water, p.67.
21. Dennis Warner, "A Preliminary Assessment of the Impact of Rural Water Supply on Households and Villages", Economic Research Bureau Paper 70.12, University College, Dar es Salaam, 1970.  
Questionnaire used in IDRC sponsored study in Sudan in the late 1970s.  
P.A. Twumasi et al, A Sociological Study of Rural Water Use.
22. Hanna Kebede, Improving Village Water Supplies in Ethiopia: A Case Study of the Socio-Economic Implications, United Nations ECA/SDD/ATRCW/VTWATER/78, p.9.
23. Michael Stahl . "Water to the Villages, A Socio-Economic Study of water Related Problems in Northern Njambe", Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam, 1978, p.37.
24. Eddah Gachukia, "Women's self-help efforts for water supply in Kenya", Assignment Children, A Journal Concerned with Children, Women and Youth in Development, 45/46 Spring, 1979, p.170.
25. P.E. Mandi, "Planning Water and Sanitation with the People", Assignment Children, p.12.



26. Ted Jackson, "Rural Sanitation Technology", Assignment Children, p.59.
27. Arnold Pacey, ed., Water For the Thousand Millions, (Oxford: Pergamon Press, 1977), p.38.
28. "Water, Women and Development", United Nations Water Conference Report.
29. Mary Elmendorf, "Women, Water and Waste: Beyond Access", p. 11.
30. Feachem considers it imperative that water use and hygiene patterns of children be studied and given greater emphasis than the behaviour of adults, because the diseases regarded as water-related (diarrheas, dysenteries, cholera and ascariasis especially) are commonly most prevalent among children.  
Richard Feachem, "Domestic Water Supplies, Health and Poverty", in Carl Widstrand, The Social and Ecological Effects of Water Development in Developing Countries, p.357.
31. Mary Elmendorf, "Women, Water and Waste: Beyond Access", p.11.
32. Paula Roark, "Successful Rural Water Supply Projects and the Concerns of Women", p.34.
33. Declaration of Mexico on the Equality of Women and their Contribution to Development and Peace, adopted by the World Conference of the International Women's Year, (New York: UN E/CONF.66/34, 1975).
34. Ann Seidman, "Women and the Development of 'Underdevelopment' The African Experience", in Roslyn Dauber and Melinds L. Cain, Women and Technological Change in Developing Countries, (Boulder, Colorado: Westview Press, 1981), p.122.
35. Osvaldo Sunkel, "Transnational Capitalism and National Disintegration in Latin America:," Social and Economic Studies, March, 1973.
36. Paul A. Ladouceur, Chiefs and Politicians: The Politics of Regionalism in Northern Ghana, (London: Longman Group Ltd., 1979), p.250.
37. Goran Hyden, Beyond Ujamaa in Tanzania, Underdevelopment and an Uncaptured Peasantry, (London: Heinemann, 1980).



Goran Hyden emphasizes the difficulty that colonialists, capitalists and socialists have had in Tanzania in attempting to capture the peasant in order to make him dependent on market structures, Hyden maintains that underdevelopment in Tanzania is a result of this failure to turn peasants from their traditional mode of production to one which can be exploited for national development purposes.

38. Hermann Baumann, "The Division of Work According to Sex in African Hoe Culture", Africa, Journal of the International Institute of African Languages and Culture, Vol. 1, No.3, 1928.
39. Irene Tinker, "New Technologies for Food-Related Activities: An Equity Strategy", in Dauber and Cain, Women and Technological Change in Developing Countries, p.63.
40. Jette Bukh, The Village Woman in Ghana, (Uppsala: Scandinavian Institute of African Studies, 1979), p.89.
41. Walter Birmingham et al, A Study of Contemporary Ghana, Vol. Two, Some Aspects of Social Structure, (London: George Allen and Unwin, 1967), p.124.
42. Paul A. Ladouceur, Chiefs and Politicians, p.49.
43. Stephanie Urdang, Fighting Two Colonialisms, Women in Guinea-Bissau, (New York: Monthly Review Press, 1979).  
 Urdang sees Guinean women who shared with men in the liberation struggle against Portuguese colonial rule, struggling further against traditional structures which oppress women. She states, "Women's emancipation means that Guinean men in the future will have to work harder, both inside and outside the home, and to share political and decision-making power evenly.....the war served to postpone really deep-going and radical changes in men's way of life, their traditional social roles and their relationship to production." p.38.
44. Anita Anand, "Rethinking Women and Development: The Case for Feminism", 1980, p.5.
45. Lynne B. Iglitzen, "The Patriarchal Heritage", in Lynne B. Iglitzen and Ruth Ross, (eds.) Women in the World A Comparative Study, (Santa Barbara: Clio Books, 1978), p.15.



46. Ophelia Mascarenhas and Marjorie Mbilinyi, Women and Development in Tanzania, African Training and Research Centre for Women, Economic Commission for Africa, United Nations, 1980. p.7.
47. Recognizing the "Invisible" Woman in Development: The World Bank's Experience, (Washington: World Bank, 1979).
48. Barbara Rogers, The Domestication of Women,  
This entire volume confronts the problem that in spite of numerous studies illustrating women in a variety of roles within their societies, western planners (mostly men) continue to see women in Third World countries as guardians of the hearth and men as the essence of development.





## Chapter II

### HISTORICAL PERSPECTIVE ON THE UNDERDEVELOPMENT OF WOMEN IN TRADITIONAL SOCIETIES IN THE UPPER REGION

The purpose of this chapter is to provide a general background on the historical circumstances contributing to the dependence of northern Ghana on the south and to the peripheralization of northern peoples. Furthermore, the socio-economic position of women in traditional northern societies will be examined, and Iglitzen's model of patriarchy applied. The impact of the colonial period and the post-independence period upon women of the north will also be examined. It will be argued that the Upper Region of Ghana, traditionally separated both by geographical and ethnic differences from the south, was drawn into a dependent position on the south by a colonial policy that exploited cheap labour from the Northern Territories (present Upper and Northern Regions of Ghana) for the development of natural resources in the southern Gold Coast Colony for purposes of world trade. Even after independence, successive Ghanaian governments have perpetuated this colonial legacy.

In this context, women of the north have been more disadvantaged relative to men. Women have been underdeveloped by a system that has encouraged male progress in modern society more than female progress. In traditional



societies of the north, it is clear that male dominance exists. Yet women form with men an interdependent system of household production and support which provides women with status and some economic independence. Failure of development planners to acknowledge this societal arrangement may result in projects like the URWSP eroding the position of women even while attempting to improve their lives.

#### Setting for the Study

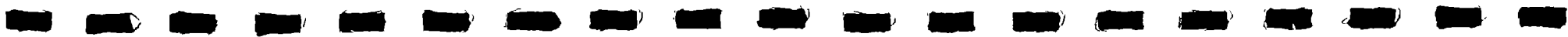
The area of my study, Bolgatanga District, is one of seven administrative districts within the Upper Region of Ghana which is Ghana's most northern region spreading across the country from east to west directly south of Upper Volta. The Upper Region with the Northern Region and part of Brong Ahafo Region lie within the Guinean Savannah Woodland belt that stretches across west Africa south of the Sahel and differs greatly from the southern half of the country with its mixed forest, rain forest and coastal thicket and mangroves.<sup>1</sup> The north is distinguished as well by its one dry season which becomes longer and more intense from south to north. In the Upper Region the rainy season lasts from April or May until September and is followed by a dry season of increasing heat, rapid evaporation and dessication. "The land turns yellow and then brown as grasses die and



many trees and bushes shed their leaves. Waterholes and ponds may dry up, and streams and even rivers may be reduced to a trickle or stop flowing altogether." <sup>2</sup>. Although these severe climatic conditions result in limited crops, the chief natural resource is land, which is still virtually unexploited in some areas of the north.<sup>3</sup>

Clearly, climate and vegetation divide northern and southern Ghana distinctly. In addition, there exists a belt of low population between the north and the south. According to Ladouceur, this belt, along with the Volta River which passes through it, acts as a strong physical and psychological barrier dividing the north from the southern part of the country. <sup>4</sup>. Density of population in the north varies greatly from 7 inhabitants per square mile in western Gonja (Northern Region) to 204 in Frafra (Bolgatanga District, Upper Region). The population of the north (both regions) represents less than 20% of the total population of Ghana.

Not surprisingly, the population of the north is distinctly different from that of the south. In the forest and coastal area of southern Ghana are Akan speaking peoples, notable the Fante, Ashante and Ewe. These people traditionally are characterized by matrilineal social organization, farming as the principal economic activity and little political organization in the pre-colonial period (a notable exception being the Asante Federation).



In the savannah woodlands area live mainly Voltaic peoples of which the most populous is the Mole-Dagbani group forming 66.2% of the population of northern Ghana in 1960. <sup>5</sup> Social organization in the north has been generally patrilineal. Some areas of the north have a tradition of centralized states and kingship. There are also stateless and segmentary peoples among whom are the Frafra. Although there are significant differences in language, customs and social and political organization among northern peoples, these differences are not as great as those which separate them from people in the south. <sup>6</sup>

In sum, the Upper Region of Ghana differs from southern Ghana not only in geographical features but also in its ethnic groups with their distinctive, social and political structures.

### Historical Background

#### I Precolonial Period

The northern isolation resulting largely from geographical features was not absolute. The differences in ethnicity and political structure resulted in interaction which became pronounced with the expansion of the Asante Federation in the late eighteenth century when both Gonja and Dagomba peoples became tribute paying vassals of Asante. <sup>7</sup> The tribute, composed mainly of slaves, was gained by the Gonja and Dagomba through





raiding the stateless societies to the north and east of them. The acephalous peoples with their bows and arrows were powerless against the Asante-trained infantry corps of the Dagomba with firearms. For one hundred and thirty years the Asante domination of northern Ghana was maintained through military superiority and a system of administration composed of resident commissioners from Asante and local traditional rulers. The desire of Asante to secure peace, to develop trade and to extract manpower from the north resulted in considerable oppression of northern peoples. The pattern of exploitation of northern labour was thus well established in the 18th and 19th centuries, prior to the colonial period. The difficulty of access to the north and the greater variety of natural resources in the south made this pattern an easy one to follow in the period of colonial rule in which southern Ghana made considerable strides in development.

## II Impact of British Colonial Rule

The British, concerned over French and German interest in surrounding areas, established administrative control over the Northern Territories through treaties with local rulers in 1901. British colonial rule was accomplished by using local chiefs in areas where they existed. In areas traditionally without chiefs, chiefs were appointed, sometimes from among the local tendanas (elders who wield



temporal and spiritual control of the land) or in other cases, unfortunately from among men ill-suited by local standards to serve as leaders.<sup>8</sup>

The military and administrative operations undertaken by the British for the expansion of the Empire were never covered by revenue derived directly from the area, although a cattle tax introduced in the Northern Territories in 1926 had increased revenue so that by 1928 revenue collected represented one-sixth of expenditure. The geographical isolation of the north, the poor transport and the decision of the colonial office to concentrate efforts in the south, meant that little economic development of the north was encouraged. As Ladouceur states: "In general terms, government expenditure in the Northern Territories was limited to what was absolutely necessary to maintain a minimum administrative presence in the area and to promote such development as was thought beneficial for the administration and for the needs of Asante and the Colony, especially with respect to trade and labour."<sup>9</sup> (emphasis added). Ladouceur emphasises that the lack of resources in the north was a major factor in the colonial office's failure to encourage development in the Northern Territories. However, this view was not held by Governor Guggisberg whose development plan of 1920 included the building of a railway to the north in order to tap the wealth of both ground nuts and shea nuts which he had



observed in abundance there. In his annual address in 1921, he urged a greater diversification in the colony. He stated:

And I repeat now what I said last month in this Chamber that the whole future of the Gold Coast is bound up with the development of the ground-nut and shea-butter industries of the Northern Territories.

I have been there and seen them growing. I have seen millions of acres of country where ground nuts are indigenous and can grow in prodigious quantities without constant labour of clearing the forest and bush of the Colony and Asante....As for the shea nut, we should be in an unrivalled position. I have seen thousands of acres of nuts rotting on the ground....

Honourable members, with means of transportation, with a deep water harbour at Takoradi and a railway from Coomassie to the neighbourhood of Tamale, we will assure the safety of Gold Coast trade... And with the safety of our trade assured, comes assurance of our resource - the sinews of war for our campaign of education and progress. 10.

The economic depression of the 1920s reduced Guggisberg's ambitious ten year development plan. The railway to the Northern Territories was removed from the plan, but some interest in the economic development of the north remained. The chairman of the United Africa Company Limited in 1929 continued to urge the Secretary of State for the Colonies to extend the railway north from Kumasi to the wasted shea-nut industry. He stated:

Indeed there can be few instances existing in the Empire at the present time where the construction of so comparatively simple and short a line would open up such a large and immediate source of revenue and prosperity. 11.

The Secretary of State, however, supported the new Governor of the Gold Coast who contended that present trade between the north and south could not justify a railway.



Moreover, he had expressed doubt that the industry would ever become a commercial proposition unless a higher price could be offered. He doubted as well that the male population would participate in such an industry, since shea nut collecting was in the hands of women.<sup>12</sup> (Although reference is made later to the attitude of colonial officials regarding women as suitable agents in the commercial development of the shea nut industry, this feature of the colonial patriarchy should be noted here.)

A study into the possibilities of a shea nut industry that investigated market demand, modern extraction equipment and other costs including transport, concluded that it was not profitable to export shea fat from the Northern Territories under existing conditions of transport.<sup>13</sup> Clearly, the evidence on the shea industry in the late 1920s was not conclusive. The extension of the railway might have been the catalyst to bring British capital to the northern part of Ghana to undertake commercial shea butter production and export. However, this development was never begun because of financial constraints in the building of the Kumasi-Tamale railroad and the concern that trade would not increase sufficiently to pay for the running of the line.

Thus, neither the shea nut nor the ground nut were developed commercially in the colonial period, though the potential was evident across the savannah belt. Similarly, attempts by the British Cotton Growers Association to encourage local production of cotton were not supported by the





colonial government.<sup>14</sup> Northerners were also discouraged from engaging in cattle trading when the supply of cattle to the south was handed over to expatriate business interests.<sup>15</sup>

By deliberate decision making, the colonial administration neglected all the resources of the Upper Region except the one deemed essential for the development of agricultural and mineral resources in the south, namely human labour. This resource was exploited without consideration of the adverse effects the withdrawal of young able-bodied men would have on local society. Northerners were not eager to leave their homes for work in the alien south. Therefore, considerable force was used in rounding up gangs of men to supply the labour needs of the public works, mines and farms being developed in the Gold Coast Colony and Asante. By 1917 an annual supply of 15,000 northerners had been established.<sup>16</sup> The loss to northern society of the most able-bodied young men meant that village life and social organization were distorted; the productivity of these men was no longer available for the development of the north itself. Women were expected to remain in the north to reproduce the next generation of migrant labourers, indeed Kimble notes the regulation of 1921 which permitted only 15% of the total number of men recruited for the mines to bring women with them.<sup>17</sup> The recruitment of male labourers alone meant, of course, that wages could be kept low since the families of the men were



sustained by the northern farms on which the families continued to live. Costs in the south were high so that savings brought back to the north by migrant workers were minimal and with limited impact on northern society.<sup>18</sup> The administrative costs of British rule were used as justification for their policy of neglect, isolationism and exploitation of the Territories' labour.<sup>19</sup> Ladouceur suggests that the recruitment of northern men for army and police as well as for labour in the south may have provided an excuse for the government's failure to invest in infrastructure and productive capacity in the north.<sup>20</sup> The neglect of northern development resulted in the pattern of migration from north to south becoming crystallized. The economies of the Gold Coast, Asante and Northern Territories had been gradually restructured by the colonial system. The Northern Territories provided the labour reserve for the development of the south and received the benefit of Pax Britannica and isolation from the twentieth century.<sup>21</sup>

The restructuring of the colonial economy resulted in marginalization, dependence and underdevelopment in the Northern Territories. Colonial policy provided modern facilities in education, transportation and communication and stimulated economic progress in the south while leaving the north traditional and without the means to advance towards modernization. Some migrant labourers to the south retained the option of returning to their farms to engage



in subsistence farming which they did periodically. These migrants were not drawn into a completely dependent position on the more modern economy emerging in the south,<sup>22</sup> as were migrants who remained permanently in southern employment. Yet the failure to develop the north economically, resulted not only in an inability of the north to cover its administrative costs, but also in a lack of capital for growth and development. This capital was destined to come from the south. While northern labour played a significant role in producing southern capital, northerners were shown little respect, being viewed from the south as unskilled labourers. This superior attitude of southerners, also a legacy of colonial policy, has continued to cloud relations between the north and south to the present. More significantly, the north, once structured into a position of dependence, has remained so in spite of efforts to bridge the gap between north and south.

Administration of the Territories was separate from that of Asante and the Gold Coast Colony; therefore, significantly different policies could be employed. The differences in policies related to natural resource development have been outlined, as has been the policy regarding human resources as labour for southern development. Northern peoples, disadvantaged in educational facilities in 1900, were not given much assistance to advance through colonial policies that aimed to keep the north traditional.



Christian missions which had played a significant role in educational development in the south, were resisted in their efforts to work in the north. Only when the administration found itself in need of educated people to work in auxiliary roles in the north, were government schools opened. In order that the next generation of chiefs might play a more active role in local administration, sons of chiefs were encouraged to attend school. Schools in the north increased from one with 66 pupils in 1910 to 16 with 1,630 pupils in 1940.<sup>23</sup> None of these schools were secondary schools. Indeed northerners were not directed to secondary or higher education and it was not until 1950 that the north had its first university graduate.

As northerners became aware of the neglected state of the Northern Territories compared to the south, the British were urged to increase investment in the north in order that in any union with the south the north might compete on a more equal footing. It was feared that independence without a period of intensified development of the north would result in a government controlled by unsympathetic southerners who "would never consent to divert resources from their home region in order to develop the north.... thus the north would remain forever subservient both economically and politically to southerners with no understanding of the north or empathy for its aspirations; the north would remain 'nothing more than a labour camp'."<sup>24</sup>





Northerners appeared more concerned at this time prior to independence with increased amenities and social services than with expansion of productive capacity, new crops and industries and increased productivity.<sup>25</sup> Educational facilities were increased so that by 1956, 14,604 students in the Northern Territories were enrolled in primary and middle schools. This number, however, represented only 2.5% of the total students enrolled in these levels in all three administrative areas.<sup>26</sup> Attempts to have the railroad extended to the Northern Territories were unsuccessful. Nkrumah, as prime minister in the Legislative Assembly during the 1950s, preferred to funnel financial resources into the proposed Volta River project, perceived as economically viable and a potential basis for industrialization in the country.<sup>27</sup> The north made some gains in agriculture through increased extension services under the First Development Plan 1951-1957. However, expenditures allocated by region under the plan for the north amounted to only 12% of the total, even though 20% of the population lived there.<sup>28</sup> In spite of the efforts of a literate and articulate group of northerners bargaining for gains before the north would enter an independent Ghana, the colonial pattern in which the north remained outside the sphere of modern development except to supply labour to the south was not substantially altered.



### Difficulties in Altering Colonial Patterns

The colonial legacy in Ghana was an economy dependent on cocoa, timber and minerals as foreign exchange earners in the international market. Nkrumah's ambitious plan was to bring about industrialization and to expand and extend social services throughout the country. Although some minor agro-industry was established in the north with limited success, the major industrial development after 1957 was in the southern triangle of Kumasi, Takoradi-Sekondi and Accra-Tema. The hinterland was organized for production of primary products and food crops to support this urban industrial area and to supply labour to it. Agriculture, described by the Watson Commission in 1948 as the Cinderella Department in the Colonial Administration, had received small annual expenditure relative to the revenue of the country and to the value of agricultural exports. Moreover, advanced education and research in agriculture had not been sufficiently encouraged.<sup>29</sup> Development plans of the 1950s and 1960s emphasized increased agricultural productivity along with industrial expansion, but the overly ambitious programme of economic and social development adopted by Nkrumah's government depleted foreign exchange reserves and resulted in serious balance of payments difficulties.<sup>30</sup> Consequently the government came to rely more heavily on cocoa earnings in any given year to carry out development programmes. Cocoa farmers were exploited by domestic cocoa prices paid



arbitrarily to them by the Cocoa Marketing Board which did not give sufficient heed to increasing inflation. The cocoa farming sector was affected by lack of research and failure to supply inputs into cocoa farming areas. Nevertheless, cocoa continued to be the main export of Ghana although other more efficient producers took the lead in world production by the late 1970s.

The dependency on cocoa and other primary products for export earnings has had an extremely adverse impact on the Ghanaian economy during the last decade of increasing oil prices. When oil costs escalate, a small country like Ghana must reduce oil and other imports as well - imports upon which the development of the country has been based, e.g. machinery, construction material, transport vehicles, food. The failure of the colonial government to build a railroad to the north has resulted in north-south trade being crippled by the deterioration of roads and motor transport and the erratic fuel supply to the hinterland. The very substantial increase in northern production of food stuffs and livestock and its sale to markets in the south since the second world war<sup>31</sup>. has been curtailed by these oil related problems. The inability of the government to supply imported technical inputs to the tomato cannery in the Upper Region has meant that the factory has been frequently out of operation at the peak of the tomato season with resulting wastage. Development efforts, like the URWSP are under-



mined by the failure of government to supply parts for successful maintenance of the pumps.

Undoubtedly, regional disparities as existed in Ghana at the eve of independence are not easily overcome. We have seen at the beginning of this chapter that geographically the north was somewhat isolated and its natural resources suitable for exploitation were not as varied as those in the south. Colonial policy which encouraged isolation of the traditional north failed to develop both natural and human resources in the area. Nevertheless, northern leaders pressed for increased northern development prior to and after independence in areas of education, transport and communications and industry, health facilities, and the provision of water for agriculture and human consumption.<sup>32</sup> Although the economic returns to resources diverted to the north "would likely be significantly lower than their opportunity costs in the southern part of the country,"<sup>33</sup> it was politically expedient for the Nkrumah government to temper those economic forces established in the colonial period which had resulted in such acute disparity in levels of welfare between the north and the south. While northern development was not a high priority for the central government in Accra, definite progress was made in the north particularly in education. The number of schools at primary, middle and secondary levels increased as did enrolment as follows:<sup>34</sup>





Students enrolled in schools in northern Ghana (Northern and Upper Regions) as a percentage of total enrolment in Ghanaian schools:

	1950/51	1970/71
Primary	1.8	6.3
Middle	1.9	6.3
Secondary	1.1	5.7

A programme of special scholarships for northerners established by the government encouraged increased attendance at secondary and post secondary institutions; as a result of this programme, northerners made up 7% of the 2500 students at the University of Ghana in 1970.<sup>35</sup> These scholarships still exist and cause some resentment among southern tax payers. Northerners insist the scholarships are essential for the north to catch up, and are justifiable, not on the basis of taxes paid by northerners, but on the basis of northern labour used to bring about southern development. The north is dependent on resources for development not only from the south, but from abroad as well. Major foreign aid contributions have been made in the last decade in the Upper Region Water Supply Project, the Upper Region Agricultural Development Project and the Northern Region Rural Integrated Programme. Whether or not these projects will advance northern Ghana compared to the south remains to be seen. Table 2.1 adopted from Ladouceurs's Socio-Economic Indices of Development by Region 1970 adequately illustrates the extent to which the north was lagging in development.<sup>36</sup> At the



Table 2.1

## SOCIO-ECONOMIC INDICES OF DEVELOPMENT BY REGION, 1970

Region	1 % of total population	2 % of recorded employees	3 % of adult males in agriculture	4 No. of manufacturing industries	5 % of population aged 6-14 attending school	6 % of population aged 6 and over who had ever attended school	7 Doctors per 100,000 population	8 % of population served by water supply	9 % of electricity consumed
Greater Accra	9.9	—	11.9	526	73.0	64.5	27.0	85.9	62.2
Eastern	14.8	47.2	58.7	36	70.1	53.4	3.7	29.4	6.6
Central	10.4	7.1	66.2	17	60.1	43.7	2.7	29.2	2.4
Western	9.0	16.6	51.1	35	65.4	47.9	7.4	40.9	14.0
Volta	11.1	4.1	66.9	6	60.3	47.4	2.5	30.4	0.7
Asante	17.3	16.1	53.3	119	71.6	51.5	4.9	32.3	12.3
Bronx-Ahafo	8.9	3.0	76.8	6	55.9	38.9	2.6	38.2	0.7
Northern	8.5	3.3	83.4	2	17.3	11.1	2.9	26.2	1.1
Upper	10.0	2.7	83.2	1	19.3	12.1	1.4	13.4	0.2
Total/Average	100.0	100.0	59.3	748	58.1	48.1	5.9	31.9	100.0

Sources: Cols. 1, 3, 5, 6 - Ghana, Census Office, *1970 Population Census of Ghana*, Accra, 1972, *passim*.

Col. 2 - Ghana, Central Bureau of Statistics, *Labour Statistics*, 1970, Accra, 1973, p. 5.

Col. 4 - K. B. Dickson, 'Development planning and national integration in Ghana', in D. R. Smock and K. Bentsi-Enchill, *The Search for National Integration in Africa*, New York, 1975, p. 107.

Col. 7 - M. J. Shapston, 'Uneven geographical distribution of medical care: a Ghanaian case study', *Journal of Development Studies*, viii, 2, 1972, p. 206.

Cols. 8 and 9 - Moses Danquah, *Ghana Economic Review, 1972-73*, Accra, 1973, pp. 20, 89.

Source: Paul A. Ladouceur, Chiefs and Politicians: The Politics of Regionalism, (London: Longmans Group Ltd., 1979), p.259.



best of times, educated and trained personnel are reluctant to work in areas lacking water, electricity, medical and educational facilities. The decline of the Ghanaian economy over the past decade has resulted in an exodus of skilled people from the institutions and facilities built in the north since independence. While all of Ghana has been affected by deteriorating economic conditions, it is unlikely that significant development gains have been made in the north relative to the south.<sup>37</sup>

Clearly, successive Ghanaian governments have not altered considerably the economic patterns established by the British Colonial administration. Diversification of the economy has not changed the position of cocoa as the primary foreign exchange earner for Ghana. Dependency on one major colonial power has been broadened so that Ghana now has a variety of trading partners and financial arrangements with a number of foreign banks and aid agencies. Nevertheless, a dependency of a new sort exists in this form of development. In spite of government efforts to make improvements in the hinterland regional disparities remain. The north continues to be dependent on southern resources. The relative underdevelopment of the north structured by the colonial policy that used the north as a labour-reserve,<sup>38</sup> but provided little in exchange remains a socio-economic reality. The northern part of Ghana is still to a great extent traditional and undeveloped,



most of its people living on the periphery of the modern world.

Impact of Colonialism on the Position of Women in Northern Ghana

In the colonial period, little attention was given to women, although as we shall see, women were essential to the traditional mode of production. The impact of colonialism on women, largely negative, resulted from this neglect and from policies directed towards men. These policies designed to serve the administrative and commercial interests of the British Empire rather than the needs of northern peoples resulted in hardship in the north and underdevelopment relative to the south. Administrators raised in a patriarchal British society brought with them to Africa a perception of women as homemakers. Therefore, men were taught to participate in new roles rather than women. In Barbara J. Callaway's study of Akan women in southern Ghana, she concludes that, in spite of women's high position in traditional society, "Women's disadvantaged position is the result of practices which rest on cultural and institutionalized attitudes introduced into Ghana by male colonial agents, traders and missionaries."<sup>39</sup> This conclusion is too simplistic when applied to patrilineal northern societies in which women hold a subordinate position. However, women, though subordinate to men in the public domain were respected within their own societies not only





as reproducers but as producers as well. Failure by policy makers to adjust their patriarchal view of women to see the reality of women's position within their own patriarchal system results not only in neglect of women but also in limited success of innovative measures being introduced to these societies.

Before proceeding with the analysis of the colonial impact on women in northern Ghana, I shall outline in some detail the position of women within traditional society, as it existed in the colonial era and as it continues to exist in villages in the north to the present. For even though migration has continued to draw off many young men and women, the region has been left with its traditional values, forms of production, and political institutions which were together mobilized to maintain survival at the subsistence level.<sup>40</sup> A complete understanding of the position of women within their own society is essential in order to follow my argument on the underdevelopment of women not only in the colonial period, but in present development projects as well.

### I Position of Women in Traditional Society

Agricultural production has been the backbone of the northern Ghanaian economy and both men and women participate in production. A distinct division of labour based on gender exists and children learn at an early age what



particular tasks will be theirs as adults. Although male/female tasks vary a little from one traditional area to another, the labour complementarity existing between men and women results in a dependence of each sex on the other.

The position women hold in their society has been described in both positive and negative terms.

Rattray's anthropological study of northern tribes, published in 1932, emphasized the superior value placed on males over females among the Nankanse, (one of the Frafra tribes of Bolgatanga District), and quoted a Nankanni man as follows:

When you are old enough to have a son, but have not got one, your neighbours will not respect you; they will call you a worthless thing.

If he has a son and he is only yet a boy, he is better than ten big daughters.

When a Gorena (Nankanni) man marries, he wishes, if God consents, to beget plenty male children, rather than female children. Why? Because the girls will scatter to people's houses (as wives).

When a man has many sons, corn cannot fail in his house (more land is farmed).<sup>41</sup>

Sons are essential to maintain the lineage, to perform the funeral rites of the parents and to carry out sacrifices to the ancestors. Yet it was recognized that daughters bring in brideprice in the form of cows; if a family has only male children it is difficult to get the cows to acquire wives for these sons. Thus, daughters bring wealth to the house in the form of livestock, and if a man has no sons, he may keep his daughter at home where she will not



marry, but will bear a male child for her father's lineage.<sup>42</sup> Among the Nankanse, a man's property may be divided into family and private property and his two distinct heirs are his brother and his eldest son. Women and children are considered family property because the wives are paid for from family property (cattle); therefore, they would be inherited by the brother of the deceased.<sup>43</sup> The married woman, however, may own property independently of her husband in the form of goods she brings with her on marriage and any profit she makes on crafts or other trade. When she dies, her daughter will inherit her beads and other female belongings while her son will inherit any livestock she may have acquired.<sup>44</sup> Women in this description are moved from one household to another as possessions of men, but are valued for their child-bearing qualities. Through their right to own property and to control its dispersal, women retain some independence in the household economy.

