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Gender and Water Management Practices in Ghana

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Abstract
This article discusses gender and water management practices in the Asante Akim South District in the Ashanti region of Ghana. Using a multi-stage sampling technique, eight communities from four out of six towns operating under the Phase III of the Rural Water Supply Project (RWSP) were selected. The study reveals a difference in the level of participation of men and women in decision-making and planning in RWSP. Fear, criticisms from other women, domestic and economic activities were major challenges to women's participation in RWSP. The study concludes that, though women showed high participation in the management of RWSP, their participation in decision-making and planning was low. The study demonstrates that since gender plays a vital role in water management, it is crucial that men and women be educated on the importance of women's active role in decision-making and planning in RWSP, to enhance its effective management.
Key words: gender, rural, water supply, water management, participation, community

1. Introduction

Men and women in rural developing communities traditionally play different roles in water supply management. While men have traditionally been responsible for making decisions and have dominated the processes which affect the management of water supply (IRC, 1994), women play a major role in collecting, managing and maintaining communal water supply, regulating and controlling its social use and safe maintenance (SIDA, 1994; Barrett & Browne, 1995). Women, thus, have the best information, knowledge and skills on the availability, quality, reliability, and purity of water sources across the contexts of household, community and subsistence livelihood conditions (Agarwal, 1992; Leach, 1992; Green & Baden, 1994). These, therefore, depict that, for an improved water supply, women must be involved in decision-making for its management.

Women's empowerment and water advocacy at village level, as argued, are crucial to the continued operation of water supply, and their empowerment greatly improves their participation ensuring the effectiveness of sustainable development strategies (Chachange, 1991 & Mbughuni, 1993). For instance, Kuzwayo (2002) and Hemson (2002) posit that when rural women are given the platform to voice their concerns pertaining to matters that affect their daily livelihood, or are involved at all levels of water management and policy formulation, they help mobilise the potential of water for development and ensure that water does not become a constraint to sustainable development. Lessons from Africa and the rest of the world have demonstrated that increased women's participation in decision-making and water management do not only lead to better operation and maintenance of water facilities but also, help them contribute more to the economy of their households. Similarly, UNICEF (1994a) reports that consulting women to choose and localise a new water point will improve water accessibility which will meet their specific needs, by ensuring that time and energy daily spent by women on collecting water will be reduced, and consequently spent on more productive activities, such as their household sanitation and food production, which will reduce their physical workload often resulting in deformity and disability (UNICEF, 1994b).

Having acknowledged the important role women play in water supply management, the last four decades had witnessed a full, equal and beneficial integration of women in issues regarding water provision and management on the international development (UN Water, 2006). The first systematic concern with women and water began with the United Nations Water Conference in 1977 in Mar del Plata, Argentina (Lundquist & Gleick, 1997). It was at this conference that women's role as providers and managers of water was recognised for the first time with the Declaration of Mar del Plata leading to the UN General Assembly proclaiming 1981 to 1990 as International Drinking Water Supply and Sanitation Decade (IDWSSD) (UNDP, 2003) and later 2005-2015 as the International Water for Life Decade. This recognition was given prominence during the International Conference on Water and Environment (ICWE), held in Dublin, Ireland, in January 1992, the United Nations Conference on Environment and Development (UNCED), known as the Earth Summit held in Rio de Janeiro in 1992, and later the World Conference on Women organized by the UN in Beijing in 1995 (Agarwal, Delos-Angeles & Bhatia, 2002; UN, 1995). At these conferences, concerns were raised on the need to take due cognisance of those who depend on natural resources for livelihood by facilitating their active involvement and

participation in all decision-making processes of all concerned, particularly indigenous people in rural areas and women (Verhasselt, 1998; World Bank, 1993). The Dublin Conference, for instance, gave rise to four principles that have been the basis for much of the subsequent water sector reforms on water management. These principles introduced a new approach known as the Integrated Water Resources Management (IWRM) which, among other things, acknowledges fresh water as a finite and vulnerable resource and the central role women play in its provision and management (GWP, 2005). Acceptance and implementation of this principle requires positive policies to address women's specific needs, equip and empower them to participate at all levels in water resource programmes, including decision-making and implementation, in ways defined by them (ICWE, 1992). Since then, policymakers have made attempts to incorporate gender issues in water development projects.

Although the importance of strengthening the role of women in the management of water supply has been the subject of numerous conferences, workshops, seminars, and projects involved with the organisation of community-based groups, do make mention of their intention to guarantee some degree of participation of women, these policies have not been adequately translated into practice, as there exists very little evidence of explicit attempts at increasing or improving the involvement of women (Sherpa, 2004) in water management initiatives. This is because the channels through which water supplies are being managed, and socio-economic norms which are being emphasised, in fact, tend to weaken and reinforce unequal participation in technical training programmes, decision-making processes, and women's position in water management and users' committees (ACC/ISGWR, 1992; Leach, 1992; Elson and Cleaver, 1993). For instance, a study by UN Water (2006) reveals that efforts geared towards improving the management of the world's finite water resources and extending access to safe drinking water and adequate sanitation by decision-makers often ignores this hidden chest of knowledge and, thus, overlooks the central role of women in water management.

