INDEPENDENT IMPACT EVALUATION OF THE AWS SYSTEM – PHASE TWO: GOOD WATER GOVERNANCE

FULL REPORT

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ALLIANCE FOR WATER STEWARDSHIP

CONTENTS

ACRONYMS

AWS	Alliance for Water Stewardship
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
IWRAs	Important Water-Related Areas
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
SH-FG	Stakeholders Focus Group
SS-FG	Site Staff Focus Group
SH-Survey	Stakeholders Survey
SS-Survey	Site Staff Survey
SMEs	Small and Medium-sized Enterprises
WASH	Water, Sanitation and Hygiene
WSAS	Water Stewardship Assurance Services

INDEPENDENT IMPACT EVALUATION OF THE AWS SYSTEM – PHASE TWO: GOOD WATER GOVERNANCE

EXECUTIVE SUMMARY

This independent impact evaluation of the Alliance for Water Stewardship (AWS) System, commissioned by AWS and conducted by Ric Eales Consulting Ltd., assesses the medium- to long-term effects of AWS Standard Certification, with a particular focus on the **good water governance** outcome. The evaluation draws on qualitative data from 15 AWS Certified Sites across six countries and four strategic sectors, using interviews, focus groups, surveys and desk research.

BACKGROUND AND PURPOSE

The AWS Standard provides a globally applicable framework for water stewardship, structured around five key outcomes: Good water governance, sustainable water balance, good water quality status, healthy Important Water-Related Areas (IWRAs) and access to Water, Sanitation and Hygiene for all (WASH). This Phase Two evaluation builds on Phase One by focusing on good water governance, given its foundational role in achieving the other outcomes. Good water governance is the responsible sharing of water resources in the interests of users and the natural environment in line with the principles of water stewardship.

KEY FINDINGS

- **Positive impacts of the AWS Certification process** were observed across environmental, social and governance dimensions. These included improved water quality, more frequent and more effective stakeholder collaboration, increased awareness of water stewardship and the use of monitoring and reporting to strengthen internal governance structures.
- **Unintended positive impacts** of the AWS Certification process included reputational benefits, increased community engagement and closer collaboration with other businesses and public authorities.
- **Attribution of impacts to the AWS Certification process** was generally strong. Most site managers felt that the work they put into achieving AWS Certification accelerated progress and provided structure, credibility and motivation for continuous improvement.
- **Factors contributing to success** included the flexibility of the AWS Standard, strong leadership, supportive corporate cultures and external 'enablers' such as government initiatives and regional funding.
- **Challenges** included inconsistent audit experiences, limited recognition of AWS Certification by some authorities and external barriers like shifting political priorities and climate-related events.

KEY CONCLUSIONS

The key conclusions organised by the four primary research questions included:

Intended impacts of the AWS Certification process

The most frequently mentioned impacts of the AWS Certification process were developing dialogue, engagement and communication with communities and other stakeholders, and collective action across catchments. These were seen as social impacts. Some site managers mentioned positive environmental impacts, with examples ranging from farmers changing their farming practices to improve environmental benefits in the catchment to the restoration of aquatic ecosystems. Some economic impacts were the

savings associated with reduced site-level water use. Overall, the AWS Certification process was generally considered to be a significant, if not the only, factor in generating good water governance impacts. Water governance processes and measures linked to AWS Certification align with the three overarching dimensions of the Organisation for Economic Co-operation and Development (OECD) Principles on Water Governance (effectiveness, efficiency, and trust and engagement).

Unintended impacts of the AWS Certification process

Positive unintended consequences of AWS Standard implementation and AWS Certification included increased awareness of good water governance, active stakeholder engagement, the knock-on benefits for sites' operations of improved corporate reputation and collaboration with other organisations. These effects had further supported AWS outcomes such as sustainable water balance, good water quality status and access to WASH for all. A few negative consequences were noted: transparency could expose companies to criticism, and partnership working with public stakeholders could lead to unrealistic expectations. However, no negative unintended impacts were found to affect other AWS outcomes.

Validation of the Theory of Change

The evaluation broadly validated the AWS System's Theory of Change, particularly the role of 'implementers' in driving site-level improvements. The evaluation suggested that without the AWS Certification process, good water governance improvements would have been slower and less cohesive. The changes observed largely aligned with the Theory of Change, with the AWS Standard providing structure and enhancing existing governance mechanisms. Stakeholder engagement and improved transparency had strengthened site-level practices and influenced broader catchment and national governance. While site-level progress was evident, system-level indicators like AWS Membership growth remained inconclusive.

