



# Water.org: Meta Study of Existing WSS Research

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## White Paper

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## List of Abbreviations

CC	Climate Change
H&S	Health and Safety
HHF	Household Finances
KII	Key Informant Interview
RAG	Red, Amber, Green rating
ToA	Theory of Action
ToC	Theory of Change
WCA	Water Credit as an accelerator
WSS	Water supply and sanitation
WASH	Water, sanitation and hygiene
WEE	Womens' empowerment and equity

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## Version Control

Version number	Date	Author	Comments
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2	29 <sup>th</sup> November 2021	Iwel/Aguaconsult team	Revised to become a standalone White Paper.
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4	14 <sup>th</sup> December 2021	Iwel/Aguaconsult team	Final version to Water.org

## White Paper

In April 2021 Water.org commissioned the Water and Sanitation Meta Study to assess Water.org’s contributions and compare Water.org’s (internal) evidence with (external) academic and practitioner evidence in five areas: (i) household finances(HHF); (ii) Water Credit as an accelerator<sup>1</sup> (WCA); (iii) climate change (CC); (iv) health and safety (H&S); and (v) women’s empowerment and equity (WEE). The main aim was to draw insights that can be used to inform Water.org’s interventions as well as their future research and learning agenda.

### Purpose

The purpose of the White Paper is to summarize the high-level key findings from each of the thematic papers, and provide a synthesis overview of the interrelated themes.

### Objectives and scope of the assignment

The objectives of the Meta Study are “to organize, synthesize and translate the (internal) evidence base into meaningful insights that compel action across donor and sector stakeholders” and “to inform Water.org’s future research and learning agenda by identifying key evidence gaps where additional insights and research are needed”. These objectives reflect the breadth of the (internal) evidence that already exists and highlights where evidence between Water.org activities and outcomes related to these thematic areas remains weak. Recommendations are also made in terms of Water.org’s future learning agenda as well as improving Water.org’s programming to strengthen its potential contribution to the five thematic areas.

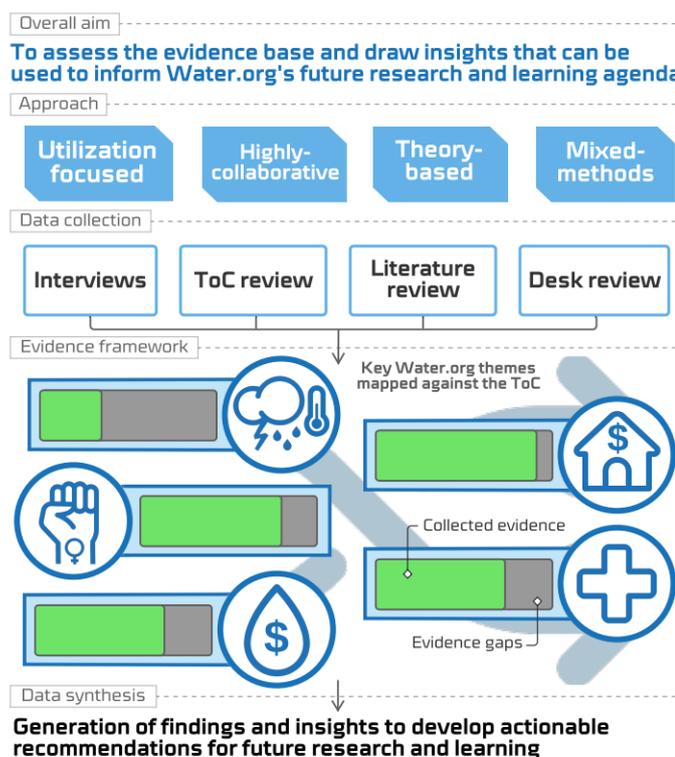
### Approach and method applied

The approach and methodology applied for the Meta Study, has been carried out as summarized in Figure 1 (see Annex for details). Six stages of work were completed including reformulation of thematic theories of change, document and data review, literature review, co-creation workshops, drafting and finalizing of papers.

The reformulated theory of change was used as the analysis framework for both primary and secondary data, quantitative and qualitative data analysis. Both the internal and external evidence was entered into a data capture tool for analysis.

Each sub-theme is given a Red, Amber, Green (RAG) rating to demonstrate the strength of evidence both in terms of

Figure 1. Meta-study approach and methodology



<sup>1</sup> The Terms of Reference (ToR) stated this theme as Water Supply and Sanitation (WSS) financing as an accelerator to access. During the preliminary review of the Theory of Change (ToC), the theme title was adjusted accordingly to Water Credit as an accelerator.

internal evidence as well as external evidence. A grey color block depicts that the rating is not applicable (Table 1).

Table 1. Color classification of RAG rating

<b>Internal data</b>	Strong evidence	<b>External data</b>	Strong evidence
	Emerging evidence		Emerging evidence
	Mixed evidence		Mixed evidence
	Weak evidence		Weak evidence
	Not applicable		Not applicable

### Thematic areas: what are they?

The five thematic areas (Table 2), also considered as outcome areas have been selected by Water.org on the basis of their importance as development objectives, particularly for the organizations' funders.

**Household finances** has the assumption that improved water supply and sanitation breaks the cycle of poverty.

**WaterCredit as an accelerator** assumes that Water Credit is catalytic in so far that by leveraging additional financing and supporting the construction of more sustainable facilities it accelerates progress towards universal access to improve water and sanitation.

