New Perspectives on Women in WASH: Integrating Women's Empowerment Programming into a Market-Based Sanitation Intervention

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INTRODUCTION

In 2016, WaterSHED introduced the WEwork Collective, a multi-dimensional women's economic empowerment program that provided technical support and mentorship to help women succeed in private water, sanitation, and hygiene (WASH) markets in rural Cambodia.

Figure 1. Provinces targeted by the WEwork Collective

Program monitoring data showed that the approach generated interest in WASH income-generating activities (IGAs), including latrine sales, WASH product retail, and owning or operating latrine supply businesses. However, it proved challenging to convert that interest into entrance, retention, and satisfaction in the WASH market.

Therefore, the purpose of this study was to help improve targeting and recruitment of better-fit profiles for rural women more likely to take up and succeed in WASH market IGAs for future programs. The main aims of the study were as follows:

1. **Identify a set of characteristics** of women to help predict current WASH job status, retention & satisfaction in WASH IGAs

2. **Understand the constructs (i.e. attributes of IGAs)** by which women evaluate IGAs, form preferences, & decide which IGAs to engage in

METHODOLOGY

This study followed a mixed methods, cross-sectional research design.

Qualitative Phase

Purposive selection of 15 WEwork women

Convenience sampling of 20 non-WEwork women construction workers and community healthcare workers

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Data Collection: Repertory Grid Technique[1,2]

Element elicitation – Interviewee lists all IGAs she does, used to do, or knows of

Construct elicitation – Interviewee compares/contrasts randomly selected dyads of the elicited IGAs

Interviewee identifies 3 **most important constructs** and most **preferred IGA**

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Content Analysis

Coded emergent constructs and assessed frequency with which constructs were mentioned (and identified as most important) within and between groups

Quantitative Phase

Random selection of 152 WEwork women

Convenience sampling of 66 non-WEwork women construction workers and community healthcare workers

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Data Collection: Quantitative survey

Attitude statements developed using primary data from 2013 exploratory qualitative study of women in WASH IGAs

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Correlational Analyses

T-tests to identify differences in attitudinal predispositions between WEwork women in WASH IGAs and not in WASH IGAs

Chi-squared tests to identify potential predictors of involvement, retention, satisfaction in WASH IGAs from attitudinal, demographic, and socioeconomic characteristics

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Predictive Modelling

Binary logistic regression to create predictive models of current involvement, retention, and satisfaction in a WASH IGA

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Triangulation

Checked qualitative and quantitative results against each other as well as against published and grey literature to formulate recommendations

QUANTITATIVE RESULTS

Personal Attitudes of Women in WASH

Table 1. Selected findings concerning attitudinal predispositions of women in WASH IGAs

	WEwork women in WASH IGAs were **MORE LIKELY** than those not in WASH IGAs to...
Networks	Know people in the WASH sector to ask for advice[†] Feel that observing others' success would give them confidence to try new IGAs*
Time	Feel that they spent majority of their time on work-related activities*
Family support	Report having families that worked together to increase productivity, share income Report having family members who helped with domestic duties[†]
Personal agency	Feel they need to consult husbands before making work-related decisions Feel confident communicating with men and women as well as speaking in public
Skills & Knowledge	Perceive they have 'enough' technical knowledge to do WASH jobs[†]* Perceive they have financial management skills useful for business[†] Feel they had few skills that can be used for IGAs or business[†]
Gender norms	Feel that they are physically able to do any job men can do Perceive that men are more likely to persevere in work or business challenges Feel they need to provide adequate reason to their families to be away from home
Attitude toward WASH IGAs	Imagine themselves owning or managing a business[†]

All attitudes were assessed on a 5-point, Likert-type response scale where 1 was 'Agree to the greatest extent' and 5 was 'Disagree to the greatest extent,' *Two-sample t-test p-value ≤ 0.05, [†]Welch's t-test p-value ≤ 0.05 and data were non-normally distributed

Involvement in WASH IGAs

Women who knew latrine sales agents they could ask for advice, felt they had latrine sales agent technical knowledge, could imagine being a latrine sales agent, made work-related decisions on their own, and did not feel vulnerable to harassment at work were more likely **to be involved** in WASH IGAs.

Table 2. Predictive binary logistic regression model of current WASH job status (Women involved in a WASH IGA at the time of the study vs. All other women)

Predictor	β	SE β	Wald's χ^2	df	p	OR	Lower	Upper
Constant	-5.016	1.027	23.843	1	<0.001	0.007		
Knew someone who was a latrine sales agent and could ask them for advice	0.723	0.189	14.593	1	<0.001	2.061	1.422	2.988
Felt she had sufficient latrine sales agent technical knowledge	0.575	0.173	11.058	1	0.001	1.778	1.266	2.495
Could imagine being a latrine sales agent	0.485	0.176	7.594	1	0.006	1.624	1.150	2.294
Did not make work-related decisions on her own because she did not want to be responsible for the wrong decision	-0.293	0.151	3.769	1	0.052	0.746	0.555	1.003
Felt vulnerable to harassment at work, as a woman	-0.345	0.129	7.103	1	0.008	0.709	0.550	0.913
Model evaluation			χ^2	df	p			
Hosmer–Lemeshow			13.367	8	0.100			

Somer's D = 0.674. Goodman & Kruskal's Gamma = 0.676. Kendall's Tau-a = 0.308. C-statistic = 83.7%. *Selection method: Forward selection with likelihood ratio.*

Retention in WASH IGAs

Women who felt they had sufficient latrine sales agent technical knowledge and perceived that the majority of their time was spent on income-generating activities were more likely **to stay** in WASH IGAs.