Factors that influenced the impacts of AWS Certification

Internal factors driving good water governance success included strong leadership, aligned corporate values, effective stakeholder communication and adherence to AWS Certification processes. These created a supportive environment for collective water action. External factors included national policies and private sector initiatives. Positive effects included regulatory alignment and enhanced compliance, reinforcing the value of good water governance. However, misaligned regulations could create administrative burdens for AWS Certified Sites. Overall, these factors had amplified the impact of good water governance on other outcomes of AWS Certification, especially through systematic monitoring and catchment-wide collaboration.

RECOMMENDATIONS

1. Promote broader recognition of the AWS Standard and AWS Certification: Increase awareness and recognition of AWS Certification among governments, regulators and stakeholders to enhance its influence and reduce reporting burdens.
2. Feedback learning from the impact evaluation to improve AWS System processes: Address feedback from site managers to refine documentation, audit consistency and usability of AWS Guidance materials.
3. Refine the AWS System Theory of Change: Update the Theory of Change to include new interventions and investigate membership growth, especially among Small and Medium-sized Enterprises (SMEs).
4. Undertake further research: Study economic and social and cultural equity impacts, AWS Certification uptake, as well as contribution to the OECD Principles on Water Governance and water policy, across regions and sectors to better understand barriers and benefits.
5. Enhance future evaluations: Improve site sampling, integrate data collection with audits and provide for a deeper exploration of other outcomes and system-level influences.

1. INTRODUCTION

1.1 BACKGROUND TO THE AWS SYSTEM

The Alliance for Water Stewardship (AWS) is a global, multi-stakeholder membership alliance that has developed an international standard for responsible water use. AWS convenes and catalyses action on water stewardship, uniting over 200 members from business, civil society and the public sector. The AWS Standard is an auditable framework for water stewardship that helps farms, factories and other water-using sites to understand their water use and impacts and take credible, verifiable action to address shared water challenges. It is the only international, audited standard for responsible water use that is ISEAL Code Compliant[1].

The AWS Standard is structured as a 'plan-do-check-act' framework that helps businesses develop and implement water strategies that can be audited and certified by an independent third party. The AWS Standard can be used by any business or industry in any location around the world that wants to improve their water-related sustainability performance and help conserve the world's freshwater resources. AWS Certification is the procedure by which a third-party attests that a site or sites conform(s) to the requirements of the AWS Standard.

Version 1.0 of the AWS Standard was launched in 2015. This was later revised and improved, leading to the development of Version 2.0, launched in 2019[2]. Following a review of the AWS Standard Version 2.0 in 2023, including a survey of stakeholders, AWS undertook a major revision of the AWS Standard in 2024 and 2025 to increase its practicality, utility and value. Version 3.0 of the AWS Standard will incorporate streamlining for companies to implement cost-effectively at scale, supporting alignment with wider sustainability agendas and priorities and strengthening integration with corporate-level reporting. The revision process is expected to conclude with the publication of the AWS Standard Version 3.0 in 2026[3].

In 2021, AWS also modernised its assurance delivery model, central to which was the establishment of Water Stewardship Assurance Services (WSAS) Ltd. as the mission-driven assurance provider for AWS. This change aligned the goals of assurance with the goals of the AWS System and improved quality, consistency and access to data and information for learning and improvement.

Implementing the AWS Standard is intended to achieve five key outcomes, both individually and collectively: 1. good water governance, 2. sustainable water balance, 3. good water quality status, 4. healthy Important Water-Related Areas (IWRAs) and 5. access to Water, Sanitation and Hygiene for all (WASH) (see Figure 1).

[1] What is ISEAL Code compliant? https://isealalliance.org/membership/iseal-members/what-iseal-code-compliant