**Climate change** has two assumptions. First, that improved water supply and sanitation makes households more resilient to climatic changes and the resulting shocks and stresses. Second, that improved water supply and sanitation contributes to healthier environments and reduces climatic changes.

**Health and safety** assumes that improved water supply and sanitation leads to better health (including mental health), safety and wellbeing benefits for households.

**Women's empowerment and equity** has two assumptions. First, assumes that women's involvement in WaterCredit empowers women through improved decision-making authority and financial opportunity. Second, improved water and sanitation empowers women and girls through improved health, safety and dignity, opportunity for education and time-saving.

There is also the **Foundational Outcomes** area. Foundational outcomes are the direct outcomes from the inputs and outputs of Water.org activities. In turn, they are base level outcomes on which the thematic outcomes are fostered and form the basis of the theories of change for each of the themes.

Table 2. Foundational outcomes and thematic area themes and sub-themes

Thematic Area	Key Indicative Theme	Key Sub-Theme	INT	EXT
Foundational outcomes	WaterCredit supports better access to water supply and sanitation for households	WC supports FIs to develop WSS portfolios and increases the overall capital available for WSS improvements	Green	Grey
		WC directly provides access to WSS financing for HHs	Green	Grey
		Through making loans available (directly and indirectly), WC supports increased access to improved WSS	Yellow	Grey
		WSS constructed by HHs with the support of WC are maintained post-construction and provide a safely managed service	Light Green	Grey
Household finances	Improved water supply and sanitation breaks the cycle of poverty	HHs that improve WSS facilities also improve hygiene facilities and practice	Yellow	Grey
		Improved WSS leads to improved HH finances through direct (e.g. selling water to others) or secondary income gains (e.g. enterprises providing materials, facilities to others) - <b>Direct and secondary income gains</b>	Green	Green
		Improved WSS leads to improved HH finances through time gains, resulting in increased work / productivity - <b>Time gains</b>	Green	Green
		Improved WSS leads to direct cost savings (e.g. new improved water or sanitation source costs less) – <b>Direct cost savings</b>	Light Green	Light Green
WaterCredit as an accelerator	WaterCredit is catalytic - by leveraging additional financing and supporting the construction of more sustainable facilities it accelerates progress towards universal access to improved water and sanitation	Improved WSS leads to indirect cost savings (e.g. reduced healthcare costs, reduced time spent caring for someone in the household with an illness) – <b>Indirect cost savings</b>	Light Green	Green
		WSS micro-finance leads to improved financial inclusion – <b>financial inclusion</b>	Red	Red
		Participating FIs continue to develop WSS loan portfolios beyond loans directly funded by Water.org, extending access to HH financing for WSS improvements	Green	Grey
		Access to improved WSS via WC increases more rapidly than alternative approaches, by addressing financing as a bottleneck to progress	Yellow	Light Green
		WC financing leads to more sustainable access to improved WSS. WC financed WSS is higher quality than those constructed without WC (either with or without subsidies) and HHs are able to access additional funds for improvements and repairs	Light Green	Yellow
Climate change	WaterCredit financed water supply and sanitation (WSS) improvements are more resilient to climate-related shocks and stresses.	WC allows more low-income HHs to support themselves for WSS improvements, which enables local govt to direct limited public funds to support the most vulnerable HHs	Red	Light Green
		HHs which use WC to improve WSS subsequently influence other members of the community to invest in improved WSS using WC	Red	Red
		WC strengthens the enabling environment for FI WSS lending to HH	Light Green	Grey
	WaterCredit financed WSS improvements contribute to healthier environments and reduce climatic changes.	Resilient Water Supply and Sanitation Services	Light Green	Green
		Multiple Water Supply and Sanitation Services	Red	Light Green
Health and safety	Improved water supply and sanitation leads to better health (including mental health), safety and wellbeing benefits for households	Water Supply and Sanitation Actors	Red	Light Green
		Greenhouse Gas Emissions and Environmental Impact	Yellow	Yellow
		WSS improvements leads to direct health benefits for individual households	Yellow	Light Green
Women's empowerment and equity	Women's involvement in WaterCredit empowers women through improved decision-making authority and financial opportunity	WSS improvements leads to direct safety benefits for individual households.	Green	Green
		WSS improvements lead to reduced stress and increased wellbeing	Yellow	Light Green
		Women are taking on WC loans for improved WSS	Green	Grey
		WSS improvements lead to increased women's decision-making authority	Yellow	Light Green
	Improved water and sanitation empowers women and girls through improved health, safety and dignity, opportunity for education, and time-saving	WSS improvements lead to time gains women and girls	Green	Green
		WC improves financial opportunity for women through credit history	Red	Grey
		WSS improvements leads to increased income opportunities for women	Yellow	Yellow
		WSS improvements leads to increased school attendance for girls	Yellow	Yellow
WSS improvements improves health of women and girls	Yellow	Green		
WSS improvements improves safety and dignity of women and girls	Light Green	Green		

## High level findings and synthesis

Today the population is living in a rapidly changing world, where the impact of climate change is felt directly and indirectly on water supply and sanitation services, alongside an already financially stretched sector. These factors alone are leading to health and safety concerns, beyond the more talked about physical health conditions. For example, there is a clear relationship between WSS, stress and wellbeing especially in respect of water insecurity and scarcity. This is something the sector as a whole, albeit working hard at, is struggling to get to grips with. Today approximately 1 in 10 people lack access to safe water at home and 1 in 4 don't have access to a toilet.