Although women are expected to provide essential items for their children through their labour, the certain degree of economic independence indicated above has been stressed by some writers as an advantage African women have over western women, traditionally dependent on their husbands for support. Unquestionably, the Southern Akan woman, whose matrilineal societal structures provided status and greater independence, moved easily into dominant positions in marketing, as commerce expanded; some women have become



independent owners of cocoa farms. The matrilineal system among the LoBir of northern Ghana is credited in part for the independent spirit of women; by maintaining the right to a home in the matriline, women of this tribe need not subject themselves to their husbands as do women without this channel of escape. However - the right of the husband's lineage to any children born to his wife is a factor binding her to her husband's home. The matrilineal system provides a basis for circulation of wealth and in this system, women play a significant role. Through the processing and cooking of grain and the brewing of beer which are female prerogatives, women not only exert great power over men, but amass readily moveable wealth as well, wealth which moves to the brother's house and cements this important relationship in the matrilineal line for the woman.<sup>45</sup>

Anthropologists seem to agree that patrilineal systems, such as exist among most northern Ghanaian people, allow women less independence and political power than do matrilineal systems.<sup>46</sup> Normally, the tendana or land priest, found among northern tribes is male (Rattray mentioned female tendana among the Namnam but this seems rare)<sup>47</sup>. Decision making on most serious matters in the society is carried out by men,<sup>48</sup> (though elderly women may be consulted)<sup>49</sup> and women are excluded from any effective role in most religious, jural and political matters.<sup>50</sup>

Although the highest respect is paid to women as bearers of children, women receive respect also as their





age increases, and for the performance of tasks in the house, on the farm and in the market. The household's survival depends upon this performance just as it depends upon the activities of men being carried out successfully.

Thus, it is true to say that certain authority over women exists, first by the fathers over their daughters, and second by the husbands over their wives.<sup>51</sup> The woman's working power comes under the authority of the husband, but only as it applies to specific tasks related to household functioning. Some work done by women alone has little interference from men. Where men and women work together in agriculture, men have more input into women's use of time,<sup>52</sup> but women would have some decision-making power as well as noted above. Moreover, women retain the right to use their energy in other tasks that lead to individual betterment (crafts, trading, shea butter production, etc.). Marriage in this society is a reciprocal arrangement with benefits for both the husband and wife. The woman benefits from the husband's obligation to protect and care for his wife by providing her with a home, food and health care. In addition, he must satisfy her sexually; bearing children provides a woman, not only with status, but also with a certain economic autonomy as she then acquires a room of her own in which profits of her individual labour may be stored.<sup>53</sup> The authority of the man, therefore, is tempered by the rights a woman has to certain care and services from her husband, and by some freedom over her own time and energies, resulting perhaps in limited economic independence. A woman, whose marriage is



intolerable, may return to her father's house or take up residence with another man. We can conclude that women in the traditional, patrilineal societies of the Upper Region of Ghana come under the authority of men. This authority, however, is tempered by the common interests of men and women that create a sense of mutual moral obligation, resulting in reciprocity and co-operation in the domestic family.<sup>54</sup>

#### The Patriarchal Model Applied

Can this society be described as patriarchal? Returning to Iglitzen's model of patriarchy, we can examine the attitudes indicative of patriarchy to determine if they are evident in patrilineal societies of the Upper Region.

1. Sexual division of labour reflects natural differences between men and women.

One of the earliest descriptions of northern village life is Rattray's. Outlining a day's work among the Nankanse, he shows men and women doing the following tasks:<sup>55</sup>

Men	Women
remove logs from entrance way	sweep rooms and yard
milk cows	fetch water
issue grain rations	pound and grind grain
take cattle to graze (boys)	boil water, make porridge
grow tobacco (dry season)	make baskets for carrying corn, tobacco, etc.
carry fowls to farm	make brooms and mesh nets
hunt (dry season)	make mats
cut down stalks of grain	cook
make fish nets	plaster walls
make baskets for carrying food	beat floors
catch fish in nets and traps	make shea butter
pound tobacco	brew beer



bring cattle home and milk cows  
 sell goats, sheep, and guinea  
 fowls in the market

sow  
 collect harvest  
 chase birds off farm  
 spin cotton  
 plant fibre used for  
 attire  
 collect firewood  
 catch fish by splashing  
 pools dry  
 sell corn, shea butter,  
 groundnuts, fowls,  
 corn cakes in market

We see that men were concerned with the security of the home, the care and resources of livestock, hunting and fishing. Moreover, the heavy work of cutting down the millet stalks was theirs, and the control of grain from the harvest was in their hands. The growing of tobacco in the dry season was done by men though both men and women processed and smoked it. Women were concerned with cleanliness, order and some maintenance of the home, They were responsible for water and fuel supply and for processing all the grain for food and beer. Certain handcrafts (spinning, basket-making, mat making) were their specific tasks, and marketing of food items and fowls was done by them. Women participated in agriculture, had responsibility for providing leaves for their attire, and sometimes fished using their own distinctive technique.

In relating his observations on the economic and property relations of spouses among the Tallensi, Fortes summarized women's work as follows:



She must perform the indispensable domestic tasks connected with the preparation of food for the household, the provision of water supplies, the care of the home and of the children and so forth. She must help him with the sowing and the harvesting of his crops which cannot be done without the assistance of women. He can command other services from her. For instance, nowadays, he can send her to buy grain for him in distant markets and sell it for him in the home market.<sup>56</sup>

There is evidence here to uphold Iglitzen's first criterion. Women as childbearers are responsible for child care and tasks within the home related to sustaining the family. Men traditionally have used their greater physical strength to hunt, rear large animals and do the heavier farmwork. Yet the demands of children have not kept women bound to their compounds. They participate in agriculture, go frequently to market and may walk long distances and carry home heavy loads of firewood or water for household use. Reference has been made in chapter one to the physical endurance required for these tasks; some understanding of why women do these debilitating tasks may be found in the belief among the LoBir that women have stronger spines than men, and, therefore, can carry heavy loads better.<sup>57</sup> In sum, there appears to be evidence that society in the Upper Region upholds the attitude that the division of labour is based on natural differences between men and women.

2. Women's identity comes through their relationship with men.
3. Women achieve their highest fulfillment as wives and mothers.





In patrilineal societies of the Upper Region a woman is born into her father's lineage. She is married into her husband's lineage and provides children for that lineage. Few women do not marry; it is important to marry, but it is of utmost importance to bear a child. A woman's position in her husband's family home is cemented by the birth of a child. "To every woman, therefore, her own children are the most complete incarnation of her own social self, of her autonomy and status in the family and of the differentiation of her dug (room) from those of her co-wives."<sup>58</sup> Women I interviewed who had no children appeared ashamed and very sad, because they had not realized the ultimate purpose of life for a woman in that society.

4. Women are childlike and need protection of males.

We have seen that a man is obliged to provide protection for his wife when he marries. He gives her shelter in his father's or in his own home, and keeps the house safe at night from prowling animals. In Tale society as well as in other northern societies, women are considered as minors both jurally and ritually; they play only minor roles in the rituals at shrines belonging to men. Her Yin (individual destiny) is "subordinate to and submerged in her father's or her husband's Yin".<sup>59</sup> A woman is protected because she is a bearer of children for the lineage and is a part of a man's wealth for brideprice has been given for her. She is expected to have sex only with her husband, though monogamy and fidelity in marriage is not required of a man. Thus men pursue other married women and since



"all women, according to the men, are fickle and gullible, a plausible suitor can seduce any woman".<sup>60</sup> Obviously, under these circumstances women are protected by their husbands. However, they are not kept in seclusion, going independently for water and firewood and to market and being permitted to visit among their own families when time allows.

5. Women are apolitical, preferring the private sphere to the public.

"Life is a failure to a Tale woman who never becomes a wife and mother".<sup>61</sup> A girl is raised knowing that she will leave her parents' home and move into her husband's family home located in a community in which she has no rights or ties. A girl's training begins early in life when she assists her mother in child care and household tasks. Thus she learns her role in life in a gradual manner so that it becomes natural to her. No significant positions in the village apart from the head woman, are held by women; a girl grows up knowing that her significance lies in her female nature and in her learned ability to carry out the tasks which women do. Having no examples of women in public positions and no opportunities herself to hold these, she accepts her role in which the household is "the supreme and almost sole domain of her labour and life".<sup>62</sup>

Clearly, the patrilineal societies of the Upper Region may be classed as patriarchal. Certain aspects of public, religious, social and economic life are closed to women. Yet women are valued and have their own distinctive role



within the society. The balance that exists in male/female relations of production and reproduction however, is not immune to change. Therefore, intervention by outsiders must be based on a clear understanding of the traditional society being entered. A clear understanding of the different values regarding men and women held by the outsiders themselves could affect the outcome of the intervention and alter women's position in the society. Interventions in patriarchal societies such as those of northern Ghana should not undermine the position of women already subordinate to men by imposing different patriarchal attitudes from outside.

## II Colonial Neglect of Women

Prior to the British take-over of the Northern Territories, the area was open to the influence of the Asante power. Traders from other parts of West Africa provided contact with a wider world. However, it was only with British rule that the diverse peoples of the north were organized into a homogeneous unit for administrative purposes. The policy of leaving the north traditional and underdeveloped while using it as a labour reserve has been detailed. How did this colonial policy affect women?

The forcible withdrawal of large numbers of able-bodied men from northern tribes resulted in a distortion of the local economy. The distinct division of labour already described showed that the more arduous tasks of



clearing the land, digging wells and building roads was performed by men. While men shared with women the cultivation of crops, the absence of many young men could only result in a decline in food production. Original migration from the north had a seasonal pattern, but this did not persist. Young men were often absent from their families for years. The cash flow from migrants to the south while sufficient to adversely affect local commercial production and to establish the practice of purchasing certain commodities from local stores, was not adequate to permit the acquisition of modern instruments of production and food production gradually fell.<sup>63</sup> Most women remained in the villages, carrying out their essential tasks and trying to maintain their children on a diminishing food supply.

Women no doubt were better off spared the conditions of labour in the south to which men were subjected.<sup>64</sup> But if the government policy was to leave the north traditional, women were to be left the most traditional of all. Men were drawn into the army and police force, and when it became apparent that some educated northerners were necessary to serve the British administration, it was the boys and not the girls who were enrolled in government schools.

Traditional societies in northern Ghana reluctantly saw their sons go off to school. Parents were afraid that





"When their boys learn to read and write, they will not be content to return to live with them again".<sup>65</sup> But boys remained within the village while girls left their father's homes to marry into other lineages. To obtain a substantial brideprice for girls whose formal education resulted in their being proud and lazy would be difficult for the parents of such girls.<sup>66</sup> It was deemed preferable for girls to remain at home receiving informal education by the adult females of the society in order that all the traditional work skills be well developed in the girls before their marriages. Since much of the training was in the form of apprentice-labour, in which girls performed farm work, trading and child care, formal education which took girls away would have deprived the society of this work force. Without modernization of agriculture, the loss of girls' labour would have resulted in a reduction in food production.

Traditional patriarchal societies in northern Ghana tended to protect women from exposure to colonial influences seen as detrimental to social cohesion; nevertheless women could not escape the consequences of the colonial labour policy which left women to carry on without the help of considerable male labour upon which the traditional mode of production was dependent. While the Chief Commissioner with great reluctance permitted the White Fathers to establish a school for boys in Navrongo,



he resisted strongly their proposal to open a nunnery for work among women until influential Catholics in England intervened.<sup>67</sup> Gradually some boys were enrolled in schools, a few even attending Achimota College in the south. Education for girls equal to that of boys was not encouraged, and consequently the number of educated women in the north lagged considerably behind the number of educated men. Male administrators, unaccustomed in their own societies to treating women as equals, were scarcely in a position to urge equal participation for girls in educational institutions and in administrative positions in the Northern Territories. Reference has already been made to the administration's attitude to women as unlikely participants in modern shea butter production which was never developed in the Territories. Indeed, the usual practice of the colonial period was to encourage men to engage in cash<sup>e</sup>arning activities even if those activities traditionally were the prerogative and responsibility of women.<sup>68</sup>

The expansion of educational facilities in the north during the decade prior to independence resulted in more young people attending school. However, the initial advantage of boys over girls could not be overcome easily. Just as the north has had difficulty in bridging the gap in development that exists between the north and south so the gap between northern men and women remains. Though



women have an equal legal right to education in Ghana to-day, recruiting practices of the early colonial days and traditional attitudes and suspicions about formal education for girls have resulted in lower attendance of girls than boys at all levels of education in northern Ghana with percentages of girls in schools decreasing at higher levels.<sup>69</sup>

The position I have taken in this paper is that development programmes may result in undevelopment of women or underdevelopment depending on whether women are neglected along with men or left behind as men are offered opportunities that may intrude on and undermine women's traditional spheres of activity and influence.

I have emphasized the exploitive nature of migration of northern men to the south and the disadvantages accruing to northern society as a result of such migration. Nevertheless, it was men who were exposed to new experiences and modern advances. Men returned with cash to buy factory made cloth that made locally produced materials look inferior. Men received education and took government posts. Men served in the army some travelling to India and Burma in World War II. Most northern women during this period remained in the villages carrying on traditional tasks handicapped by the loss of male labour for essential food production. As it became apparent that educated men might want educated wives, some girls were encouraged to go to school. A larger number of women migrated to join their husbands or to seek labour themselves. Colonial policies generally



drew men out of their villages; women were neglected in this process and suffered from it. Though women were vitally important to the maintenance of northern society, women's traditional status was eroded by colonial policies that opened few doors for women to advance into the modern era.

In the next chapter I shall be examining the Upper Region Water Supply Project. This project was designed to improve life for villagers in the Upper Region who had long suffered from water scarcity. The plight of women as they had been forced to search for water for their families' use is graphically illustrated in many letters sent by chiefs across the region to the URWSP office in Bolgatanga requesting water.<sup>70</sup> Not only great physical demands were made on women when they walked long distances carrying heavy waterpots, but also great demands on time when nearby sources of water dried up or when women spent hours waiting for water to seep into dugout holes in stream beds. These hours spent fetching water resulted in other tasks being left undone. Since village men do not cook, household members suffered when women were absent from the home for extended periods on water-fetching activities.

The URWSP is a direct intervention into village life of the Upper Region. By providing drilled wells it has answered a need of all villagers for a more reliable and clean supply of water and has attempted to relieve the arduous task of water collection for women. Unlike





colonial policy which drew young men out of the villages, this project by improving village life should be a factor in retaining people in the rural area. But to what extent have project planners and implementers seen women any differently than did colonial policy makers? Have they seen women as equal participants in modern development or as traditional carriers of water?

Women continue to be responsible for household water supply and go daily to the drilled wells with their water pots to fetch water for family needs. When the pumps are working, the previous burden of water collecting is alleviated to a considerable degree. But now village men have become involved in water supply. The Water Utilization Project (which will be outlined in detail in the following chapter) has sought to involve villagers more in the upkeep of the wellsite and to train a man in each village to make simple repairs to the pump. The chiefs and elders with whom discussions about drilling the wells had been held plus the village pump repairmen are the contact people when district repairmen arrive to undertake more complex repairs to the pumps. Traditionally, as discussed above, the men would deal with public matters and greet visitors to the village, but women would be responsible for the technology of water supply (the sites chosen, the equipment used, the transport of water). The modern technology of the URWSP has come under the care and responsibility of men. Thus, the traditional interdependence of men and women based on a distinct division of labour is being



definitely altered. Whereas, previously men were totally dependent on women for water supply, now women have become dependent on men for repairs to the pumps with which they pump water. "Science and technology are not socially neutral. They do not necessarily serve the goals of equality and development unless they are consciously designed to do so".<sup>71</sup>.

In sum, women in northern Ghana generally have been marginalized by history and geography. Colonial policies of isolation for the north resulted in large scale discrepancies between levels of development in the north and south; moreover, males were encouraged to participate in the modern sector and females were not. When educational facilities were expanded in the north, females were less likely to attend schools than males. Patriarchal attitudes within patrilineal systems resisted changes in the role of women. Even in the post-independence period, the percentage of women in secondary school and post-secondary education is small, and access to better schools is limited for women. The village woman, living within the traditional society, continues to have status as a child-bearer and co-worker in tasks essential to household survival. The intervention of modern development projects like the URWSP may adversely affect the position of women when the balance of male/female reciprocity and interdependence is eroded. In addition, women may lose the independence they enjoy relative to use of time and resources if men gain entry



into areas of work traditionally belonging to women. Undoubtedly, new technologies can be beneficial to women; but the pattern of introducing technology only to men has too often resulted in a worsening position for women in society.<sup>72</sup>



Notes

1. From a set of maps published by the Survey Department. P.O. Box 191, Accra, Ghana.
2. Paul A. Ladouceur, Chiefs and Politicians: The Politics of Regionalism in Northern Ghana, (London: Longmans Group Ltd., 1979), p.20.
3. Ibid.  
Although attempts to develop the land in the north are underway through irrigation schemes, control of the tsetse fly and diseases like onchocerciasis, domestic water supply projects and regional programmes of agricultural development, it remains to be seen to what extent the major obstacles to land exploitation can be overcome.
4. Ibid. p.23.  
In spite of poor transportation and communication systems, northerners have moved south as migrants for generations. The psychological barrier may be stronger from south to north. A number of southern Ghanaian friends who had never been north were astonished that I should drive to Bolgatanga alone. They seemed to fear the vast empty spaces and the lack of facilities as well as the heat and discomfort of the dusty, dry season.
5. Ibid. p.25.
6. Ibid. p.24.
7. Ibid. p.33.
8. Capt. R.S. Rattray, The Tribes of the Ashanti Hinterland, (London: Oxford University Press, 1932).
9. Paul A. Ladouceur, Chiefs and Politicians, p.45.
10. As quoted in G.B. Kay, The Political Economy of Colonialism in Ghana, (London: Cambridge University Press, 1972), p.52.
11. Ibid., p.168.
12. Ibid. p.165.
13. Ibid., p.224.
14. Nii-K Plange, "Underdevelopment in Northern Ghana: Natural Causes or Colonial Capitalism", in Review of African Political Economy, Nos.15 & 16, May-Dec. 1979, p.9.





15. Ibid.
16. Nii-K Plange, "Opportunity Cost' and Labour Migration: a Misinterpretation of Proletarianisation in Northern Ghana", The Journal of Modern African Studies, 17.4, 1979. p.663.
17. David Kimble, A Political History of Ghana 1850-1928, (London: Oxford University Press, 1963), p.42.  
 Birmingham et al have determined that by the end of the colonial period, six times as many people had left the Northern and Upper Regions as had gone there- a total net migration of 157,000. Of these northern migrants to other regions, chiefly to Ashanti, Brong-Ahafo, Western and Central Regions, there were twice as many males as females.  
 Walter Birmingham et al (eds.), A Study of Contemporary Ghana, Vol.2, Some Aspects of Social Structure, (London: George Allen & Unwin Ltd., 1966), p.124.
18. Paul A. Ladouceur, Chiefs and Politicians, p.49.
19. Ibid.
20. Ibid.
21. David Kimble, A Political History of Ghana 1850-1928, p.554.
22. Rhoda Howard, Colonialism and Underdevelopment in Ghana, (London: Croom Helm, 1978), p.205.
23. Paul A. Ladouceur, Chiefs and Politicians, p.50.
24. J. A. Braimah quoted in Paul A. Ladouceur, Chiefs and Politicians, p.94.
25. Ibid. p.95.
26. Ibid. p.257.
27. Ibid. p.107.
28. Ibid., p.152.
29. G. B. Kay, The Political Economy of Colonialism in Ghana, p.234.
30. Walter Birmingham et al (eds.), A Study of Contemporary Ghana, Vol. 1. The Economy of Ghana, p.27.
31. Paul A. Ladouceur, Chiefs and Politicians, p.256.
32. Ibid., p.209.



33. Walter Birmingham et al (eds.), A Study of Contemporary Ghana, Vol.1, p.105.
34. Paul A. Ladouceur, Chiefs and Politicians, p.257.
35. Ibid., p.258.
36. Ibid., p.259.
37. The improvement of urban water supplies in three major towns in the Upper Region through the URWSP has been undermined by the shortage of diesel fuel to keep pumping equipment used to maximum capacity. Production of electricity is also curtailed by lack of fuel to run generators.
38. Nii-K Plange, "'Opportunity Cost' and Labour Migration", p.657.
39. Audrey Chapman Smock, "Ghana", in J.Z. Giele and Audrey Chapman Smock, Women, Roles and Status in Eight Countries, (New York: John Wiley & Sons, 1977), p.182.
40. Nii-K Plange, "'Opportunity Cost' and Labour Migration", p.676.
41. Capt. R.S. Rattray, Tribes of the Ashanti Hinterland, pp.137-138.
42. Ibid., p.161.
43. Ibid., p.267.
44. Ibid., p.271.
45. Barbara L. Hagaman, Beer and Matriliney: The Power of Women in a West African Society, draft of a PH.D. thesis, 1977.
46. Audrey Chapman Smock, "Ghana", p.178.
47. Capt. R.S. Rattray, Tribes of the Ashanti Hinterland, p.371.
48. D.R. Mickelwait et al, Women in Rural Development, (Boulder, Colorado: Westview Press, 1976).
49. Gera Breebaart, "Women and Agricultural Development: Report of a Field Study on the Integration of Women in Extension Programs", (Navrongo/Leiden: 1977), p.37.



50. Meyer Fortes, The Web of Kinship Among the Tallensi, (London: Oxford University Press, 1949), p.99.
51. Ibid., p.101.
52. Ibid., p.105.
53. Ibid., p.100.
54. Ibid., p.105.
55. Capt. R.S. Rattray, Tribes of the Ashanti Hinterland, pp.337-338.
56. Meyer Fortes, The Web of Kinship Among the Tallensi, p.131.
57. Barbara L. Hagaman , Beer and Matriliny.
58. Meyer Fortes, The Web of Kinship Among the Tallensi, p.131.
59. Ibid., p.228.
60. Ibid., p.85.
61. Ibid., p.84.
62. Ibid., p.47.
63. Nii-K Plange, "'Opportunity Cost" and Labour Migration", p.673.
64. Ibid.  
Plange relates that conditions for miners were particularly hazardous to health with the result that both tuberculosis and silicosis became widespread. The Commission to investigate the conditions reported that 'the returning tuberculosis ex-migrant must do much to spread the disease in his community, especially in the absence of any adequate health facilities in both the mines and his community'.
65. Quoted in David Kimble, A Political History of Ghana 1850-1928, p.79.
66. Jeanne North et al, Women in National Development in Ghana, (USAID/Ghana, 1975), p.105.
67. David Kimble, A Political History of Ghana 1850-1928, p.81.
68. Audrey Chapman Smock, "Ghana", p.184.



69. The Regional Education Office in Bolgatanga reported the following figures for Upper Region schools 1978/1979 in February, 1980.

Level	No. of Schools	Boys Enrolled	Girls Enrolled	Total
Primary	343	36,317	18,508	54,825
Middle	147	8,094	4,265	12,357
Secondary	17	5,313	1,393	6,706

70. The following examples express the genuine hardship faced by villagers in trying to obtain water both for household use and for their animals.

"During the dry season women have to go for two miles before they get water to fetch. Most people suffer to get water for drinking and bathing and our animals die due to water problems." - Chief of Agusi

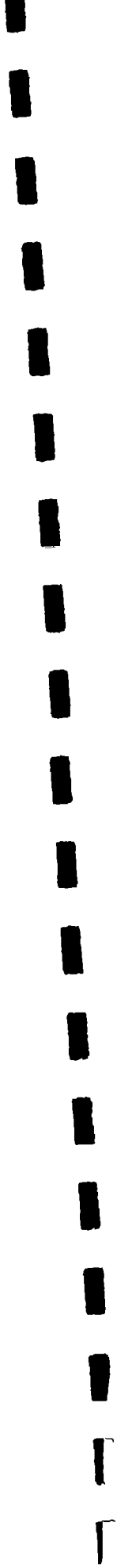
"Women spend sleepless nights at the streamside during the shortage time (March to June)." Chief of Lungu

"Our women and children travel to the nearest river which is about five miles away to collect dirty water for drinking and other use. As a result of this, most people in the village are down with guinea worms every rainy season, others are attacked by bilharzia."

- Dua

"They have to go to a far distance to get water for drinking and cooking their meals. Their animals too do not get water to drink. These hinder their domestic duties and some even fail to prepare their evening meals." - Tangabisi

71. Mildred Robbins Leet, "Roles of Women: UNCSTD Background Discussion Paper", in Roslyn Dauber and Melinda L. Cain, Women and Technological Change in Developing Countries, p.229.
72. Irene Tinker, "New Technologies for Food-Related Activities: An Equity Strategy", in Roslyn Dauber and Melinda L. Cain, Women and Technological Change in Developing Countries, p.83.





## Chapter III

### UPPER REGION WATER SUPPLY PROJECT

With the signing of a memorandum of understanding and a loan agreement by representatives of both the Canadian and Ghanaian governments in July, 1973, the Canadian International Development Agency (CIDA) agreed to undertake with the Ghana Water and Sewerage Corporation (GWSC), Phase I of the Upper Region Water Supply Project. This commitment to improve conditions for people of the Upper Region of Ghana has continued to the present time. CIDA's original role in Phase I and II of the URWSP evolved into participation in a Water Utilization Project, a Public Health Project and a Maintenance Project. This chapter will trace this evolutionary process to illustrate how initial inputs proved unsatisfactory in achieving the objectives cited in the Memorandum of Understanding. It will be argued that the implementation of this project resulted in a neglect of village women. The significance of women to water supply and the particular benefits of the URWSP to women were noted in documentation related to the project, but women were not singled out for a special role in the project. All the people of the target area were considered as beneficiaries as indeed they were; however, the bias towards men in development has resulted in some men acquiring training and skills in women's tra-



ditional work areas while women were not offered training in these areas nor in any others.

The URWSP was the first large scale development project undertaken with the assistance of a foreign aid agency across the Upper Region of Ghana. In this period before basic needs were articulated as a sound approach to development, the URWSP was a new avenue for CIDA to assist in providing reliable and safe water for most people of the Upper Region - a need that had always been evident but which had not been addressed by the government of Ghana on a regional basis before. Moreover, the provision of a safe water supply for a rural population living in a scattered settlement pattern across the region was noteworthy, since funds for water supply tended usually to be directed to clustered settlements.<sup>1</sup>

The objectives of the Upper Region Water Supply Project Phase I (400/00134) were:

To make available in adequate quantities a clean and hygienic supply of water to the majority of people living in Northern Ghana thereby a) contributing significantly to the improvement of their health and to their productive capacity; b) opening up new opportunities for development; and c) providing the Ghanaian Government with the capability to operate, maintain and expand water supply systems generally.<sup>2</sup>

The majority of people in the Upper Region of Ghana live in villages and the focus of my study has been the socio-economic impact of the URWSP on the lives of village women. However, Phase I of the project had an urban as well as a rural component. Approximately 22% of the original estimates of foreign exchange costs were ear-marked



for urban water supplies and 55% approximately for rural supplies. The project at this stage was seen largely as a technical one though \$55,000 or 2% was budgeted for a maintenance and training programme.<sup>3</sup> The urban component consisted of the improvement and expansion of water supply systems in Bawku and Wa with a similar programme for Bolgatanga if justified by feasibility studies. In the rural component, 1300 wells were to be drilled, using modern drilling rigs and required support staff and equipment, and handpumps were to be provided. GWSC workshops in the region were to be upgraded and equipped, and Ghanaians were to be trained in the operation and maintenance of the equipment and pumps.<sup>4</sup>

The technical emphasis on water supply continued with Phase II (400/00604) of the Upper Region Water Supply Project (1977-1983) which was essentially a programme to complete the facilities begun in Phase I or to extend them further. Thus Phase II included:

- a) Completion of the urban waterworks systems begun under Phase I.
- b) Extension of the rural borehole/handpump programme to a total of some 2500 wells
- c) Design and construction of mechanized water supply and distribution systems at 40 rural communities throughout the region, and
- d) Construction of a surface water supply and treatment system for the city of Wa, where it has been determined that ground water supplies are inadequate.<sup>5</sup>

In addition to the estimated costs for the drilling of wells and construction of the urban works begun under Phase I, costs for a well maintenance programme and for



2500 heavy duty handpumps for Phase II wells and for replacement of pumps installed in Phase I appear in the estimated costs for Phase II. These two features, the well maintenance programme and the pump replacement programme, indicate that the human aspect of water development has appeared as a more prominent feature in the URWSP which had had until this time mainly a technological character. Indeed, the funding of Phase II by CIDA was conditional on the addition of a community involvement project in the Upper Region in order to increase the interest of villagers in looking after their own wells and pumps as much as possible. Appropriate training for villagers was a further condition.<sup>6</sup>

It is not surprising that the Project Review Committee of CIDA should put these conditions on further funding of the URWSP. We have seen in the literature survey in chapter one that benefits anticipated of new or improved water supply systems have a greater chance of realization when those people being served by the systems become involved in the provision of the supply and in its maintenance. Moreover, an educational component which may alter habits that negate a pure supply will insure increased benefits.

CIDA hired consultants to visit the URWSP and to recommend ways of involving people of the Upper Region in the new water supply in order to increase benefits of the





system to them. A Report to CIDA on the Upper Region Water Project, January, 1977, (known as the Hall-Merriman Report) criticized the programme in Phase I for failing to involve villagers substantially in the water supply project. At the beginning of Phase I there had been some minimal involvement of villagers. The Report recommended that the practices involving villagers should be reinstated, and that the whole process of drilling wells and installing pumps be used as an educational instrument for villagers.<sup>7</sup> A procedure was charted which included a preliminary meeting with the chief, a visit by the geologist and an announcement of the arrival of the drilling team by an information officer. The villagers would be informed about drilling and installation procedures, and of the importance of backfilling the site and keeping it maintained in the future. In addition, villagers could be given responsibility for keeping the straw on the poured concrete moist while it was curing and be taught how to use the pump correctly.

