



# POLICY BRIEF



Photo: Dina Najjar

## Women, Irrigation and Social Norms in Egypt

New research from Egypt demonstrates that women play a far more active role in irrigation than previously thought. Yet women's contributions to irrigation remain poorly understood and undervalued, limiting their access to new technologies and restricting their participation in water management and governance.

### WHAT'S AT STAKE?

Irrigation is typically seen as a masculine activity. Men have historically been overrepresented in leadership roles in irrigation schemes (Hulsebosch and Ombara 1995; Caretta 2015). They are also more likely to own land, to manage farms, and to serve on water users' associations (WUAs) and other irrigation governance institutions.

### KEY RESULTS

- Women are actively engaged in irrigation efforts in Egypt.
- Female irrigators can maneuver social norms but still be affected negatively by them.
- Women's significant involvement in irrigation is not matched by their participation in water governance.

Women also increasingly participate in irrigation activities due to male outmigration and reduced profitability of farming, though their contributions are rendered invisible by their lower status and association with the domestic sphere, and due to the continuing association of irrigation with masculinity (Bossenbroek and Zwarteveen 2014; Caretta 2015; Cole et al., 2015). As such, it is important to identify means for enabling women to benefit equitably from their contributions to irrigation.

Gendered social norms are the primary reason why women's engagements with and contributions to irrigation continue to be ignored and undervalued. Gendered ideas about how women interact with and use irrigation water determine the ways in which project coordinators, for example, understand and respond to women's concerns (Laurie 2011; Barnes 2013; Ge et al. 2011). Social norms and customs also impact women's access to inheritance and land ownership, which are crucial for women's participation in irrigation management. Since women seldom own land and are rarely perceived as irrigators, they are almost never presented with opportunities to serve on WUAs and other irrigation governance institutions.

Gender norms also play an important role in determining adoption of technologies, but very few studies explore gendered patterns of irrigation technology adoption and women's ability to benefit from them. The existing research on gender and technology adoption is based in South Asia and sub-Saharan Africa.

To better understand and document, thereby shedding light on, how women and men participate in irrigation in Egypt, researchers Dina Najjar (International Center for Agricultural Research in the Dry Areas), Bipasha Baruah (University of Western Ontario) and Aman El Garhi (Agricultural Research Center of Egypt) conducted fieldwork in two communities: Kafr Sheikh and Nourbariya. Specifically, the research examines women's experiences in irrigation across three dimensions: gender roles, norms and changes; technology adoption, approach and impacts; and participation on WUAs.

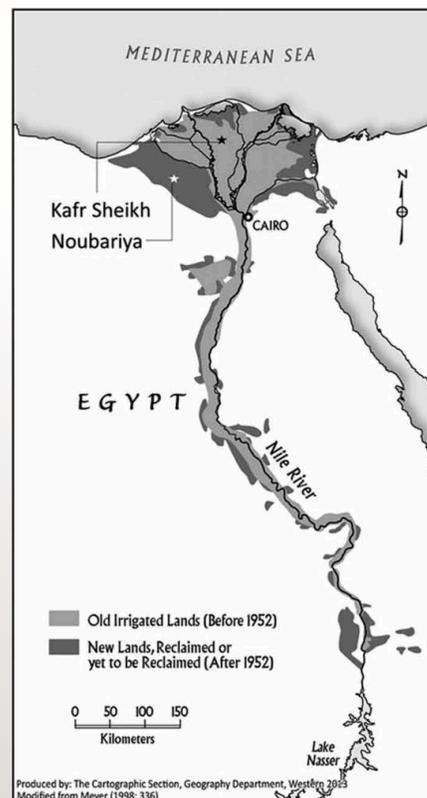
## RESEARCH APPROACH

Researchers surveyed 402 individuals (200 men and 202 women), and conducted an additional 150 interviews with women and men farmers as well as water engineers and other local officials responsible for irrigation. While the survey findings offered a broad overview of roles in irrigation, and adoption of irrigation technologies and

techniques, the interviews highlighted women's contributions to irrigation as well as the challenges and opportunities they faced in more nuance, depth and detail. Researchers also used participant observation to triangulate their findings about women's roles in irrigation management.

Fieldwork was conducted in 13 villages in Kafr Sheikh Governorate and 13 villages in Noubariya Governorate, enabling researchers to explore how women's desire and ability to participate in irrigation activities may be influenced by the social, economic and political contexts in which they live. Whereas Kafr Sheikh Governorate is located in the 'Old Lands,' more traditional areas which have been cultivated for centuries; Noubariya is located in the 'New Lands,' desert areas that were reclaimed and cultivated after the construction of the Aswan Dam in the 1960s. The two areas share common socio-cultural, historical and economic ties but differ significantly in terms of gender norms, irrigation technologies and land ownership dynamics. While Kafr Sheikh is irrigated via "flood irrigation", has few women landowners, and more rigid gender norms, Noubariya is irrigated via sprinkler and drip irrigation, has 20% rate for women landownership, and relaxed gender norms due to higher labour demands.