[2] https://a4ws.org/aws-standard/

[3] https://a4ws.org/resource/summary-aws-standard-major-revision-v3-0/

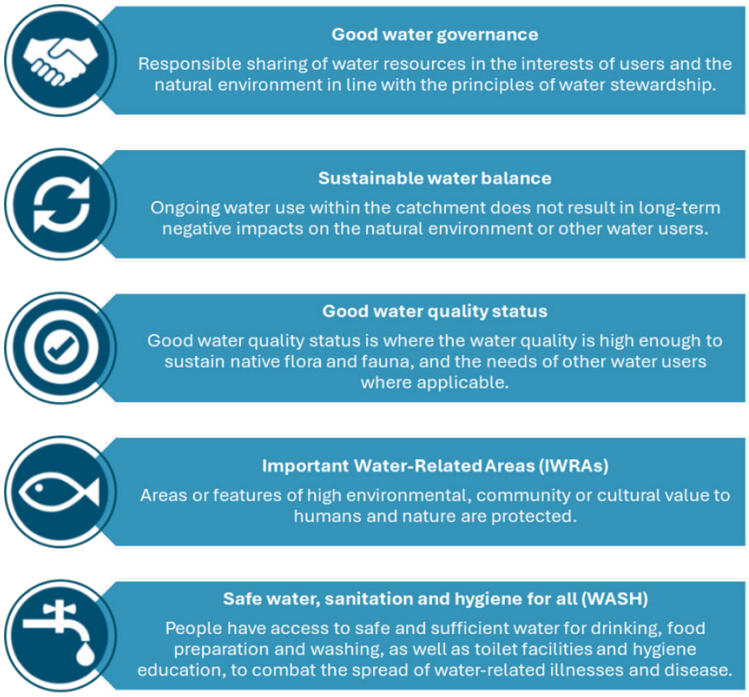


Figure 1: The AWS Standard's five key intended outcomes

1.2 AWS MONITORING AND EVALUATION SYSTEM

AWS developed its Monitoring and Evaluation (M&E) System to track performance against its mission and begin to understand and learn about the impacts it was having in the world. The M&E System is intended to help AWS improve its effectiveness, build capacity, inform strategy, be accountable to its stakeholders and ensure system integrity and credibility[4].

The AWS M&E System takes a Theory of Change approach (see Appendix 1). The theory is that as enablers, implementers and influencers of the AWS Standard create and support interventions, outputs and outcomes, this will generate the desired positive impacts required to deliver on the AWS Mission and Vision.

As part of the M&E System, AWS evaluates environmental, social, cultural and economic impacts across site, catchment and organisational levels. Impact evaluations provide information about the impacts produced by an intervention and can be undertaken for a programme or policy, or upstream work – such as capacity building, policy advocacy and support for an enabling environment. This goes beyond looking at goals and objectives to also examining unintended impacts. In accordance with the 'ISEAL Code of Good Practice for Sustainability Systems Version 1.1'[5], AWS defines impacts as, 'long-term, higher-level changes resulting from the scheme. Intended impacts are the long-term, higher-level changes the scheme owner intends for its scheme to produce'. See Phase One of the 'Independent Impact Evaluation of the AWS System – Phase One' for further details of how AWS defines impacts[6].

1.3 PURPOSE AND SCOPE OF THE IMPACT EVALUATION

The overall aim of this independent impact evaluation is to conduct a systematic, objective and in-depth assessment of the medium to long-term effects, positive or negative, intended or unintended, of

[4] https://a4ws.org/impacts/monitoring-and-evaluation/
[5] https://isealalliance.org/what-we-do/credible-practice/iseal-code-good-practice-sustainability-systems
[6] https://a4ws.org/resource/impact-evaluation-of-the-alliance-for-water-stewardship-aws-system-phase-one-report/

implementing the AWS System. Identifying the social, economic and environmental impact of sustainability standards is essential for ensuring their reliability.

The Phase One report of the impact evaluation project recommended that Phase Two focus on evaluating the impacts related to good water governance, one of the five key outcomes that implementing the AWS Standard is intended to achieve (see Figure 1). This was because of the data available and because this outcome is linked to and influences the other four outcomes. AWS has therefore commissioned this independent impact evaluation to understand to what extent and how implementing the AWS Standard, including achieving AWS Certification, is accomplishing good water governance and, through this, is contributing to the AWS Standard's other priority outcomes: sustainable water balance, good water quality status, healthy IWRAs and access to WASH for all.

The study looks both at sites' processes of working through the steps in the AWS Standard and their AWS Certification. Certification is critical to the AWS System as it should enable businesses to make credible claims about their water stewardship practices and commitment to water sustainability. This in turn is expected to help increase investor confidence, improve brand perception and strengthen customer relationships.

The evaluation considers changes in water governance drawing on data collected from selected AWS Certified Sites and the catchments where they are located and assesses how far these changes can be attributed to implementing the AWS Standard System and achieving AWS Certification. This helps to understand what works (or does not), in what contexts and why. This is an evaluation of the impacts of the AWS System, not of individual sites. The evidence aims to help AWS improve the AWS System and the approach to expanding or replicating current initiatives in different contexts. The results of the evaluation should enable implementers to improve their effectiveness and build capacity, and should help AWS to be accountable to its stakeholders and ensure system integrity and credibility.