The implementation of Phase I had resulted in an attitude among villagers that the wells did not belong to them. They felt that GWSC had provided the service and any problems related to the water supply were to be solved by GWSC. To overcome this problem, the report recommended that some person in the village be chosen to look after the site and the pump. Furthermore, it was recommended that village workers be hired to assist in the



process of village mobilization along with village committees and the village pumpmen in order to teach the use of the pump, maintenance of the pump, basic health practices, uses of water and site sanitation. It was noted that by Ghanaian legislation, Village Development Committees may be established; the Report suggested that these committees be used in implementing the above recommendations and should be composed of persons with special interests in matters related to health, water supplies and waste disposal, and would almost always include the village headman, the village pumpman, and key women in the village.<sup>8</sup> While failure to involve villagers sufficiently in the project was featured along with recommendations to overcome this fault, the report pinpointed some other problems which might prevent maximum benefits of the URWSP from accruing, such as:

1. Since a water source is selected largely on the basis of convenience, the drilled well may not be the source selected for use unless it is the only one available.
2. Surface water has been the common source in the past and may be preferable when available.
3. Villagers do not generally link pure water to absence of disease.
4. Personal bathing by adults is done within their compounds especially in the dry season. The distance to the source of water may determine the



level of personal cleanliness that is maintained.

5. The establishment of small dry season gardens at the pump site is limited to a few people. Those who live near the pump or have influence in the village may be the chief beneficiaries. Whether vegetables grown are used by the producers or are sold in the market may alter the pattern of beneficiaries as well.

In spite of the shortcomings of the project, Hall and Merriman concluded that changes could be made in procedures and an educational component could be added.

As the report states:

The constant supply of clean water to most of the villages affected is one of the most dramatic events in the history of the village. For villages that have been without a close water supply of any kind, the bore holes are nearly miraculous. By the same token, because of their dramatic nature, they offer a unique chance to do work of an educational nature.<sup>9</sup>

The URWSP to this point had been largely a technological programme of drilling boreholes and installing hand-operated pumps on them. Undeniably, villagers benefit from a reliable, safe and convenient water supply, but to maintain the reliability and safety of the water supply, it had become clear that villagers must become more involved in the water project. The project responsible for increased involvement of villagers in their water supply was the Water Utilization Project (400/00601), approved in July, 1977. Although this project was separate from the URWSP which provided urban and rural water supply



systems across the region, it developed from the observation that the provision of drilled wells and handpumps alone would not guarantee that the objectives of improved health and increased productivity would be realized. The Water Utilization Project (WUP), with its community development focus, came under the jurisdiction of the Ghana Water and Sewerage Corporation as did both Phase I and Phase II of the URWSP. Since both the URWSP and WUP had the same basic objectives, it seemed appropriate in my field research in 1980 and 1981 to examine the impact of WUP as well as the URWSP on the lives of village women, even though the WUP was in the process of experimentation and early implementation.

The objectives of the Water Utilization Project as listed in the early documentation were as follows:

- 1) ensuring continuity of water supply by a pump testing programme to
  - a) select the most durable handpump available
  - b) strengthen GWSC maintenance capacity and
  - c) instruct users regarding proper pumping methods and routine maintenance.
- 2) preventing contamination of the water supply
  - a) at source, by improvements to site development, including drainage patterns, and
  - b) by ensuring that water is properly stored and used through adult education programs.
- 3) introducing self-help projects to complement the water supply program (e.g. water conservation, sanitation, dry season gardening).
- 4) introducing sanitation and vaccination programs to combat the other major sources of disease in Northern Ghana. 10.

The inputs of the WUP differ significantly from the technical inputs of the URWSP. As was pointed out in chapter





one, certain outputs will be achieved with the provision of drilled wells, but only with the addition of other inputs will a greater range of positive outputs be seen for the target population. The expected outputs of the WUP were:

- a) Village user maintenance programme.
- b) Improvement to pump sites including improved drainage and backfill maintenance.
- c) Adult education programmes to ensure proper water usage and storage.
- d) Self-help Community Development projects to complement the water supply programme including:
  - i) Water conservation
  - ii) Sanitation
  - iii) Dry Season Gardening
  - iv) Animal Usage
  - v) Waste Disposal
  - vi) Water Storage.<sup>11</sup>

Although the URWSP had an urban component, the WUP outputs were for rural people in the villages across the Upper Region. (In addition it was expected that Ghanaian personnel involved in the project would acquire experience that would be relevant to and useful in water projects for rural people in other parts of Ghana). Apart from the fact that most people of the Upper Region live in villages, the WUP had a rural focus because the urban component of Phase I had not been completed and because specific problems in realizing benefits had developed in rural areas where the wells had been drilled successfully and pumps had been installed. The handpumps selected for use in villages of the Upper Region did not stand up to the constant use by villagers unaccustomed to handling such



technology. Thus the reliability of the water supply was threatened by the human factor. The safety of the water supply was also threatened by the human factor through contamination of the source itself or of the water in carrying pots or in storage containers in the home.

Of the four objectives of the WUP listed above, the first three fell naturally under the scheme of water development in the region. The fourth objective dealing with preventive health care seemed a more suitable task of the Ministry of Health rather than the Ghana Water and Sewerage Corporation. Thus CIDA became involved in a Public Health Project in Lawra District in the north western part of the Region. The original aim of the project was

to improve the quality of life and the productive capacity of the rural population through the provision of more reliable and competent primary health care at the village level. The project would train and equip village health workers and traditional birth attendants, improve transportation capacity of the health care system, and ensure an adequate supply of medicines and medical supplies for health care centres at different levels.<sup>12</sup>.

This project, designed to complement the URWSP and WUP, was cancelled in 1981 after one year of organization and experimentation because the Ghanaian Ministry of Health was unable to meet its obligations to the project.

Fortunately, some of the initiatives made in Lawra District by the two Canadians working on the project were utilized in Bolgatanga District when these workers were transferred to the WUP there.



The WUP is planned to continue until late 1984. CIDA has found its involvement in the Upper Region of Ghana has advanced far beyond the initial project to supply drilled wells across the region. The ventures into community development and health education have been experimental, demanding and often frustrating. The Government of Ghana, through GWSC, was to be responsible for recurring costs of the various water supply systems; however, the general economic situation in the country has meant that foreign exchange for replacement equipment and spare parts has not been readily available. CIDA is now embarking on another phase of the project, the Upper Region Maintenance Project (400/00807). "to improve the reliability of water supply systems of the communities of the Upper Region through enhancement of GWSC's maintenance and repair capacity".<sup>13</sup> Rehabilitation of mechanized pipe-borne systems in twenty-six communities is also part of the project. Largely a technical project with a training component, the Maintenance Project ensures CIDA's involvement in the Upper Region until 1986. CIDA has recognized that the construction of drilled wells with handpumps technologically beyond the maintenance of village people has resulted in a dependence of the rural people on a government organization, with its many other demands for funds, to keep these drilled wells functioning.<sup>14</sup> Moreover, severe economic constraints in Ghana result in a continuing dependence on foreign funding and expertise in the water supply project.



The target population for the rural component of the URWSP has been the villagers in the region. Although it was noted that women bore the burden of the time-consuming activity of supplying water to their households,<sup>15</sup> women were not designated as special beneficiaries in the project. The assumption was made that clean water would improve health and increase productivity of all villagers.

We have noted that involvement of villagers in the project was minimal in the drilling stage. However, as the project progressed, villagers were drawn in to assist in developing the well sites. Women, who carry headloads of material for house building purposes, brought the stones and other materials used for backfill, and the men did the digging and backfilling around the concrete pads. Children also participated in the activity. Once the pumps were installed, villagers were shown how to use them, and the pattern of water supply continued as before. That is, women brought their water pots and other containers to the new source, and carried the water to their compounds for household use.

When CIDA and GWSC recognized that the human factor would require greater consideration, and the WUP was begun, women were given no particular focus in the programme, even though the Hall-Merriman Report had noted that women as providers of water, make the decision as to which source of water is used. They also noted that





women try to obtain clean water if the source of such water does not entail too much extra effort.<sup>16</sup> The report stressed a real benefit to women in time-saving and foresaw an increase of other activities by women such as weaving of baskets and improvement of compounds.<sup>17</sup> There was no suggestion in this report that women might engage in dry season gardening with their released time, even though, as we have seen in chapter two, the production of vegetables has been traditionally part of female agriculture. Rather the report states that dry season gardens could provide farmers with a source of revenue during the normally unproductive dry season.<sup>18</sup> Farmers in this report would be understood as men. Thus, the significant role of women in vegetable production and other farm labour was ignored, and women's time is seen being extended in such areas as household improvement and handicrafts. All women are responsible for vegetable production for the daily soup; if women cannot provide sufficient dried vegetables in the dry season, then they must get money and purchase the necessary soup ingredients in the market. Dry season gardening, therefore, should have been seen as an obvious activity for women to whom some extra time had been released from water fetching chores. However, a precedent for men engaging in vegetable production had been set in the district in areas where dams such as the one at Bongo provided water in the dry season for irrigation purposes. Much of the



produce at Bongo Dam is sold for cash by the men and women occupied in the gardening. All of the seven chiefs I interviewed felt that men could grow vegetables as well as women, in order to provide food for their families or to sell for cash to buy food, clothes and other necessities. The greater leisure of men especially in the dry season may mean that some cash resources will be spent on local beer (pito) or other entertainment. Thus, the acquisition of cash by men in a women's traditional work area may not have as beneficial an impact on the household as the acquisition of cash by women. Studies on disaggregation of household income in other areas have shown that since women's income is most often used to buy food, "increases in this income tend to improve the quality and quantity of food, but increases in men's income do not. Meanwhile, increases in men's income tend to go to productive investments, consumer goods, or entertainment, and only occasionally to help out their wives with cash for food in case of emergencies"<sup>19</sup>.

The 'male bias'<sup>20</sup> of the Hall-Merriman Report is seen as well in relation to pump maintenance. As indicated above, the report recommends that some person be chosen to look after the pump and site. Thereafter, this person is referred to as the pumpman. The Plan of Operation for the Water Utilization Project which followed on this report refers to pumpmen only, and in fact only village men were sought to be trained in above-the-ground



maintenance of the pumps. The rationale of CIDA and GWSC in selecting men for this work was that some village men were blacksmiths and some had done bicycle repairs. It was considered wise to seek out these men who already had some experience with tools to see if they could do pump maintenance as well. Two-thirds of all the men selected for this work already had some skills with tools. The men selected were tested to ascertain some capability in understanding and handling the simple tools used for pump maintenance at the village level. Moreover, it was felt that since men traditionally dig wells, the involvement of men in maintenance of the pump is not inconsistent.<sup>21</sup>.

Clearly, men have an advantage technologically in this society through the tradition of male blacksmithing and through the acquisition of ploughs and bicycles by men. However, it is not essential that this advantage be intensified by automatically considering men as candidates for any new technology coming into the villages. The skills required for above-the-ground pump maintenance are such that women could have been trained as easily as the one-third of the men selected who had had no previous technical experience. Although men may dig wells for village water supply, dug wells are not found in all villages. As Hall and Merriman reported above, many women traditionally preferred surface sources, and in the dry season spent considerable time digging out deeper and dee-



per holes in dry stream beds in order to get water. When the pumps break down, women must resort to traditional sources, which may be long distances from the villages in the dry season. Unquestionably, their interest in maintaining the pumps is greater than that of village men who have no role in fetching water. Women have an important stake in village water supply, but the symmetry of village life is threatened when gains in women's traditional work areas are made by men while women are left to carry burdensome headloads of water as they always have.<sup>22</sup> Science and technology in the industrialized world until recent times were often seen as a male preserve; this attitude resulted from an historical process which denied women access to such public activities except in some auxiliary capacity.<sup>23</sup> However, care should be taken to-day when introducing technology and training into societies with little modern technology, that women are beneficiaries especially in their own work areas. As Kirsten Jorgensen points out,

Modernizing water supply systems should not aim only at relieving women from traditional tasks, for this might on the other hand be detrimental to the social status they enjoy in rural communities. The aim instead should be to modernize women's role in rural water supply, preserving the importance of their contribution, but reducing hardships.<sup>24</sup>

The decision to seek men for village pump maintenance work was made by CIDA and GWSC at the regional level based on the expectation that some village men might have acquired technical skills through blacksmithing or bicycle re-





pair, or even from work experience in the south. The idea of women being responsible for the maintenance of modern technology does not yet come readily to the minds of western males or those educated with a western view of science and technology as a male province. Yet it seems imperative that initiatives towards development in a relatively undeveloped area, such as the villages of the Upper Region, must be made with care in order that a pattern of inequality in which males are automatically assumed to have a right to control modern technology not be created. For "once substantial inequality has been established in a society undergoing development, the self-interest of those who benefit most, and have the greatest power, will tend strongly to perpetuate and increase the divisions".<sup>25</sup> Chapter two illustrated clearly how colonial patterns of inequality between the north and south and between men and women, especially in educational opportunities, have been resistant to change. To ensure that women are not left behind when men are brought into the modern era of technology, training and technology in their traditional work areas must come under women's control.

The patriarchal society of the Upper Region has been described in chapter two as one in which men and women have separate tasks that create a symmetrical interdependence. The requirement of women to do certain labour is



woven into the fabric of life and is unquestioned. The introduction of a new form of work to village life should be examined carefully for its implications in this pattern of male/female interdependence. In brief interviews with seven chiefs of villages in Bolgatanga District in 1981, I queried them about the new task of pump maintenance. In five of the seven villages, men had already been appointed, and in the other two, this selection had not yet been made. I asked the chiefs whether they felt women could do this work. Three chiefs said no, and four said yes or perhaps. (In his research in Bolgatanga District, Jackson found in two out of five villages that chiefs and elders felt women should serve on water users committees.) The most positive statement was that a woman who uses the pump daily is better aware of its condition than is a man; moreover, a woman can deal more effectively with women at the well than can a man. However, some chiefs voiced the following reservations:

1. Since there is no pay involved, women might prefer to trade in order to get money for her family. If a woman had to fetch water and cook plus look after the pump and perhaps walk to town to report a breakdown, she might run away.

2. Women are frequently at the market. Therefore, when the pump breaks down, the woman responsible might not be in the village to make the necessary repairs.

3. Appointing a woman to look after the pump might cause jealousy and quarrelling. Women would not like



having another woman tell them what to do.

4. A woman who is illiterate and shy may not like going to the GWSC office in Bolgatanga to report a breakdown of the pump to the men employed there.

5. A woman is more tied to her house and children and not as free to go to Bolgatanga to report a breakdown of the pump.

6. A woman might be afraid to go out at night to make repairs.

The reservations are concerned not with women's mechanical competence, but mainly with social matters. These reservations about how women might react to such work were never tested on this project as no women were offered the opportunity to consider doing such maintenance work. Village chiefs were asked to appoint men to be trained to maintain new technology in a traditional female work area. If the person responsible for the pump would gain importance in the village by becoming more closely involved with the chief, village society might have deemed it essential that a man assume such a position. Yet women traditionally have borne the extremely important role of providers of water upon which all the villagers depend. Women's control over this important task is altered by the introduction to the village of modern technology which men only are trained to maintain.

The evolutionary process by which CIDA's commitment to villagers in the Upper Region of Ghana changed from



the technical task of drilling wells to programmes of community development and public health has been traced. In order to ensure the reliability and safety of the new water supply, it became obvious that villagers must be involved in the maintenance of the supply. To prevent contamination of the water, it appeared essential to provide education to alter unsanitary habits. Only by incorporating the human factor into the project could the original aims of improved health and increased productivity be realized. In sum, CIDA learned from the experience in the Upper Region that the people being served by the project must be involved in the construction, if possible, and certainly in its maintenance, if the rural water system is to be a success.

In the literature survey, in chapter one, I showed a growing concern that women's traditional role in supplying water for their villages not be overlooked if rural water supply projects are to be successful. The experience of the Upper Region Water Supply Project has not convinced CIDA that the female factor should be given serious or separate consideration. The project was implemented for all villagers. Practical recognition has not been given to the fact that the time released is to women, nor to the fact that women, traditionally responsible for vegetable production, would have been ideal targets for training in dry season gardening. The importance of women as tradi-





tional providers of water was ignored in the training given only to men in pump maintenance at the village level.

For some it might seem that the female factor is irrelevant in a situation in which all villagers suffer from a lack of clean water to drink, and the aim is to improve the lives of all rural inhabitants. Does it matter if men become vegetable producers or maintain pumps if all villagers need to be helped? If the chief problem with this advanced technology lies with the capability of the district GWSC maintenance teams to service the pumps below the ground, does it matter who in the village does the simple pump maintenance above the ground? It matters considerably in a society where status for women comes not only in their roles as wives and mothers, but also as producers and contributors to the maintenance of the family in very specific ways. The responsibilities women have towards the survival of their families can be met successfully only if women continue to work in their traditional areas and are provided with control over the modern improvements in these areas as they are made.

In the following chapter, these work areas of women in Bolgatanga District will be examined more closely. Women work as partners with men in the subsistence economy in which they live. As mothers, women have a great concern for the welfare and survival of their children; women must generate food and income by their own work in agriculture and other activities in order to feed and main-



tain their children. Recognition of the importance of women's work to subsistence is growing. Development programmes which offer women opportunities to use and control modern technology as it is introduced, and to be trained for more productive output in their work areas, recognize women's real contribution to their society, and prevent the establishment of intractable inequalities between men and women within the society.



Notes

1. Kirsten Jorgensen, "Water Supply Problems in Rural Africa: The Implications for Women", Centre for Development Research Paper D. 80.9, presented at Interregional Seminar on Rural Water Supply, October, 1980, Uppsala. p.9.
2. CIDA document Upper Region Water Supply Project Phase I 400/00134.
3. Ibid. Original estimates of foreign exchange costs for the project showed \$1,600,000 for rural water supplies and \$645,000 for urban supplies.
4. Peter Harkness and Paul Ladouceur, "Ghana, Upper Region Water Supply Project", paper presented at North-South-World Bank Conference, Montreal, 1978. p.2.
5. CIDA document Upper Region Water Supply Project Phase II (400/604).
6. Peter Harkness and Paul Ladouceur, p.3.
7. B.L. Hall and D.O. Merriman, "Ghana Upper Region Water Project", Ottawa: Canadian International Development Agency, 1977, p.6.
8. Ibid. p.21.
9. Ibid. p.9.
10. CIDA document Water Utilization Project (400/00601).
11. CIDA document Ghana Upper Region Water Utilization (400/00601) Plan of Operation.
12. Peter Harkness and Paul Ladouceur, p.5.
13. CIDA document Upper Region Maintenance Project (400/00807).
14. Peter Harkness and Paul Ladouceur, p.6.
15. Ibid. p.2.
16. B. L. Hall and D.O. Merriman, "Ghana Upper Region Project", 1977. p.18.
17. Ibid. p.28.



18. Ibid. p.29.
19. Constantina Safilios-Rothschild, "The Role of the Family in Development", in Finance and Development, December, 1980. p. 46.
20. Barbara Rogers, The Domestication of Women, Discrimination in Developing Societies, (London: Kogan Page, 1980), p. 42.  
Rogers sees the male bias in development as similar to Michael Lipton's urban bias; once men become the primary focus of development, an increasing inequality becomes inherent in the development process.
21. Conversation with Ron Schatz, previously with the Water Utilization Project in Ghana, now project officer at CIDA, April, 1982.
22. Mildred Robbins Leet, "Roles of Women: UNCSTD Background Discussion Paper," in Roslyn Dauber and Melinda L. Cain, Women and Technological Change in Developing Countries, (Boulder, Colorado: Westview Press, 1981). p. 232
23. Elise Boulding, "Integration Into What? Reflections on Development Plans for Women", in Roslyn Dauber and Melinda L. Cain, Women and Technological Change in Developing Countries, p.11.
24. Kirsten Jorgensen, "Water Supply Problems in Rural Africa: The Implications for Women", p. 18.
25. Barbara Rogers, The Domestication of Women, Discrimination in Developing Societies, p.44.





## Chapter IV

### IMPACT OF THE UPPER REGION WATER SUPPLY PROJECT ON VILLAGE WOMEN: AN ANALYSIS OF THE DATA

In this chapter, much of the data collected in villages in Bolgatanga District, Upper Region, will be presented. The data will be used to illustrate the nature of the life of village women, and to determine if any major changes have occurred since studies were done in the colonial period. The role of women having been ascertained, the specific task of water collection by women and the use of water by the household will be examined. The data will show that women had no part in planning or implementing the water project; moreover, their understanding of how wells were provided and are maintained is often vague or inaccurate. It will be argued that while it is clear that social benefits accrue to women from the provision of drilled wells, women have been neglected by planners and project staff. This neglect is evident, first of all, in the failure to take advantage of time saved to women, and secondly, in the decision to bypass women, traditionally solely responsible for household water supply, and to engage men in the training necessary for maintaining the new technology. Such an approach, stemming from patriarchal attitudes that are prevalent in both Ghanaian and Canadian societies not only results in the underdevelopment of women, but also jeopardizes the success of the project in the long run. The pat-



riarchal view that women prefer the private to the public domain has resulted in women's work being considered less important than that of men. When women's work in the household and in food production is given no economic value, the introduction of modern methods of production or new technology are usually directed to men, and the traditional complementarity in the division of labour between male and female is eroded. As men gain economically and in status, women will lose ground, becoming more dependent on men, and bound even more firmly into a subordinate role in society.<sup>1</sup>.

If development of a society is to proceed, women must be part of the process. In traditional societies with patriarchal structures, the demand must be made that women gain in expertise in their traditional work areas through planning and training procedures, because it is unlikely that women will be permitted to move as readily into modern aspects of male work. This approach will ensure that both men and women are offered opportunities of advancement in knowledge and training. The recognition given to the importance of work performed by both sexes within the traditional structures will promote successful project implementation.

In attempting to increase the likelihood of realizing the original objectives of the URWSP, improved health and increased productivity, CIDA's programme in the Upper Region of Ghana has been extended into community development, and health and sanitation education. Women have not



been singled out to implement or maintain the programme. Although time-saving for women is a significant benefit, it has been largely ignored in the project. In this study undertaken in Bolgatanga District, Upper Region, in the early months of 1980 and 1981, time-saving for women was selected as the major dependent variable.

### Life of Village Women in Bolgatanga District

The activities of women in the Upper Region of Ghana were outlined in the anthropological studies of R.S. Rattray (1932) and Meyer Fortes (1949). The purpose of the questionnaires and observations of my study was to portray the lives of village women to-day, in order to make comparisons with earlier studies, and more importantly, to ascertain how provision of drilled wells with handpumps has affected their lives.

#### I Marriage and Children

Although selection of women within each village was somewhat haphazard due to the scattered settlement pattern and the limitations of time which prevented a return call to interview a woman absent on the day we visited, Table 4.1 (page 104) indicates that a varied sample was obtained. It is not surprising that 55.9% of women interviewed in 1980 in all ten villages were first wives of one. Polygyny remains desirable for men,<sup>2</sup> yet land scarcity in Bolgatanga District and the increasing value of cows for the brideprice restrict some men to monogamous unions. Women may also prefer polygynous marriages in order to share



POSITION OF WOMAN IN HOUSEHOLD

Table 4.1

	<u>Villages</u>										Total	%
	Sekoti Nyogbare	Shia	Dua	Balungu	Sapero	Nangodi	Borogo	Nyokoku	Ve	Azaasi		
1st wife of 1	12	5	7	4	6	4	4	4	5	1	52	55.9
1st wife of 2	4			2	1	2	3	2		2	16	17.2
1st wife of 3		1	2			1	1				5	5.4
1st wife of 4						1	1				1	1.1
2nd wife of 2	5		1		1	1	1	1	1		11	11.8
2nd wife of 3	1						1	1			3	3.2
3rd wife of 3										1	1	1.1
3rd wife of 4	1										1	1.1
4th wife of 4		1				1					2	2.2
Daughter (unmarried but child bearing)							1				1	1.1
	23	7	10	6	8	10	11	8	6	4	93	100.1

Source: Questionnaire 1, 1980





household tasks. Because households are usually composed of more than one man and his wife or wives, only a minority of women carry out their household tasks in isolation from other women. In my study, 80.6% of women belonged to households with two or more adult women. Some elderly women may not participate in household chores. However, I observed many elderly women taking some share in women's labour (mat making, water and fuel fetching, plastering, pito brewing), and of course, small girls learn by doing alongside their mothers.

Women are valued as reproducers of children for their husbands' lineages, and those unable to have children suffer a loss of self-esteem. Life for children is precarious in this society. Of 317 children born to the 93 women interviewed, 114 children or 36% had died. In Breebaart's study in adjacent Navrongo District, 3 out of 10 children died before reaching school going age.<sup>3</sup> Since the status of women is linked so directly to the children born to them and raised by them, and since a large number of children die in early childhood, women in this study expressed concern about the care of their children. When up to half the number of deaths in the developing world occur in children under five with diarrhoeal diseases being the most common cause,<sup>4</sup> the necessity of women, as caretakers of children, receiving education in water usage, sanitation and other areas vital to the health and survival of rural



people is clear. However, no programme in health education has been directed specifically at women within the Water Utilization Project in the Upper Region.

## II Education and Training of Men, Women and Children

In 1980 I questioned women about their own education and that of their children. In addition I asked questions on training and women's desire for it. In my follow-up survey in 1981, I included questions on the education and training of husbands.

Of 62 women interviewed in 1981, only 3 had husbands with any formal education. Informal training which men receive within the society was cited as follows:

farming	55	responses
rearing of animals	47	"
soothsaying	1	"
weaving	3	"
making ropes	1	"

In addition, 3 men received training as watchmen, 2 in gardening, 1 in local council and 1 in government work.

Of 93 women interviewed in 1980, only 2 had been to school, one reaching primary five and one reaching form one of middle school. The women reported on their children's educational level as follows: only 8 girls of 96 or 8.3% had been or were attending school. In comparison 28 boys of 107 or 26.2% had been or were attending school. The percentages given above may be slightly low since pre-school age children are included in the totals. Nevertheless, it is evident that boys still have a much greater likelihood of attending school than do girls.



The type of schooling found in Ghana tends to drain school leavers from the rural areas to urban centres. Yet the unemployment problem for school leavers is severe in Ghana. For many young women, domestic service or prostitution are the income earning activities offered in urban areas. <sup>5</sup> The World Bank continues to stress the role of education in overcoming poverty by increasing incomes, improving health and nutrition, and reducing family size. <sup>6</sup> Moreover, World Bank studies show that "educating girls may be one of the best investments a country can make in future economic growth and welfare - even if girls never enter the labor force. Most girls become mothers and their influence - much more than the fathers' - on their children is crucial." <sup>7</sup> Education and training in Ghana must be programmed to overcome the disadvantaged position of women to permit women to improve not only themselves, but society as a whole. Moreover, rural women require programmes that will benefit rural society.

Women in my study did not appear to comprehend the value of literacy for their lives. Apart from the two women who had attended school, none of the women interviewed had had any training other than the informal training given them by their mothers. In 51 positive responses indicating interest in some type of training, literacy was not included. A summary of the responses made by 93



women to the question, "What courses would you like to attend if they were available locally?" follows:

childcare	24	responses
agriculture	17	"
cooking-nutrition	4	"
handicrafts	3	"
marketing	3	"
none	<u>44</u>	"
	95	(2 women gave a double response)

The fact that a majority of women (49 of 93) responded positively indicates that, in spite of their daily responsibilities, village women are interested in improving their lives through further training. The two most frequent choices for training were childcare (24) and agriculture (17). We have already noted the high rate of child mortality in this society. Women naturally, are concerned to improve their childcare practices in order to raise more of their children to adulthood. Women play a very significant role in agriculture in this subsistence economy, yet agricultural extension programmes are directed to men. The pressure which village women feel to provide food for the family each day cannot be denied, particularly in Bolgatanga District and others in which there is a period of food scarcity each year. In Navrongo District, Breebaart found the two chief concerns of village women were their income position and the health and food situation in the house.<sup>8</sup> Formal or non-formal educational pro-





grammes which focus on this primary desire for survival should have a positive response from most village women. Despite a fairly rigorous daily routine, women are prepared to spend some of their time in further training. 33 women out of 49 stated they would be prepared to spend one-half day on the round-trip to desired courses if they were available locally.

The Christian Mothers Association has noted that meeting attendance is a problem in the rainy season, when women are busy with farming and roads may be impassable.<sup>9</sup> Both of my periods of field study were in the dry season. Women were willing to spend an hour talking to us, and indicated they had more time for relaxation in the dry season than in the rainy season.

The large minority of women expressing no interest in further training is not surprising. None of the women interviewed had participated in training programmes. Programmes for women are organized in the Upper Region by the Home Science Extension Programme, Department of Social Welfare, the Home Science Extension Unit, Department of Agriculture, the National Council on Women and Development and the Christian Mothers Association. All of these programmes have a limited field in which to work, and are hampered by lack of transport, capital and leadership among women. Programmes, therefore, have not been offered



to all villages. Some of the villages in my study were not easily accessible, and unless roads are opened to them, it is unlikely that either government or non-governmental agencies will reach women in those villages.

Women who responded negatively expressed valid reasons relating to work load in the home and on the farm, to responsibilities for young children and old people, to the health and to the age of the women themselves. All of these constraints are worth noting by those who are planning programmes for village women.

The colonial pattern that favoured boys in education still exists in villages in Bolgatanga District. Yet such schooling tends to draw school leavers away from their villages. Education and training for villagers must be relevant to their rural lives. Women in my sample who expressed interest in learning more about childcare and agriculture were prepared to find time for such training. The dry season which provides greater leisure, is the time of year best suited for training programmes. The time released to women by the URWSP could be employed for training programmes. Health and sanitation education emphasizing women's important role as caretakers and nurturers of the young is more likely to be effective when directed specifically at women rather than filtered



through men. Present government policies in Ghana favouring the restructuring of colonial institutions and the full participation of women in this task would support such planning.