Chachange (1991) further argues that, in theory, men and women participate in water and sanitation projects equally at all levels, but in practice, women still tend to be the implementers and men the decision-makers at the rural level. In support, Dayal, Wijk-Sibesma and Mukherjee (2000) maintain that while women are involved, the nature of their involvement relative to that of men is biased toward voluntary physical work, such as cleaning and greasing hand pumps and collecting payments. According to Onyango (2003), the subordinate position of women in rural water supply management has been strongly contested in policy. This is because even when women occupy positions of some authority, in practice, women's participation and decision-making appear to be subordinated to male authority (Hemson, 2002). Hemson (2002) again posits that the non-participation of women in the design, planning, implementation and management of water supply projects in developing countries is a major obstacle to the improvement of their well-being (World Bank, 1998) and long-term sustainability (PRB, 2001). Binamungu (1993), in a paper for HESAWA, however is with the opinion that women realise how crucial their involvement in the management of water and sanitation work is, but they are very conscious about how they state their demands or else they may be branded as social misfits. Similarly, Drangert (1993) reiterates that among the Sukuma in Tanzania, women are not supposed to speak for themselves. Green and Baden (1994) point out the partial involvement of women in water management to the fact that governments and donor agencies usually see women's involvement in water supply management primarily from the perspective of their roles in social reproduction, such as the provision and management of water for use by the family. Such social roles, Wijk-Sibesma (1998) maintains, have created the assumption that women fit the treasury position better in water committees than men. However, a study byUNDP (1990) has revealed that the question of women's involvement in water supply management mainly depends on their attitude. This is because some donor-aided projects provided equal training opportunities to both women and men but unfortunately women attended poorly as a result of poor motivation (Makule, 1997). Focusing on women's roles in water and sanitation projects, therefore, requires viewing and treating women as a part of the community, who should be actively involved in sector activities, along with men, rather than as a special part or a separate group (IDRC, 1985).

In Africa, women became engaged in projects related to water supply and sanitation as early as the 1970s (Dangerfield, 1989). In Ghana and Burkina Faso, for example, though women have increasingly influenced communal decision-making, especially in deciding when new wells are to be drilled, yet in these parts of Africa, socially constructed norms and beliefs have shaped patterns and roles played by men and women in the management of water supply (SIDA, 1996). A commonly cited example of cultural delineation of roles is the collection of water which is considered the responsibility of women (Regmi & Fawcett, 1999).

2. Theoretical underpinning

Early approaches to women and development recognised that development had ignored the important role played by women in their communities and, as a result, largely excluded them from decision making, design, implementation and management of development programmes (Downer, 1997). Women were largely invisible,

both as actors in and potential beneficiaries of such development processes. Since 1950, there have been a number of definitions and approaches that have guided programs for women in developing countries (Sigenu, 2006). These approaches were useful in understanding the different perspectives taken by donors and governments in creating and implementing interventions and development activities whose purpose was to assist women.

Based on the work of Molyneux (1985), Moser (1994) argues that, because women and men have different positions within the household and different control over resources, they do not only play different changing roles in society but also often have different needs. She reiterates that women typically take on three types of roles in terms of their paid and unpaid labour. These triple roles are:

- reproductive (involves care and maintenance of the household and all its members);
- productive (involves production of goods and services for consumption and trade or work done for payment in cash or kind); and
- community-based (involves organisation and management of community, events, services and politics through wages or increases in status and power).

With regard to needs, Moser (1994) distinguishes between Strategic Gender Needs (SGNs) and Practical Gender Needs (PGNs). Strategic Gender Needs are the needs women identify to overcome their subordinate position to men in their society. They relate to divisions of labour, power and control and may include such issues as alleviation of the burden of domestic labour and childcare; freedom of choice; and measures against male violence and control over women Molyneux (as cited in Moser, 1994). Meeting such needs do not only help women to achieve greater equality it also changes existing roles and, therefore, challenges their subordinate positions. Such needs vary according to the economic, political, social and cultural context (Moser, 1994). Some actions that address Strategic Gender Needs are:

- improving education opportunities, e.g. adult literacy classes, female teachers provided as role models and gender-aware textbooks;
- improving access to productive assets, e.g. legal status on land ownership, rights to common property and bank accounts;
- enabling women to take part in decision-making, e.g. participation in elections, representation at the local, regional and national levels, and establishing and supporting women's groups; and
- promoting equal opportunities for employment, e.g. equal pay for comparable jobs (even if there is a gender division of labour) and increasing women's access to jobs traditionally done by men.

Practical Gender Needs, PGNs, in contrast, are needs women identify in their socially accepted roles in society. Often, these needs are related to their roles as mothers, homemakers and providers of basic needs. They do not challenge the gender divisions of labour or women's subordinate position in society, although rising out of them. Practical gender needs are usually a response to an immediate perceived necessity which is identified by women within a specific context. They are practical in nature and are often concerned with inadequacies in living conditions, such as water provision, health care, and employment. Unlike the strategic needs, practical needs are formulated directly by women in these positions, rather than through external interventions. As Molyneux has stated, 'they do not generally entail a strategic goal, such as women's emancipation or gender equality... nor do they challenge the prevailing forms of subordination even though they arise directly out of them' (Moser, 1994, p.40). They arise as needs for women out of their impoverished situation. Projects can meet the practical gender needs of both men and women without necessarily changing their relative positions in society. Examples of actions that address practical gender needs are:

- reducing women's workload, e.g. location of stand-pipes and hand-pumps, providing grinding mills and developing fuel-efficient stoves;
- improving health, e.g. primary health centres, clean water supply and child spacing/family planning advice;
- improving services, e.g. primary schools, housing infrastructure and transport facilities;
- increasing income, e.g. skills training, credit initiatives and access to markets.