Table 3. Predictive binary logistic regression model of WASH job retention (Women involved in a WASH IGA at the time of the study vs. Women previously involved in a WASH IGA)

Predictor	β	SE β	Wald's χ^2	df	p	OR	Lower	Upper
Constant	-3.472	1.058	10.779	1	0.001	0.031		
Felt she had sufficient latrine sales agent technical knowledge	0.389	0.171	5.186	1	0.023	1.476	1.056	2.063
Perceived that the majority of their time each week was spent on income-generating activities	0.637	0.234	7.410	1	0.006	1.891	1.195	2.991
Model evaluation			χ^2	df	p			
Hosmer–Lemeshow			5.032	6	0.540			

Somer's D = 0.427. Goodman & Kruskal's Gamma = 0.469. Kendall's Tau-a = 0.201. C-statistic = 71.4%. *Selection method: Forward selection with likelihood ratio.*

Satisfaction in WASH IGAs

We were unable to create a predictive model of satisfaction as **all women involved in WASH IGAs reported being satisfied** with their jobs.

QUALITATIVE RESULTS

When asked **what IGA they would most prefer**, none of the women in WASH IGAs preferred jobs in the WASH market. Below are constructs that emerged as most important for women in evaluating, forming preferences, and making decisions about which IGAs to engage in.

Family Support & Domestic Duties

Both WEwork and non-WEwork women reported '**home-based job**,' '**travel**,' and '**family help**' as three of the most important constructs for considering what IGA to do.

> *"[I can] work at home because it is hard to travel away from home as I [am] responsible to look after my family so if I work away from home, who is going to take care [of] my children? Moreover, not only taking care [of] my children, but I can do other work at home as well."*
> (RGI with WEwork woman, WASH retailer)

Having an income earning activity that was situated at home meant women could also complete housework or other income-generating work, supervise children, and care for elderly family members.

Amount & Stability of Income

Women from all study groups expressed the importance of earning income to support their families. Some women reported considering the **amount of income** they could earn in certain jobs compared to others.

> *"[I] would like to do [business] casting cement rings. [...] [It] gives more income than other [jobs], so we would be better off with [our living]."*
> (RGI with non-WEwork woman, construction worker)

Others were more concerned with the **stability or frequency of income**.

> *"I have nothing so only working as a construction worker that could get income in every 6 days [...] If I sell cake, sometimes it might be left over, but if I work like this [as a construction worker], I will definitely get income every 6 days."*
> (RGI with non-WEwork woman, construction worker)

Physical Ability & Energy

Interviewees of all groups described a job that requires a lot of physical strength as 'heavy' and 'exhausting'. Some expressed that '**as a woman**,' or '**as they get older**', they would not be able to do 'heavy' work.

Figure 3. Woman latrine supply business owner

> *"As a woman, I have no [physical strength]...my spouse [...] he's always gone, [so] it's just me alone. [...] [Job] that uses little physical strength is easy for [me], even if it makes small [amount] of money [...] because I can still manage [that job] even though [I] have little physical strength."*
> (RGI with non-WEwork woman, community healthcare worker)

Contributing to the Community

Women also frequently expressed a desire to **reduce poverty** or **improve health** in their community through their work.

> *"[Making villagers have good health is] important [...] because [I] would like to help children have good health and help mothers reduce poverty [in their families]."*
> (RGI with non-WEwork woman, community healthcare worker)

RECOMMENDATIONS

WASH entrepreneurship allows women the flexibility and personal freedom needed to balance an IGA with traditional responsibilities at home. We have extracted key recommendations for targeting and design of programs that aim to increase women's participation in the WASH market.

Longitudinal research is recommended to determine whether certain resources (i.e. time, technical knowledge, professional networks in WASH) found to be associated with involvement and retention in WASH IAGs act as preconditions for or outcomes of involvement and retention in WASH IGAs.

Frame WASH jobs as a solution for women who need to balance earning income and domestic duties.

Women who worked in WASH tended, more so than women in non-WASH jobs, to work close to or within their homes, particularly latrine supply business owners/operators. In their interviews, women expressed a desire or need to work from home in order to complete housework, supervise children and/or care for elderly family members.

The literature around women's entrepreneurship in developing countries suggests that entrepreneurship is a pragmatic solution for women to provide financial support for their families and reduce household poverty. [3,4] Program designers, particularly in Cambodia, should highlight these advantages of WASH IGAs to appeal to rural women's priorities.

Tailor targeting strategies and program design to appeal not only to women, but also to their families.

Findings suggest that familial support goes beyond mere approval of job choice and extends, instead, to include assistance with household chores, job tasks, financial inputs, etc. Women in WASH jobs had higher satisfaction scores in terms of family support for their work and were more likely to report receiving assistance from their family members with household chores in order to spend more time in their IGAs.

Therefore, practitioners may consider targeting strategies that highlight the benefits of WASH IGAs for the whole family. Family support and access to capital had been previously identified in the literature as 'barriers' or 'enablers' for women entrepreneurs. [5,6]

Incorporate personal leadership training in program activities to promote women's participation in work-related decision-making

The results around women's personal agency and participation in work-related decision-making were mixed. Women in WASH IGAs were more likely to report making their own work-related decisions regardless of being held responsible for the wrong decision. However, the same group of women also felt that they needed to consult their husbands on work-related matters and provide adequate reasons to their families for being away from home.

Personal leadership skills training may help to equip women with the tools they need to negotiate a role in work-related decision-making. These skills may also be enable women to negotiate an equitable distribution of domestic duties and income-generating activities among family members.

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