### III Migration

The pattern of male migration from northern Ghana to the south either on a seasonal or more permanent basis was well established in colonial times. Migrant men were exposed not only to the more developed economy and environment of the south, but also often to the ridicule their unskilled labour and traditional habits provoked. In chapter two reference was made to colonial practices which restricted the number of women who could reside at southern mines with their husbands. In general, women migrated in fewer numbers than men, and this pattern has persisted to the present.

In my 1981 survey, 29 responses indicated men of the household as migrants while 5 responses included women. The pattern of seasonal migration, common in the colonial period, has given way to migration to the south for a more extended time for men. Only 4 responses indicated an absence of the migrant in months while 23 responses indicated an absence in years ranging from one to fourteen in duration.



Considering the long established pattern of male migration in the north, it is difficult to understand why 22 women (35%) did not know what effect a man's migration would have on a woman. However, 34 women (55%) replied that a reduction in food would result, while others noted a loss of farm labour (6), a loss of mobility (9), and a reduction in health care (9). Only one woman stated that she would experience an increase in her work load, and one that she would have less time for her own work. It seems clear, that in this society where women traditionally do not dig the soil nor take responsibility for the staple foods (millet and guinea corn) production, women have not taken up men's agricultural work in their absence. The traditional interdependence of men and women in agricultural production has been resistant to change. Therefore, in the absence of her migrant husband, a woman must depend on another male household member or relative to dig the farmland of her husband before she can sow it. The result of the husband's absence, generally, is not more work for her but less food.<sup>10</sup> The shortage of food in this area of the north is an annual problem, and is cited as the main reason women migrate. (See Table 4.1 page 113) The migration of some village women during the farming season in the Northern Region is well understood and accepted by women.





MIGRATION: IMPACT ON WOMEN

Table 4.2

No. of Women Responding in Villages

<u>Effect on Woman of Man's Migration</u>	Sekoti Nyogbare	Shia Dua	Balungu	Sapero	Nangodi Borogo	Nyokoku	Azaasi Vea	Total	% of Respondents
food reduction	6	1 4	2	2	4	6	5 4 -	34	54.8%
loss of her mobility	2	3	1		1		1 1 -	9	14.5
loss of farm labour	2	1 2	1					6	9.7
reduction in clothing	1							1	1.6
reduction in health care	1	1	1		3		1 2	9	14.5
loss of protection from thieves	1							1	1.6
increase in work			1					1	1.6
reduction in number of children						1		1	1.6
reduction in time for her own work					1			1	1.6
doesn't know	7	2 3	2	1	2	3	1 1	22	35.0

Reasons for Woman's  
Migration

to get food	14	3 7	5	3	4	9	6 5 -	56	90.3%
to join husband	2	1 1			1		1 1 -	7	11.3
to visit relatives	1	1 2	1		4		2 1	12	19.4
to get clothing	1						2	3	4.8
to get money	1							1	1.6

Employment of Women  
Migrating

farm work	14	3 7	5	3	4	9	5 5	55	88.7%
work in chop bar	1		2	1	1		1 1	7	11.3
plastering houses in Northern Region	1							1	1.6
doesn't know	1		1		1			3	4.8

Source; Questionnaire 1, 1981



Women who migrate are employed most frequently as farm labourers (54 responses - 87%). Seven women (11%) referred to migrant women being employed in chop bars (small roadside cafes) cooking food or cleaning bowls.

In sum, though village women cited a much higher percentage of men in their households as migrants compared to women, the need for some women to migrate particularly to Northern Region farms where their labour earns them more food is evident to them. Colonial pressure and economic necessity extended the male vista to southern Ghana; food shortages of Bolgatanaga District draw some women as seasonal labourers to the Northern Region. However, while the need to earn for more food is clear, paid farm labour is usually exploitative of women.<sup>11</sup> Some women in Bolgatanga District who live near the Veia Irrigation Project work as farm labourers. Excluded from recruitment for jobs by the state corporations and the project's contractor, Taylor Woodrow, women are hired by commercial farmers for whom they form the major labour supply. In describing this situation, Piet Konengs states:

Commercial farmers preferred women and children to men except for the most tedious jobs as they were traditionally more experienced in certain farm operations like sowing and harvesting, more easily controlled and cheaper. Wages were always about half the minimum wage and for children even less for a much longer working day than in the state corporations. However, though wages were abysmally low, they formed a welcome addition to the meagre family income. 12.



The data of my study illustrates the plight of village women who strive to maintain their families. By releasing time, the URWSP is beneficial to women. Women need time to undertake food generating activities. However, benefits to women would be greater if activities engaged in during the released time were free of exploitation. The British colonial system chose to leave the Northern Territories of Ghana undeveloped economically and to use them as a reservoir of male labour. The pattern of male migration robbed northern villages of considerable male labour for production of the staple crops. The pattern of male migration and the farming system with its distinct division of labour based on gender persists to-day. Since women, in the final analysis, are responsible for keeping their children alive, some women find it necessary to migrate to 'get food'. Paid farm labour generally is an exploitative form of work for women. Therefore, women are undermined by the continuance of this colonial pattern.

Some women might benefit more by engaging in dry season gardening, using their released time and water from the drilled wells for irrigation. By producing for their own needs or for the market, women would be free of exploitation and would be better able to satisfy the household requirement for more food.

#### IV Women's Work

In speaking to village women about their work, I was interested in determining the range of activities engaged



in, the work done on a daily basis by most women and the differences in women's work in the rainy and dry seasons. The findings on women's activities are shown in Table 4.3 (pages 115 and 116).

The number of responses given for any particular activity is not an exact indication of the numbers of women who do that work during any season. Nevertheless, the activities most frequently cited are the ones which stand out as regular daily chores in either the dry or rainy season. The Frafra women in villages of Bolgatanga District follow the same general pattern of TALE society described by Meyer Fortes. The main activities related by women in this study, fall into the categories he listed:<sup>13</sup>.

1. food preparation (washes utensils, grinds millet, prepares lunch, gathers fuel, prepares supper)
2. provision of water (fetches water)
3. care of home and children (cleans yard, collects sand and gravel)
4. sowing and harvesting (sows, weeds, harvests)

ACTIVITIES OF WOMEN BY SEASON

Table 4.3

<u>Activities Cited</u>	<u>Dry Season</u>		<u>Rainy Season</u>	
	No.	%	No.	%
cleans yard	78	84 %	76	81.7%
fetches water	89	95.7%	79	84.9%
grinds millet	51	54.8%	43	46.2%
prepares lunch	71	76.4%	27	29 %
gathers fuel	46	49.5%	1	1 %
collects sand and gravel	32	34.4%	-	-





sows, weeds and harvests	-	-	81	87 %
washes utensils	21	22.6%	11	11.8%
relaxes	56	60.2%	38	40.9%
prepares supper	88	94.6%	87	93.5%
brews pito	2			
prepares rice for sale	1		1	
weaves hats	2			
models pots	1			
works on reeds	2			
prepares flour water	2		3	
drinks flour water	1			
trades	2			
collects animals in	1		1	
bathes	5			
pounds millet	5		2	
goes to bush for grass	1			
cleans yard (second time)	2			
gathers cow dung	7			
plasters house	1			
washes face	7		7	
washes faces of herself and of children	2		1	
fetches water (second time)	6		5	
grinds flour	1		3	
harvests			4	
sews mat			1	
dries vegetables			1	
plucks vegetables			2	
collects shea nuts			8	
dries shea nuts			1	
sows			7	
clears land			2	

Source: Questionnaire 1, 1980



Clearly, the work of women in villages in Bolgatanga District remains varied, time-consuming and essential to the survival of the society. The collecting of water and food preparation are vital tasks carried out daily by women. Since men do not do this type of work normally, they are dependent upon women. Men also need women to help in food production - a shared task of men and women. If women are seen only as servants or subordinates of men, the fact that certain power lies in having sole responsibility for a particular task if it is one essential to the community, could be overlooked. Women's power and position may be limited, but it must be safeguarded by providing women with opportunities for advancement in their work areas.

#### V Income Earning Activities

Among the less frequently mentioned activities are some in which women engage to provide some income. Most of the activities are very small scale, a subsistence trade integrated into the subsistence agricultural economy in which they live for the purpose of keeping the family fed. A total of 27 women in 1981 or 29% cited some income earning activity. The activities listed by villages in Table 4.4 (page 119) may be grouped into four categories as follows:

1. collecting and selling natural products  
(grass, firewood)
2. preparation and selling of food
3. preparation and selling of handcrafts  
(baskets, hats, pots)



INCOME EARNING ACTIVITIES      Table 4.4

<u>Village</u>	<u>Activities</u>	<u>Earnings in cedis</u>	<u>Period</u>
<u>Sekoti Nyogbare</u> (23 women)			
	1. trades soup ingredients	-	
	2. sells grass for thatch	280	1 month
	3. sells grass for thatch	560	2 months
	4. sells kola nuts	2080	1 year
	5. sells kola nuts	728	1 year
<u>Shia</u> (7 women)			
	1. collects and sells firewood	15/wk	-
	2. " " " "	10/wk	-
	3. " " " "	1248	1 year
	4. " " " "	4312	1 year
<u>Dua</u> (10 women)			
	1. sells kenkey	260	$\frac{1}{2}$ year
	2. sells tzed	234	$\frac{1}{2}$ year
<u>Balungu</u> (6 women)			
	1. brews pito	-	
	2. " "	416	1 year
	3. prepares and sells malt	260	$\frac{1}{2}$ year
	4. " " " "	4 each time	
<u>Sapero</u> (8 women)			
	1. sells rice	390	$\frac{1}{2}$ year
<u>Nangodi</u> (10 women)			
	1. sells boiled rice	-	
	2. sells corn flour	40	week
	3. brews pito	-	
<u>Borogo</u> (11 women)			
	1. sells tomatoes	480	$1\frac{1}{2}$ mos.
	2. sells rice	1040	1 year
	3. brews pito and sells kola	520	1 year
<u>Nyokoku</u> (8 women)			
	1. weaves and sells baskets	120 per month	
	2. fetches and sells firewood	4 each time	
<u>Vea</u> (6 women)			
	1. weaves hats	8	a week
	2. weaves hats	20	a week
	3. weaves hats and models pots	38	a week
<u>Azaasi</u> (4 women)			

Source: Questionnaire 1, 1980



4. preparation and selling items for recreation or relaxation (pito, kola nuts)

As outlined in Appendix A, the determination of income earned by village women is very difficult. Women who are illiterate are not able to keep records. Moreover, their hand to mouth existence prevents the accumulation of savings. My assistant, who comes from a Frafra village, told me that women who have substantial earnings will not state their earnings, if they know, for fear of taxation or theft. Whatever the reason, 4 women of 27 gave no response to the question of income earned. 16 women cited seasonal or irregular earnings and 7 indicated year round income earned from selling kola nuts, firewood and rice, and brewing pito. The subsistence nature of these trading activities can be seen in Table 4.5 on the Use of Income.

<u>Women in</u>	<u>No. with income</u>	<u>USE OF INCOME</u>	
		<u>food</u>	<u>clothing</u>
Sekoti Nyogbare	5	4	4
Shia	4	3	1
Dua	2	2	1
Balungu	4	4	4
Sapero	1	1	-
Nangodi	3	3	2
Borogo	3	2	3
Nyokoku	2	2	-
Veaa Gongga	3	3	1
Azaasi	-	-	-
Totals	27	24 88.9%	16 59.3%

Table 4.5

Source: Questionnaire 1, 1980





Village women exist on the edge of an economy which has been attempting to modernize. They have acquired very few goods produced by this economy; galvanized buckets, enamelled basins and bowls and metal cooking pots may be seen in some compounds. Ghanaian textiles remain in short supply and most women find it cheaper to buy second hand clothing instead. In a few compounds, I saw ploughs and bicycles belonging to men. While a man may plough his wife's groundnut plot for her, thereby decreasing her work, the plough is not something she learns to use nor owns.

Women's earnings are used mainly to purchase food items for the family (88.9% of women with income spend it on food). In addition 59.3% use some of their earnings for clothing. There appears to be little left for any other significant purchases.

Women in this study are presently bound by a colonial past and by a tradition of patriarchy that has limited their options for earning income. It is clear that the small earnings of women are essential for family maintenance. Development efforts in this society must be directed to utilizing and improving women's efforts towards household survival.

#### IV Women and Agriculture (A Vital Role in Food Production and Nutrition)

The field study from which I drew my data was undertaken in two dry seasons. Therefore, there was no opportunity to observe women during the farming season. 87% of



the women interviewed in 1980 stated that sowing, weeding and harvesting were rainy season activities for them. A smaller percentage of women mentioned only sowing and harvesting. From studies done by Breebaart in Navrongo District<sup>14</sup>. and Whitehead in Bawku District,<sup>15</sup>. it may be concluded that some variation in the pattern of input to agricultural production by men and women exists across the region. In previously cited texts, Rattray and Fortes refer to women participating in sowing and harvesting. To-day women are found weeding their own plots and assisting men in weeding their plots in female work groups in Bawku District. In Bolgatanga District, 97.5% of women who had their own plots did the weeding on them. Moreover, 87% of the women interviewed also did weeding on their husbands' farms. Table 4.6 indicates the major role played by women in food production in Bolgatanga District.

WOMEN'S PARTICIPATION IN AGRICULTURAL PRODUCTION Table 4.6

<u>Activity</u>	<u>On Husband's Farm</u>		<u>On Woman's Plot</u>	
	No. of women	% (of 92)	No. of women	% (of 40)
sowing	90	97.8	38	95
weeding	80	87	39	97.5
harvesting	87	94.6	38	95
clearing	3	3.3	14	35
digging	5	5.4	8	20

Source: Questionnaire 1, 1980

The heavier tasks of clearing and digging are performed by a small minority of women, but sowing, weeding and har-



vesting are significant activities of most rural women of the district. A possible explanation for the fact that women are involved in weeding when previously they were not may lie in the absence of some male labour over an extended period of time due to migration.<sup>16</sup> This explanation does not conflict with the responses of women that male migration results in less food rather than increased labour for them, since the process of becoming active in weeding on their husbands' or household plots could have been a gradual one that is now part of the established pattern for women.

While 91 women of 92 married into farming families indicated a share in food production, only 84 women indicated that their husbands worked in food production. A few men were perhaps too old, or perhaps some of the twelve husbands who were wage earners could not do farm work as well. In spite of their significant role in food production, 63 women said the main responsibility for food production was the husband's, while 20 women named some other man of the household. Only 6 women named themselves as having the main responsibility for food production. Because traditionally, men must supply food for their wives and children, and because men are the main producers of the staple cereal crops, the responses of the women are understandable. Women are important as the sole producers of the vegetables and other ingredients for the soup or sauce served with the staple cereal. Moreover, women may



share in decisions regarding household production.

The farming of the district is largely for subsistence. Women do not consider that crops are grown for sale or barter even though a certain amount may be sold at harvest time to pay debts or to buy new items, or throughout the year to purchase necessary food items not produced on the farms.

The three main cereal grains of the district are early millet, late millet and guinea corn. A majority of farms visited also produce beans and ground nuts, while a minority of women listed the following crops as well: bambara beans, maize, seeds, sweet potatoes, Frafra potatoes and rice.

Of the 40 women who had their own plots, 34 grew ground nuts, 10 grew early millet, 9 grew rice, while 6 or fewer grew bambara beans, guinea corn and late millet. Even when women do not have their own plots, they grow necessary items for soup, often interplanting them with the cereal, groundnut or bean crops. The main soup ingredients produced by the women are greens, okra, ground nuts, bean leaves, beans, millet and pepper. Other sources of protein and salt are purchased in the market.

Women have a very important position as food producers within this society. Their work is necessary not only in staple crop production with their husbands, but also in the production of vegetables, seeds and nuts used in soups that supply many essential nutrients in the diet. This





latter production is largely the responsibility of women alone. During the period of food scarcity at the end of the dry season and at the beginning of the rainy season, women are hard pressed to provide sufficient food for their families. Whitehead reports that among the Kusasi of adjacent Bawku District, mothers give their groundnuts to their children to prevent them from being hungry during the period of food scarcity when millet hand-outs by the head of the household become more infrequent. "A 'strong' woman is a wife or mother who can provide independently of her husband and/or household head during the hungry season." <sup>17</sup>. The concern that women have to preserve their children's lives has been indicated in the strong responses made for training in childcare and agriculture. Unquestionably, women have very important roles as food producers, nutritionists and in the last analysis, preservers of their families in this society.

### VII Marketing

Marketing is very much a part of the life of most village women: only 11 of 93 (11.8%) indicated that they do not go to market. 35 women (37.6%) indicated that they go to market at least once a week and 20 more (21.5%) stated that they go whenever they have money. Marketing has a social value as well as an economic one which most women seem to enjoy. Women in this district are not as involved in trading as are women in southern Ghana where changes in traditional living patterns have forced women



into trade in order to provide for their children's daily nutrition and other requirements.<sup>18</sup> In Table 4.7 page 127 we see only 22 responses to items sold but 127 responses to items bought. Soup ingredients and millet are the items most women buy in the market. The items sold include food, grass for thatching, fuel items, handicrafts, pito and kola nuts. Whitehead stresses that as a result of men being drawn to the cash economy at a faster rate than women, millet production in Bawku District has declined in recent years. Consequently, women must work even harder to acquire some items to sell in the market in order to make up the shortfall in food supplies for the family.<sup>19</sup> Reference has been made to the shortage of food women experience when husbands migrate and are unable to perform their agricultural tasks. The marketing practices of most village women in Bolgatanga District illustrate the precarious existence of women as they struggle to get soup ingredients and millet for daily sustenance.

In sum, the pattern of women's work remains basically as it was in colonial times. Women are expected to perform certain traditional tasks, and apart from an indication that women engage in weeding, not only on their own plots but on the household plots as well, a task not appearing in earlier descriptions of their work, women have not taken over the work of men. However, the pressure on women to provide essential items for the household diet means that they are engaging in market activities



## MARKET PRACTICES

Table 4.7

Frequency	No. of Women in Village						Total				
	Sekoti Nyogbare	Shia Dua	Bālungu Sapero	Borogo Sapero	Nyokoku Nangodi	Azaasi Vea					
market day	6	3	3	3	3	3	24				
daily	1				2		3				
every 4 days	1						1				
1 day/week		2	1	2	1		7				
every 2 wks	1		1		1		4				
1 day/mo.	2					1	3				
infrequently			2			1	3				
never	3		3	1	1	1	11				
when free		1				1	2				
when she feels like it					1		2				
when she really needs something				3	3	2	11				
when she has money	9	1	3	1	3	3	20				
when she has to buy food in hungry period						1	1				
							<u>92</u>				
<u>Items Sold</u>											
corn flour					1		1				
rice				1	1		2				
tomatoes				1			1				
soup items	1						1				
kola nuts	1						1				
grass	2						2				
millet stalks					1		1				
firewood		3				1	4				
pito			2				2				
fowls			1			1	2				
baskets				1		1	2				
hats and pots						1	2				
	<u>4</u>	<u>3</u>	<u>0</u>	<u>3</u>	<u>1</u>	<u>3</u>	<u>22</u>				
<u>Items Bought</u>											
soup items	19	8	7	5	8	9	10	7	4	3	80
millet	12	1	6	1	6	3	3	4	3		39
kola nuts	1					1	1				3
corn		1									1
rice						1	1				2
tobacco							1				1
whatever she likes	1										1
	<u>33</u>	<u>10</u>	<u>13</u>	<u>6</u>	<u>14</u>	<u>14</u>	<u>16</u>	<u>11</u>	<u>7</u>	<u>3</u>	<u>127</u>

Source: Questionnaire 1, 1980



more than in colonial times. The colonial pattern of male migration from the area has continued to the present. Women left behind are faced with a decreased food supply. Some women are seeking wage labour especially on commercial farms. Interventions into this society, aimed at improving rural life, must take into account women's significant role in family maintenance. Women are not totally dependent on men. To see only male work in the society and to bypass women in the implementation of projects can only lead to distortions in the society, and a repetition of colonial errors.

#### Women and Water and the Impact of the URWSP

Women are the main collectors of water for their households. Women decide on the source of water they will use. Women also consume water personally and in their daily household tasks of cooking and cleaning. Moreover, water collecting may provide time for socializing for women depending on the location of the source chosen. In carrying heavy loads of water daily, women physically bear the burden of providing water for their families' use.

Since the introduction of a new water source usually alters some of these patterns for women, I have examined water sources, collection and consumption patterns, bathing habits and socializing activities of women in all ten villages. Additional questions relating particularly to time and energy saving were asked in villages having





drilled wells and installed pumps. This data will be used to illustrate the impact of the URWSP on the role of women as carriers, users and managers of water and to determine how women benefitted from time and energy released to them.

### I Water Sources

Women have been shown to be busier in the rainy season when farming is carried on than they are in the dry season. Moreover, in the rainy season, water is abundant in streams, ponds and dug wells. These sources may be closer to a woman's compound than a drilled well, and unless she is convinced of the superiority of the water in the drilled well, she may readily use a source which saves her time and energy. Table 4.8 (page 130) shows the water sources used by women in both the wet and dry seasons.

In the control village, Sekoti Nyogbare, in the wet season, women use traditional water sources: a dug well, a stream and a dam pond. In the dry season as the dug well and dam pond become dry, reduced numbers use these two sources. Increased numbers are found at the stream bed where women dig into the bed and wait for water to seep in. Two women in the survey are walking to drilled wells on the periphery of the village to get water in the dry season.

Of the twenty-two women interviewed in 1980 in the three villages with drilled wells but with pumps not yet installed (Shia, Dua and Balungu), no women were using



WATER SOURCES BY SEASON

Table 4.8

<u>Seasonal Sources</u>	<u>No. of Women Using Source in Village</u>										
	Sekoti Nyogbare	Shia	Dua	Balungu	Sapero	Nangodi	Borogo	Nyokoku	Vea	Azaasi	Total
<u>Wet Season</u>											
dug well	9	6				1	2	2			20
stream	11		6		2	1					20
dam pond	3		4				2				9
dug out				6				1		1	8
drilled well					6	8	7	5	6	3	35
<u>Dry Season</u>											
dug well	6	2				1					9
stream	13	3			1						17
dam pond	1		4				2				7
dug out				6							6
drilled well	2	2	6		7	9	9	8	6	4	53

Source: Questionnaire 1, 1980



drilled wells in the wet season. However, in the dry season eight women use drilled wells. As the traditional sources dried up, drilled wells in neighbouring villages became closer than former dry season sources.

In villages with functioning drilled wells (Sapero, Nangodi, Borogo, Nyokoku, Vea and Azaasi), a total of 47 women were interviewed. In the wet season, 35 of these women use the drilled wells while in the dry season 43 women use them. As the closer sources of water dry up, some women not using the drilled wells in the wet season begin using them in the dry season. Time available and necessity may lead some women to use drilled wells in the dry season and other sources in the wet season.<sup>20</sup>

While a majority of women use the drilled wells all year round, there is a recognized problem in some women choosing a water source of questionable quality rather than walking further to a source (i.e. the drilled well) of good quality water. In Shinyanga Region of Tanzania, this problem was tackled by digging a number of rainy season wells closer to the villagers than the perennial well which had to be located beyond two kilometres from the village. Villagers were encouraged to use the rainy season wells which provide good quality water rather than polluted pools. Then as the rainy season wells dry up along with the pools, streams, etc., villagers have to walk the extra distance to the perennial well. In this way an attempt was made to accustom the population to



using good quality water only.<sup>21</sup>.

In the Upper Region of Ghana, the Water Utilization Project team is dealing with this problem through a community education programme to encourage the use of water from drilled wells for drinking and the preservation of water purity through protection not only at the source, but in the home as well.

## II Water Collecting and Consumption Pattern

Water collecting is a female responsibility and 95.7% of women interviewed in 1980 carry on this activity each day of their lives. 88 women or 94.6% stated that the main responsibility for collecting water was their own, although 56 or 60.2% included other women in this responsibility. Assistance in water collecting comes mainly from female children but also from male children and other women. Only one woman mentioned men as water collectors, and when queried on her response, retorted, "Men drink water, don't they?" In this compound, men apparently will go to the drilled well which is relatively close to fetch water when the women are not at home.

Collections per day are shown in Table 4.9 (page 133). The number of responses given is divided into the total number of collections made by the women interviewed in all ten villages. The average number of collections per woman per day is 2.8. There is no real difference in the number of collections per day between the control village and the villages with drilled wells. The collections are





WATER COLLECTION FOR HOUSEHOLD USE

Table 4.9

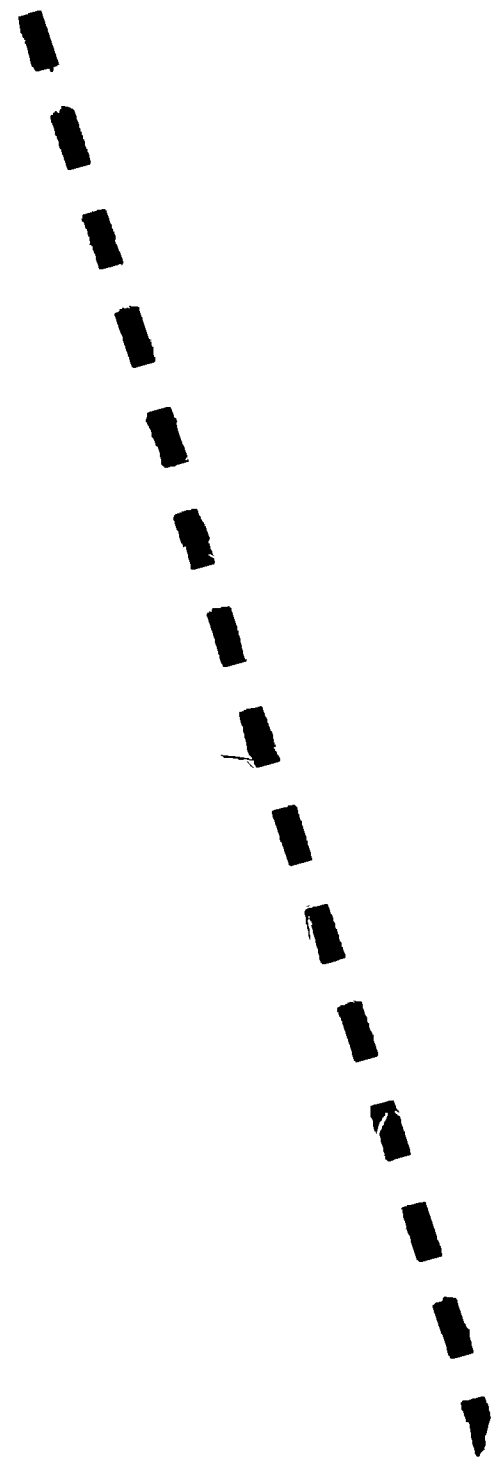
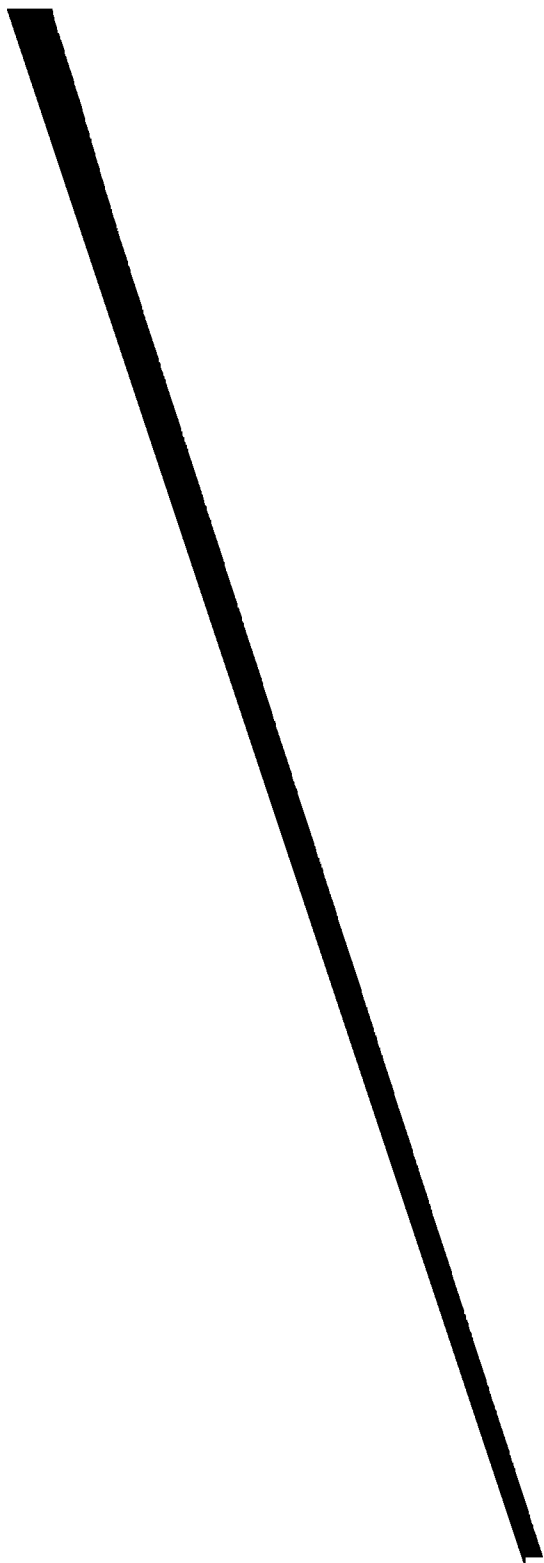
<u>Main Responsibility for Collections</u>	<u>No. of Women Responding in Villages</u>										Totals
	Sekoti Nyogbare	Shia Dua	Balungu Dua	Borogo Sapero	Borogo Nangodi	Nyokoku Nangodi	Nyokoku Ve	Azaasi Ve			
self	22	7	10	5	8	11	7	8	6	4	88
other women	14	7	6	4	3	8	4	3	4	3	56
female children	1						1	1			3
male children								1			1
men								1			1
<u>Assisted by</u>											
female children	5	2			1		3	3			14
male children	2						1			1	4
other women		1						1			2
<u>Collections per day</u>											
	$\frac{49}{16} =$	$\frac{15}{5} =$	$\frac{27}{10} =$	$\frac{14}{6} =$	$\frac{23}{8} =$	$\frac{29}{10} =$	$\frac{23}{8} =$	$\frac{23}{8} =$	$\frac{17}{6} =$	$\frac{12}{4} =$	
	3	3	2.7	2.3	2.8	2.9	2.8	2.8	2.8	3	28.1
										Average	2.81

Source: Questionnaire 1, 1980



made with various kinds and sizes of containers. Of a total of 107 containers used, 63 or 58.9% were clay pots, 39 or 36.4% were metal containers and 5 or 4.7% were calabashes. These various containers made the determination of water consumption habits difficult. Difficulty also arose in large households in which a number of women and children collected water. In some cases these households were not included in the calculations, as I could not determine the total amount of water collected for the household. The calculations do not include water used at the source by women, nor water taken by small children for bathing or playing.