Coates (1999) maintains that practical and strategic needs cannot be neatly separated. He points out that every practical intervention has an effect on strategic areas of life (power relations and control), whether it is intended or not (March, Smyth & Mukhopadhyay, 1999). However, in assessing Moser's gender roles and needs, Shahrashoub and Miller (1995) point out that the focus on needs could not only make planning top-down, but also may create passive beneficiaries. The need to bring the interests of women into national development projects have slowly crept onto the agenda of national and international development agencies with various efforts and approaches being made to involve women in many development activities. The first major approach to this agenda was Women in Development (WID), a term coined by a Washington-based network of female development professionals in the early 1970s. WID recognised women as an untapped resource that can provide

economic contribution to development, if integrated into the process (Tinker, 1990). Thus, for a more efficient and effective development, the active participation of women is crucial (Moser, 1994). Moser (1994) identified five main strategies that are linked to the WID approach in meeting women's needs: welfare, equity, poverty, efficiency and empowerment. The welfare strategy was predominant during the period 1950-1970, although it was subsequently used by various agencies, including USAID, UNICEF and the World Bank. It originated with the "model of social welfare" within colonial administrations and focused on women in their role as mothers. The idea was to address practical needs stemming from women's reproductive roles as a way to assist development. The strategy did not threaten existing gender norms in various contexts, and, therefore, was (and still is) widely popular, especially with government and traditional non-governmental organisations (NGOs) (Moser, 1994).

Coinciding with the United Nations Decade for Women (1976 to 1985), the focus switched to equity, aiming to incorporate women as active participants and reduce inequalities between the sexes. Unlike the welfare strategy, the equity strategy has been primarily concerned with meeting SGNs. It led to creating national women's machineries (institutional units within governments to address legal, social and economic inequities), WID units with female staff, and national policy changes in some places (INSTRAW, 1988). Meeting SGNs implied redistribution of resources and decision-making at all levels in terms of women's triple roles (reproductive, productive and community-based) and was to be accomplished by top-down interventions. However, because this strategy sometimes threatened existing gender norms, governments were reluctant to implement measures to address SGNs. As a result, the anti-poverty strategy which was linked to redistribution of resources and basic needs of the poor, who were often women, emerged. The goal was to assist impoverished women to increase income, especially through small-scale income-generating activities (IGAs). In this strategy, there was a tendency to focus on women's productive roles in isolation from the legal and social obstacles, thereby meeting PGNs.

The efficiency strategy, in which women's economic participation was associated with more cost-effective and result-producing projects associated with the delivery of services, predominated in the major international donor agencies, as well as among many national governments and WID practitioners in the 1980s. This strategy allowed analysis of women's triple roles and met PGNs. It provided the basis for meeting SGNs, but had not been able to change policies and social norms at many levels (Moser, 1994). The latest strategy, the empowerment strategy, derives from the Development Alternatives with Women for a New Era (DAWN) group, as well as other initiatives by Third World women and grassroots organisations (DAWN, 1985). This strategy is largely unsupported by governments because, apart from challenging existing gender norms, class structures, and meeting both PGNs and SGNs, it aimed to empower women through greater self-reliance. It advocated a focus on measures to relieve women's inequalities by methods that included national policy changes, boycotts and grassroots organisation (Moser, 1994). For example, IDWSSD focused very much on the need to ensure the efficiency and effectiveness of water supplies by recognising women's roles in water collection and management, and to promote their participation in project activities (Sandys, 2005).

However, WID became unpopular in the mid 1980s when there was a growing consensus that sustainable development requires an understanding of both women’s and men’s roles and responsibilities, which are socially constructed within the community and their relationship to each other. Critics have argued that rather than challenging male bias, WID operated within the environment where it prevailed and so largely ignored the real problem of women’s unequal position to men (Coates, 1999). In support, Bell (1998) has argued that WID’s attempt to remedy women’s exclusion from the development process focused mainly upon women and hardly paid serious attention to gender issues, thus, improving the status of women was no longer seen as just a women’s issue but as a goal that required the active participation of men as well.

Based on such criticisms, a new approach, the Gender and Development (GAD), replaced the WID. The GAD approach starts from the premise that women have always participated in development but from an unequal and unacknowledged position. What constrain women are the social structures that favour male domination and female subordination (Guijt and Shah, 1998). Thus, through gender analysis, GAD seeks to understand the roles, responsibilities, resources and priorities of women and men within a specific context, examining the social, economic and environmental factors which influence their roles and decision-making capacity. Though the GAD approach tried to incorporate women into existing development models with the aim of empowering and transforming unequal social relations and interactions between men and women, Serote, Mager and Bundlender (2001) argue that, like WID, GAD simply pushed women into dominant male-centred models by adopting the welfare approach, whereby women were seen as the primary recipients and beneficiaries of improved water supplies. Even though the equity and efficiency approaches challenge women’s real participation in development, such participation tends to be limited, and often tokenistic as water projects seldom focus explicitly on the need to promote an equal balance of power between women and men (Shahrashoub & Miller, 1995). For instance,

IRC (1992) observes that women's participation is limited to some women being invited to meetings to be nominal members of water committees by project officials in consultation with local men or the local NGO, or, at the most, to take demanding and often tedious roles. As a result, these few women feel obliged to the male members of the committee and are reluctant to disagree with any decisions made by the men, regardless of whether or not those decisions are in their favour (Regmi & Fawcett, 1999). Similarly, Barrett and Browne (1995) posit that men, most of the time, decide the location of the settlement though women are the main managers who alone decide where and how to collect domestic water, what amount and how to use it.