1.4 GOOD WATER GOVERNANCE

As stated in the AWS Standard Version 2.0, water governance encompasses all aspects of how water is managed by governments, regulators, suppliers and users. It includes water resources management, protection, allocation, monitoring, quality control, treatment, regulation, policy and distribution. Good water governance ensures responsible sharing of water resources in the interests of users and the natural environment in line with the principles of water stewardship.

The Organisation for Economic Co-operation and Development (OECD) Principles on Water Governance provide the 12 must-dos for governments to design and implement effective, efficient and inclusive water governance systems (see Figure 2)[7]. They are expected to contribute to improving the water governance cycle from policy design to implementation. They cut across water management functions (drinking water supply, sanitation, flood protection, water quality, water quantity, rainwater and stormwater), water uses (domestic, industry, agriculture, energy and environment) and ownership of water management, resources and assets (public, private, mixed). These principles were used as a guide during the impact evaluation to assist in the data collection and analysis phases and provide insight on activities, processes and impacts related to water governance linked to AWS Certification.

[7] https://www.oecd.org/en/topics/sub-issues/water-governance/the-oecd-principles-on-water-governance-and-implementation-strategy.html

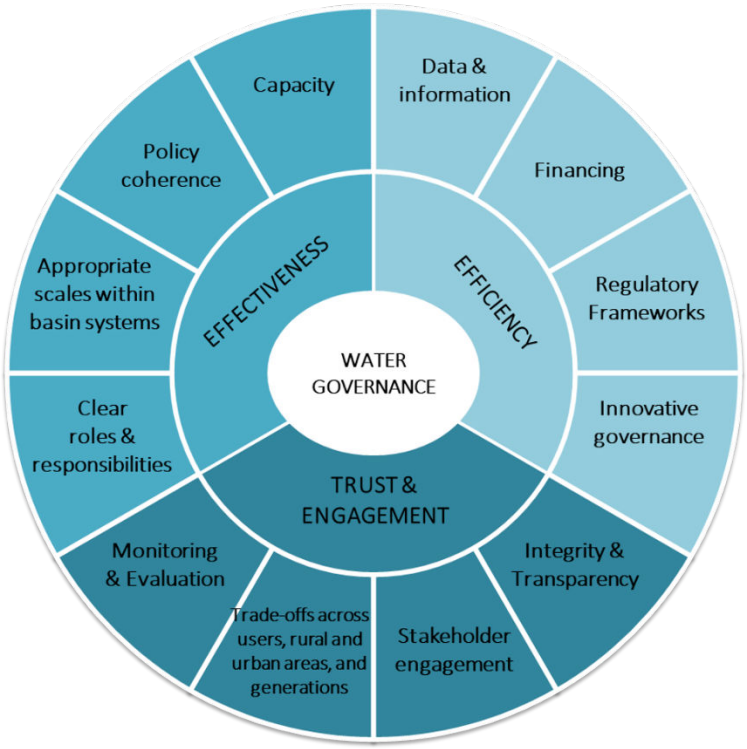


Figure 2: Overview of the OECD Principles on Water Governance[8]

Water governance sets the framework (via a process, policy or institution) within which water stewardship takes place. Water stewardship activities also help provide a better understanding of local water challenges that may provide valuable input for improving and shaping governance processes, policies and institutions. Hence, water stewardship is both informed by and informs water governance. Understanding water governance concerns is part of being a good water steward, along with understanding your own water use, catchment context and other shared concerns in terms of sustainable water balance, good water quality status, healthy IWRAs, access to WASH for all and engaging in actions that benefit people, the economy and nature.

[8] https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/water-governance/oecd-principles-on-water-governance-en.pdf

2. METHODOLOGY

The impact evaluation methodology focused on answering a set of research questions. Qualitative data was gathered from the sample of 15 AWS Certified Sites across six countries that had a set of desired characteristics. The data collection to support the impact evaluation was carried out both virtually and in-person and used a range of methods including desk research, interviews, focus groups and online surveys.

2.1 RESEARCH QUESTIONS

The primary research questions that the Phase Two impact evaluation sought to answer were as follows:

1. To what extent does AWS Certification produce the desired positive intended social, cultural, economic and/or environmental water stewardship outcomes and impacts?
2. What unintended social, economic and/or environmental effects (positive or negative) have resulted from implementing the AWS Standard?
3. To what extent it is possible for sites to attribute observed social, cultural, economic and/or environmental effects to AWS Certification?
4. What factors likely influence observed social, cultural, economic and/or environmental effects (factors within the control of the AWS Standard System and other external factors)?