The data from 1980 indicate that no real change occurs in the quantity of water used with the installation of drilled wells. See Table 4.10 (page 135). The quantity used per capita per day is comparable to consumption patterns in White et al's East African study in which per capita consumption in 19 rural places ranged from a mean of 4.4 to 20.8 liters with a daily average of 11.2 liters per capita.<sup>22</sup> White et al concluded that water consumption patterns altered significantly only with the provision of individual household connections.<sup>23</sup> It was noted that households able to collect rainwater use about 25% more water than households lacking this facility. I shall argue that the provision of facilities for bathing and washing of clothes at the water source can increase the consumption of water as well and alleviate the water



WATER CONSUMPTION PATTERN

Table 4.10

No. of Women Responding in Villages

<u>Containers Used</u>	Sekoti Shia Nyogbare	Shia Dua	Balungu Dua	Sapero	Borogo Sapero	Nangodi	Nyokoku Nangodi	Vea	Azaasi	Totals
clay pot	2								1	3
3 gal. clay pot	4	4	2	1	2		1		1	15
3.5 gal. " "	1				3					4
4 gal. clay pot	12	2	7	2	5	3	2	6	2	41
bucket	4						1			5
3 gal. metal con- tainer	4	1	1	1		3				10
4 gal. metal "	3	4	1	2	1	4	1		2	18
7 gal. basin		1			2	2				5
3 gal. calabash							1			1
4 gal. calabash							4			4
										<u>106</u>

Water Used Per Person Per Day in Gallons

	$\frac{57.6}{21}$	$\frac{16.9}{5}$	$\frac{29.8}{10}$	$\frac{19.1}{6}$	$\frac{25}{8}$	$\frac{31.7}{11}$	$\frac{19.4}{8}$	$\frac{15.9}{6}$	$\frac{16.7}{2.8}$	$\frac{7}{2}$	
equals	2.74	3.38	2.9	3.2	3.1	2.9	2.4	2.6	2.8	3.5	29.6
									Average		2.96
Control Village Average	2.74	Villages with wells and no pumps 3.18				Villages with wells and pumps 2.89					

Source: Questionnaire 1, 1980



carrying burden for women. The data of 1980 showing that the provision of drilled wells did not alter the pattern of water consumption supports the findings of Gilbert White on water use.

As already stated, there are problems in making calculations on per capita consumption of water as I did. Comments made by women in Sekoti Nyogbare indicated that water becomes so short in the dry season that "there is not enough to wash one's face", and observations in the dry season of differences in the appearance of people in the control village and in villages where water was available from the drilled wells led me to ask women in 1981 about the quantity of water used since the drilled wells had been provided.

Only 8 women stated there had been no change in quantity of water used. However, 28 women said they now use more water and gave the following responses on the use of the increased water supply:

cooking	10
bathing	10
washing clothes	10
construction	9
watering animals	6
washing utensils	5
drinking	2
brewing pito	1
making shea butter	1

These responses indicate that benefits of an increased supply of water are found in improved hygiene (increased bathing, washing of clothes and utensils), cooking and house construction. No new uses of water and no income earning activities involving water apart from one refe-





rence to pito brewing and one to the making of shea butter (both possible income earners) were indicated by the respondents.

The type of measurements made in 1980 are subject to inaccuracy and error. From the 1981 study it seems evident that dry season consumption of water has likely increased for many households with the installation of drilled wells. Women living near the wells collect sufficient water for all daily household needs. Those living some distance from the wells might not increase dry season consumption to the same extent. Unfortunately, I have no data from my study to substantiate this premise on consumption of water relative to distance from the well.<sup>24</sup>.

### III Bathing Habits of Women

Women showed a lack of ease in talking about their bathing habits, perhaps because in the dry season when dust is prevalent, it is difficult to remain clean looking for long. As illustrated in Table 4.11 (page 138), the most common response of women in 1980 on frequency of bathing in all villages was two times a day both for themselves and for their children. My assistant assured me that this response was not realistic for all times of the year. She had often seen women in the rainy season or harmattan season going without baths because it was too cold. In the dry season there is not always water for bathing each day either. Victoria Anamoo's remarks were borne out by comments made by village women as follows:



FREQUENCY OF BATHING

Table 4.11

No. of Women Responding in Villages

	Sekoti Nyobgare	Shia Dua	Balungu	Nangodi Sapero	Nyokoku Borogo	Azaasi Vea	Totals			
<u>Women</u>										
1xday	5	3	1	1	4	4	19			
2xday	9	6	7	6	7	8	61			
3xday		1					1			
4xday	1						<u>1</u>			
							82			
<u>Children</u>										
1xday	7	4			6	3	20			
2xday	7	5	1	4	8	8	4	6	3	50
3xday						1	<u>1</u>	71		

Source: Questionnaire 1, 1980



In Sekoti Nyogbare (control village):

"I bathe more often in the rainy season."

"3 times a day in the rainy season, only once a day in the dry season if we get water."

"Dry season bathing depends on when there is water."

"2 times in the dry season at the source; in the rainy season only when it is not too cold."

In Nyokoku:

"Daily if water is available."

"2 times, but when it is cold, I do not bathe."

In Nangodi:

"3 times when it is hot, and not at all when it is cold."

Although there is variance to the most frequent response of bathing two times a day, the idea of bathing twice a day appears to be a standard to which many women would like to adhere. Fortes' description of the Tallensi indicates that no such standard existed during his period of study.<sup>25</sup> It was suggested that this standard of bathing twice a day is of recent origin filtering back to the villages over a period of time from boarding schools where children are required to bathe twice a day.

82 women in 1980 gave some response to the question on bathing. In the question on daily activities, only 5 women mentioned bathing as part of their daily routine, while 9 more referred to washing either their own or their children's faces each day. Perhaps personal hygiene like childcare seems such a natural thing to do that women do not consider them as activities as they do sweeping, fetching water, cooking, etc.



In 1981, I followed up this question of daily bathing, differentiating the dry and rainy seasons. In addition, I sought information on the location for their bathing, and on their willingness to use a bath house if one was available. In 1980 I had been told by WUP personnel that bath houses would be built in some villages. I was interested in women's reactions to such an idea, for clearly, bath houses at the well sites would alleviate women's burden in the carrying of water for personal bathing. Table 4.12 (page 141) illustrates the responses of the 62 women interviewed in 1981.

In the dry season, bathing for most women in the control village, Sekoti Nyogbare, decreases from the more common response of twice a day in the rainy season to once a day. While the same trend is obvious in all the other villages (which in 1981 had functioning drilled wells), nevertheless, a higher percentage (55%) still bathed twice a day in the dry season. An improvement in personal hygiene for many women in villages with drilled wells is indicated.

59 women of 62 stated they were willing to use a bath house near the pump if one was built. In Dua villagers had constructed two small bath houses of local materials, one for men and one for women (see photograph, page 142). Of the six women using the bath house at Dua, five said their husbands also use the men's bath house. One woman commented that times are changing and women no longer need to carry water for bathing to the house.





BATHING HABITS OF WOMEN

Table 4.12

<u>Frequency</u>	<u>No. of Women Responding in Villages</u>									<u>Totals</u>
	<u>Sekoti Nyogcare</u>	<u>Shia Dua</u>	<u>Balungu</u>	<u>Sapero</u>	<u>Nangodi</u>	<u>Borogo</u>	<u>Nyokoku</u>	<u>Ve</u>	<u>ea</u>	
<u>Dry Season</u>										
0 x day										
1 x day	13	2	2	2	3	2	7	4	2	32
2 x day	2	2	5	4	3	4	2	1	3	26
3 x day	1	1								2
<u>Rainy Season</u>										
0 x day							1			1
1 x day	2				2	1	2			7
2 x day	12	2	2	5	1	5	6	3	3	39
3 x day	2		1					1		4
4 x day									1	1
varied		1	4	1				1	1	8
<hr/>										
<u>Location</u>										
<u>Dry Season</u>										
house	16	3	1	6	3	6	7	4	5	51
pump							1	1		2
bath house			6							6
<u>Rainy Season</u>										
house	12	3	1	3	3	6	7	2	2	39
stream, river, water holes	4		1	3					2	10
pump							1	3	1	5
bath house			5							5

Source: Questionnaire 1, 1981



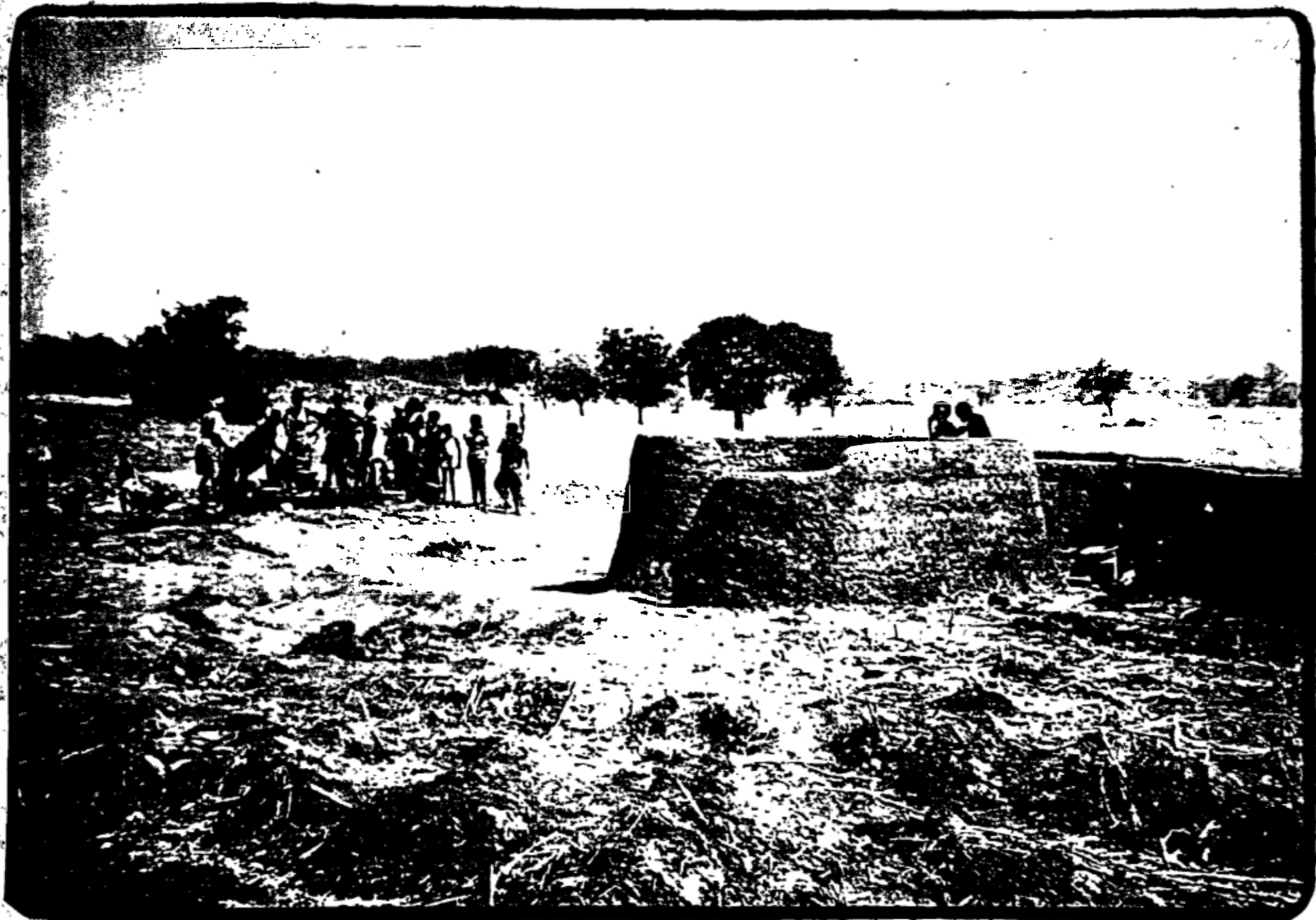


Figure 4.1 Bathhouse at pump site, Dua



The habit of bathing twice a day is one which persists for women in Bolgatanga District. 63% of women interviewed in 1981 indicated they bathe 2 times a day in the rainy season. While only 42% bathe 2 times a day in the dry season, when surface sources dry up, the provision of drilled wells indicates that bathing 2 times a day has continued for a majority of women. This number could be increased with the construction of bath houses.

Women prefer to bathe inside during the dry season, although they may bathe in streams and water holes in the rainy season when the millet stalks provide privacy. The bath houses at Dua, made in the same manner as house construction but without plaster or roofing provide privacy for bathing at the pump site. Women at Dua were able to continue to bathe twice a day in the dry season. In some other villages bathing altered from greater frequency in the rainy season to less frequency in the dry season. The bath houses at Dua should be examined closely to determine if they are hygienic as constructed and used. If these structures are hygienic, other villages could provide such facilities. Women, with time released from water carrying activities in the dry season, could work with men as they normally do in house construction, contributing time, materials and labour to build bath houses near the pump sites. Thus women would be relieved of the burden of carrying water from the pumps to their homes for daily bathing needs. Time and energy would be saved for women and personal hygiene would be improved by the provision of a



facility which could permit people to bathe the desired two times a day.

In other areas of the Upper Region men require that their bath water be heated especially in the cooler seasons (harmattan, rainy seasons).<sup>26</sup> Women in these areas would likely continue to carry water home for men's bathing, but might choose to use bath houses for themselves and their children. A study done by the WUP on a concrete bath house built for experimental purposes in Bongo, indicated that in the rainy season, 64% of the users were female and 36% were male. Half of the female users were girls under thirteen years of age and slightly more than half of the male users were boys under thirteen years of age.<sup>27</sup> Since women go to the pump sites daily, their greater use of the bath house is expected. As women train children to use bath houses, the pattern of men bathing at home could be changed in time, and women would be released from some of the heavy drudgery of water carrying. Moreover, if villagers can construct hygienic bath houses from local materials, they are not drawn into a dependence on materials like cement that have been difficult to obtain in the market and which are increasingly costly to buy.

Development workers frequently neglect using unstable local materials in the desire to leave in place a strong functional utility. The plan to build bath houses was abandoned in favour of construction of latrines considered





a more efficient use of **scarce** cement in tackling the problem of rural hygiene and sanitation. However, villagers have used local materials for building their homes, including their bathrooms for centuries. While concrete bath houses across the region would be ideal, construction of bath houses at the pump sites using local materials is a more realistic goal given the constraints on the Ghanaian economy.

In abandoning the construction of bath houses at the pump sites, the WUP team lost an opportunity to foster improved health through increased use of water for bathing. Moreover, the WUP failed to maximize the benefits to women in time and energy saving resulting from the URWSP, benefits which had never been emphasized in the project.

#### IV Water Collecting as a Socializing Activity for Women

Development projects may alter rural women's daily habits so that socializing is rendered insignificant. Concern frequently has been expressed that a project like the URWSP may reduce women's opportunities to socialize. (Such opportunities are very important in illiterate societies, since information is passed on verbally through personal contact). This concern was not addressed in any documentation on the project. As indicated in chapter three, the social aspects of water development were not given much consideration in the URWSP, and the role of women in water



supply has been ignored. The URWSP was designed to provide a drilled well for every three hundred villagers. Women are required to leave their compounds to walk varying distances to fetch water from these wells. To determine how village women viewed water fetching as an opportunity for socializing, I asked them to list the daily activities which provided opportunities for socializing. Table 4.13 (page 147) shows the responses to this question.

Water fetching, marketing and funerals were the three major responses making up a total of 84.7% of all responses. When we take the percentages of responses to these three activities and compare them in the three categories of i) control village ii) villages with drilled wells but no pumps and iii) villages with drilled wells and pumps, we see that water fetching has not become less important to women as a socializing activity when drilled wells are installed in a village.

### 3 MAJOR RESPONSES ON SOCIALIZING ACTIVITIES Table 4.14

#### A Comparison in 3 Categories of Villages

Responses	Control Village	Villages with- out pumps	Villages with wells and pumps
water fetching	34%	34.5%	40.2%
marketing	36.6%	30.9%	33.3%
funerals	14.6%	14.5%	13.8%

Source: Questionnaire 1, 1980



Importance of Daily Activities in Socializing - Table 4.13  
Total responses given for each activity and % of that response to  
total responses in that village

<u>Activities Cited</u> <u>by women</u>	Sekoti Nyogbare	Shia	Dua	Balungu	Sapero	Borogo	Nangodi	Nyokoku	Vea	Azaasi	Total
water fetching	14 34%	5 26.3%	9 37.5%	5 41.6%	4 23.5%	10 52.6%	4 23.5%	8 50%	5 50%	4 50%	68 37.2%
marketing	15 36.6%	7 36.8%	6 25%	4 33.3%	8 47%	6 31.6%	8 47%	2 12.5%	2 20%	3 37.5%	61 33.3%
funerals	6 14.6%	2 10.5%	5 20.8%	1 8.3%	2 11.8%	1 5.3%	3 17.6%	4 25%	2 20%		26 14.2%
social gathering	5 12.2%						1 5.9%		1 10%	1 12.5%	8 4.4%
meeting at chief's house	1 2.4%										1 .55%
fetching fuel		5 26.3%									5 2.7%
sitting under the trees			2 8.3%	2 16.6%	2 11.8%						6 6 3.5%
visiting homes			2 8.3%		1 5.8%			1 6.25%			4 2.2%
beating gravel						1 5.3%					1 .55%
plastering						1 5.3%					1 .55%
sand gathering							1 5.9%				1 .55%
farming								1 6.25%			1 .55%

Source: Questionnaire 1, 1980



Of these three activities compared above, only water fetching may be considered a daily activity except in a few cases in which women go to trade at the market daily. (Only 3 out of 92 responses or 3.7% of women in 1980). Moreover, 11 women or 12% said they never go to market at all. Water fetching was an activity cited by 89 women or 95.7% as a part of their daily routine. In sum, water fetching is a daily task for most village women, and one that is favoured above all daily tasks for the opportunity it provides for socializing. The well-site may be a natural setting for the dissemination of village information by the women. If bath houses are constructed near the well-site, men and women both might find the location growing in significance for socializing.

#### V Time Saving for Women

The provision of water by women in the Upper Region of Ghana has been a task demanding great time and energy particularly in the dry season of the year. The URWSP by supplying drilled wells and hand pumps was designed to relieve women of some of the drudgery of this daily task.

Village women have no way of telling exact time, yet one can see in Table 4.15 (page 149) that in villages where a stream was the source of water in the dry season (Sapero, Mangodi, Nyokoku, Azaasi), the times cited by the women run into hours, even the entire day. Dug wells also dry up and women may wait hours for water to seep into them just as they





wait at dry stream beds in which holes are dug for water collection (See photograph page 150.). The source of water previously used at Borogo was a dam pond (also for 5 out of 6 women at Ve'a Gong'a). The times cited at these two villages are considerably less (average 55 minutes).

Time saved varies from village to village and also at times from woman to woman depending on the location of her compound in the village relative to the former dry season source and to the drilled well.

TIME SAVING IN VILLAGES WITH DRILLED WELLS Table 4.15

No. of Women Responding in Villages

Former Source of Water in Dry Season	Sapero Borogo	Nangodi Nyokoku	Ve'a Azaasi	Total
stream	8	4	8	25
dam_pond		11	5	16
dug well		3		3
dug out		1		1

Times Mentioned in Getting Water from this Former Dry Season Source

3 hrs.	2 hrs.	2 hrs.	1 day	1½hr.	6 hrs.
3-4 hrs.	1 hr.	1 hr.	1 day	2 hrs.	
	1½hrs.	4-5hrs.	1 day	15 min.	
	30min.	4-5hrs.	1 day		
	45min.	3 hrs.	1 day		
	45min.	2 hrs.	1 day		
	45min.	4-5hrs.	2 hrs.		
	15min.	30min.	4 hrs.		
	30min.	allnight			
	30min.				

Source: Questionnaire 2, 1980





Figure 4.2 Woman at dry stream bed, Sekoti Nyogbare



The exact determination of distance covered and time involved in water collecting is impossible for village people to make. Nevertheless, it can be said that for many women there has been a considerable saving in time particularly in the dry season due to the installation of drilled wells under the Upper Region Water Supply Project. From an URWSP Field Operation File,<sup>28</sup> containing requests for water supplies from communities across the Upper Region in 1976, 1977, 1978 and 1979, I compiled a list of distances cited that women had to walk for water. In 1976, the twenty requests mentioning distances walked averaged 3.78 miles. In 1977, twenty-seven requests averaged 4.06 miles; in 1978, thirty-nine requests averaged 3.28 miles, and in 1979, twenty-nine requests averaged 2.14 miles. As the URWSP completed wells, the distances to water supplies were shortened. Moreover, within this file of requests there is a definite change from the early letters of 1975 and 1976 which refer to distances walked by women to any source of water. In 1977 there appear four references to distances walked to boreholes, **i.e. drilled wells**. In 1978, seventeen such references are made, and in 1979, nineteen references are made. Not only has the distance been shortened, but the source to which many women are walking has become a good quality source.

While the URWSP has not solved all the water problems of rural people in the Upper Region (most chiefs to whom I



spoke said they needed more drilled wells), nevertheless, the provision of approximately 2500 drilled wells across the region has reduced greatly the real shortage of water that previously had existed in the dry season. Although some women still have considerable distances to walk for water, most women have experienced a saving of time and energy in their water collecting activities, particularly in the dry season.

#### VI Use of Time Saved By Women (See Table 4.16 page 153)

The use to which women put the time and energy saved was determined by questions on changes in activities in both 1980 and 1981. The activities most frequently cited as having been increased by women because of the new water supply in 1980 were home care 15 responses, construction activities (plastering, grinding gravel, collection of sand, building) 13 responses, childcare 12, rest and relaxation 12, food preparation (cooking, grinding millet, grinding flour) 10 and agriculture (farmwork, gardening) 6. The two activities of children most often cited by women as having increased were playing 17 and bathing 20.

In 1981, women said they used the released time for cooking 28, grinding millet 14, childcare 10, fuel preparation 10, home care 10, weaving 5, resting 3, brewing pito 1, washing clothes 1, and eating 1. Playing was mentioned most frequently as an increased activity for children 16, but girls' work was cited 8 times and boys' work





IMPACT OF URWSP ON WOMEN'S ACTIVITIES Table 4.16

No. of Women Responding in Villages

<u>Increased Acti- vities of Women</u>	Sapero	Borogo	Nangodi	Nyokoku	Ve	Azaasi	Total	%
farmwork			2	1		1	4	7.8%
gardening		2					2	
plastering, grinding gravel	2	1		3			6	16.9
collecting sand	1	2			1	2	6	
building						1	1	19.5
home care	1	4	3	4		3	15	
cooking		1	1	2		2	6	13.0
grinding millet		1	2				3	
grinding flour			1				1	15.6
childcare		4	1	4	2	1	12	
gathering wood				2	1		3	3.9
gathering grass	1						1	1.3
handicrafts					2		2	2.6
trading			1				1	1.3
marketing	1						1	1.3
sewing						1	1	1.3
rest & relaxation	5	1	2	1	1	2	12	15.6
							77	100.1%

Increased Activi-  
ties of Children

playing	3	4	3	4	1	2	17	40.5%
bathing	3	5	4	5	1	2	20	47.6
herding	1						1	2.4
construction	1						1	2.4
gardening/farming				2			2	4.8
handicrafts					1		1	2.4
							42	100.1%

Income Earning  
Activities Begun  
by Women

trading		1					1
basketmaking				1			1
soaking of corn for grinding			1				1
							3

<u>Increased Income Earning Activities</u>	2				1		3
--	---	--	--	--	---	--	---

Source: Questionnaire 2, 1980



once while school and bathing were cited only once each. (One woman commented, "Boys play, girls cook.")

Because a number of women in 1980 had referred to construction activities increasing with the water supply, in 1981 I asked all women about rooms built in the previous year. The repair and construction of houses is carried on by men and women after the rains have ceased. Surface water may be used to prepare the mud and plaster. However, since many of these sources dry up, the availability of water from drilled wells might extend the period of construction or increase the number of rooms built by villagers. In the villages with URWSP wells, 26 women or 58% said no new rooms had been built during the previous year. 19 women or 42% said some additional or replacement rooms had been made. In the control village, Sekoti Nyogbare, 8 women (50%) replied that no new rooms had been built and 8 women (50%) had been involved in constructing additional rooms. There seems to be no indication that rooms are built because the wells were drilled. Rather rooms are built out of needs arising in the household - to replace rooms destroyed in the rains, to provide space for new brides, to complete a new house, to provide a grinding room or room for strangers. Women may have more time to spend on construction activities, or the period of construction may be extended further into the dry season, but



the number of rooms constructed does not appear to increase in villages with the drilled wells compared to the control village.

Most of the activities of women and children cited above are of social benefit rather than of direct economic benefit. Only 3 women in 1980 mentioned income earning activities which they had begun since the water supply had come into operation, and only 3 women mentioned increased income earning activities. In 1981, 4 women cited small scale activities (selling kola nuts or tobacco, weaving hats) which they had started in the past year. Two of these women were in the control village. A few women stated they had stopped some activities for raising income which they had had in 1980. (One woman told us that inflation had caused her capital for buying rice to dry up). These small activities of women lead them into subsistence trade practices already described. Their earnings are used for food and clothing.

The economic impact of the water supply project appears to have been insignificant with respect to income earning activities of women.<sup>29</sup> This fact is not surprising. Feachem set out aims and potential benefits of water supply improvements in stages. These benefits were arranged according to the extent to which complementary development inputs and initiatives are necessary to achieve the stated benefits.<sup>30</sup> As I stated above, no training program-



mes were being directed to women in any of the villages I visited. Illiterate, untrained women are not in a position themselves to take strong initiatives in developing income earning activities. Yet the increased activities of women resulting in social improvements could produce economic spin-offs if agricultural activity is increased by better-rested and better-fed people. Increased relaxation and rest should not be underrated as a social benefit, and perhaps as an economic one as well. The drudgery of women's daily lives is considerable, and much of it cannot be avoided at the present time. When the burden of water carrying is reduced, especially when food is scarce as in the late dry season, an automatic social benefit accrues. In a study done in Lesotho, Feachem concluded that a saving in time and drudgery is worthwhile even if economically measurable productive activity has not increased significantly.<sup>31</sup>

The one activity included in the Water Utilization Project's objectives which could have resulted in earnings for some women was dry season gardening. In 1981, 56 women (90%) stated that no one in the household was involved in such gardening. Five women in two villages (Borogo and Nangodi) stated that some person or persons in the household did gardening. In neither of these villages was such gardening done at the wellsite, and only one of the five women was doing such gardening herself. The other five





people cited as gardeners were men. In sum, my survey illustrated that dry season gardening has not become a widespread activity in Bolgatanga District as a result of the URWSP or the WUP. The five respondents who answered affirmatively cited tomatoes, bean leaves, lettuce, pepper, onions and okra as the vegetables grown. The potential for these vegetables in the dry season diet or in income generation for women has remained untapped because few women engage in dry season gardening at the well sites. Moreover, since there is no indication that people automatically take up dry season gardening at the well sites, women should be actively encouraged to do so.

#### VII Nutritional Changes

One of the objectives of the Water Utilization Project was the establishment of dry season gardens at the well sites. Such gardens while of limited impact, could improve nutrition in the season when fresh vegetables are scarce. In Bolgatanga District I saw several dry season gardens, but not in all the ten villages I visited.

In 1980 I asked women in the six villages with functioning wells if their food had changed since the installation of the pumps. While 32 women of 47 or 68% said changes had occurred, no woman referred to any change in the composition of the diet. Most references were to food improvements resulting from more time available to women for cooking and from the use of clean water in the cooking process.



In 1981 I asked women in all the villages about changes in their diet during the past year. 52 women or 83% said there was no change. 9 women or 14.5% in three villages including Sekoti Nyogbare, indicated minor additions or subtractions related to availability of seeds, rainfall and vegetable production with irrigation at Bongo and Vea Dams.

The conclusion drawn is that minimal change has occurred in the nutrition of villagers as a result of the URWSP or the WUP in this district. Time saving for women has resulted in many women having time to prepare properly the usual diet of millet porridge (tzed), bean cakes, soup, etc. The use of pure water in cooking was a felt benefit which I was not able to assess scientifically..

#### VIII Women's Perception of the Project and Their Role In It

Village women in the Upper Region have a lesser role in decision-making for the household than do men. Nevertheless, the division of labour based on sex results in a certain degree of independence in decision-making in women's work areas. In water supply, women make decisions on the source used, the quantity to be supplied to the house and the use of the water. The avenue of approach to a village is the chief and his elders (all men). Therefore, while the URWSP may be criticized for not initially involving villagers more in the discussions about the project, unless particular effort had been made to ask that women join discussions, they would have likely been excluded.<sup>32</sup> As a



result of practices followed by URWSP personnel, women in my survey showed a limited understanding of the water supply project.

The URWSP was established by a decision of the Ghanaian government. Although villagers had been requesting help with the provision of water, a formula determining which villages would receive water was designed by the Ghana Water and Sewerage Corporation, and the location of wells within those villages was determined by a team of hydrologists. While 8.5% of women in the second survey of 1980 realized the government's role in the project, and 31% knew that GWSC had decided on the location of wells, 23.8% and 33% respectively indicated no knowledge on these matters. A large percentage, 54.8% gave the chief credit for deciding to have a well, and 31% for his decision on the location. (See Table 4.17 page 160-161)

When the pumps were installed, instruction on the use of the pump was most frequently given to men (57%). Women were given instruction 16.7% of the time. Even in this area which is mainly women's work, 19% of women indicated they did not know who had received such instruction. The pattern often related was one in which GWSC workers showed the men how to use the pumps, and the men showed the women.