3. Statement of the problem

In Asante Akim South District, as in many parts of Ghana, access to good drinking water is a major problem in most communities, particularly during the dry season where most of the community members, especially women, have to trek long distances in search of water that may not necessarily be safe for consumption. Among the consequences are the stresses on women's time and energy, risk of injuries, prevalence of water-related diseases and inadequacy of water for improved livelihoods. To accelerate the coverage of the rural communities and small towns with good drinking water and sanitation facilities, the government of Ghana, base on the global consensus on the principles guiding the provision of community water supply, has initiated the implementation of the Rural Water Supply and Sanitation Programme (RWSP) by the Community Water and Sanitation Agency (CWSA) to provide potable water supply in rural areas. This project which is demand driven and demand responsive involve consultation with, and participation by the local community not only in the design and implementation, but also in the monitoring process. The basic principle of DRA as far as community water projects are concerned is that water is both an economic and social good, and hence accessibility to it is appropriately managed at the community level so that, all community members feel part of the planning process and not alienated (Kaliba and Norman 2004). This often breaks the dependency syndrome (Kendie, 1994). The project again requires the formation of a local gender-balanced Water and Sanitation (WATSAN) committees to provide local institutional support for its implementation and promote community ownership (Engel, Iskandarani & Useche, 2005). It thus, outlines specific guidelines requiring that at least 40% of the available leadership positions in the WATSAN committees must be allocated to women. This specified quota represents a clear and significant departure from earlier projects, where communities were only appealed to and sensitised on the need to include more women in their local committees and then left to decide how they would do it and how far they wanted to reach out to women and elect them as leaders (Opare, 2005). Since non-compliance with the guidelines invariably meant exclusion from any benefits, the guidelines were largely adhered to.

While these initiatives are laudable, largely built on demand responsive approach (DRA), the local gender-balanced WATSAN committees could be questioned. This is because in some communities, very few women are given the role of secretary or treasurer; none is WATSAN chairperson, which does not always result in meaningful involvement of women in decision-making process (Djegal, Price and Acquaye 1996; Saeed 2003). Since the introduction of the RWSP in Ghana in 1994 to date, relatively few studies have been conducted that on gender water management practices in Ghana (Dotse, Laryea & Yankson, 1995; Sampa, 1996; Opare, 2005; Sam, 2006). This paper therefore seeks to examine the different roles men and women play in the management and stages of rural water supply projects in AASD. The following research question was addressed:

1. Do men and women differ in the roles they play in the stages of rural water supply projects in AASD?
2. What challenges do women face in their participation in rural water supply provision and management in AASD?

4. Methodology

The study employed the cross-sectional research design which involved surveying the opinions of community members who had stayed at least two (2) years across the selected communities operating under the Rural Water Supply Project (RWSP) phase III within AASD. Water and sanitation committee (WATSAN) members in these communities were also included in the study. A multi-stage sampling technique was employed in the study. Four towns with twelve communities were randomly sampled from the six beneficiary towns operating under RWSP phase III. Two communities were selected from each of the four towns using the simple random sampling technique. In all, eight communities were selected. These communities had 752 households, from which 256 households were finally sampled for the study. The household selection was based on Krejcie and Morgan's table for determining sample size from a given population (Sarantakos, 2005). The table suggests that, for a population of 752, a sample size of 256 is convenient. The 256 households sampled for the study was equally distributed among the eight selected communities to obtain information about women's role in rural water supply management. The "day code" of the Afrobarometer sampling technique was employed to establish an interval (n) for household selection (Afrobarometer, 2007). One respondent per household was selected. Women and men

aged 18 years and above, who had stayed in the community for at least two years, formed the sampling unit for the selection. In all 256 household respondents mean age of 41.8, with a standard deviation of 14.5 years

The purposive sampling technique was employed in the selection of females WATSAN committee members. In addition, two males in the WATSAN committee were also randomly selected from each of the eight communities. In all, 41 WATSAN committee members were selected. The views of male WATSAN members were relevant because they helped in explaining and complementing further information on women's level of participation in decision-making and management issues in the district. Interview schedules and focus group discussions (FGDs) were the instruments used for data collection. Two sets of interview schedule were used: one for male and female household respondents, and the other for WATSAN committee members. The interview schedule for household respondents was in three sections: Section A was on biographic data and socio-economic background of respondents; Section B examined the roles of women and men in the five stages in rural water supply system; Items in Sections B were rated on a five-point Likert type scale format, with 5 being strongly agree and 1 strongly disagree.

The interview schedule for WATSAN committee members was in two sections: Section A was on biographic data of respondents, while Section B examined their composition and the extent to which women were involved in WATSAN activities. Focus group discussion (FGD) was used to triangulate and gain deeper insight into information obtained from the interview schedule. The content of the FGD was from central themes of the interview schedule. The FGD centred mainly on the: the roles men and women play in the five stages of RWSP provision and management and the role WATSAN committee members play in managing water in the community.

5. Data Analysis

Data were subjected to series of item analyses in order to identify items whose removal would enhance the internal consistency of the instrument. Cronbach alpha was used to determine the reliability coefficient of the instrument. Since the instrument for the interview schedule for the individual household respondents was multidimensional in nature, reliability for each dimension was determined. The reliability coefficients obtained for the dimensions were; decision-making and planning, 0.93; project construction, 0.78; project implementation and management, 0.83; project operation and maintenance, 0.72; monitoring and evaluation, 0.94. The instrument for the WATSAN committee members was unidimensional and, therefore, the reliability coefficient was estimated to be 0.81, with inter-item correlations of the items greater than 0.40. The reliability coefficients obtained for the instruments for both the household respondents and WATSAN committee members exceeded a threshold value of 0.60, which is acceptable for research purposes (Nunnally, 1968, as cited in Pallant, 2007).