Water.org aims to contribute to the dialogue and discussion and through its WaterCredit program are providing market driven solutions. In partnership, Water.org is helping and empowering people get access to safe water and sanitation through affordable financing.

The research conducted during this WSS Meta Study has identified the following positive key findings:

- Water.org's WaterCredit program contributes towards increased capital allocation for household investment in improved WSS and WaterCredit (and microfinance loans for WSS more generally) can lead to faster rates of increases in access to improved WSS services than would otherwise be the case.
- WaterCredit programs provide substantial economic value and boost household finances through several pathways – the most significant being in time gains.
- WaterCredit programs increase the climate resiliency of WSS services – financed improvements are generally more climate-resilient than households' previous services.
- Despite the mixed evidence of WSS improvements leading to positive health outcomes, the WC model is contributing to delivering safe access to water and sanitation as well as, to a lesser extent reducing stress and improving wellbeing
- Extending Water.org's contribution to women's empowerment and equity has the potential to bring about enhanced and longer lasting change to the communities where Water.org works.

The research conducted also identified areas across the Water.org evidence base that could be strengthened:

- Understanding on how WaterCredit helps accelerate access to WASH and the contextual prerequisites for microfinance for WSS to be successful. In addition, less evidence exists on the contribution WaterCredit makes to building a more robust enabling environment for WSS financing.
- The extent to which WSS facilities are maintained post-construction and/or whether HHs that improve WSS facilities also improve hygiene facilities and practice.
- Time gains across Africa, currently limited to five countries of Bangladesh, Cambodia, India, Indonesia and Brasil.
- Transformative WASH and the focus on community coverage; as well as stress and wellbeing.
- Wider changes in decision-making power or empowerment of women via WaterCredit.

Taking all findings in to consideration the WC model is clearly contributing to reducing and bridging the financing gap of affordable and safe access to water, reaches low-income households, and contributes to increasing resiliency of WSS services along with reducing stress and improving wellbeing. Furthermore, Water.org clearly has a high level of ambition to promote women's empowerment and equity. With 30 years' experience, sharing learning with the global sector would help contribute to filling the remaining gaps in the global evidence base as well as raise the profile and reputation of Water.org.

## Main findings across the thematic areas and recommendations to-date

A series of findings for each thematic area and associated sub-themes highlighting the strength and gaps of both internal and external evidence are summarized as follows:

**Foundational outcomes top line message:** Water.org’s WaterCredit program contributes towards increased capital allocation for household investment in improved WSS however, less evidence exists in terms of the extent to which these facilities are maintained post-construction and or whether HHs improve WSS facilities also improve hygiene facilities and practice.

### Evidence rating:

Table 3 RAG rating for internal and external evidence for the sub-themes of foundational outcomes

Sub-themes	Internal Data	External Data
WC supports FIs to develop WSS portfolios and increases the overall capital available for WSS improvements	Green	Grey
WC directly provides access to WSS financing for HHs	Green	Grey
Through making loans available (directly and indirectly), WC supports increased access to improved WSS	Green	Grey
WSS constructed by HHs with the support of WC are maintained post-construction and provide a safely managed service	Light Green	Grey
HHs that improve WSS facilities also improve hygiene facilities and practice	Yellow	Grey

**Evidence:** There is strong internal evidence that WC supports FI’s to develop WSS portfolios, increases the overall capital available for WSS improvements and directly provides access to WSS financing for households. The evidence is notable in terms of numbers of loans, loan disbursement data, and borrowers’ ability to repay loans.

There is also evidence that WC supports increased access to improved WSS, albeit some ambiguity in terms of the specifics of whether the HH is first time access and/or whether a movement from unimproved to improved or simply improving and existing improved facility.

There is emerging longer-term evidence that functionality rates are being maintained, however, insufficient evidence to conclude whether WSS constructed by HHs with support of WC provide a ‘safely-managed service’. Furthermore, there is some mixed evidence, as to whether HH that improve WSS facilities also improve hygiene facilities and practice. This is due to the omission of systematic measuring of changes in attitudes and behaviors as well as limited evidence in terms of the extent that water safety planning features within the learning provided by FI’s and TAs.

Whilst the evidence base is clearly significant for many of the sub-themes there are gaps that remain within the internal data sets. Given these foundation outcomes form the basis of the other thematic theories of change, a review and refinement of what data is being collected and the timeline associated with both monitoring and reporting as well as learning and dissemination will have added value across the entire WC program.

**Recommendations:** To maximize the opportunity of value-adding across each of the thematic areas, there is a need to collect data more consistently across the entire WC portfolio and include a core set of recurring indicators ensuring that they are systematically measured and reported by all partners. In addition, longer-term monitoring of sustained access as well as progression up the water, sanitation and hygiene ladders, would also strengthen the evidence base as to the extent that WC impact.

**Household Finances top line message:** WaterCredit programs provide substantial economic value and boost household finances through several pathways.