Women understood very clearly the implications of the pump breaking down. While 41.9% of respondents said that all villagers suffer because all drink water, 48.8% said that women suffer the most. Women are the water collectors,



WOMEN'S PERCEPTION OF WATER PROJECT Table 4.17

No. of Women Responding in Villages

<u>Who decided village should have drilled well</u>	Sapero	Borogo	Nangodi	Nyokoku	Vea	Azaasi	Total	%
chief	6	3	3	7	4		23	54.8%
husband	1					1	2	4.8
government		3	1				4	9.5
head man						3	3	7.1
don't know		3	4	1	2		10	23.8
							42	100 %
<hr/>								
<u>Who decided on location of well</u>								
chief	5	2	1	4	1		13	31%
GWSC	1	4		1	4	3	13	31
tendana			1				1	2.4
headman						1	1	2.4
don't know	1	3	6	3	1		14	33.3
							42	100.1%
<hr/>								
<u>Who is responsible for maintaining pump and well site</u>								
chief	7	3	3	5	2		20	47.6%
man chief appointed		2			2		4	9.5
tendana			1				1	2.4
husband					1	1	2	4.8
headman						2	2	4.8
another man		1	1				2	4.8
don't know		3	3	3	1	1	11	26.2
							42	100.1%
<hr/>								
<u>Who suffers most when pump breaks</u>								
women	3	7	2	4	2	3	21	48.8%
all villagers	4	2	6	4	2		18	41.9
children	1						1	2.3
husband, chief, man in charge, men					2	1	3	7.0
							43	100 %





Table 4.17 cont'd

<u>Who received instruction in using the pump</u>	Sapero	Borogo	Nangodi	Nyokoku	Ve	Azaasi	Total	%
women	2	2	1	1	6	1	7	16.7%
men	5	6	5	2	6		24	57.1
chief's son				1			1	2.4
one woman headman				1			1	2.4
don't know		1	2	3		2	8	19.0
							42	100.0%

---

<u>Why should village have a drilled well</u>	Sapero	Borogo	Nangodi	Nyokoku	Ve	Azaasi	Total	%
lack of water in area	6	8	7	7	6	3	37	88.0
previous source polluted	1						1	2.4
to save time				1			1	2.4
don't know		1	1			1	3	7.1
							42	99.9%

---

<u>Overall Effect of drilled well</u>	Sapero	Borogo	Nangodi	Nyokoku	Ve	Azaasi	Total	%
no effect	1	1			1	1	4	9.8
improved lives	6	8	7	8	5	3	37	90.2
							41	100.0%

Source: Questionnaire 2, 1980

4(23%)  
 5(21%)  
 30(71%)  
 1,614



and as one woman in Nyokoku said, "Women don't know how to repair the pump and have to walk long distances to fetch water."

26.2% of women did not know the person responsible for the maintenance of the pump and the well site. 47.6% of women said the chief had this responsibility. The remaining responses referred to other men in the villages.

In 1981 I asked the women in villages with wells and the chiefs of these villages about water users' committees. Such committees had been recommended by the Hall-Merriman Report as a means of involving some women in discussions about village water problems. Three chiefs of seven interviewed stated they had such committees in their villages, but only in Borogo were women included in the composition of the committee. In Borogo, 2 women of 6 knew about the existence of the committee, but no women knew of any women on it. In the other two villages where chiefs had indicated the existence of water users' committees, women interviewed stated they did not know of any such committees.

Clearly, women have not been selected for any particular role in the URWSP or in the WUP as it relates to water supply.<sup>33</sup> Their understanding of the project's implementation and even of its maintenance is often inaccurate or inadequate. Their clear understanding of the increased burden on their time and energy when the pump breaks down indicates their dependence on the village pump men and district GWSC repairmen. Whether men who have not



had to fetch water over long distances are as responsive to pump breakdowns as women are is a question I continue to raise. The daily task of fetching water puts women in a superior position regarding surveillance of the pump as Elmendorf and Isely have stated:

Women are also among the first to notice defects in the structure of the well or breakdowns in the pumps or other lifting mechanism, and therefore, they are frequently in a good position to call attention to these problems, apply simple solutions, or arrange for repairs if possible.<sup>34</sup>

In this project, there is no indication that men implementing it saw any need to consider women's role as water suppliers as a determining factor in the selection of women for training programmes. Even in the simple use of the pump, men were more often given instruction than women. The right to technology only through men is negative to women's role in development particularly in water supply over which women traditionally have had independent control.

### IX Health

An assessment of health benefits was excluded from the design of the 1980 field survey. Since I had observed that time-saving in the dry season appeared to be a significant benefit to women, I anticipated responses regarding time-saving benefits to be given by women who had said that the wells had improved their lives. Of 39 references to benefits in the question on overall effect of the water supply, only 4 or 10.3% were about time saving. 5 or 12.8%



responses were on the clarity or purity of water which "makes villagers happy to drink it or to use it for bathing". 30 references or 76% were made to improved health. Thus it appeared that the URWSP, conceived originally with the general goal of increasing agricultural productivity through improved health, was seen by a majority of village women as contributing to the better health they said they had experienced since wells were drilled and pumps installed in their villages.

I decided to follow up the issue of health in 1981 by asking a specific question on health. 5 women or 11% said there had been no change in their health since the pumps were installed. The remaining 40 or 89% said their health was better. 42 references to decreased physical pain (chest pain, head ache, leg pains, neck pains, body pain) were made while 19 references to decreased digestive disorders (stomach ache, vomiting, diarrhea) were made.

Clearly, the URWSP in saving time for women from carrying heavy pots of water long distances has reduced the physical demands on women's bodies that such hard work produces. Even without an investigation of improved health from a decrease in internal disorders, one may conclude that most women are physically better off because of the URWSP.

### Conclusion

Village women in Bolgatanga District live in a tra-





ditional, patriarchal society in which production by household members is largely for subsistence. The colonial policy in the Northern Territories affected women's lives negatively by drawing off male labour for southern Ghanaian development. This pattern of male migration resulted in a loss of some of the prime agricultural labour in northern villages. The loss continues to the present. The distinct division of labour based on gender generally has prevailed; consequently, women to-day state that they suffer a decrease in food rather than an increase in work when men migrate. The colonial education policy favouring boys left women disadvantaged as well. There is still a greater likelihood of boys from villages in Bolgatanga District attending school than village girls. Moreover, it is clear that the curriculum in colonial-style schools drew young men away from their villages more permanently than the labour policy did. The failure of the colonial office to initiate economic development in the north meant that northern peoples have had to struggle with a development gap between the north and the south. There is no industrial development to which rural people can move, and the pressure on land in Bolgatanga District means that villagers must live on production on the land and small trading in the market. A few earn cash from minor government jobs or as agricultural workers.

Village women whose status is derived from reproduction and production are burdened by high infant mortality



rates and periods of food scarcity. They desire to find ways of improving their childcare and agricultural practices in order that their children and other household members might survive.

Women's work in agriculture has been given considerable detail to emphasize the important role women have in food production. Women work, not as assistants to men, but as co-producers. Without women's agricultural work the household would not survive. Women work on the staple crop production, and often have their own plots for groundnuts and other items. Women are responsible for the ingredients which go into the soup served daily with the staple cereal porridge. The effort to get these ingredients increases as the late dry season approaches, because household food supplies from the previous harvest have dwindled. The small income earning activities of a minority of women and the market practices illustrate the hand to mouth existence facing rural women, and their significance in the survival of all rural people.

Development projects which see women as assistants to men are negative to women's development in this society. Women need training and expertise in their fields of work as much as men do in theirs. Although a distinct division of labour based on gender may be seen as detrimental to women's development because they are bound to certain roles, my argument has been that such a division can be used for women's development in society provided that



training programmes and technology directed at women's traditional work areas accrue to women. Training and expertise in these areas that accrue to men only result in the underdevelopment of women, that is a lowering of the importance of women in their own society and a decline of women's knowledge and expertise relative to men's. While it is difficult to overcome disadvantages to women resulting from the colonial period and those inherent in the patriarchal society in which they live, care must be taken not to follow patterns that result in further marginalizing women within the society.

It follows from my argument above that women traditionally responsible for supplying water for daily household use, should be given special consideration as beneficiaries in the implementation of a new water supply. Therefore, in examining the Upper Region Water Supply Project, I have sought out benefits to women not only through the provision of a more convenient, reliable and safe supply of water, but also through the 'spin-off' effects - the decision-making, the training and knowledge transfer that are part of such a project.

The drilled wells are used by a majority of women all year round with some women resorting to more convenient, surface sources in the busy rainy season. While my data is not definitive on consumption, a tentative conclusion is that there is some increase in water consumption in the dry season particularly for women living relatively close to the drilled wells. Most women indicated that they had



enough water for cooking, cleaning and construction activities when previously they had experienced dry season shortages.

Women seem to prefer a bathing pattern of two times a day, though in cooler seasons this pattern may not be followed. The availability of water from the drilled wells means that this desired bathing pattern can be followed and personal hygiene improved over the hygiene of previous dry seasons. The construction of bath houses such as the two at Dua, if hygienically sound, would provide the privacy people prefer for bathing, and eliminate the burden of women of carrying water to their compounds for daily family bathing. Men do not appear unwilling to use bath houses, and children often have clean-ups at the well-sites. If family members walk to bath houses at the well-site, both time and energy saving for women result. The reduction of physical stress on women is also important. In questions on health women indicated an improvement in their lives with the diminishing of body pains caused by carrying heavy head loads of water long distances. Although time and distance in carrying water have been reduced for many women, water collecting remains the chief daily activity providing opportunity for women to socialize.

The greatest time saving for women as a result of the URWSP occurs in the dry season in villages where the former dry season source was a stream or dug well. The





least saving of time occurs where the former dry season source was a dam pond. Besides the variation in time saving from village to village, there may be variation within villages depending on the location of the drilled well and the former dry season source relative to the various compounds.

While both economic and social benefits could accrue to women from the use of time saved to them, it is clear that women use the time mainly for regular chores of cooking, childcare, fuel preparation, home care, construction activities and rest and relaxation. A small minority use released time for small income earning activities. Thus, women and society benefit socially from the time released to women by the URWSP. An indirect economic benefit may result, but cannot be determined in this study.

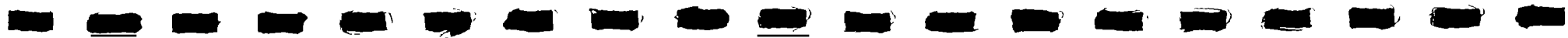
To increase direct economic benefits, additional inputs aimed at women are necessary. Women expressed a desire for training in childcare and agriculture, two spheres in which women have significant roles. A component of the WUP was dry season gardening, but no specific programmes were organized to encourage this activity. Rather, villagers were left to develop dry season gardening on their own. The time saved by women in the dry season through a reduction in water collecting chores could have been directed to dry season gardening. Women need the produce for household survival (whether eaten by the household or sold for cash to buy other food items), and vegetable



production has been a traditional female activity. Although dry season gardening at the well-sites could involve only a limited number of women, the opportunity to focus this 'spin-off' effect of the URWSP on women has not been taken.

The training component of this project as outlined in chapter three, was aimed at men only. Many women in my study did not even know who in the village was responsible for pump maintenance. Women were given no opportunity to discuss the project, and often showed an erroneous understanding of its origin and implementation. This project was largely implemented as a technological aid project; the benefits to rural people were to come from the provision of pure water. Development of rural people themselves through involvement in the project was not part of the initial considerations. As the project progressed, and it became clear that village people should participate in the project if the reliability and purity of the supply was to be maintained, women as collectors of water were not singled out for training.

In sum, women have remained observers in this project, dependent on men as decision makers regarding the planning and implementing of the water supply, and on men as repairmen of the pumps used by women to draw water for household requirements. The project has been an aid project to women but not one of development.



Notes

1. Martin Falkenmark (ed.) Rural Water Supply and Health, the need for a new strategy, (Uppsala: Scandinavian Institute of African Studies, 1982) p. 56.
2. Even though some other durable goods of productive and prestige value (like ploughs and bicycles) are now in evidence, wives still are "the sole means of attaining the supreme end of life....the perpetuation and increase of a man's lineage." Meyer Fortes, The Web of Kinship Among the Tallensi, (London: Oxford University Press, 1949) p.83.
3. Gera Breebaart, "Women and Agricultural Development Report of field study in Navrongo District, Upper Region, Ghana, (Navrongo/Leiden, 1979) p.56.
4. Village Water Supply, A World Bank Paper (Washington: 1976) p.54.
5. The wife of the President of Ghana urged the National Council on Women and Development to organize training and employment facilities in order to draw back from other West African countries, the young Ghanaian women who were earning their living in those countries as prostitutes.  
Daily Graphic, March 12, 1980.
6. World Bank Development Report 1980 (Washington: The World Bank, 1980) p.46.
7. Ibid. p. 50.
8. Gera Breebaart, "Women and Agricultural Development", 1979. p. 41.
9. "Annual Report of the Northern Sector Christian Mothers' Association and Related Women's Associations", Tamale, Northern Region, Ghana, 1977.
10. Jette Bukh describes the new division of labour in south eastern Ghana resulting from male migration. Women have an increased work load with the shift from predominantly male to predominantly female labour in food crop production. Generally, there is much less time available for food production since women continue all their other traditional chores, and nutrition has suffered with the cultivation of cassava rather than the 'male' staple of yam.  
Jette Bukh, The Village Woman in Ghana, (Uppsala, Scandinavian Institute of African Studies, 1979) p.87.



A somewhat different situation has developed among the Kusasi of the north eastern part of the Upper Region. Women's work has increased not from engaging more intensively in staple food production which remains a male dominated sphere, but from the greater efforts required to produce income from other sources than food production. Such income is essential to buy food items not available from household production which has been diverted to cash by men. Ann Whitehead, "'I'm hungry, mum' The Politics of Domestic Budgeting", in Kate Young et al (eds), Of Marriage and the Market, (London: CSE Books, 1981) p. 101.

11. Nadia Youssef, "Women and Agriculture in Moslem Societies", Studies in Comparative International Development, Vol VII No. 1, 1977. p.56.
12. Piet Konengs, "Peasantry and State in Ghana, The Example of the Veia Irrigation Project in the Upper Region of Ghana", Working Paper No. 5/1981. p. 25.  
Konengs found that many women seeking wage labour had lost their farmland in the project area. While wage labour for women provided some independence from their husbands, the workers with commercial farms were not under the Ghana TUC (Trade Union Congress) as were workers in state corporations. Therefore, labour relations varied from paternalism to master-slave relations.
13. Meyer Fortes, The Dynamics of Clanship Among the Tallensi, (London: Oxford University Press, 1969) p. 102.
14. Gera Breebaart, 1979. p. 20.
15. Ann Whitehead, "'I'm hungry, mum' The Politics of Domestic Budgeting", 1981. p. 97.  
Whitehead found that a number of different arrangements are made in Kusasi society for agricultural work on household farms and private farms (belonging to men or women individually). While co-operative work by men and women is frequently performed on household millet farms, more often individuals or all male or all female work parties carry out the labour on the private groundnut and rice farms.
16. Nii-K Plange, "'Opportunity Cost' and Labour Migration: a Misinterpretation of Proletarianisation in Northern Ghana", The Journal of Modern African Studies, 17, 4, 1979. p. 671.





17. Ann Whitehead, 1981. p.101.
18. Jette Bukh, 1979, p. 49.
19. Ann Whitehead, 1981. p. 102.
20. Tests carried out on the handpumps by the Canadian firm contracted for the URWSP showed increased use of the pumps from January to May/June each year. While this result is standard for water projects of this kind, it must be borne in mind if improved health is the chief objective of the project. W.L. Wardrop & Associates Ltd., "Recommended Hand-pump Selection for Completion of Phase 2", Based on Field Test Program 1976-1979, Nov. 1978. p.24.
21. D.H.V. Consulting Engineers, Shallow Wells, 2nd Edition, (Amersfoort, The Netherlands: 1979) p.15.
22. G.F. White, D.J. Bradley & A.U. White, Drawers of Water Domestic Water Use in East Africa, (Chicago: University of Chicago Press, 1972) p.119.
23. Ibid. p. 121.
24. Studies done in Botswana produced mixed evidence on this subject. One study concluded there was no clear relationship between distance and water consumption while another indicated a slight decline in water consumption as distance increases. Emery Roe and Louise Fortmann, Water Use In Eastern Botswana. Policy Guide and Summary of the Water Point Survey, (Ithaca: Center for International Studies, 1981) p. 60.
25. Meyer Fortes, The Dynamics of Clanship Among the Tallensi, 1969. p. 8.
26. Conversation with Ron Schatz, Project Officer, CIDA, 1982.
27. Bongo Bath House Usage Survey, Water Utilization Project, Upper Region, Ghana. Sept. 1980.
28. URWSP Field Operation File, Office of URWSP, Bolgatanga, 1980.
29. Both the SIDA study of 1973 and the Copperman research of 1978 done in Botswana reached the same conclusion. Social benefits from increased water-related activities for household maintenance and relaxation are more likely to accrue from time released from water carrying than any direct economic benefit. Emery Roe and Louise Fortmann, 1981. p. 61.



30. Richard Feachem et al, Water Wastes and Health in Hot Climates, (Toronto: John Wiley & Sons, 1977) p.77.
31. Richard Feachem et al, Water, Health and Development, An Interdisciplinary Evaluation, (London: Tri-Med Books, 1978) p.199.
32. Present WUP workers in health and sanitation education in Upper Region villages have found that they must not only request that women be included in training sessions, but also that a place other than the traditional male meeting place must be selected for both women and men to discuss together. Conversation with WUP worker, Lynne Mahoney, June, 1982.
33. There are indications that a few women's committees may be emerging at the present time due to WUP initiatives in health and sanitation education programmes. Conversation with WUP field worker, Lynne Mahoney, June, 1982.
34. Mary L. Elmendorf and Raymond B. Isely, "The Role of Women as Participants and Beneficiaries in Water Supply and Sanitation Programs", Draft prepared for Water and Sanitation for Health Project, USAID, Washington, 1981. p.76.



## Chapter V

### SUMMARY AND CONCLUSIONS

The purposes of this study as outlined in Chapter One were to provide knowledge of rural women in Bolgatanga District, Upper Region, Ghana, and to determine the impact of a major development project on their lives. It is evident that women hold a subordinate position within the patriarchal society of the Upper Region. Colonial policies, originating in the British patriarchal system, worsened the position of women as men were drawn out of the traditional society for various types of service. In the implementation of the URWSP a similar process is seen. Undoubtedly, the provision of water through the drilled wells is a benefit to women. However, by ignoring the importance of women in water collection and management, and by denying women the training and control of modern technology in the new water supply, CIDA has contributed to the undermining of the position of women within their society. Patriarchal attitudes in Canada and in CIDA, transferred to Ghana along with modern water technology, result in women being burdened with a double yoke of patriarchy and in increased marginalization of village women in the Upper Region of Ghana.

This concluding chapter will assess the theoretical framework as used in the study, and discuss the impli-



cations of the major findings for both policy and programme development. The gathered and analyzed information on the role of women in the Upper Region of Ghana, and women's importance to water supply will contribute to a procedure necessary to ensure that women will be drawn in as equal participants in the development of their society. All external development agencies can benefit from an understanding of how the double yoke of patriarchy hinders women's participation in development. Because of CIDA's policy on the integration of women in development and its continuing involvement in the Upper Region of Ghana, particularly in water supply and related areas, much of the concluding chapter will be presented as relevant to this agency.

This study in linking the dependency theory of development and a patriarchal model has devised a theoretical framework which may be a useful tool in the research area of women and development. Testing and refining of this framework by other researchers is now required.

The international system of colonialism and imperialism creates less advantaged, marginalized sectors of which rural people are, frequently, among those most adversely affected. However, whether in a period of colonialism or of independent development, men, more often than women are offered opportunities in education, training and cash-earning employment. Moreover, these opportunities for men





may worsen the lot of rural women by increasing work loads or lowering nutritional levels in the traditional, subsistence sector.

The unequal impact of colonialism, imperialism or development on Third World men and women in rural areas is an outcome of interacting forces of patriarchy. The patriarchy of the traditional, rural society limits and subordinates women with its own specific design. With the addition of an external, patriarchal view of women, different at least in part from the traditional one but equally limiting, women are burdened with a double yoke of patriarchy.

The restructuring of the economies of Third World countries may be undertaken by national governments to alter the pattern of dependency and underdevelopment. In addition, the restructuring of patriarchal systems becomes essential when countries face the pattern of underdevelopment which specifically has adversely affected the female half of the population.

The case study has illustrated the process in which women are neglected or undermined by a development project designed to improve living conditions for rural people in an area peripheralized by a colonial past. It becomes essential, therefore, that countries seeking to develop, analyze, not only the constraining elements of their own patriarchal system, but also these elements within external societies which may be co-operating in development efforts with them.



If women are to participate as equals in the development of their society, the nature of patriarchy within each particular society must be understood in order to identify the avenues in which women initially can move ahead.

The increasing awareness of the discrimination suffered by women within all societies of the world has resulted in the formation of policies to attack such injustices. Canada has played a leading role in developing the United Nations Convention on the Elimination of all Forms of Discrimination Against Women and has ratified it. As the convention is implemented in Canada, patriarchal structures will face revision or eradication, because structures that inherently subordinate women cannot be an integral part of that society directing its energy to equal participation in every sector of national life by all its members. This process of change is only beginning and development projects continue to be implemented in the Third World, bound by attitudes from the past which discriminate against women.

In the statement at the end of Chapter Four that the URWSP has been an aid project to women, but not one of development, I was focussing attention on the process generally employed in such projects in which one patriarchal structure plans and directs resources to another patriarchal structure. In this process, no consideration is given to differences that exist between the two patriarchal structures nor to the impact such a process has on women within the recipient country. It is well documented that western



developers have failed to see women as producers, especially in rural economies of the developing world,<sup>1</sup> and this neglect of the 'invisible' producer has not only negatively affected rural development projects, but also tended to worsen the situation of rural women and their families.<sup>2</sup> A process stemming from patriarchal structures will continue to discriminate inherently in the dispersion of aid benefits unless concrete efforts are made to provide a methodology for project implementation which will ensure that women are not underdeveloped by development. A system for checking each component of a project to make certain that women gain in their work areas, improve their economic independence and increase their power requires formulation. Women in developing countries will face problems in their own societies' patriarchal structures and will seek solutions for them. The task of any development agency is to ensure that assumptions about women's development based on its own patriarchy's historical experience not be added to the burden Third World women already carry. Women in western societies to-day struggle against the historical process by which women were domesticated and placed in economic dependence on men. In project implementation, women of the Third World must not be forced into this process which is not inevitable.

The major findings of this study have been detailed in Chapter Four. In examining the URWSP and its impact on



village women, time-saving has been shown to be a significant benefit, though there has been considerable variation depending on the location of the well, the location and type of the former source or sources and the location of the woman's compound relative to both the well and traditional sources. Without any community participation, a technical project like the URWSP is able to provide time-saving for women water collectors as long as the pumps remain operational. The traditional work pattern in which women collect water each day for household use has not been altered by the provision of drilled wells fitted with handpumps. The URWSP had no mandate to supply further inputs to maximize women's gains in time-saving. However, the Water Utilization Project which had community development as a component concentrated on maintenance and water protection; no concern to encourage productive activity for women in the dry season when time-saving is greatest has been shown. As a result, economic gains stemming from time-saving were minimal, though social benefits did accrue as women were able to complete their regular activities each day for the good of their households.

The technical nature of the URWSP meant that community participation was negligible. Only with the WUP were communities involved in discussion and work on the wellsites. However, there was no consultation or training for women, although in some cases where backfilling was done, women





supplied sand and stones for this task. The new water system is operated by men only, while women participate in the traditional manner as water carriers. There is no conclusive evidence that all villages in this male-dominated society would have prevented women from doing simple pump maintenance. Women were barred from training in pump maintenance by a decision made outside the villages to ask chiefs to appoint men to do this work.

This study has no direct proof that village men maintain the pumps less well than village women. There is no way to make such a comparison. However, the data show women as the main users of the pumps in providing water for household use. The original goal of improved health is dependent upon the new wells being used, the pumps kept operating and the water kept pure. If women, who are most involved in household water supply, are not engaged in discussions about the new supply and are not trained in its maintenance, there is indirect evidence that such a goal of improved health may be an evasive one.

The study shows women generally ill-informed about the origin and maintenance of the new water supply. Women were neither consulted regarding their insights on water supply nor trained in any aspect of water supply or maintenance. The outside agencies in selecting men for training are establishing technology as a male domain. Because an interdependence of men and women in some work areas does exist in



this society, it is not impossible for this new interdependence in water supply to work. However, interdependence is created at the expense of women's independence in the work area of water supply. Once again is seen the pattern of men gaining access to modern technology and training while women are left with traditional arduous tasks. When such training is in a traditional work area of women, such a pattern is detrimental to women and to real development in that society.

The literature on women, water and development cited in Chapter One emphasized the importance of involving women in water projects from the initial stages to the maintenance stage in order for projects to be successful. Moreover, an integrated approach including primary health care and effective community participation was emphasized as essential in achieving the goal of most rural, water supply projects - improved health for village people.

This study of the URWSP has shown that village women have not been involved in the project, nor was an integrated approach to water supply followed in the project. An attempt to move into primary health and community participation after the installation of the pumps has been only partially successful. The primary health care project was cancelled after one year; the Water Utilization Project has continued its operations in water protection and site development, but has directed its resources mainly to men.

In Chapter One certain assumptions about women and



development were presented. The study was carried out to test these assumptions along with the hypothesis that the URWSP provided socio-economic benefits to women. With regard to the assumptions, the study has shown:

Assumption: Women are an important element in rural production.

The high proportion of women engaging in agricultural production is evident. The interdependent nature of production makes women's agricultural tasks essential to survival of the rural household.

Assumption: Women have not been given attention in development projects proportionate to their contribution to rural society.

Women's daily tasks are arduous and demanding. Besides food production, women have sole responsibility for food processing and cooking, water and fuel collecting. Much of the marketing is done by women as well as certain income-generating activities. This obvious contribution made by women to rural society did not result in the involvement of women in the URWSP except as users of the new wells and pumps. While women are the main beneficiaries in time-saving as a result of the project, this benefit has received little attention, because resources have been



focussed on the benefit of improved health for all.

Assumption: The neglect of women as participants results in less effective programmes and can lead to the underdevelopment of women.

The introduction of the Water Utilization Project in the Upper Region gave recognition to the fact that without community participation, the goal of improved health for all villagers would not be realized. The failure to engage women at this stage in discussion and training has cost women their independence in water supply. The data shows women continuing in the traditional pattern of collecting, storing and managing water at the household level. Since men do not have to help women collect water from other sources which may be distant or difficult, pump breakdowns are not such a great concern to men as to women. As already stated, this study has no basis of comparison between pumps maintained by women and pumps maintained by men to substantiate the assumption that the programme is less effective. Nevertheless, it is clear that the dependence of women upon men in pump maintenance undermines the important role of women who traditionally had independence in this field.





This study was initiated to examine a development project underway in order to determine how women were being integrated so that the process might be improved upon. The failure to integrate women into the project has been illustrated. Two tendencies shown in the study explain this failure.

The first tendency to state the need to involve village people in the project and then to involve men only is illustrated in the maintenance component. The second tendency to ignore objectives that affect women specifically and to concentrate on other objectives is illustrated in the scant attention given to time-saving for women and to dry season gardening (both areas which could affect productivity), and concentrating on the health objective. Priorities in the use of resources in development efforts will mean that objectives affecting women may not always be given consideration. The literature on water and development indicates, however, that in this field, women are bypassed in favour of men in most projects. This study has attempted to seek an explanation for this fact, in order that future projects may be implemented with women's full participation.

The concern that women participate in water projects has not been emphasized in the major studies on domestic water supply conducted in Africa. While Feachem's study devotes a chapter to village level management, it does not differentiate between men and women in this form of partici-



pation.<sup>3</sup> However, time-saving as a benefit of improved supply is frequently considered because of the perceived economic gain. Gilbert White examined the cost to women in obtaining water by estimating time and calories spent. Time spent fetching water varied greatly and appeared to be associated with terrain.<sup>4</sup> White also explained that time spent in water collecting increased from the rainy to the dry season. Feachem's evaluation study in Lesotho examined time-saving in detail. Time-saving in this study was greater in the lowlands than in the highlands because traditional sources were much closer in the highlands.<sup>5</sup> Time-saving generally was low because no arid areas were involved and because there was no pronounced dry season.

The present study confined to one district of the Upper Region of Ghana with distinctive rainy and dry seasons, but with little variation in the terrain, has examined time-saving for women with the following results. Generally, time-saving increases from rainy to dry season, but time-saving varies depending on the location of the women's compound relative to both the traditional and the improved source. The dispersed settlement pattern of the district, plus the the variety of traditional sources are factors that need to be considered in assessing time-saving and the maximizing of time saved to women.

In addition, this study has shown that time-saving for women, being greatest in the non-agricultural dry season, can result in increased productivity only if women are en-



gaged in some income-earning activity to which they can devote more time, or if additional inputs are provided. Thus, it may be necessary to integrate water supply development with departments of agriculture or community and rural development. Feachem's table of complementary inputs, shown on page 9, recognizes this need. This study has focussed some of those inputs specifically on women.

It is necessary to spell out the specific role and needs of women in development because much of the literature is written to reinforce the tendency to see and use men in development projects. Even when policies are formulated to integrate women in development, the male dominance in development is difficult to overcome. CIDA, the development agency involved in the URWSP, serves as an example of the difficulty in altering these established practices.

CIDA has developed Policy Directives on the Integration of Women in Development outlining the manner in which CIDA officers should operate in order that programmes and projects guarantee that women share equally with men as agents and beneficiaries of these efforts. (See Appendix B for the full text of these Policy Directives).