6. Results and Discussion

6.1 Distribution of positions in WATSAN committees by sex

The various positions in WATSAN committee comprised: chairman, vice chairman, secretary, vice secretary, treasurer, pump-caretakers, sanitation or hygiene officers, and, in some cases, some co-opted members, who served as advisors to the WATSAN committee members. Each position required some specific roles to be played towards the effective management of the water project. Apart from the treasury, women in AASD held the less powerful and supportive positions in WATSAN, while the men held the more powerful positions, such as chairman, vice chairman, and secretary. In cases where there were bookkeepers, the treasurer's role simply meant keeping money, while men kept the books. The expectation would have been that, as prime users of water for domestic purposes, women would have occupied positions to influence decision-making. This situation could be attributed to the general notion held by people that women make better treasurers than men because they are more trustworthy and better keepers of property (Wijk-Sibesma, 1998). This view was emphasised by the men during the FGD when asked why men did not vie for the position of the treasurer. A man commented in a jovial manner:

> Giving the treasury position to a male will mean giving him the opportunity and power to take more girl friends. We cannot take such risks.

The opinion expressed in the FGD confirms the findings of Dikito-Wachtmeister's (2000) study in Zimbabwe that men were not given charge of the money for fear they would spend it on beer. Even with this, both female and male FGD groups asserted that not every woman in the community qualified to be a treasurer. It was only women, who were either employed or engaged in a vocation, who were given the position. On the issue of chairmanship and secretaryship, while the women FGD members claimed they would welcome a female WATSAN chairman, the males were a bit sceptical, except in Pra River where the male FGD members were in support of a female WATSAN chairman, claiming that they had achieved a lot when they elected a female as the Assembly woman. Although all the eight communities had accepted a predetermined quota of 30% for women in

WATSAN committees in order to qualify for the project assistance, key positions, such as the chairman and secretary, which involved higher responsibilities, were still assigned to men, while women remained ordinary members with minimal influence. The situation in A.A.S.D. confirmed the observation by Mvula (1998) that women in water committees occupied subordinate positions and that they were universally there to fulfil the quota of 30% expected by policy and supported by the funding agencies. Such positions, Hemson (2002) explained, gave them a low level of verbal participation in decision-making, despite their responsibilities as water managers. Such a low level of participation was, thus, an indicator of project failure as women on the committees may not be able to influence decisions much (Duncker, 2001).

Again, it was observed that only men served as pump mechanics/technicians, with a greater number of women being hygiene officers and pump site cleaners. Though some women during the FGD in Yawkwei claimed they expressed interests to attend training programmes for pump mechanics, they never heard anything about it again. The views expressed by these women supported the assertion by Mehra and Esim (1998) and Sandys (2005) that there was a gender divide in skilled and unskilled works in RWSP management. They argued that while men normally participated in skilled jobs, such as pump mechanics, women only assumed responsibility for unskilled tasks, such as pump site cleaners. However, a 46-year old woman during the FGD at Kwakurukrom pointed out quickly that the appointment of women as pump cleaners, whose role was to see to the cleanliness of the pump site, was in the right direction. When asked why, she quickly responded that:

> the pump sites managed by females were cleaner than those managed by men. Thus, one is forced to remove his/her sandals, when visiting the female pump sites for water

This also meant that issues of hygiene education and awareness creation to the community were mostly carried out by women who mostly served as hygiene officers. With men as pump mechanics, there was clear evidence that women's interest in technical careers was discouraged. As Joshi and Fawcett (2001) argued, such restrictions on women's involvement in these areas, either as voluntary or paid workers and their frequent involvement in the upkeep of water points, redefined their position at the lowest level of water management. With regard to the forms of membership to WATSAN committees, the results in Figure 1 indicate that, while 56.3% of the male WATSAN committee members were elected by the community, 37.5% were nominated; and 6.2% were appointed by community leaders. In contrast, 52.0 percent of female WATSAN committee members were nominated, 32.0% were appointed, while 16.0% were elected. This means that there was a difference in the form of membership to the WATSAN committee for men and women.

6.2 Roles men and women play in the stages of Rural Water Supply Projects

To examine whether men and women participated differently in the stages of Rural Water Supply Projects (RWSP), a Chi-square test of homogeneity was calculated. Five stages of RWSP were considered. These were: decision-making and planning; project construction; project implementation and management; operation and maintenance; and monitoring and evaluation.

6.2.1 Level of participation of men and women in decision-making and planning of RWSP

An examination of the level of participation of men and women in decision-making and planning of RWSP in the AASD indicates that the majority (78.1%) of the household respondents highly participated in decision-making and planning stage of the RWSP. In all, 90.3% of males showed high participation as against 69.9% of females in the decision-making and planning stage (Table 1). To test whether there was a significant difference in the level of participation of men and women, a Chi-square test of homogeneity was employed. The test showed that the difference between men and women in decision-making and planning of RWSP, with a Chi-square (χ^2) value of 13.76, was statistically significant at the 0.01 level. However, the magnitude of the difference is small (phi = 0.24) (Pallant, 2007).

