

Methodology and data

Broadly, we define **women water professionals as all women working in the water sector at the meso and macro levels across different sub-sectors of water in different capacities in government as well as non-government organizations, as academicians and in the private sector.**

For the purpose of this study, however we have focused on women working as employees in the government set-up both in technical and non-technical capacities at different positions.

For this study we rely heavily on the foundational work in the area of feminism and science. We also draw on work around gender and organizations, and the studies on masculinities and water.

The low numbers of women in the water sector or for that matter, any of the 'hard' sciences often remains an area

wanting in research. The most general explanation given for this is patriarchy without going into the nature of these sciences themselves. Most often, the question is either treated as a myth not requiring an enquiry or self-evident or non-sensical falling outside the domain of the formal knowledge systems and hence needing no attention. In this study we try to examine not only the extent of WWPs in the region, but also the reasons for that.

Different sets of tools and methods were used to investigate into this question and these include use of secondary data from government departments to assess the numbers of WWPs and focused group discussions (FGDs) and personal interviews with women and men water professionals working at different levels in the government hierarchy to understand the constraints and the reasons for low numbers. We spoke to about 120 WWPs in South Asia and conducted 10-15 FGDs



Table 1 Department wise typology of women water professionals for India, Bangladesh and Nepal

Country	Department	Technical Employees			Administrative Employees			Total Employees		
		Number of total employees	Number of female employees	Percentage of female employees	Number of total employees	Number of female employees	Percentage of female employees	Number of total employees	Number of female employees	Percentage of female employees
India (Maharashtra)	MJP	1429	74	5.18	5122	502		6551	576	8.79
	Irrigation	933	18	1.93	1390	157		2323	175	7.53
India (Andhra Pradesh)	APSIDC	267	11	4.12	300	36		567	47	8.29
	GWD	81	10	12.35	979	72		1060	82	7.74
	HWSSB	323	13	4.02	53	7		376	20	5.32
Bangladesh	BWDB	1400	46	3.29	6060	399		7460	445	5.97
	WARPO	37	2	5.41	17	2		54	4	7.41
	CEGIS	108	17	15.74	22	1		130	18	13.85
	IWM	72	12	16.67	15	0		87	12	13.79
	LGED-SSWRDP	1696	30	1.77	0	0		1696	30	1.77
Nepal	Department of Drinking Water and Sanitation	35	0	0.00	82	9		117	9	7.69
	Department of Irrigation	66	1	1.52	80	10		146	11	7.53

Key findings and analysis

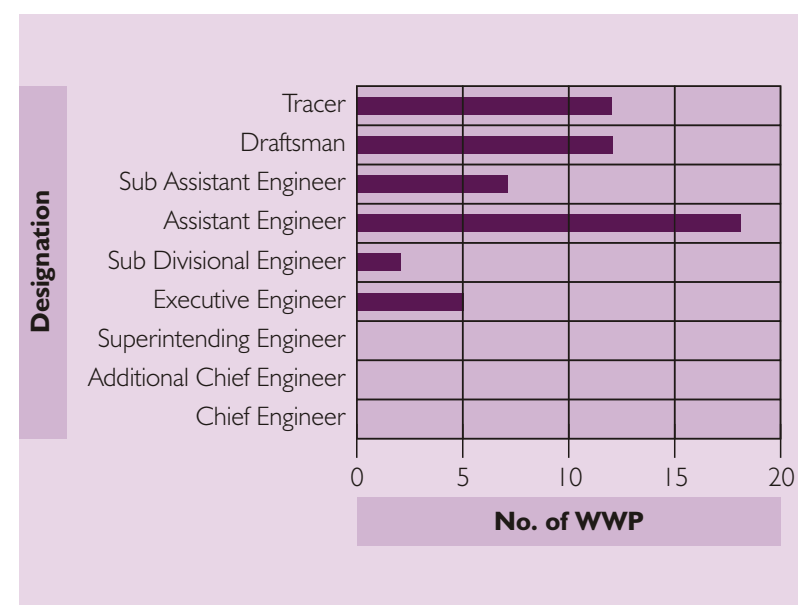
Low numbers

The table (See Table 1) shows us that except for three departments in India and Bangladesh the percentage of women in technical posts is not more than 5% and in some departments like the irrigation department in Maharashtra and Nepal it is as low as 1.9 and 1.5% respectively. While it might be interesting to pursue this difference across sectors separately what we see here is the consolidated picture of the water sector in south Asia.

Glass ceiling

The small numbers of women in the sector also reflects in their presence in key decision making posts. Chart 1 is indicative of women's low presence as decision makers. Less than 5 women in the entire country are working as Executive Engineers and none in the highest post of chief engineer upto Superintending Engineer. The same is true for the rest of the countries as well.