Additional sub-questions were developed based on realist evaluation 'context–mechanism-outcome' framings (see Appendix 2). These teased out why and how activities associated with achieving AWS Certification may have led to changes in the good water governance outcome. The additional sub-questions also linked to indicators from other AWS initiatives around evaluation metrics, as well as to the OECD Principles on Water Governance (see Appendix 3).

2.2 SITE SELECTION

The reference group for the impact evaluation consisted of 96 sites that had been certified to the AWS Standard for three or more years as of 13 January 2025[9]. To focus effort, in-depth research was undertaken on a sample of sites across a range of geographical regions and strategic sectors. Drawing on AWS's extensive knowledge of the range of characteristics of its members and certified sites, a long list of 34 sites was put together, covering the six countries and four out of five of the AWS strategic sectors. From this long list, the sample of sites for the impact evaluation were selected based on the following desired characteristics:

- Experienced cases: Sites having AWS Certification for over three years so that they had the potential to demonstrate impacts of that certification.
- Information-rich cases: Sites working in different contexts and using a range of methods that could provide in-depth evidence for the study.
- Maximum variation: Sites across different strategic sectors (agricultural supply chains; food and beverage manufacturing; pharmaceuticals, chemicals and personal care; technology and microelectronics; and textiles and apparel), with different levels (Core, Gold or Platinum) and types (single and multi-sites) of AWS Certification[10].
- Data accessibility: Sites that were available to participate in data collection activities.

Appendix 4 provides details of the long list and highlights the sites selected for in-depth research where detailed qualitative data collection was carried out. The selection of sites was made to ensure inclusion of

[9] This number differs from the initial study population of 126 sites with three or more years of AWS Certification identified in the Phase One report. This was a result of changes to several sites' AWS Certification that occurred after completion of the Phase One report. Reasons for these changes were varied but included sites that were removed from the list because their AWS Certification had expired, new sites that were added to existing multi-site certifications and single sites that had been combined to form new multi-site certifications.

[10] As part of the latest version of the AWS Certification Requirements (V.4.0), which came into force in April 2025, it is no longer possible to obtain multi-site certification. This certification type has been replaced by the new AWS Group Certification.

sites in both the global north and south[11]. From the initial sample of 18 sites identified for inclusion in the impact evaluation, a final sample of 15 sites across six countries (China, India, Ireland, Japan, Peru and USA) were included (see Figure 3). Figure 4 illustrates the stages in the selection of sites.

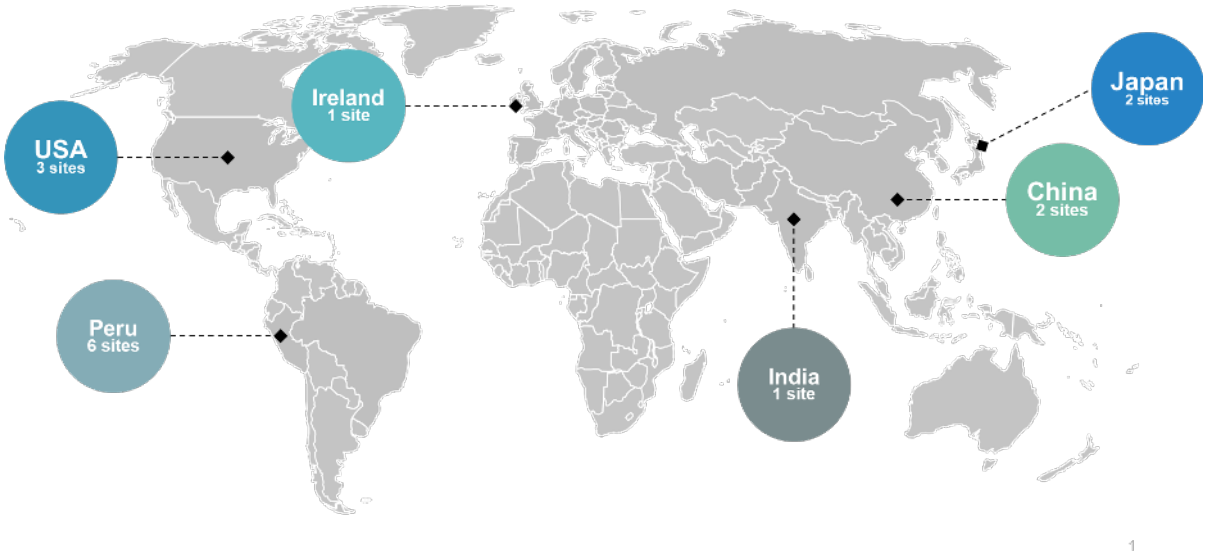


Figure 3: Location and number of selected sites for Phase Two of the AWS impact evaluation