It can, thus, be concluded that there was a male dominance in the decision-making and planning stage of rural water supply management in AASD. The finding, thus, confirms the views of Brown (1996) that, in most traditional communities in Ghana, women do not take part in decision-making.

6.2.3. Level of participation of men and women in project construction of RWSP

On the level of participation in project construction of RWSP, the results in Table 2 show that 94.5% of the respondents claimed that they highly participated at the project construction stage. The analysis further revealed high levels of participation for both men (95.1%) and women (94.1%) during this stage. A Chi square test of homogeneity was employed to test if the difference was statistically significant. The results of the test, with a Chi-square (χ^2) value of 0.01 and p = 0.94, reported no significant difference between men and women at the project construction stage. Thus, men and women showed equal participation in project construction of the RWSP in AASD.

Even though there was no significant difference in the role men and women played in the project construction stage, the FGDs, held with the men and women groups, revealed that women's participation was in the form of feeding, giving project staff accommodation, and carrying the pipes, whereas the men cleared the borehole area

and helped project staff in the digging of trenches. However, both sexes made some financial contributions towards the construction of the project.

6.2.4 Level of participation of men and women in project implementation of RWSP

The results on the level of participation in project implementation of RWSP indicate that most (59.8%) of the respondents showed high participation during project implementation (Table 3). The proportion of men (63.1%) who claimed to have shown high participation was more than that of the women group (57.5%) during project implementation. A statistical test performed to establish the significance of the differences, using the Chi-square test of homogeneity, revealed no significant difference between the level of participation of men and women with Chi-square (χ^2) value of 0.58 and p = 0.44. Thus, it could be concluded that men and women in the eight communities in AASD participated equally during project implementation of RWSP.

6.2.5 *Level of participation of men and women in operation and maintenance of RWSP*

On the level of participation during operation and maintenance of RWSP, the majority (94.1%) of the respondents, highly participated at this stage of the project (Table 4). Among the respondents who claimed to have shown high participation in operation and maintenance, 96.1% were women while 91.3% were men. To test for the difference statistically, the data was subjected to a Chi square test of homogeneity. The results showed no statistically significant difference in the level of participation between the two sexes, with a Chi-square (χ^2) value of 1.79 and p of 0.18. This means that men and women showed equal participation during the operation and maintenance of RWSP in the eight communities in AASD.

6.26 *Level of participation of men and women in monitoring and evaluation of RWSP*

An examination of the level of participation in monitoring and evaluation of RWSP revealed that a high percentage (94.5%) of respondents participated at this stage (Table 5). For example, 95.2% of male and 94.1% of female respondents claimed that their participation in monitoring and evaluation of RWSP was high. To explore whether there was a statistical difference in the level of participation between the two sexes at the monitoring and evaluation stage of the RWSP, a Chi-square test of homogeneity was conducted. The results of the test indicated no significant statistical difference between men and women in their level of participation at the monitoring and evaluation stage, with a Chi-square (χ^2) value of 0.01 and p of 0.94. Thus, men and women showed equal participation during monitoring and evaluation of RWSP in the eight communities in AASD.

6.3 Roles WATSAN men and women play in decision-making processes of Rural Water Supply Project (RWSP) management

An effective management of rural water supply involves operating and maintaining the system on a day-to-day basis for effective delivery of water supply services. A committee was, therefore, assigned the responsibility of taking charge of all aspects of the water by making strategic decisions on what level of service they wanted, how much they wanted to pay for it, and where they wanted it. The committee was also involved in day-to-day operation and maintenance, collecting money from users; buying spare parts for the water facilities; and to ensure that money was available for the repair of the pumps should they breakdown. The different roles played by men and women WATSAN committee members in the management of RWSP in the Asante Akim South District were considered under the following: participation in decision-making on; project budget allocations; implementation; and operation and maintenance.

6.3.1 *Level of participation of men and women in WATSAN committee in decision-making on project budget allocations of RWSP*

On the level of participation of WATSAN committee members in decision-making on budget allocations of RWSP, the results in Table 6 indicate that majority (75.6%) of WATSAN respondents showed high participation in decision-making on budget allocations. The results further depict high participation for both men (62.5%) and women (84.0%) at this stage of the project. The Chi-square (χ^2) test of homogeneity conducted to ascertain whether the difference was statistically significant yielded no significant difference between men and women in decision-making on budget of RWSP with a chi-square value of 1.42 and p of 0.15. This means that men and women in WATSAN participated equally in decision-making on budget allocations of RWSP in the eight communities in AASD.

6.3.2 *Level of participation of men and women in WATSAN in decision-making on project implementation of RWSP*

The results on the level of participation in WATSAN in decision-making on project implementation in the management of RWSP, as presented in Table 7, show that the majority (78.0%) of WATSAN respondents highly participated at this stage of the project. It could be seen from the table that the majority of males (81.3%) and females (76.0%) showed high participation in decision-making on project implementation of RWSP. To test for the significance of this difference, the data was subjected to a Chi square test of homogeneity. The results showed that no significant difference existed in the level of participation between the two sexes, with a Yates' Correction for Continuity and Fisher's Exact Probability of 0.00 and p of 0.10 respectively. Thus, there was no

significant difference between the level of participation of men and women in decision-making on project implementation in the management of RWSP. This means that, men and women in WATSAN participated equally during project implementation of RWSP in the eight communities in AASD.