Chart 1 WWPs in BWDB technical hierarchy, Bangladesh (Entire country Data)



After speaking to more than one hundred WWPs in the region and conducting several group discussions with a diverse set of people we feel that the study does point to two major constraints that determine women's low presence in the water sector as professionals:

- Constraints that come from the type of work women do and are expected to do;
- The related but distinct category of content and structure of engineering science itself.

The two constraints are intertwined and cannot be separated from the other, but here we present some of the findings in two separate sections – one, which deals with socio-cultural issues that determine women's presence or absence in the bureaucratic organisations and the second, which speaks of their absence as a result of the nature of the sector itself.

Culture of the water sector

Culture of a sector can be defined in several ways that relate to the form the organisation takes, the content of work and priorities it lays, mode of governance, work relations and task allocations to name a few.

Making educational/ career choices

A Deputy Engineer puts this very succinctly *“Teaching, health and education are considered as the most suitable options for women. Teaching because you are teaching values- children are moulded and that work is seen as women's work. There is no male interference there.”*

Most women have found it difficult making this choice of civil engineering and pursuing it through an employment in this area.

Site work and financial transactions not your cup of tea?

“Mostly women are working in less important places, like drafting letters, and other communications, dealing with administrative problem etc. My case is different, as I have already proved my capability so no one bothers me now. I had to fight the culture of the organisation which only made women work at the office, but tell me what design work is complete without implementation at site?”

Renegotiating and redefining work or fighting the system

“Financial tasks are not given to women but neither are we interested in them”. Or “we are also happy with desk work”

But there are others who fight it out, like for example a Bangladeshi professional says *“I do not want to bind myself in designing, rather I want to build my-self as an all-rounder. Who knows I may have to manage the entire organization in future?”*

Images, symbols and metaphors

“My boss once introduced us in one public gathering as ‘these are my daughters’. This created a sense of attachment towards office, and it motivated me to do my best and live upto his expectations, which becomes a very patronising relationship. Another officer said that survival for women in this sector is tough because one has to possess the masculine and feminine qualities”

Difference in thinking and understanding of water issues

“As a woman engineer today I can see how my experience as a woman has helped me in designing user water taps and connections for a village”

Making a difference: women as active agents in the organisation

A few women engineers in the decision making positions have managed to make a difference to the culture of the sector.

Consultant with Irrigation and CAD, AP *“Being a woman, I can influence other women to come in the sector and participate in community programmes”*

“As an Executive Engineer in charge I have been able to change the work culture and make women engineers far more comfortable now to move at the field level as well as work in the office”

Gender and Organisational issues

A wide range of organizational issues from physical infrastructure and facilities to rules, hierarchy, work atmosphere and relations determines women's participation in the sector. Here we discuss a few.

Gendered infrastructure

“There are toilets but the maintenance is too bad. There is no water. Most of such issues which are very basic necessities are not talked or raised because of shyness”.

Poor sanitation facilities do inhibit women and affect their work performance. This was seen across South Asia.

Maternity leave and other benefits

An agriculture officer, from Nepal who looks after small irrigation projects of the government, said, *“I was scared to take extended leave, because many officers would have liked to be based in my position which became vacant when I went on leave. If I rejoin later than forty five days then I would have been posted in some remote districts”* So she resumed work after forty five days of her leave, leaving her child at home and tried for alternate feeding besides regular breast-feeding.

An irrigation engineer in Maharashtra located at the State office says *“pregnant women are often seen as problems- but the nine months given by the women should be seen as an investment for the future”.*

Normative woman

A Pakistani WWP- *“Yes we are asked by male bosses to dress in a particular way. In fact many appointments too are done looking at women's faces rather than their work expertise”. . . . “Often men ask us to come to their cabins when some of their male friends come to visit them”. “We are also asked to perform their personal tasks not related to office jobs”.*

Women as leaders

Often men oppose women's seniority as that curtails their chances of sharing in the corruption that takes place. They are not easily accepted as leaders for reasons that range from hurting male egos to curtailing their options to do tasks in their own way.

Changing gender relations

“Women cannot fully dedicate to their work also because of the patriarchal system. Home becomes their first priority. They look at the work as an employment and not as a social concern”.

“As a woman I had to struggle to prove my mettle. Whereas my male colleagues, were encouraged to take new responsibilities, they got more exposure, and so they matured faster. They easily get sites, but for me I got it late. There is a protective attitude towards women which is not always positive”. “At office level, I continuously have had to prove myself. The seniors always seek opportunities to find faults. A smallest of the mistake is not spared.

Woman Engineers are expected to be perfect but the same is not expected of male Engineers, they are allowed to make mistakes”.