**Evidence rating:**

Table 4. RAG rating for internal and external evidence for the sub-themes of household finances

	Internal Data	External Data
Direct and Secondary Income Gains	Green	Green
Time Gains	Green	Green
Direct Cost Savings	Light Green	Light Green
Indirect Cost Savings	Light Green	Green
Financial Inclusion	Red	Red

**Evidence:** Both the internal and external evidence, albeit to varying extents, for each of five pathways were found to increase household finances. These pathways are direct and secondary income gains; time gains; direct cost savings; indirect cost savings and financial inclusion. Of these pathways, time gains are the most significant way that water supply and sanitation (WSS) improvements impact household finances followed by health-related indirect cost savings.

Cognizant that WSS improvements have an economic value far surpassing the costs of ensuring universal access, the WC model is clearly contributing to reducing and bridging the financing gap of affordable access to water and sanitation.

Water.org has developed an important evidence-base relating to household finances; however, further improvements are warranted. Through its ongoing monitoring and evaluation activities of WaterCredit programs, Water.org has developed a comparatively extensive evidence-base on the impact of WaterCredit programs on household finances. This is especially true for the critical issue of time gains. When coupled with the external literature, this internal evidence-base enables Water.org to confidently state that WaterCredit programs are positively impacting household finances through several pathways

**Recommendations:** Whilst Water.org has a significant evidence base on the impact of WaterCredit programs on household finances, important areas for improvement exist. One issue to address is that the evidence base is largely centralized on the critical issue of time gains and cross-country datasets are limited to five countries and are predominantly Asian Countries (Bangladesh, Cambodia, India and Indonesia, the fifth is Brazil). It would be appropriate to include evidence from Africa.

**Water Credit as an accelerator top line message:** Water.org’s WaterCredit program contributes towards increased capital allocation for household investment in improved WSS and WaterCredit (and microfinance loans for WSS more generally) can lead to faster rates of increases in access to improved WSS services than would otherwise be the case.

**Evidence rating:**

Table 5. RAG rating for internal and external evidence for the sub-themes of WaterCredit as an accelerator

Sub-themes	Internal Data	External Data
Participating financial institutions continue to develop WSS loan portfolios beyond the initial support provided by Water.org, extending access to household financing for WSS improvements	Green	Grey
Access to improved WSS via WaterCredit increases more rapidly than alternative approaches by addressing financing as a bottleneck to progress.	Yellow	Light Green

Sub-themes	Internal Data	External Data
WaterCredit leads to more sustainable access to improved WSS. WaterCredit financed WSS is higher-quality than those constructed without WaterCredit (either with or without subsidies), and households can access additional funds for improvements and repairs.		
WaterCredit allows more low-income households to support themselves for WSS improvements, which enables local government to direct limited public funds to support the most vulnerable households.		
Households which use WaterCredit to improve WSS subsequently influence other members of the community to invest in improved WSS using WaterCredit.		
WaterCredit strengthens the enabling environment for FI WSS lending to HHs		

**Evidence:** There is clear evidence that MFIs supported through WC programs scale up their WSS loan portfolios beyond the technical and grant support provided by Water.org and access to improved WSS increases more rapidly. Furthermore, WC reaches low-income HHs enabling them to support themselves for WSS improvements as well as contributing positively to the enabling environment. However, links between WC and higher levels of sustainability remain unknown/unclear.

In general, the WC model is accelerating access to improved WSS at household level and reaches low-income households. In turn, the WC model is contributing to bridging the financing gap and delivering affordable access to water and sanitation.

Water.org can reasonably claim that the grant funding and technical support it gives to partner MFI's leverages significant capital for household investment in WSS services. MFI's also go on to develop sustainable WSS loan portfolios beyond the initial support provided by Water.org. There is evidence that – given the right conditions and context – the availability of WSS loans can mean that more households invest in improving their WSS facilities and do so faster than would be expected in the same context without access to loans. However, this effect isn't universal and there is insufficient evidence to predict what conditions may be necessary. Given the current data available, it isn't possible to determine if WSS facilities constructed using WaterCredit (or other MFI) loans are of higher quality, or more sustainable, than WSS services established through other approaches.

Given Water.org's unique position in the WASH sector in terms of support micro-finance for WASH, the majority of the evidence on the effectiveness of micro-finance for WASH comes from Water.org studies and documentation – there is very little external evidence. Additional evidence generated by Water.org is likely to significantly contribute to the overall WASH sector understanding of household financing for improved WSS services

**Recommendations:** Whilst there is clear evidence on the impact that WaterCredit programs have on MFIs scaling up their portfolios, important areas for improvement exist. One issue to address is that there is currently less evidence on why WaterCredit helps accelerate access to water, sanitation and hygiene (WASH) and the contextual pre-requisites for microfinance for WSS to be successful. In particular, more evidence is needed on how microfinance can be combined with public subsidies for WSS to provide universal access to improved services. For Water.org, there are specific gaps in evidence about the suitability of WSS services financed using WaterCredit and the contribution WaterCredit makes to building a more robust enabling environment for WSS financing.

In addition, there is an emergent sub-theme as to what extent WaterCredit strengthens the enabling environment for FI WSS lending to households. Whilst there is evidence of how WaterCredit programs help strengthen the enabling environment for WASH financing, this is not yet clearly linked with Water.org's work on sector engagement.

**Climate change top line message:** WaterCredit programs increase the climate resiliency of WSS services – financed improvements are generally more climate-resilient than households’ previous services.