6.3.3 *Level of participation of men and women in WATSAN in decision-making on operation and maintenance of RWSP*

The operation and maintenance of water systems through daily inspection of pumps and pump sites to ensure their functioning and cleanliness is crucial to its sustainability. This means that the establishment of a water and sanitation (WATSAN) committee is crucial in this direction. Some WATSAN committee members had been trained as pump mechanics/technicians and hygiene officers to oversee the daily operation and maintenance of the pump sites. The results on the level of participation in WATSAN in decision-making on operation and maintenance are presented in Table 8. In all, 78.0% of the WATSAN respondents claimed their participation was high at this stage of the project. The results further show that the majority (68.7%) of the male WATSAN respondents indicated that their participation during this stage was high, compared with 84.0% female WATSAN committee members, who demonstrated high participation at this stage of the project. To explore if the difference was statistically significant, a Chi-square test of homogeneity was performed. The test showed no statistically significant difference between the level of participation in decision-making on operation and maintenance for the sexes, with Yates' Correction for Continuity and Fisher's Exact Probability of 0.58 and p of 0.28 respectively. This means that there was no significant difference between the level of participation of men and women in WATSAN in decision-making on operation and maintenance in the eight communities.

The analysis on whether there was a difference between the level of participation of males and females in decision-making on RWSP management showed no significant association between each of the selected variables. This means that all WATSAN committee members in the AASD played equal roles to ensure the smooth running and management of the rural water supply facility. These findings, however, did not support the views of Chachange (1991), IRC (1994) and Onyango (2003) that men dominate the decision-making processes in water committees, even when women occupy positions of some authority.

7. Challenges to women's participation in RWSP in AASD

In spite of the call to involve more women in the RWSP in all the communities under study, a number of factors prevented them from active participation in the project. Three major areas were identified by the respondents as challenges to the active participation of women, especially during community decision-making fora. These were: household chores and economic activities; fear and shyness; and criticisms from other women. As presented in Figure 2, 39.4% of the total responses indicated household chores and economic activities prevented women from taking active part in decision-making fora for water projects. In explaining why household chores prevented them from taking part in such fora, some women during the FGDs asserted, for instance, that, while they were busy preparing food or trading, meetings were also going on to decide important issues relating to the welfare of women. Contrary to the views expressed by the women, the men asserted that most women did not show up for meetings not because meeting times did not favour them but because they did not want to attend for reasons best known to them. The men, however, pointed out that, even when the women came, they felt shy to talk when given the opportunity.

Furthermore, about 33.0% of the responses attributed the low participation of women to fear and shyness of either being mocked by colleagues or lack of courage to even stand before the whole community to air their views. Thus, they allowed men to contribute and decide for them. Other responses (27.6%) indicated that criticisms from other women, especially of women who served on water committees, prevented women from participating in the RWSP. The various responses are given in Figure 2.

The findings on the challenges women face in participating in RWSP are supported by the views of Lubisi (1997) and Sigenu (2006) that, in many cases, women, out of jealousy, criticised others who talked during meetings, and that often, the women on committees thought they were better than others, and that they wanted recognition from men. Therefore, some women were not prepared to take an active role in the affairs of the community. In spite of these challenges, the involvement of women in water projects in the AASD had created awareness and encouraged most of the women to compete with men on some leadership positions, such as Assembly persons or as Unit Committee members. Other projects had also improved their political, social, economic and physical status in the district. For instance, discussions with the women group in Yawkwei brought to light that the proximity and access to safe water all year round had reduced their time in fetching water and had spurred most of them to engage in economic activities, such as trading and farming. Other women groups were of the opinion that the water project had provided some basic needs, such as water and sanitation, to their community.

8. Policy Implications

The findings that membership of most men in WATSAN committees were by election whereas most women were by nominations in the study communities meant that to ensure equal participation in all stages of RWSP management, ways of ensuring equal forms of membership need to be given maximum attention. The findings of this study provide evidence that men dominated in decision-making and planning of RWSP in Asante Akim South District and the Rural Water and Sanitation Team (RWST) needs to initiate more balanced participation strategies for men and women in the decision-making and planning processes that will enable more women to participate at this stage.

9. Recommendations

The need to consider women's inputs in water planning, management and decision-making is crucial during the provision and management of RWSP in the Ashanti Akim South District. However, little progress has been made in incorporating women's ideas into decision-making in the provision of RWSP. It is therefore recommended that, during the planning process, the Rural Water and Sanitation Team (RWST) through the existing local networks, such as chiefs, elders, and Assembly members, inform and encourage community members, especially women, to attend public meetings. This may require separate meetings to ensure that women feel free to offer their opinions. Again, the RWST should continue to encourage the equal contributions of both men and women in WATSAN committees in decision-making processes in RWSP management. This could be done through public education on the importance of women's role in decision-making in water management issues.