The directives express CIDA's official concern with the neglect of women in development, but they are not consistently followed in the implementation of projects. In her study of this problem in 1980, Suteera Thomson concluded,



It is unfortunate that the CIDA officers interviewed have not been very active in implementing the policy on the integration of women in development. The gap between the policy and performance is apparent. Effective means should, therefore, be worked out to translate CIDA's present policy on the integration of women in development into concrete programs and projects, and women should be included in the planning and execution. 6.

The difficulty CIDA officers have in implementing the policy is evident in the response from one officer to a request from Policy Branch in CIDA in 1980 for information on Ghanaian projects relevant to the integration of women in development. M.C. Adair, Senior Planning Officer stated,

In my opinion, there is certainly a tendency in aid agencies (which are male dominated) for planning and project officers to neglect the potential impact of projects on women. Correcting this requires that the officers involved be sensitive to the possible implications that rural (in particular) projects can have on women.....

It would serve the same purpose and an even broader one if CIDA would broaden the scope of this kind of analysis to include the potential effects of our projects on all disadvantaged groups whether they be male or female, farmers or urban dwellers..... 7.

The approach suggested here, by concentrating on all disadvantaged people, ignores the specific needs or problems of women stemming from their unique position in society. Because of the subordinate position of women in patriarchal societies, women do not gain proportionately from this approach. In a study in 1982 of the Mission Administered Funds (MAF) which CIDA supplies to Canadian government missions in developing countries, it was found that,





While MAF is specifically designed to fund small-scale grassroots development projects, and is presumed to benefit marginal target groups, of which women are the majority in all developing countries, only a negligible proportion of MAF funds (less than 10%) have gone to projects that directly benefit women.<sup>8</sup>

This report emphasizes that policy directives are not sufficient to improve the position women have in the development process, and recommends that specific criteria be established for selecting projects that address important women in development (WID) needs. These criteria should apply flexibly to individual country conditions and should reflect the local situation of needy people.

It is clear that at policy levels of governments and of international agencies, the important and essential role of women as equal partners in development has been accepted. However, the gap between policy and the reality of project implementation is yet considerable. In Chapter One, I outlined the growing emphasis on employing women in water projects to ensure their success; but only in a few projects do we find women playing a significant part in the planning and implementation process. Water project planning, a male engineering task in developed societies, will require specific direction in order to integrate women into this field of development.

To be successful, projects must be based on an understanding and analysis of the social reality. Specifically, development planners must understand certain features of



rural life including the following:

1) The nature of the distinct division of labour that usually exists especially in production in rural areas.

2) Household income as we have used the term to date does not apply in many areas. Rather, there is men's income and women's income.

3) Women's income and men's income are used for different purposes. Frequently, women's income is used for family subsistence. Men's income may be used for family needs and other purposes.

4) The sources of income for men and women may differ greatly. Men are more likely to gain income from cash crop production.

5) Male migration from rural areas has resulted in an increased burden on women left alone to meet basic needs of the family.<sup>9</sup>

The CIDA policy directive stating that officers should consult with qualified anthropologists and sociologists during programme planning and operation on matters affecting the basic human needs of women and their families is not forceful enough to bring about the essential understanding. While the concept of employing sociological studies of societies in which projects are being implemented is not new in the field of international development,<sup>10</sup> too seldom are studies carried out prior to project initiation, either because project planners fail to comprehend their



need or because budget cuts affecting these studies are made. In addition, pressure of time in moving the project forward may be a factor in the elimination of these essential studies. Nevertheless, CIDA officers continue to be urged to understand the cultures in which they are working.

We have learned that the concept of development must include an understanding of, and respect for, the social and cultural environments of developing countries. In other words, our interventions must be appropriate to each country. Too many of our earlier projects assumed the existence of western economic behaviour on the part of the local population as well as attitudes and values similar to ours. To be successful, projects and investments must be based on a thorough study of how local people actually think and behave, and of their values and motivations. 11.

Marcel Massé

To translate the desire to move from development as technical transfer alone to development of the human resources of a country with respect and understanding of a variety of cultures, CIDA must commit the time and financial resources required by this approach. In particular, if CIDA is committed to its policy directives on the integration of women in development, extra resources will be needed to bring understanding of the differences in patriarchal structures which hinder such integration. Since women's position in society and work varies so widely, accurate data on women collected in each project area will contribute to this understanding. A specific procedure,



which can be utilized for each project to ensure that women's integration in development will occur, is essential. The assumption that projects can be implemented without any impact or involvement of fifty percent of the population is no longer tenable.

In the examination of the Upper Region Water Supply Project and its impact on village women, certain shortcomings have been observed.

1) No sociological studies of the Upper Region society were undertaken prior to project implementation.

2) Training in water technology at the regional, district and local levels was directed to men only.

3) Studies on the project emphasizing the need to involve women by encouraging their participation as members of water users' committees were not acted upon.

4) Dry season gardening, an objective of the Water Utilization Project, would have been a suitable, productive activity for women with time released from water carrying activities, but this objective was not developed by WUP for either men or women.

5) The encouragement of bath house building as a self-help project for villagers to improve hygiene was given up after one type of bath house was built and observed for one week. The benefit to women in relieving them of the burden of water carrying for bathing purposes that bath houses could provide was ignored.





The hypothesis that the URWSP has benefitted village women has been tested and a positive result has been shown in the time-saving to women and the relief from much of the drudgery of water carrying. However, negative results are shown in the undermining of women's traditional role in water supply by providing men only with training and control of new water technology. Furthermore, women have not been encouraged to serve on water users' committees, and no planning has gone into the supply of complementary inputs to maximize the benefits that do accrue to them. Lacking data on women in this society and criteria which might have assured women's real development in this project, planners and implementers acted upon assumptions regarding development that focus upon men as recipients and beneficiaries of projects.

In illustrating these deficiencies in the implementation of the URWSP, this study has highlighted certain features of the social reality which could be analyzed in other settings to ensure more successful water projects and the equitable participation of women in development as follows;

1) Division of labour

to determine who participates in traditional water supply in order to determine who should be engaged in modern water supply.

While it is known that women are the suppliers of water for household use in most developing countries, men do



become involved in water supply especially when water is being sold to households. Water for irrigation or for livestock may be a shared task or one performed by men or women alone (or with the help of children),

2) Use of women's time.

to determine how released time might best be used for maximum benefit to village lives.

A time study of village women will illustrate the activities women engage in that maintain family life. Women should be asked to state which activities could be increased, altered or added to enhance their lives. Complementary inputs may be necessary to maximize both time and energy released from water carrying tasks, and should be part of the initial supply planning and costing.

3) Women's income and its use.

to determine if women have some income or independence especially related to use of time, decision-making and use of income earned in the work areas specifically women's.

The independence of women in certain areas of their lives has not always been understood. Water projects initiating change within traditional societies should seek to enhance this independence since the survival of children frequently depends upon it. A comparison of the use of men's income and the use of women's income might show that on a basis of economics as well as equity women should



be selected if any income-earning positions are created in a project.

4) Women's educational level.

to determine literacy level and skill development by the informal education system in order that training programmes may be appropriate to women receiving them.

Women in developing countries generally are more marginalized than men. This we have seen with regard to education, literacy, access to training and technology and decision-making in the Upper Region of Ghana. The task of development projects in dealing with women's marginalized position, is to ensure that plans include training suitable for women's level of education and skill, and that any advantage which men may have in education not be used as a rationale for using men rather than women in training programmes. This rationale is especially detrimental to women in their traditional work areas such as water supply, in which their own society would likely give support to women's advancement.

5) The role of women in informal learning systems.

to determine how women learn and how women teach others in the society.

Young girls learn from their mothers and other village women. Newly married women usually reside in their husbands' homes and take lessons from older women in these houses. In turn, women teach their own children. This learning system can be used in development training if



it is understood. There may be certain locations in the village that are comfortable for women as learning sites<sup>12.</sup> or communication centres, such as village wells. A site selected where men exchange information may be ill-suited for encouraging women's relaxed participation.

- 6) The availability of women for training programmes.  
to determine the time of year and the time of day best suited to women's participation in development training programmes.

The distinct seasonal nature of work is usual in rural areas. In the Upper Region of Ghana, women had more time in the dry season to devote to educational activities. The extent to which this time is used for income earning activities that women would likely be unwilling to abandon would need to be determined.

Women are seldom free of daily tasks that take a certain number of hours at specific times of the day. Water fetching, cleaning and food preparation are carried on at regular hours each day. While some women can be released at times for extended periods of visiting their families or for training, other women must carry on these tasks during their absence. Training could take two forms: a) short intensive training for a few women either in the village or at another location b) longer, less intensive training for women within the village setting.

- 7) The nature of patriarchy within the project area.  
to determine the extent to which patriarchy permits women access to modern water technology.





Among patriarchal societies in developing countries, there exists a great variation in the extent to which women may participate in the public domain. It is possible that women who act as traditional water collectors and managers may be prevented by ethnic or religious attitudes from participating in the modern water sector. External development agencies, however, must not accept a superficial impression that women would be denied a role in new water supply systems, but must determine exactly the extent of such restraints in the local environment. Asking men and women about their attitudes and concerns about development will provide useful insights for project planning and implementation. The argument that women traditionally perform certain tasks in water supply, and must continue in these areas as modern technology is introduced should be used with patriarchs of the society. Gains made by men in other technological areas must not be used as a rationale for denying women access to technology in their own work areas.

Water technology in the more developed parts of the world is largely in the hands of men; this fact should be recognized by all planners and implementers, but not be seen as a pattern that must be transferred to societies now acquiring more advanced technology. Water technology must be introduced without male bias in order that women may gain opportunities to participate in the technological



development of their societies.

8) Pattern of migration.

to determine the level of responsibility for household maintenance falling on women when men migrate from rural areas.

When men migrate from rural areas, women's work in agriculture may increase or women may require more income-earning activities when male labour is lost to the family production system. Although village pump maintenance men in the URWSP were to be unpaid, in some projects the training of women in repair and maintenance of water supply installations could lead to increased income for women.

9) Health of women.

to determine the most common health problems of women and the potential impact of a new water supply.

Women's major health problems may not be related to water. If they are, a pure water supply may reduce or eliminate water-related diseases. A more convenient and reliable supply will reduce great physical strain and fatigue; women will have more strength and energy for their other tasks. Development in water supply can eliminate the role of women as beasts of burden, while encouraging women's continued participation in this essential service.

These features do not form a complete picture of the social reality in which development takes place. Arising from the study of the Upper Region Water Supply Project in



Ghana, they form a basis of understanding upon which better water project planning and implementation can occur. Important as it is to transfer appropriate technology to developing societies, more important is the positive development of people within these societies. A commitment to provide financial resources to establish this basis of understanding as well as to supply technology must be part of overall strategy, and must become a part of each project's plan of operation. CIDA has learned that the development of human capital in developing countries is the most important element in their future stability.<sup>13</sup> CIDA has also recognized that half of the human capital in developing countries is female. However, in practice, women have not been proportionately incorporated into projects.

In every instance, women desire respect for the work they do within their households and within their communities. Respect can be expressed by consulting with women on their work when projects are planned in their societies, and by actively involving women in the projects' implementation and maintenance. Discussion with local women on water supply may alter plans made in capital cities, but will result in projects more appropriate to village needs and will ensure women a rightful place in their functioning.

Further research in this area of women and water supply is necessary. The data in this study was obtained from villages with a pattern of scattered settlement. Some



variance would be expected in water usage and time-saving in villages with a clustered settlement pattern. The nine features affecting the lives of village women outlined above could form the basis of research in rural water supply projects and provide useful data for women and development studies in general.

In the field work in Bolgatanga District, Upper Region, Ghana, the author was aware of the interrelationship of women and children, and the important role children often have in water supply. This study did not examine the research area of children, water supply, sanitation and health, an area still relatively untouched which demands attention.





Notes

1. Recognizing the 'Invisible' Woman in Development, The World Bank's Experience, (Washington: World Bank, 1979).  
  
Barbara C. Lewis (ed.), Invisible Farmers: Women and the Crisis in Agriculture, (Washington: Office of Women in Development, USAID, 1981).
2. E.A. Cebotarev, "Research on Rural Women: An International Perspective", in E.A. Cebotarev and Frances M. Shaver (eds.), Women and Agricultural Production, (Toronto: Resources for Feminist Research, Vol. II No. 1 March, 1982), 1.30.  
  
Cebotarev investigates empirical studies on rural women and concludes:  
Male-oriented development policies marginalized women by acting as if they did not exist, depriving them of access to such crucial productive resources as technological know-how, credit and land, and also by passing the more modernized jobs on to men.
3. Richard Feachem et al, Water, Health and Development, An Interdisciplinary Evaluation, (London: Tri-Med Books Ltd., 1979), p. 220.
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5. Feachem et al, Water, Health and Development, p. 100
6. Suteera Thomson, Food for the Poor, The Role of CIDA in Agricultural, Fisheries and Rural Development, (Ottawa: Science Council of Canada, 1980), p. 46.
7. "Report from the Program for the Integration of Women in Development, April 1, 1979 to March 31, 1980", Policy Branch, CIDA, Hull, p.11.
8. Laketch Dirasse, "The Mission Administered Fund Program of the Canadian International Development Agency and its Benefits to Women", (Hull: CIDA, 1982).
9. Kirsten Jorgensen addressing a Seminar on Socio-Cultural Issues, CIDA, Hull, January, 1983.
10. Paul H. Samuelson, Economics, An Introductory Analysis, (New York: McGraw Hill Book Company, Inc., 1955).



In his chapter on Problems of Economic Growth, Samuelson stated:

Impatient planners anxious to force the pace of development must always remember that people are people, not inanimate objects. Ignore their customs and their ancient prejudices only at your peril; rather you must add to pure economics generous doses of sociology and anthropology proceeding in an evolutionary rather than discontinuous manner. And remember, each nation is different. No master plan will fit all underdeveloped countries. p. 720.

11. Marcel Massé, "The Third World: A Canadian Challenge", address to Toronto Canadian Club, April, 1981.
12. In Baldia, Pakistan, where Moslem society secludes women to a degree, schools set up in their homes by literate women were attended by both women and children, whereas women would not have attended more public institutions.  
"Sanitation in a Squatter Settlement", a training module prepared by Cowater International/World Bank and presented at Short Course, Water Supply and Sanitation for Developing Countries, University of Ottawa, May 31-June 1, 1983.
13. Marcel Massé, "The Third World: A Canadian Challenge".



APPENDICES



Appendix AField Research Detailed

- I Maps a) Administrative Map of Ghana
  - b) Ghana - Upper Region Water Supply Project  
Location of Well Water Supplies 1979
  - c) Ghana - Bolgatanga District, Upper Region  
Location of wells and control village  
in study of URWSP 1980-1981
- II Survey Procedure and Limitations of the Study
- III Testing and Refining the Questionnaires
- IV Research Area and Selection of Villages
- V Selection of Women
- VI Questionnaires for Village Survey 1980
- VII Questionnaires for Village Survey 1981
- VIII Interview Schedule for Chiefs 1981



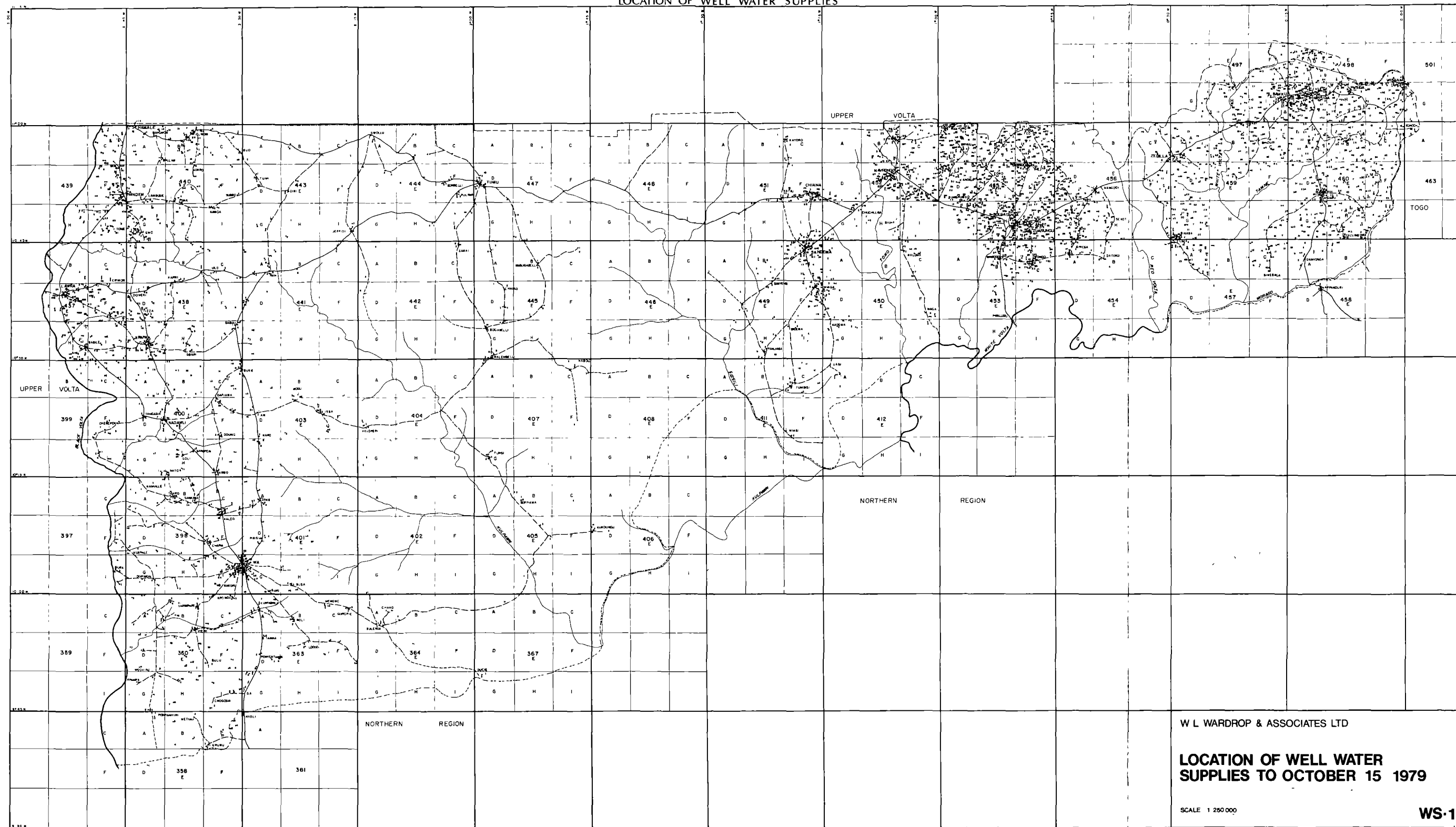


# ADMINISTRATIVE

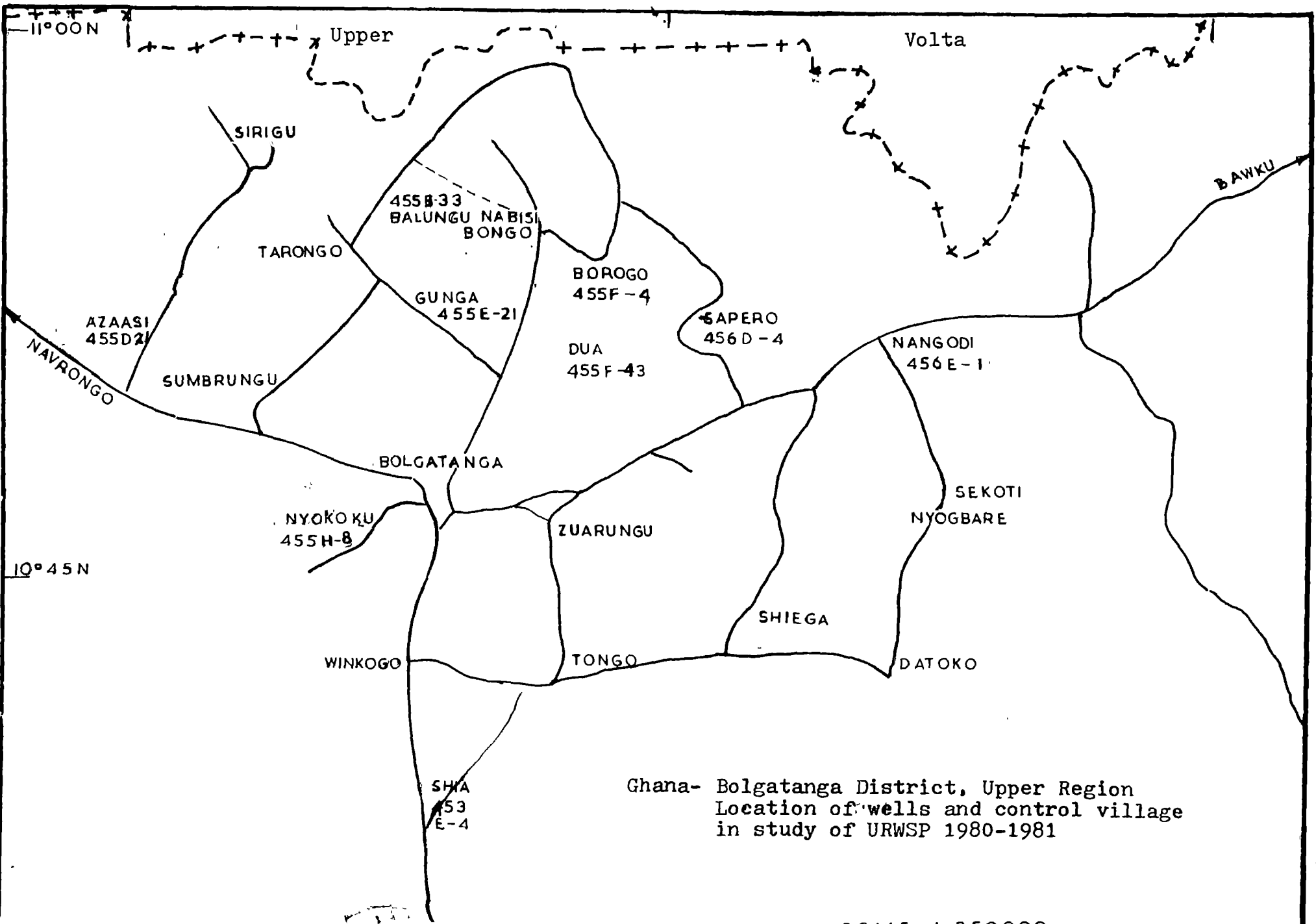




GHANA - UPPER REGION (CIDA) WATER SUPPLY PROJECT  
LOCATION OF WELL WATER SUPPLIES



W L WARDROP & ASSOCIATES LTD  
LOCATION OF WELL WATER  
SUPPLIES TO OCTOBER 15 1979  
SCALE 1 250 000  
WS-1



Ghana- Bolgatanga District, Upper Region  
 Location of wells and control village  
 in study of URWSP 1980-1981

SCALE 1:250,000



### Survey Procedure

Ideally, one would like to aim for accuracy, breadth and depth in the results of field research. With limited time and resources, I had to choose between survey techniques and participation observation techniques; the former is generally weak in accuracy and depth and the latter is weak in breadth. I decided that in the time I had available to carry on a survey in ten villages. The 'one on one' approach in which village women were interviewed with a prepared questionnaire was followed with the assistance of an interpreter. In each survey period, the questionnaire was composed of two sections. The first section was used with all women interviewed, and contained questions about daily life, training, nutrition, economic activities, agricultural production and migration as well as water usage. The second section, used only with women in villages with the new water supply, contained questions dealing more specifically with impact of the water supply on women's lives.

Although originally intended for use across the entire Upper Region of Ghana, due to constraints of time, language and petroleum, the survey questionnaires were used in only one district of the Upper Region, the densely populated, Frafra speaking Bolgatanga District. Working with a Frafra speaking woman who lives in the village of Zuarungu, I was able to go daily to the selected villages, observe villagers in their dry season activities and help conduct



each interview. Using this method, in which a close relationship was established with my co-worker whose normal employment in the Department of Agriculture has been with programmes for village women, I gained considerable insight into and information on the lives of villagers of the district. The opportunity to observe village life myself and to talk to women of the Upper Region engaged in work with village women provided a wider and more accurate base of information than the survey questionnaire alone could have provided. In each year I visited the region in the dry season when women had available time to talk to me, and roads and trails were open. Consequently, I was unable to observe the work of women in the busy farming period, and have had to depend on verbal and written descriptions of this time. However, since my interest lay in the impact of the URWSP, it appeared essential to visit the region in the season when severe water shortages had traditionally occurred.

#### Limitations of Survey Methodology

Clearly, the methodology used has certain limitations to which reference has already been made. The sample size drawn from only one district makes it difficult to generalize on the data for all of the Upper Region without the support of other primary and secondary sources and direct observations.





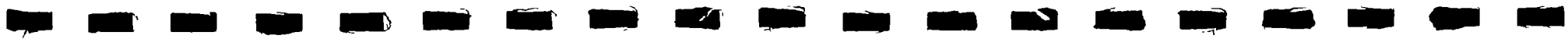
The translation of questions from English to the local Ghanaian language, Frafra, increases the chance for error and misunderstanding even though back-translation was used in preparation of the questionnaire. My inability to understand Frafra meant that a fine scrutiny of the questioning process was impossible. In at least one village, the questioning was more difficult because the Frafra dialect used by the local women differed somewhat from that of my research assistant.

Specific problems of a conceptual nature may arise when survey research is conducted in a culture different from that of the researcher. Reference is made in the text of the study to the lack of ease among village women in discussing bathing habits. It is possible that other subjects were problematic for the women, but these problems went undetected during the interviews at the village level. By working on a daily basis with a woman from a Frafra village, I was able to obtain clarification on some issues and ideas that varied by culture.

#### Testing and Refining the Questionnaires

Appendix a-III

Considering the fact that survey questionnaires themselves may not produce accurate responses, I was determined that each woman interviewed be asked exactly the same questions as all other women surveyed. The English questions were translated into Gurenge, the



language of the Gurensi who live around the town of Bolgatanga, by a district education officer. Gurenge is similar enough to Talni and Nabte (two other of the languages called generally Frafra) that it can be understood in nearly all of Bolgatanga District. The Gurenge questions were then translated into English by a second person, the Administrative Officer of the Frafra District Council in Bolgatanga, in order to verify the Gurenge translation. My assistant, who reads and speaks Gurenge well, then discussed the Gurenge questions with the first translator and myself to clarify the questions which she would be using. This procedure was used in both research periods.

The questionnaire was tested in the village of Zuarungu where twelve women were chosen from scattered compounds in Zuarungu Centre, Katanga and Kantia, all areas of the same village which comes under the chieftaincy of the Naba of Zuarungu, whose permission we had sought to carry on our work. We found no reticence among the women in answering questions, although as the work progressed, certain problem areas became obvious as follows:

1. Age of respondent. The women know neither their own nor their children's ages; therefore, approximations based on the appearance of the women, the appearance of the children and the present educational level of the children when it was applicable, had to be made.



2. Determination of time. Most people are illiterate and do not use watches. A day is divided from sunrise to noon and from noon to sunset. Therefore, an outline of a day in the dry season or in the rainy season remains an outline. Unless one could remain with each woman for a day, the establishment of definite times for each activity is an impossibility.
3. Quantification of income. To determine economic impact, one should be able to quantify income. In a subsistence economy such as exists in most villages like Zuarungu, it is impossible to do this. Few women earn any cash income; when women do earn, their petty earnings are spent almost immediately for soup ingredients with no thought of keeping any record of money earned or spent. Within this society there exists a fairly distinct division of labour based on sex; unless a household is small in number, women have little to do with livestock. Women often did not know the number of cattle, goats, sheep or fowl belonging to the household. Since livestock are kept for sacrifice and for the payment of bride-price, they are not considered as income earners. In the hungry season of the late dry season and early rainy season, livestock may be sold to provide



necessary food items for the household. The sale of livestock by the men prevents women from knowing exactly how much income is derived from such sales.

4. Duality of life based on the seasons. It became obvious that life in the Upper Region of Ghana is characterized by a duality based on the two main seasons of the year. Activities of men and women vary considerably with the seasons although certain daily tasks of women continue all year round. Some practices such as bathing which may be frequent in the rainy season, may be curtailed by the lack of water in the dry season. Women, who use a nearby stream, pond or dug well in the rainy season, may walk much farther to a drilled well in the dry season. Congestion at available water sites in the dry season means an increase in time spent fetching water in the dry season compared to the rainy season. Since the questionnaire had made no provision for this variation in the year's cycle, it was necessary to revise it accordingly.

#### Research Area and Selection of Villages

Appendix A-IV

Bolgatanga District is one of seven districts within the Upper Region of Ghana. Situated in the densely populated eastern half of the region, Bolgatanga District





is composed of approximately 450 localities and has had approximately 590 drilled wells put into operation under the Upper Region Water Supply Project. In most cases, villages with fewer than three hundred people were not served by this project; a few villages of an eligible size have not received water under this project because test holes failed to locate water. Because of the density of the population and the pattern of dispersed compounds within each village, however, it is probably true that few villages within this district are completely unaffected by the URWSP. In other districts in the western part of the region where villages are formed by a cluster of compounds and population is less dense, the impact of the URWSP on villages which did not receive wells may be non-existent.

No data base had been established prior to the implementation of the URWSP; therefore, I decided it would be useful to locate a control village in which no water would be supplied under this project, thereby providing a basis for comparisons between the control village and other villages receiving wells. Using maps provided by the Hydrology Department of the Ghana Water and Sewerage Corporation, Bolgatanga, I located a number of villages where test holes had failed to produce water. One of these villages, Sekoti Nyogbare, lies off a secondary road adjacent to the less densely populated, onchocerciasis-infested strip of land along the west bank of the Red Volta River. Although Bolgatanga District is densely populated generally, it was my hope that Sekoti



Nyogbare might be less affected by the URWSP which had, by 1980, completed the majority of project wells across the region. On visiting the village, I found, in fact, that drilled wells do exist within twenty to forty-five minutes walking distance of most compounds in the village; however, throughout the central part of the village, the women fetch water from traditional sources: a stream, a dug well, a dam pond and dug outs, in both rainy and dry seasons. On the eastern and western edges of the village, women used the drilled wells in the dry season especially if these were closer than the traditional sources cited above. Bearing in mind that the village can no longer be considered to be in the state it was prior to the implementation of the URWSP, the central part of the village using traditional water sources is considered as the control area. A total of twenty-three women were interviewed here.