FIGURE 1: STUDY LOCATIONS IN EGYPT



## KEY FINDINGS

Study findings point to different barriers and opportunities women encounter if they participate in irrigation activities as well as how these may be related to land ownership status, education, class background, access to training, type of technology used for irrigation, and social norms of the community they reside in.

### **Women are actively engaged in irrigation efforts in Egypt.**

Analysis revealed that women participated in irrigation activities in 78 percent of the 402 households surveyed, suggesting that women are far more actively engaged in irrigation efforts in Egypt, and possibly in the wider MENA region, than is generally assumed and documented. The diffusion of certain irrigation technologies such as drip, sprinkler and tatweer in recent years has made irrigation more socially acceptable for women to perform although some women had also been irrigating land long before these technologies became available.

### **Female irrigators can maneuver social norms but still be affected negatively by them.**

While women's contributions were undervalued in both communities, and they often faced gender discrimination regardless of location, their experiences also varied considerably. Women living in the 'Old Lands,' for example, tended to face greater restrictions in their day-to-day life, limiting the roles they performed or the jobs they were hired to do. Those living in the 'New Lands' were subjected to fewer socially-conservative norms, and because they settled as nuclear families, rather than multi-generational extended families with large numbers of male relatives, their labor was also in demand. The farm sizes were also bigger in Noubariya (on average 5 acres in Noubariya vs 1 acre in Kafr Sheikh) which also required more labour compared to Kafr Sheikh. As such there was higher demand on both family and hired women labour in Noubariya which led to less rigid norms.

In the 'Old Lands' irrigation officials suggested that women who participated in irrigation belonged to a lower social class, and were either illiterate, uneducated, or forced to participate in irrigation activities because they had no male relatives – sentiments that devalued their involvement, limited their participation in water governance, and restricted access to new technologies.



Photo: Dina Najjar

*Farm land in Kafr Sheikh Governorate, the 'Old Lands'.*

Their counterparts in the 'New Lands,' however, were perceived more favorably due to their landowning status and educational profile – the area's resettlement program had specifically targeted female high school, technical school, and university graduates, providing them with homes and land. They also received rigorous training, which legitimized their involvement in irrigation.

### **Women's significant involvement in irrigation is not matched by their participation in water governance.**

Women are frequently unable to participate in water governance institutions like WUAs due to heavy workloads and social norms, which resist recognizing and validating women in their roles as irrigators. Involvement in WUAs was more common in the 'New Lands,' due to institutional support from organizations like World Food Program and the International Fund for Agricultural Development (IFAD) in the form of encouragement and training, which gave women the confidence to participate in WUAs and a familiarity with how these groups operate. In the 'Old Lands,' perceptions of women being weak, illiterate and uneducated confined them to subordinate positions within WUAs, particularly those related to domestic water use, that did not include voting rights, limiting their influence as decision-makers.

Furthermore, participation in WUAs does not always optimize or validate women's roles in irrigation, and under certain circumstances such as political unrest and erosion of institutional support, participation in WUAs can be of limited utility for both women and men. These issues are not well documented in the existing research on gender and irrigation.

## POLICY INSIGHTS

Study findings contribute toward improving Egyptian women's visibility in irrigation by identifying women's contributions to the sector. To improve women's access to irrigation technologies and participation in water governance, governments and decision-makers should consider the following:

### **Land ownership, educational attainment and institutional support enhance women's ability to optimally participate and benefit from in irrigation.**

Women's involvement in irrigation management and practices can be strengthened by land ownership and higher levels of educational attainment. While women in Noubariya continued to face inequities and marginalization, their comparatively advantaged socio-economic position allowed them to participate more in irrigation activities and exercise greater influence. The research also revealed the importance of institutional support – and this was underlined by the fact that when institutional support was subsequently withdrawn in the 'New Lands' there was a corresponding decrease in the involvement of both women and men in WUAs.

### **Legal and policy measures are important to strengthen women's participation in governance.**

Participation in irrigation, and the benefits that accrue from this participation, are influenced by prevailing social, economic, and political norms in rural communities – demonstrated by the fact that women who successfully participated in WUAs still had to endure reputational damage. To overcome these constraints the study highlighted the importance of working at multiple levels to address gender inequalities. In particular, introducing policy reforms – such as quotas on WUAs for irrigation-related seats and other governance bodies and facilitating organizational support to substantiate the role of WUAs.

### **Going beyond legal and policy measures to address harmful norms and stereotypes is also crucial.**

Legal and policy measures are important but insufficient to address gender inequalities. This was most notably evident with women giving their lands to their sons and not their daughters. In the absence of wider political awareness among women and men about the value to society of greater gender equity, legal and policy

measures will be insufficient drivers for women's optimal participation in irrigation. Ahmed (1999) argues that women's inclusion into water management institutions might be enhanced by adopting a variety of strategies that can provide training to women, ensure that domestic duties such as childcare are not barriers to participation, and not basing participation in irrigation management on land ownership. As such it is important to develop awareness raising campaigns to promote gender equality and challenge societal norms.

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