**Evidence rating:**

Table 6. RAG rating for internal and external evidence for the sub-themes of climate change

Sub-Theme	Internal Data	External Data
Resilient Water Supply and Sanitation Services	Green	Green
Multiple Water Supply and Sanitation Services <sup>2</sup>	Red	Green
Strengthened Water Supply and Sanitation Actors <sup>3</sup>	Red	Green
Greenhouse Gas Emissions and Environmental Impact	Yellow	Yellow

**Evidence:** The world’s climate is rapidly changing and the impact of climate change is felt directly and indirectly on WSS services through short term hazards (shocks) such as flash flooding or storm surges as well as slow on-set threats (stresses) such as droughts and water scarcity or deteriorating water quality. Water.org partners for WC programs and their customers are reporting experiencing a range of climate-change related issues with the majority expressing with ‘some concern’ or a ‘major concern’.

Certain WSS services are generally more resilient than others given different climatic scenarios. Therefore, adaptations can be made to increase the resilience of WSS services – technology selection are especially important for increasing the climate resilience of sanitation services; and ensuring the resilience of water supply facilities is considered a continual process. Multiple-use WSS services are also considered an important and often neglected component of climate resilient WSS service provision. WSS actors whether at national, sub-national, service provider, community or household level also play a critical role in ensuring the climate resilience of WSS services, for example at household level through traditional knowledge and knowledge transfer. Albeit there is limited Water.org detailed data, there is evidence that WC programs result in households accessing WSS services more resilient to climate change. There is also evidence that most Water.org MFI partners have made some changes to their WSS loans or products to better respond to the impacts of climate change.

Conversely, WSS services contribute to climate change through a notable proportion of global energy use and GHG emissions and vary widely depending on technology applied. However, improved WSS services are critical to climate change mitigation and adaptation and WSS services’ GHG emissions can be reduced. Water.org evidence is limited in terms of levels of energy-use of water supply improvements financed via WC and a mixed picture for sanitation facilities.

Considerable enhancements are required to Water.org’s internal evidence base on the effects of WaterCredit programs on the climate resilience of WSS services and the contribution of these WSS services to climatic changes. This largely reflects that climate-related information has not been collected as part of Water.org’s ongoing monitoring and WSS data collection activities and has not been a focus of most evaluations. The recommendations below are offered to help address this issue and improve Water.org programming

<sup>2</sup> **Multiple Water Supply and Sanitation Services.** Following WaterCredit, households have increased resiliency to disruptions to WSS services resulting from climate change through having alternative household-level WSS solutions

<sup>3</sup> **Water Supply and Sanitation Actors.** WaterCredit programs result in strengthened WSS actors at various levels. This includes households and partner MFIs with greater knowledge about the impacts of climate change as well as service providers, service authorities, and national governmental actors (i.e., ministries, regulators) more capable of adapting to – and mitigating the impacts of – climate change on WSS service provision.

**Recommendations:** Further research and ongoing monitoring are required to strengthen Water.org’s evidence on climate change. For example, to expand on the mWater 3.0 survey to investigate the impact of WC programs on the climate resilience of households’ WSS services; to conduct periodic or one-off research activities to establish the impact of WC programs in relation to specific aspects of climate change beyond that captured within regular monitoring and evaluation activities; and expand the areas that Water.org partner MFIs are required to provide ongoing data on to include key climate change aspects, especially in regions particularly affected.

**Health and safety top line message:** Despite the mixed evidence of WSS improvements leading to positive health outcomes, the WC model is contributing to delivering safe access to water and sanitation in terms of both safely accessing as well as, to a lesser extent stress and wellbeing.

**Evidence Rating:**

Table 7. RAG rating for internal and external evidence for the sub-themes of health and safety

Sub-themes	Internal Data	External Data
WSS leads to direct health benefits	Yellow	Yellow
WSS leads to direct safety benefits	Green	Green
WSS leads to reduced stress and increased wellbeing	Yellow	Light Green

**Evidence:** There is mixed external evidence of WSS improvements leading to positive health including mental health, safety and wellbeing. The evidence is established in respect of transmission pathways, impacts of disease and the role water supply, sanitation and hygiene play in preventing infection. There is also substantial evidence of WSS improvements leading to shorter-term health outcomes as well as some data to support the impact of WSS improvements on longer-term health outcomes.

There is strong evidence that WSS improvements lead to perceptions of increased safety for example, individuals with reduced travel time for WSS-related activities is associated with increased feelings of safety. Again, this was also evidenced through Water.org data where comfort and pride/dignity were selected as the top two changes observed by survey participants as a result of their WSS improvement. Moreover, the degree of safety that WSS improvements can provide is determined through a set of factors. Safety is also considered a significant driver behind WSS investments.

There is a clear relationship between water supply and sanitation, stress and wellbeing with inadequate access especially water insecurity and scarcity to WSS being associated with higher levels of emotional stress. Furthermore, improved WSS can lead to an increase in factors associated with wellbeing however, the link between loans for WSS and stress is unclear. Water.org data on stress and wellbeing is fairly limited.