A total of 584 wells were drilled in Bolgatanga District under the URWSP. From these wells, I took a random sample without replacement in order to locate villages with functioning water supplies. The six wells selected in this manner were:

Well	Village	Total Population 1970 Census	Total Interviews
455 E 21	Veagonga	489	6
455 D 21	Azaasi	98	4
456 E 1	Nangodi	1083	10
455 F 4	Borogo	-	11
456 D 4	Sapero	194	8
455 H 8	Nyokoku	510	8



On the basis of the 1970 Census figures which were available for all the villages above except Borogo, I decided to spend one day interviewing women in a village with fewer than five hundred people and two days in villages with over five hundred people.

In addition to the control village and the six villages listed above, I deliberately selected three well sites at which wells were drilled but had not yet had pumps installed. These three wells had their pumps installed in May, 1980; therefore, I was able to interview women without the water supply on my first visit, and the same women with approximately eight months experience of the water supply on my second visit. These deliberate selections were made from parts of the district in which wells had not been selected randomly and were:

Well	Village	Total Population 1970 Census	Total Interviews
453 E 4	Shia	496	6
455 F 43	Dua	540	10
455 B 33	Balungu Nabisi	519	6

The numbers of women interviewed varied from the pattern established above in the case of Balungu Nabisi where with a population of 519, only six interviews were completed due to the fact that I had no other day available to return to this village before my departure from the Upper Region. Although I went to Shia two days, I was able to conduct only one interview on one of these days because all women were going



to a funeral and could not be delayed further.

### Selection of Women

### Appendix A-V

Because no aerial photographs of the villages were available and because of the dispersed pattern of settlement, a biased selection of compounds and women resulted.

Initially, we started the day's work near the pump site and walked to every second compound where we sought a woman to interview. When the compounds were too widely dispersed to walk to a sufficient number in one day, we sometimes went to every compound. When a village was visited a second day, we started interviewing in a part of the village not visited previously but still within a reasonable walking distance of the well site. My purpose was to find women who were using the drilled wells at least during part of the year; however, if a random selection of compounds had been possible, in some villages in which many compounds are located a mile or two from the well, the total number of women using the drilled wells would have been smaller than in my sample.

Though there were often more than one woman in a compound, we sometimes found only one at home; this woman was interviewed. If we met more than one woman, we made a selection on sight, trying to get a variety of ages within the sample. A woman in this society is not normally considered head of a household. The husband is called 'house owner' and the wife is called 'room owner'; since there may be more than one wife, each one has her own room, but the husband





is head of the house. If a man migrates, the wife is usually left in charge of another man of the husband's family or even of the husband's sister who may then be called husband 'house owner' as well. (This latter case is not usual as normally there would be a male member of the family who would take charge). While we interviewed a number of women who were the only wives of their husbands, our selection produced a sample which included second, third, and fourth wives as well; therefore, while the sample may not be considered scientifically representative of village women in Bolgatanga District, I feel confident that it does represent a reasonable cross-section of women in a rural area of relatively high density in the Upper Region of Ghana. A total of ninety-three women were interviewed in the first year, and sixty-two in the second year; the latter figure represents 66.6% of the total number interviewed in the first year.



Upper Region Water Supply  
Survey of Women  
No. 1 (1980)

Interviewer: \_\_\_\_\_

Respondent:

Age: \_\_\_\_\_  
Village: \_\_\_\_\_  
House No: \_\_\_\_\_  
No. of Rooms in House: \_\_\_\_\_

1. What is your position in the household
  1. head \_\_\_\_\_
  2. first wife \_\_\_\_\_
  3. second wife \_\_\_\_\_
  4. other (specify) \_\_\_\_\_
  
2. What is the number of people in the household
  1. male adults \_\_\_\_\_
  2. female adults \_\_\_\_\_
  3. male children \_\_\_\_\_
  4. female children \_\_\_\_\_
  
3. How many children have you had? \_\_\_\_\_  
 How many are still alive?      Ages      Present Educational Level  
  

Sons

Daughters
  
4. What education have you had
  1. no formal education \_\_\_\_\_
  2. primary school (how many years) \_\_\_\_\_
  3. other (specify) \_\_\_\_\_
  
5. How many of your children attend school at present
  1. all \_\_\_\_\_
  2. number of daughters \_\_\_\_\_
  3. number of sons \_\_\_\_\_
  
6. Have you ever participated in any of the following courses:
 

1. literacy _____	5. handicrafts _____
2. childcare _____	6. agriculture _____
3. nutrition _____	7. other (specify) _____
4. marketing _____	

\_\_\_\_\_

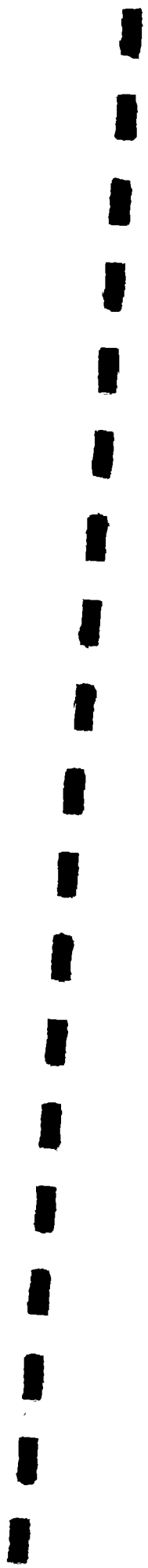
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7. What courses would you like to attend if they were available locally?
- |                    |                          |
|--------------------|--------------------------|
| 1. literacy _____  | 5. handicrafts _____     |
| 2. childcare _____ | 6. agriculture _____     |
| 3. nutrition _____ | 7. other (specify) _____ |
| 4. marketing _____ |                          |
8. How much time could you spend on the round trip to such courses, including time spent at the courses?
1. 1 hour \_\_\_\_\_
  2. 2 hours \_\_\_\_\_
  3. 5 hours \_\_\_\_\_
  4. other (specify) \_\_\_\_\_
9. Outline of a typical day:
- |                    |                      |
|--------------------|----------------------|
| <u>Dry Season:</u> | <u>Rainy Season:</u> |
|--------------------|----------------------|
10. Which of your activities yields income to you personally?  
 \_\_\_\_\_  
 How much in one year in cedis? \_\_\_\_\_
11. How is the income you personally obtain used:
1. food \_\_\_\_\_
  2. clothing \_\_\_\_\_
  3. education of children \_\_\_\_\_
  4. savings \_\_\_\_\_
  5. consumer goods \_\_\_\_\_
  6. other (specify) \_\_\_\_\_
- |         |        |        |         |
|---------|--------|--------|---------|
| Millet* | Guinea | Ground | Other   |
| Rice    | E      | L      | Corn    |
|         |        |        | nuts    |
|         |        |        | Specify |
12. On your farm do you grow: \_\_\_\_\_
1. not grown \_\_\_\_\_
  2. grown for sale or barter \_\_\_\_\_
  3. grown for subsistence \_\_\_\_\_
  4. grown for subsistence & for sale or barter \_\_\_\_\_
  5. with irrigation \_\_\_\_\_
13. a) If you have your own plot, what do you grow?  
 \_\_\_\_\_
- b) What work do you do on your husbands farm?  
 \_\_\_\_\_
- On your own plot?  
 \_\_\_\_\_
- \* E: Early millet    L: Late millet



14. a) What members of the household work in producing food for the family?
1. self \_\_\_\_\_
  2. husband \_\_\_\_\_
  3. other wives \_\_\_\_\_
  4. male children \_\_\_\_\_
  5. female children \_\_\_\_\_
  6. others (specify) \_\_\_\_\_
- b) Who in the family earns wages? \_\_\_\_\_
15. Which member of the household is mainly responsible for food production for the family?
1. self \_\_\_\_\_
  2. husband \_\_\_\_\_
  3. male children \_\_\_\_\_
  4. female children \_\_\_\_\_
  5. other (specify) \_\_\_\_\_
16. What livestock is kept by the household?
- |  | Cows | Sheep | Goats | Fowls | Others  |
|--|------|-------|-------|-------|---------|
| 1. not kept                                    |      |       |       |       | Specify |
| 2. kept for subsistence                        |      |       |       |       | _____   |
| 3. kept for sale or barter                     |      |       |       |       | _____   |
| 4. kept for subsistence and for sale or barter |      |       |       |       | _____   |
| 5. number kept                                 |      |       |       |       | _____   |
17. Which member of the household is mainly responsible for the care of livestock?
1. husband \_\_\_\_\_
  2. wife \_\_\_\_\_
  3. male children \_\_\_\_\_
  4. female children \_\_\_\_\_
  5. other (specify) \_\_\_\_\_
18. Which members also work with livestock?
1. husband \_\_\_\_\_
  2. wife \_\_\_\_\_
  3. male children \_\_\_\_\_
  4. female children \_\_\_\_\_
  5. other (specify) \_\_\_\_\_
19. Who obtains earnings from the sale of livestock?
- \_\_\_\_\_
- How is this income used?
1. food \_\_\_\_\_
  2. clothing \_\_\_\_\_
  3. education of children \_\_\_\_\_
  4. consumer goods \_\_\_\_\_
  5. savings \_\_\_\_\_
  6. other (specify) \_\_\_\_\_





20. a) What are the main foods that you cook for your family? List in order of use.
1. rice \_\_\_\_\_
  2. tzed\* \_\_\_\_\_
  3. yam \_\_\_\_\_
  4. groundnuts \_\_\_\_\_
  5. fish \_\_\_\_\_
  6. beans \_\_\_\_\_
  7. others (specify) \_\_\_\_\_
- b) What items do you use for soup? \_\_\_\_\_
- c) Which of these do you grow yourself? \_\_\_\_\_
21. How frequently do you bathe?
1. daily \_\_\_\_\_
  2. 2 x day \_\_\_\_\_
  3. twice a week \_\_\_\_\_
  4. other (specify) \_\_\_\_\_
22. How frequently do you bathe your children?
1. daily \_\_\_\_\_
  2. 2 x day \_\_\_\_\_
  3. twice a week \_\_\_\_\_
  4. other (specify) \_\_\_\_\_
23. How often do you go to market?
1. daily \_\_\_\_\_
  2. every market day \_\_\_\_\_
  3. one day a week \_\_\_\_\_
  4. one day a month \_\_\_\_\_
  5. other (specify) \_\_\_\_\_
24. a) What items do you sell in the market? \_\_\_\_\_
- b) What do you buy? \_\_\_\_\_
25. How much time is spent on the round trip to market, including time spent at the market?
1. one hour \_\_\_\_\_
  2. two hours \_\_\_\_\_
  3. half a day \_\_\_\_\_
  4. all day \_\_\_\_\_
  5. other (specify) \_\_\_\_\_
26. What members of the household fetch fuel?
1. self \_\_\_\_\_
  2. other women \_\_\_\_\_
  3. men \_\_\_\_\_
  4. male children \_\_\_\_\_
  5. female children \_\_\_\_\_

\* Millet porridge



27. What is the distance to the fuel source, round trip travel time including time to gather fuel?
1. 1 - 15 minutes \_\_\_\_\_
  2. 15 - 30 minutes \_\_\_\_\_
  3. 30 - 60 minutes \_\_\_\_\_
  4. 1 - 2 hours \_\_\_\_\_
  5. other (specify) \_\_\_\_\_

28. How many times a day do you fetch fuel for the household?  
 \_\_\_\_\_

29. What is the present primary source of water?
- |                    | <u>Dry Season</u> | <u>Wet Season</u> |
|--------------------|-------------------|-------------------|
| 1. drilled well    | _____             | _____             |
| 2. dug well        | _____             | _____             |
| 3. pond            | _____             | _____             |
| 4. river           | _____             | _____             |
| 5. stream          | _____             | _____             |
| 6. other (specify) | _____             | _____             |

30. a) What is the present secondary source of water?
- |                    | <u>Dry Season</u> | <u>Wet Season</u> |
|--------------------|-------------------|-------------------|
| 1. dug well        | _____             | _____             |
| 2. pond            | _____             | _____             |
| 3. river           | _____             | _____             |
| 4. stream          | _____             | _____             |
| 5. other (specify) | _____             | _____             |

b) Where did you fetch water in the dry season before wells were drilled in this area? \_\_\_\_\_

c) Do you ever buy water? \_\_\_\_\_

31. Which water source do you use?
- |                            | <u>Dry Season</u> |           | <u>Rainy Season</u> |           |
|----------------------------|-------------------|-----------|---------------------|-----------|
|                            | Primary           | Secondary | Primary             | Secondary |
| 1. for drinking            | _____             | _____     | _____               | _____     |
| 2. for bathing             | _____             | _____     | _____               | _____     |
| 3. for laundering          | _____             | _____     | _____               | _____     |
| 4. for washing pots        | _____             | _____     | _____               | _____     |
| 5. for watering gardens    | _____             | _____     | _____               | _____     |
| 6. for watering animals    | _____             | _____     | _____               | _____     |
| 7. for construction        | _____             | _____     | _____               | _____     |
| 8. for traditional healing | _____             | _____     | _____               | _____     |

32. What is the distance to the primary source, round trip travel time including time to fetch water?
1. 5 - 10 minutes \_\_\_\_\_
  2. 15 minutes \_\_\_\_\_
  3. 20 - 30 minutes \_\_\_\_\_
  4. 45 minutes \_\_\_\_\_
  5. 60 minutes \_\_\_\_\_
  6. other (specify) \_\_\_\_\_



33. What is the distance to the secondary source, round trip travel time including time to fetch water?
1. 5 - 10 minutes \_\_\_\_\_
  2. 10 - 30 minutes \_\_\_\_\_
  3. 20 - 30 minutes \_\_\_\_\_
  4. 60 minutes \_\_\_\_\_
  5. 1 - 2 hours \_\_\_\_\_
  6. other (specify) \_\_\_\_\_
34. What difference in travel time is there between the wet and dry seasons?  
\_\_\_\_\_
35. Household water collection
- |  | Other | Male  | Female       |
|--|-------|-------|--------------|
|  | Self  | Women | Men Children |
| 1. Who has main responsibility           | _____ |       |              |
| 2. Who assists                           | _____ |       |              |
| 3. How many collections made each day by | _____ |       |              |
36. What size and type of container is used for water collection
1. clay pot - size \_\_\_\_\_
  2. calabash - size \_\_\_\_\_
  3. metal container - size \_\_\_\_\_
  4. other (specify) \_\_\_\_\_ size \_\_\_\_\_
37. How many containers of water are used each day by the household? \_\_\_\_\_
38. Which daily activities provide opportunities for you to socialize? List as given.
1. fetching water \_\_\_\_\_
  2. farming \_\_\_\_\_
  3. washing clothes \_\_\_\_\_
  4. fetching fuel \_\_\_\_\_
  5. marketing \_\_\_\_\_
  6. other (specify) \_\_\_\_\_



Upper Region Water Supply  
Survey of Women  
No. 2 (1980)

1. What activities have you increased since the water supply came into use

1. gardening _____	6. childcare _____
2. marketing _____	7. home care _____
3. farm work _____	8. wage labour _____
4. rest & relaxation _____	9. other (specify) _____
5. handicrafts _____	

2. What activities of your children have increased since the water supply came into use

	Male children	Female children
1. <u>gardening or farming</u>	_____	_____
2. <u>playing</u>	_____	_____
3. <u>school work</u>	_____	_____
4. <u>work in home</u>	_____	_____
5. <u>herding</u>	_____	_____
6. <u>other (specify)</u>	_____	_____

3. Name any income-yielding activities undertaken as a result of the new water supply

	By yourself	By your children
1. <u>gardening for sale</u>	_____	_____
2. <u>brewing</u>	_____	_____
3. <u>handicrafts</u>	_____	_____
4. <u>cooking of foods for sale</u>	_____	_____
5. <u>wage labour</u>	_____	_____
6. <u>other (specify)</u>	_____	_____

4. Name any income-yielding activities which have declined as a result of the new water supply

	<u>For yourself</u>	<u>For your children</u>
_____	_____	_____
_____	_____	_____

5. How is the income from new or increased income-earning activities used

1. food _____
2. clothing _____
3. education of children _____
4. consumer goods _____
5. savings _____
6. other (specify) _____





6. Do you have more or less time for preparing food for your family since the water supply came into use
1. more \_\_\_\_\_
  2. less \_\_\_\_\_
  3. the same \_\_\_\_\_
7. Have the foods prepared for your family changed since the water supply came into use
1. No. \_\_\_\_\_
  2. Yes \_\_\_\_\_ How? \_\_\_\_\_
8. Who decided the village should have a drilled well
- |                          |                          |
|--------------------------|--------------------------|
| 1. village members _____ | 5. GWSC _____            |
| 2. village men _____     | 6. government _____      |
| 3. chief _____           | 7. other (specify) _____ |
| 4. village leaders _____ | 8. don't know _____      |
9. Who decided on the location of the drilled well
1. chief \_\_\_\_\_
  2. village members \_\_\_\_\_
  3. GWSC \_\_\_\_\_
  4. other (specify) \_\_\_\_\_
  5. don't know \_\_\_\_\_
10. Who is responsible for maintenance of the pump and the well site
1. chief \_\_\_\_\_
  2. man appointed by chief \_\_\_\_\_
  3. man appointed by GWSC \_\_\_\_\_
  4. GWSC \_\_\_\_\_
  5. other (specify) \_\_\_\_\_
  6. don't know \_\_\_\_\_
11. How many times has the pump broken down since the water supply came into use
1. 1-2 times \_\_\_\_\_
  2. 3-4 times \_\_\_\_\_
  3. 5-6 times \_\_\_\_\_
  4. other (specify) \_\_\_\_\_
12. For what period of time has the pump been broken down
1. longest \_\_\_\_\_
  2. shortest \_\_\_\_\_
13. Who suffers the most when the pump breaks down
1. chief \_\_\_\_\_
  2. all villagers \_\_\_\_\_
  3. village women \_\_\_\_\_
  4. children \_\_\_\_\_
  5. women and children \_\_\_\_\_
  6. other (specify) \_\_\_\_\_

Why?



14. Who in the household received instruction in using the pump
1. no one \_\_\_\_\_
  2. women \_\_\_\_\_
  3. men \_\_\_\_\_
  4. children \_\_\_\_\_
  5. all villagers \_\_\_\_\_
  6. other (specify) \_\_\_\_\_
15. Why do you think the village should have a drilled well for water supply
1. to improve health \_\_\_\_\_
  2. to water crops \_\_\_\_\_
  3. to save time \_\_\_\_\_
  4. chief wants it \_\_\_\_\_
  5. government wants it \_\_\_\_\_
  6. other (specify) \_\_\_\_\_
  7. don't know \_\_\_\_\_
16. Overall, how has the provision of the new water affected the lives of you and your children
1. no effect \_\_\_\_\_
  2. improved lives \_\_\_\_\_
  3. worsened lives \_\_\_\_\_
- How?



Upper Region Water Supply  
Survey of Women  
No. 1 (1981)

Date:

Name of respondent:

House:

Village:

1. What education or training has your husband had?
  1. no formal education \_\_\_\_\_
  2. primary school  
(number of years) \_\_\_\_\_
  3. other (specify) \_\_\_\_\_
  
2. a) Which activities of your husband brings in cash income  
\_\_\_\_\_
  
- b) How is it used
  1. food \_\_\_\_\_
  2. clothing \_\_\_\_\_
  3. livestock \_\_\_\_\_
  4. consumer goods \_\_\_\_\_
  5. entertainment \_\_\_\_\_
  6. other (specify) \_\_\_\_\_
  
3. Has anyone in household ever migrated in order to get paid employment
  1. husband \_\_\_\_\_
  2. wife \_\_\_\_\_
  3. other \_\_\_\_\_
  
4. a) Who is presently absent from household due to migration for paid employment \_\_\_\_\_
- b) How long has this person been away \_\_\_\_\_
- c) If a man migrates, how is woman's work affected  
\_\_\_\_\_
  
5. a) Why do women migrate
  1. to join husband \_\_\_\_\_
  2. to earn money \_\_\_\_\_
  3. other (specify) \_\_\_\_\_
  
- b) What kinds of employment do women obtain when they migrate
  1. farm labour \_\_\_\_\_
  2. domestic service \_\_\_\_\_
  3. trade \_\_\_\_\_
  4. prostitution \_\_\_\_\_
  5. other (specify) \_\_\_\_\_



6. Name any food added to diet since last dry season  
\_\_\_\_\_
7. a) Since last dry season how many rooms in your house were built \_\_\_\_\_  
b) Is this number more or less than previous year?  
More \_\_\_\_\_  
Less \_\_\_\_\_  
Why \_\_\_\_\_
8. Since last dry season have you started any income-earning activity  
Yes \_\_\_\_\_  
No \_\_\_\_\_  
Name activity \_\_\_\_\_
9. a) Who in household engages in dry season gardening  
1. husband \_\_\_\_\_  
2. wife \_\_\_\_\_  
3. other (specify) \_\_\_\_\_  
b) When did this activity start \_\_\_\_\_  
c) What is grown \_\_\_\_\_
10. a) How frequently do you bathe in dry season  
1. 1 x day \_\_\_\_\_  
2. 2 x day \_\_\_\_\_  
3. other (specify) \_\_\_\_\_  
in rainy season  
1. 1 x day \_\_\_\_\_  
2. 2 x day \_\_\_\_\_  
3. other (specify) \_\_\_\_\_  
b) Where do you bathe  
1. in house \_\_\_\_\_  
2. at water source \_\_\_\_\_  
3. other (specify) \_\_\_\_\_  
c) If bath house available at pump would you use it  
Yes \_\_\_\_\_  
No \_\_\_\_\_





Upper Region Water Supply  
Survey of Women  
No. 2 (1981)

Date: \_\_\_\_\_

Name of Respondent: \_\_\_\_\_

1. a) Describe your present health (Be specific) \_\_\_\_\_  
 b) Has your health changed since the pump was installed  
 Yes \_\_\_\_\_  
 No \_\_\_\_\_  
 If yes, How \_\_\_\_\_
2. a) Since the pump was installed do you use more \_\_\_ water as  
 before less \_\_\_  
 the same \_\_\_  
 b) If more, for what purpose \_\_\_\_\_  
 If less, Why \_\_\_\_\_
3. Is the time spent fetching water from the drilled well in  
 the dry season more than \_\_\_\_\_  
 less than \_\_\_\_\_  
 the same as \_\_\_\_\_ time spent fetching water  
 from the former water source  
 Explain \_\_\_\_\_
4. If time spent in fetching water is now less, what do you  
 do during this time formerly spent fetching water
  1. childcare \_\_\_\_\_
  2. cooking \_\_\_\_\_
  3. resting \_\_\_\_\_
  4. homecare \_\_\_\_\_
  5. crafts \_\_\_\_\_
  6. other (specify) \_\_\_\_\_
5. If your children have also been saved time from fetching  
 water, how do they use this time
  1. playing \_\_\_\_\_
  2. resting \_\_\_\_\_
  3. other (specify) \_\_\_\_\_
6. a) Does your village have a water users' committee \_\_\_\_\_  
 b) Are any village women on this committee \_\_\_\_\_



Upper Region Water Supply  
Interview with Chiefs

1981

1. Cost of Water Supply

How has maintenance on pump been over past year?  
\_\_\_\_\_

Has village ever been asked by service men to give money or gifts for work done? \_\_\_\_\_

Do you think village should contribute in some way to the costs of maintaining the water supply? \_\_\_\_\_

2. Water Users' Committees

Does your village have a water users' committee? \_\_\_\_\_

Who is on it? \_\_\_\_\_

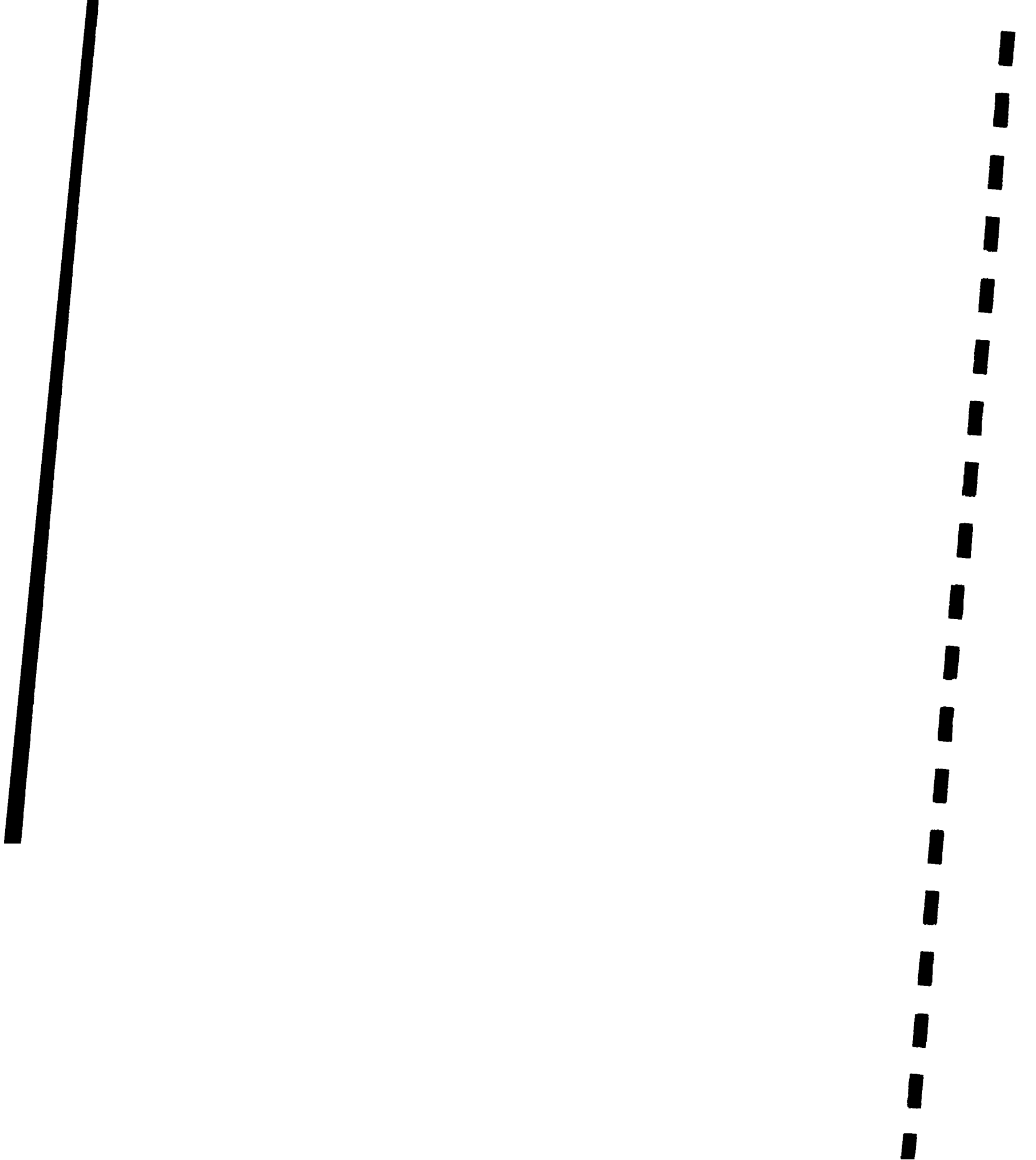
Do you think women should be on such a committee? \_\_\_\_\_

3. Women and Production

Vegetable production is traditionally a woman's task. Do you think men should engage in this activity by developing dry season gardening? \_\_\_\_\_

4. Women and Water

Water supply is women's work. Do you think a woman could be responsible for pump maintenance in the village? \_\_\_\_\_



CANADIAN INTERNATIONAL DEVELOPMENT AGENCY PROGRAM  
FOR INTEGRATION OF WOMEN IN DEVELOPMENT

POLICY DIRECTIVES

1. It is the policy of CIDA to implement aid programs which enhance the quality of life for men and women of recipient countries, and which encourage their equal access to the benefits of social and economic development.
2. In endeavouring to establish an equitable role for women as well as men, officers must be constantly aware of the ways in which the needs of women can differ from those of men. At each stage of planning and preparation of Agency program activities, therefore, the equitable integration of women and their families into the mainstream of the Agency's work must be an explicit concern.
3. The professional staff of CIDA in all branches and field missions will be responsible for developing programs and projects in response from host governments, their client agencies, and official NGO's, which explicitly ensure that women participate in fact as agents and beneficiaries of socioeconomic and political development equally with men.
4. Agency planning officers shall report to the Coordinator IWID at least once each year on measures they have taken in their program execution to strengthen the equal partnership of women and their families in the development process, and how the constraints and inequities that might affect this partnership have been taken into consideration.
5. Officers in Bilateral, Policy, Resources and Special Programs Branches should consult with qualified cultural anthropologists and sociologists during program planning and operations on matters affecting the basic human needs of women and their families. Such needs include but are not limited to water, food, storage, fuel, literacy, skills training, credit and marketing education, health and family planning and an equal voice in investing the profits from their labour.
6. Evaluation of the effectiveness of CIDA projects and programs must include assessment of the impact of aid upon women and their families by professional evaluation teams.



7. Agency training programs for project officers and for representatives going abroad will give specific attention in Agency guidelines, manuals and course syllabi to the situation of women and their families in client countries. The continuous need to overcome all negative impacts of technical assistance upon women's employment and income sources will be a major concern of this training. All Agency training will seek to sensitize Agency staff, including contractors and consulting firm personnel, to the above directives.
8. The Coordinator for the integration of women in development shall act as the responsibility centre at CIDA for the implementation of these guidelines and for Government of Canada policy, with access to the President of CIDA, and shall report through management structure about administrative issues and related aspects of the work on behalf of women and their families in developing countries. All CIDA operational officers, from Vice-Presidents to project assistants, will contact the Coordinator for advice and data in order to maintain their high quality operational sensitivity towards the basic needs of women in the target group affected by their decisions and work.





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