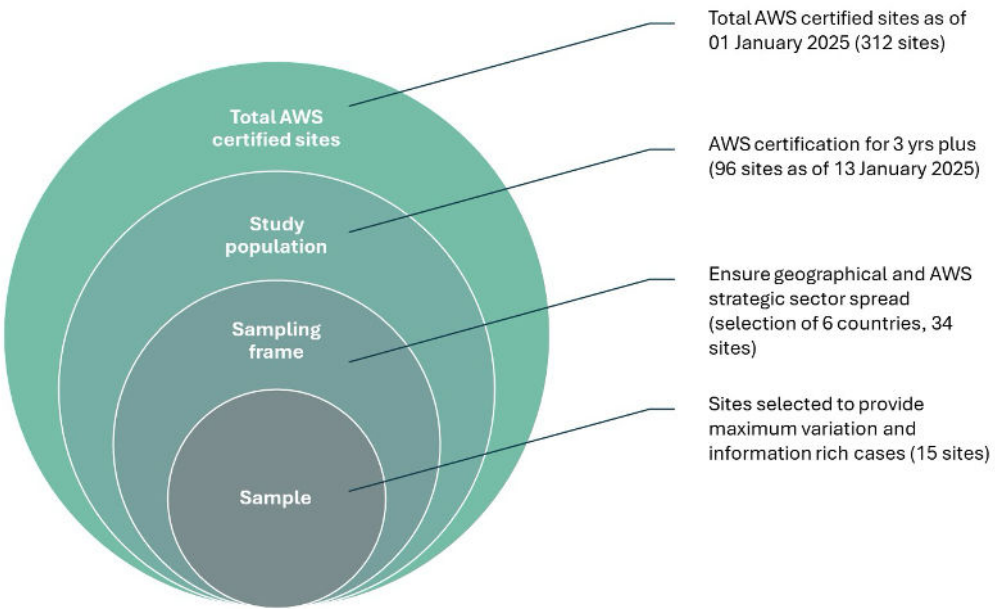


Figure 4: Stages in the selection of sites for Phase Two of the AWS impact evaluation

Figure 5 compares the total number of sites potentially available for sampling in each sector from within the six selected case study countries, as well as the final number of selected sites with the characteristics of the long list of 34 sites. The selected sites cover three of the five AWS priority sectors and are generally geographically distributed, including six agricultural supply chain sector sites in Peru, four food and beverage manufacturing sector sites in three countries, one technology and microelectronics sector site

[11] Global north and Global south countries as defined by UNCTAD (2022).

in China and four 'other' sector sites in two countries. More details about the locations and other descriptive information are shown in Table 1.

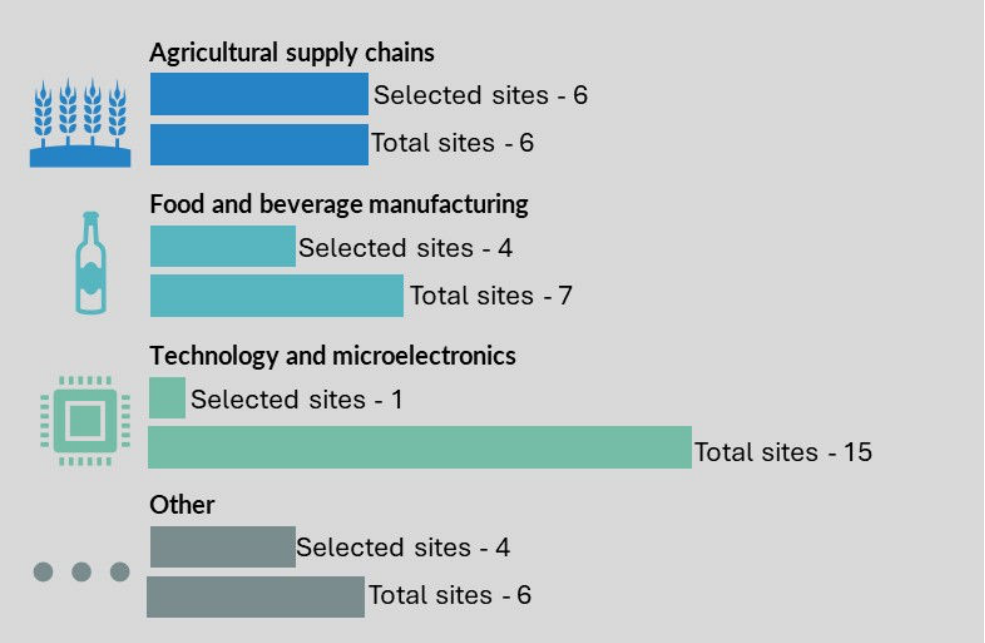


Figure 5: Number of selected sites by sector compared to the long list of sites for Phase Two of the AWS impact evaluation