The research highlights the challenges being faced by the WASH sector as a whole, in terms of understanding and how to define, capture, and report health and safety outcomes. Furthermore, it provides insights into the extent that the components of health and safety, whether separately or combined, feature as drivers for change in terms of investing in improved WSS, and the role WSS financing plays in this. Water.org evidence broadly reflects the nuances emerging across the wider sector evidence. Looking forwards, there is opportunity to contribute to the debate and discussions around transformative WASH and the focus on community coverage, as well as the emerging approach of wellbeing through which to consider WASH-related outcomes.

**Recommendations:** Making health claims based on internal data is a potentially problematic endeavor. The broader WASH sector faces significant challenges in assessing health impact in a robust fashion. As such, this limits Water.org may want to reconsider the extent to which health data are

asked as well as any claims premised on the data. To fully realize the potential of health outcomes, more emphasis should be placed hygiene alongside water and sanitation rather than being second to WSS. Community coverage and solid waste management (clean environments) also constitute key components for positive health outcomes and should therefore also be considered in tandem with WC programing. Furthermore, incorporating wellbeing frameworks into programing could provide a holistic view of the benefits WASH improvements can bring to HHs and communities.

**Women’s empowerment and equity top line message:** Extending Water.org’s contribution to WEE has the potential to bring about enhanced and longer lasting change to the communities where Water.org works..

**Evidence rating:**

Table 8. RAG rating for internal and external evidence for the sub-themes of women’s empowerment and equity

Sub-themes	Internal Data	External Data
Women are taking WC loans for improved WSS	Green	Grey
WSS improvements lead to increased women's decision-making- authority	Yellow	Yellow
WSS improvements leads to time gains women and girls	Green	Green
WC improves financial opportunity for women through credit history	Red	Grey
WSS improvements leads to increased income opportunities for women	Yellow	Yellow
WSS improvements leads to increased school attendance for girls	Yellow	Yellow
WSS improvements improves health of women and girls	Yellow	Green
WSS improvements improves safety and dignity of women and girls	Light Green	Green

**Evidence:** Water.org data reveals that the vast majority of loan customers through WaterCredit programs are women though the level of control they exercise over the loans is less apparent. There is no clear evidence from the Water.org data of wider changes in decision making power or empowerment of women via WaterCredit.

Overall, there is good external evidence that improved (and more convenient) access to WASH is associated with time savings however, the Water.org data provides good evidence on time gains. There is neither internal nor external evidence on whether WaterCredit improves financial opportunity for women through credit history. Whilst data indicates that women constitute the majority of borrowers, there is no indication that WaterCredit programs have led to the onset of a credit history for women.

There is external evidence that the development of the WASH sector can directly contribute to improved employment opportunities for women. In terms of internal evidence, there is mixed Water.org survey data that demonstrates Water.org programming contributes to increased income opportunities for women and girls.

Few studies find that WASH interventions (either at home or in schools) are sufficient to independently impact pupil attendance however, the limited Water.org data related to school attendance for girls suggests that Water.org programming does contribute to an increase in attendance for girls. There is good evidence that improved WSS has gender-specific health impacts for women and girls as well as there being evidence that lack of WSS undermines perceptions of safety and dignity.

Water.org clearly has a high level of ambition to promote women’s empowerment and equity. It’s internal evidence provides a range of important insights into progress on women’s decision making and access to loans for WSS, income opportunities, school attendance, health, dignity and safety and especially time gains. Water.org has some evidence to show the positive contribution of WaterCredit

programs (in general as there are variations between countries) towards equity and empowerment, especially in the countries where it has had a relatively longer-term presence, and that change is being achieved through several pathways.

The limitations in the monitoring data noted above must be addressed in order to fully demonstrate the wider impact that WaterCredit programs contribute towards. Currently Water.org appears to more consistently monitor output level achievements (e.g. taking a loan), claims for women's empowerment and equity outcomes are not fully evidenced (end of program evaluations are used to capture qualitative change for the most part).

Extending Water.org's contribution to WEE has the potential to bring about enhanced and longer lasting change to the communities where Water.org works. Whilst acknowledging that Water.org has deeper expertise on finance, there is scope for Water.org to become more innovative in the WEE aspect of its programming. For instance, by taking a gender transformative approach and partnering with national women's groups as the wider work of empowerment goes beyond the WASH sector and cannot be done alone – it absolutely requires collaboration to influence change. Consistency across programs could be improved through greater sharing of experience within Water.org as well as wider exposure to gender, microfinance and WASH sector thinking. The best practices in each country on WEE should be more routinely documented and used to inform and contribute to improved practices (and more consistency) across Water.org programs. Sharing learning with the global sector would help contribute to filling the remaining gaps in the global evidence base as well as raise the profile and reputation of Water.org on this issue

**Recommendations:** To maximize the potential of women's empowerment and equity outcomes, there is a need to collect data more consistently across the entire WC portfolio and include standard questions on gender in all evaluations. By reviewing client protection principles and sharpening monitoring, unintended consequences of taking the loan can also be captured. Furthermore, engaging male family members in loan/WSS activities provides an opportunity to promote broader change in gender relations. This can also be extended to outreach to male leaders and Rights Holder organizations to create space for women's increased decision-making authority and to change attitudes on girls' attendance in schools. There would also be benefit in encouraging FIs to link female clients to organizations that support women's business development and training.

## Recommendations

The table below (Table 9) sets out the overview of recommendations and where they cross-cut the themes. More detailed information is contained within each thematic section of the report. We anticipate discussing these recommendations during the co-creation workshop in terms of prioritization and relevance across the different themes.