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Tables

Table 1: Level of participation of men and women in decision-making and planning of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	10	9.7	46	30.1	56	21.9
High	93	90.3	107	69.9	200	78.1
Total	103	100.0	153	100.0	256	100.0

*$\chi^2 = 13.76$, df = 1, n = 256; $p < 0.001$, phi = -0.24

Boateng, Brown, & Tenkorang (2010)

Table 2: Level of participation of men and women in project construction of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	5	4.9	9	5.9	14	5.5
High	98	95.1	144	94.1	242	94.5
Total	103	100.0	153	100.0	256	100.0

$\chi^2 = 0.01$, df = 1, n = 256; $p = 0.94$, phi = -0.02

Boateng, Brown, & Tenkorang (2010)

Table 3: Level of participation of men and women in project implementation of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	38	36.9	65	42.5	103	40.2
High	65	63.1	88	57.5	153	59.8
Total	103	100.0	153	100.0	256	100.0

$\chi^2 = 0.58$, df = 1, n = 256; $p < 0.44$, phi = -0.06

Boateng, Brown, & Tenkorang (2010)

Table 4: Level of participation of men and women in operation and maintenance of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	9	8.7	6	3.9	15	5.9
High	94	91.3	147	96.1	241	94.1
Total	103	100.0	153	100.0	256	100.0

$\chi^2 = 1.79$, df = 1, n = 256; p < 0.18, phi = 0.10

Boateng, Brown, & Tenkorang (2010)

Table 5: Level of participation of men and women in monitoring and evaluation of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	5	4.8	9	5.9	14	5.5
High	98	95.2	144	94.1	242	94.5
Total	103	100.0	153	100.0	256	100.0

$\chi^2 = 0.01$, df = 1, n = 256; p < 0.94, phi = -0.02

Boateng, Brown, & Tenkorang–Table 5

Table 6: Level of participation of men and women in WATSAN committee in decision-making on budget allocations of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	6	37.5	4	16.0	10	24.4
High	10	62.5	21	84.0	31	75.6
Total	16	100.0	25	100.0	41	100.0

$\chi^2 = 1.42$, df = 1, n = 41; p = 0.15

Boateng, Brown, & Tenkorang (2010)

Table 7: Level of participation of men and women in WATSAN in decision-making on project implementation of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	3	18.7	6	24.0	9	22.0
High	13	81.3	19	76.0	32	78.0
Total	16	100.0	25	100.0	41	100.0

$\chi^2 = 0.00$, df = 1, n = 41; p =1.0, phi= -0.06

Boateng, Brown, & Tenkorang (2010)

Table 8: Level of participation of men and women in WATSAN in decision-making on operation and maintenance of RWSP

Level of participation	Sex of respondents					
	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
Low	5	31.3	4	16.0	9	22.0
High	11	68.7	21	84.0	32	78.0
Total	16	100.0	25	100.0	41	100.0

$\chi^2 = 0.58$, df = 1, n = 41; p = 0.28, phi = 0.18

Boateng, Brown, & Tenkorang (2010)

Figures

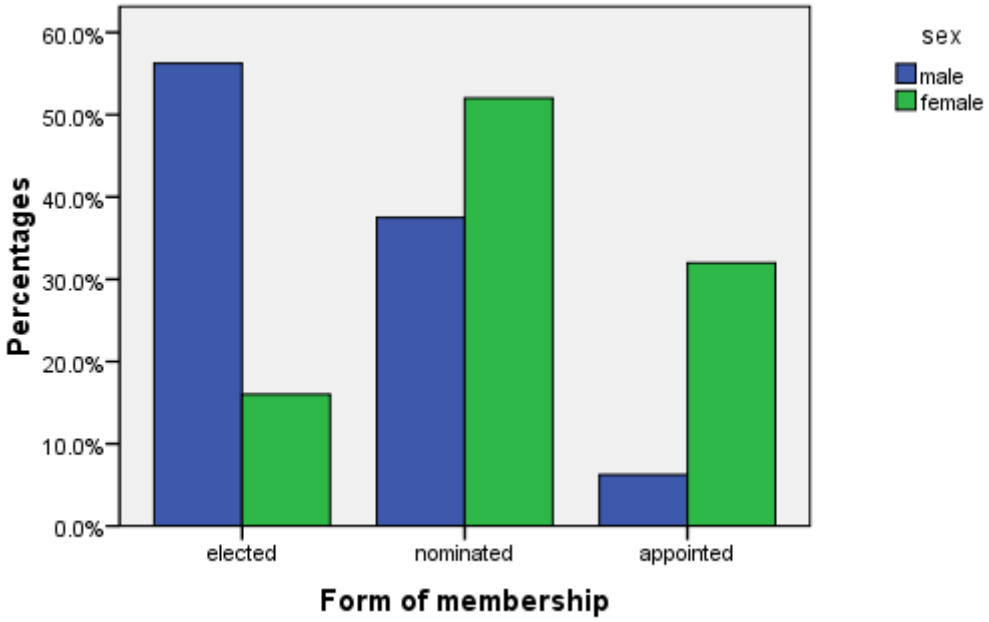

Figure 1: Forms of membership to WATSAN committees

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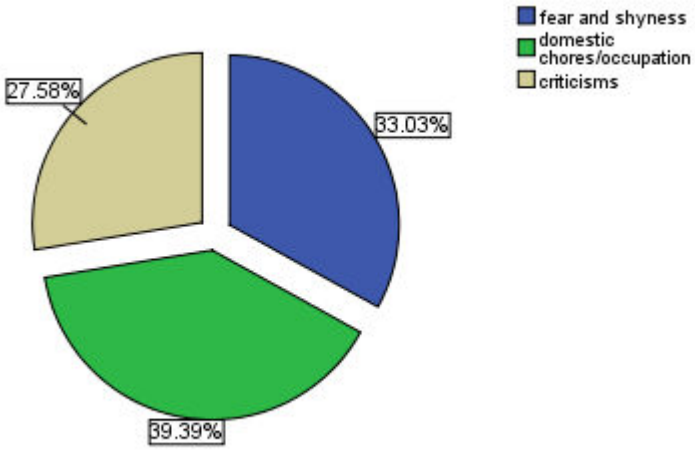

Figure 2: Challenges to women's participation in RWSP

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