While there was a slightly higher proportion of AWS Platinum Certified than AWS Core Certified Sites in the wider group of sites, only one-third of the selected sample were AWS Platinum Certified compared to two thirds with AWS Core Certification (five and ten sites respectively). Similarly, there was a slightly higher number of single versus multi-sites in the wider group of sites, whereas the selected sites had a higher proportion of multi-sites (nine versus six single sites)[12].

The focus of AWS Certification is on sites and the catchments where they are located. Some companies with more than one site – whether these are structured as single or multi-sites – may coordinate activities through a national or international team. Three multi-sites and one single site included in this study had this additional layer of governance, which was taken into account in the analysis.

All sites in the study had held AWS Certification for over three years at the time the research was started. Some of the companies represented by the AWS Certified Sites included in the sample had been familiar with AWS since its foundation in 2012, and the site managers commented on this long-standing relationship. While no attempt was made to compare sites belonging to companies that had been with AWS for many years and sites that had joined AWS more recently, it was noted as a characteristic of interest.

2.3 APPROACH AND DATA COLLECTION METHODS

The goal of the data collection was to engage as many people at site- and catchment-level as possible, to

[12] Single site certification defines the site as the physical area over which the implementing organisation owns or manages land and carries out its principal activities. Multi-site certification refers to two or more sites located in the same catchment under the same management that have applied together to obtain AWS Certification. The AWS Standard is implemented at each site, but the outcome of the AWS Certification process is a certificate for all sites covered in the scope of the assessment. AWS Certification of multi-site operations has now been replaced by a new type of group certification. Several sites certifying together may be more effective and enable sites to share knowledge and resources for collective actions, regardless of the area where the sites are located.

gather different views in relation to the impacts of AWS Certification. The initial plan was to use interviews and focus groups. However, the data collection methodology had to be adapted to fit the accessibility of data, with online surveys also being used where necessary, and in some cases, a single interview with the site manager or person responsible for certification. For consistency, the term 'site manager' was used to refer to interviewees who had a responsibility for site certification. This role was played by people with different positions within the member company and in some cases by people with national positions rather than site-level positions.

The evaluation used qualitative methods that focused on collecting and analysing data in the form of words rather than numbers. Qualitative methods are generally considered more effective than quantitative methods for understanding why and how changes happen. Collecting data through interviews and focus groups as well as surveys provides different perspectives on the issues identified. Case study analysis draws this data together in a way that offers insights and identifies learning. It brings information to life in a way that is not possible through purely quantitative analysis[13].

The data collection to support the impact evaluation was carried out both virtually and in-person. While in-person data collection was considered likely to provide richer qualitative data, limitations of time and resources meant that virtual methods to collect data had to be used in some countries. The split between in-person and virtual data collection methods is presented in Table 1. This table also shows some characteristics of the sites, including certification level, type of site (single or multi-site) and the sector.

Table 1: Details on the selected sites included in Phase Two of the AWS impact evaluation

COUNTRY	NUMBER OF SITES	SITE NUMBERS	ACCOUNT AND AWS SITE NAME	CERTIFICATION LEVEL	TYPE OF CERTIFICATION	SECTOR
IN-PERSON DATA COLLECTION						
Ireland	1	AWS-000316	**Nestlé S.A.** Wyeth Nutrition Ireland Ltd.	Platinum	Single	Food and beverage manufacturing
Peru	2	AWS-000201, AWS-000202	**Agricola Chapi** Fundo Don Ernesto and Doña Julia	Core	Multi-site	Agricultural supply chains
VIRTUAL DATA COLLECTION						
Japan	2	AWS-000156, AWS-000187	**Suntory Holdings Ltd.** Suntory Okudaisen Bunanomori Water Plant-Tottori and Suntory Spirits Limited Kyushu Kumamoto Plant	Core (1) Platinum (1)	Single	Food and beverage manufacturing
Peru	4	AWS-000203, AWS-000206, AWS-000551, AWS-000552	**Vanguard Peru** Agricola Challapampa – Ica, Los Olivos de Villacuri, El Arenal- Ica, Los Olivos de Villacuri, Fundo Causerinas – Ica, Los Olivos de Villacuri Fundo los Laureles – Ica	Core	Multi-site	Agricultural supply chains
China	1	AWS-000287	**Guangzhou Big Want Foods Ltd.** Guangzhou Big Want Foods Ltd.	Platinum	Single	Food and beverage manufacturing
China	1	AWS-000128	**Flexium Technology Kunshan Co., Ltd.** Flexium Interconnect (Kunshan), Inc.	Platinum	Single	Technology and microelectronics
India	1	AWS-000059	**ITC Limited** ITC Kovai Plant	Platinum	Single	Other
United States	3	AWS-000125, AWS-000126, AWS-000750	**Ecolab Inc.** Ecolab Carson City Plant, Ecolab City of Industry, Ecolab Placentia	Core	Multi-site	Other