Table 9. Recommendations related to each thematic area

Recommendation	HHF	WCA	CC	H&S	WEE
<b>Foundational outcomes</b>					
Recommendation 1: identify and agree on a core set of recurring indicators that can be measured and where appropriate synthesized systematically over time. How many data points actually exist and which ones are systematically collected and/or reported over time?					
Recommendation 2: linked to Rec 1, ensure that the core set of recurring indicators are systematically measured and reported by Partners.					
Recommendation 3: linked to Rec 1 and Rec 2, ensure that the survey_v3 includes questions related to the core set of recurring indicators in order to validate partner reporting.					
Recommendation 4: categorising improvement type into defined clusters of improved service delivery and track progression up the service ladder for borrowers over time. In addition, these categories should denote to what extent they are climate resilient.					
Recommendation 5: Water.org and partners introduce a longer-term monitoring of sustained access linked to Rec 4 recommendation of monitoring progress up the ladders.					
Recommendation 6: Water.org and partners introduce safely managed water component in their TA/education to Households.					
Recommendation 7: monitoring hygiene behavior, understanding the landscape (other interventions – coordination, coherence, collaboration and synergies) at community level as opposed to only considering individual households.					
Recommendation 8: Water.org and partners to ensure systematic cross-learning and dissemination is applied across all outcome / thematic areas to added value across the entire WC program.					
<b>Household finances</b>					
Recommendation 1. Make further minor refinements to the mWater Household Borrower Survey 3.0 to ensure the extent of the positive impacts of WaterCredit programs on household finances are captured.	x				
Recommendation 2. Evaluate the impact of WaterCredit programs on household finances multiple years after WaterCredit programs end.	x				

<b>Recommendation</b>	<b>HHF</b>	<b>WCA</b>	<b>CC</b>	<b>H&amp;S</b>	<b>WEE</b>
Recommendation 3. Increase partner micro-finance institutions' reporting requirements on key aspects of financial inclusion.	x				
<b>Water Credit as an Accelerator</b>					
Recommendation 1: Develop data on graduated financial institutions to understand the long-term prospects for WSS loan portfolios.		x			
Recommendation 2: Consider extending data collection beyond households that take WaterCredit loans to understand the difference that WaterCredit makes beyond community, area or nationwide improvements in access to improved WSS facilities.		x			
Recommendation 3: Ensure that there is longer-term monitoring of WSS improvements supported through WaterCredit.		x			
Recommendation 4: Develop a clear model for how microfinance and subsidies can complement each other for WSS improvement programs.		x			
Recommendation 5: Consider a standard measure for impacts of Water Credit on improvements in WSS facilities.		x			
<b>Climate Change</b>					
Recommendation 1: Support partner MFIs in their programming to increase the climate resilience of WSS services and reduce GHG emissions and ensure partner MFIs take key steps in this regard.			x		
Recommendation 2: Ensure key aspects relating to climate resilient water supply and sanitation services are systematically capture in mWater based monitoring activities.			x		
Recommendation 3: Expand the areas that Water.org partner MFIs are required to provide ongoing data on, to include key climate change aspects.			x		
<b>Health &amp; Safety</b>					
Recommendation 1: To fully realize potential health outcomes, more emphasis should be placed on hygiene.				x	
Recommendation 2: Community coverage and solid waste management/clean environments also constitute key components for positive health outcomes.				x	
Recommendation 3: Incorporating wellbeing frameworks into programming could provide a holistic view of the benefits WASH improvements can bring to HHs and communities.				x	
Recommendation 4: Data collection needs to be more intensively and consistently rolled out across the various Water.org geographies.				X	
<b>Women's empowerment and equity</b>					
Recommendation 1: Include standard questions on gender in all evaluations.					x
Recommendation 2: Review client protection principles and sharpen monitoring to detect unintended consequences of taking the loan.					x

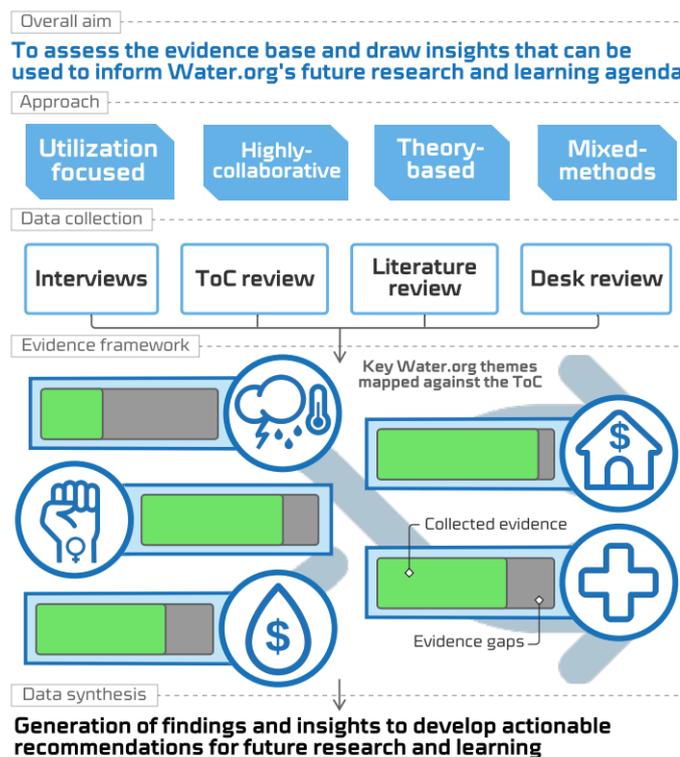
Recommendation	HHF	WCA	CC	H&S	WEE
Recommendation 3: Engage male family members in loan/WSS activities as an opportunity to promote broader change in gender relations.					x
Recommendation 4: Outreach to male leaders and Rights Holder Organizations to create space for women's increased decision-making authority as well as to change attitudes on girls' attendance in schools.					x
Recommendation 5: Encourage FIs to link female clients to organizations that support women's business development and training.					x

## Annex 1. Approach and method applied

The approach and methodology applied for the Meta Study, has been carried out as summarized in Figure 1. Six stages of work were completed:

1. Review and reformulation of the thematic theories of change (ToC) and development of a Theory of Action (ToA);
2. Deep dive document and data review for internal evidence. This incorporated a sense check with Water.org to identify whether any additional data was available;
3. External evidence literature review to source evidence on associated sub-themes including any gaps identified with the internal evidence. This stage also included the deployment of a climate change related survey and conducting 4 Key Informant Interviews (KIIs) with a selection of Water.org Program Managers;
4. Drafting the Thematic Papers and White Paper.
5. Conducting the co-creation work shop and refining the ToC for each thematic area;
6. Finalizing the Thematic Papers and White Paper and corresponding deliverables (Excel workbook of Statistics).

Figure 2. Meta-study approach and methodology



**Analysis framework:** The reformulated theory of change and associated sub-themes was used as the analysis framework.

**Internal evidence data sources:** The meta study analyzed both primary (interviews with country program managers) and secondary data, quantitative (WaterPortal data and mWater data) as well as qualitative analysis (evaluation reports and other such publications). Despite the quantitative data being available for a number of different countries this meta-study reports Water.org data where the sample size is greater than 100. Whilst this reduces the data sets available for analysis from mWater and means that in some cases the sample is not truly representative<sup>4</sup>, it provides a compromise so that the evidence available can at least be considered.

Acknowledging that the WaterPortal is live data, the analysis across the thematic areas has been conducted using data extracted during August, September and November 2021. This may result in minor differences in sample/reported numbers however is not considered a limitation.

<sup>4</sup> Sample size that is 'traditionally' recognised as providing statistical representativeness is >380 or >280 responses for small populations (e.g. 1000 loans) [Sample Size Calculator by Raosoft, Inc.](#)

Table 10. Summary overview of evidence type

Theme	Quantitative Data	Qualitative Data
Foundation outcomes	mWater 2.0; WaterPortal	Internal evidence: evaluation reports; progress reports; survey questionnaires and other such publications.
Household finances	mWater 2.0 and 3.0; WaterPortal	Internal and external: evaluation reports; progress reports; survey questionnaires and other such publications; PM KIIs
WaterCredit as an accelerator	mWater 2.0 and 3.0; WaterPortal; Partner survey	Internal and external: evaluation reports; progress reports; survey questionnaires and other such publications; PM KIIs
Health and safety	mWater 2.0 and 3.0; WaterPortal	Internal and external: evaluation reports; progress reports; survey questionnaires and other such publications; PM KIIs
Womens' empowerment and equity	mWater 2.0 and 3.0; WaterPortal	Internal and external: evaluation reports; progress reports; survey questionnaires and other such publications; PM KIIs'
Climate change	mWater 2.0 and 3.0; WaterPortal; Partner survey	Internal and external: evaluation reports; progress reports; survey questionnaires and other such publications; PM KIIs

**External evidence data sources:** External literature was sourced using Google Scholar, reference lists in sourced literature, personal libraries, and cross-over and sharing of literature from one thematic area search to another.

Both internal and external evidence were entered into a data capture tool for further analysis.

**Scoring the evidence:** Each sub-theme is given a Red, Amber, Green (RAG) rating to demonstrate the strength of evidence both in terms of internal evidence as well as external evidence. This scoring has been applied at sub-theme level and compiled within the summaries of each thematic paper to highlight the overall thematic status. A grey color block depicts that the rating is not applicable (Table 1).

The use of RAG rated system allows the movement either way as more evidence becomes available or as new themes are added or as new sub-themes are added to existing themes. For example, in the case of WCA we have an emergent sub-theme whereby there exists some evidence externally (light-green rated) however, new to Water.org (rated grey). Overtime, this will move to amber or light-green as evidence and impact is generated.

Table 11. Color classification of RAG rating

<b>Internal data</b>	Strong evidence	<b>External data</b>	Strong evidence
	Emerging evidence		Emerging evidence
	Mixed evidence		Mixed evidence
	Weak evidence		Weak evidence
	Not applicable		Not applicable

**Internal quality control:** in addition to the sense checking by Water.org, three discrete internal quality control steps have been taken: an internal workshop sharing the internal and external evidence to identify and discuss thematic findings and cross-cutting aspects; and 2 rounds of quality assurance of the report (draft and final).

**Internal and external evidence:** two icons are included in the text to denote whether a data source is internal to Water.org or external:



= internal evidence



= external evidence