[13] https://www.intrac.org/app/uploads/2024/12/Qualitative-analysis.pdf

The data collection methods used included:

- Desk research to collate data from the most recent audit report for the sites.
- Interviews with site- or national-level managers responsible for AWS Certification (either in person or virtual).
- Focus groups with small groups of relevant actors: site staff and stakeholder groups (in person).
- Online surveys for relevant actors to obtain additional data where other methods could not be used: site staff and stakeholder groups (virtual).

Interviews and focus groups with a range of stakeholders (companies, public authorities, local communities, Non-Governmental Organisations (NGOs)) were undertaken. The interview and focus group schedules covered all the research questions and sub-questions, including optional questions for different stakeholder types. Where it was not possible to conduct in-person interviews or focus groups, virtual methods were used to collect data from site staff and stakeholders concerning those sites. This included virtual interviews and online surveys.

Whilst English was the working language for the impact evaluation, the main languages used by site-level managers, site staff and stakeholders within each country was accommodated to facilitate the data collection. The interview, focus group and survey schedules for site staff and stakeholders are included in Appendices 5-9. The number of interviews, focus group/meeting attendees and survey responses are shown in Tables 2 and 3.

Table 2: Number of interviews and focus group/meeting attendees in Phase Two of the AWS impact evaluation

ACCOUNT AND AWS SITE NAME	Interviews with managers (in person)	Interviews with managers (virtual)	Attendees at staff focus groups (in person)	Attendees at stakeholder meetings (in person)
Nestlé S.A. Wyeth Nutrition Ireland Ltd.	1		4	11
Agricola Chapi Fundo Don Ernesto and Doña Julia	1		3	4
Suntory Holdings Ltd. Suntory Okudaisen Bunanomori Water Plant-Tottori and Suntory Spirits Limited Kyushu Kumamoto Plant		3		
Vanguard Peru Agricola Challapampa – Ica, Los Olivos de Villacuri, El Arenal-Ica, Los Olivos de Villacuri, Fundo Causerinas – Ica, Los Olivos de Villacuri Fundo los Laureles – Ica		1		
Guangzhou Big Want Foods Ltd. Guangzhou Big Want Foods Ltd.		1		
Flexium Technology Kunshan Co., Ltd. Flexium Interconnect (Kunshan), Inc.		1		
ITC Limited ITC Kovai Plant		1		
Ecolab Inc. Ecolab Carson City Plant, Ecolab City of Industry, Ecolab Placentia		1		
Total	**2**	**8**	**7**	**15**

Table 3: Number of responses to surveys of site staff and stakeholders in Phase Two of the AWS impact evaluation

SITES	Responses to surveys of site staff	Responses to surveys of stakeholders
Suntory Holdings Ltd. - Suntory Okudaisen Bunanomori Water Plant-Tottori and Suntory Spirits Limited Kyushu Kumamoto Plant	7	6
Guangzhou Big Want Foods Ltd. - Guangzhou Big Want Foods Ltd.	8	5
Flexium Technology Kunshan Co., Ltd. - Flexium Interconnect (Kunshan), Inc.	5	N/A
Total	**20**	**11**

2.4 DATA ANALYSIS AND SYNTHESIS

Thematic analysis of all the data from the desk research, interviews, focus groups and surveys was carried out using a combination of inductive and deductive approaches. The data was entered into separate spreadsheets (one for each data collection type) with a common structure provided by the interview, focus group or survey schedules to support the analysis. The initial analysis of the data applied a priori codes (deductive analysis) based on the project research questions/sub-questions and the Theory of Change and then additional codes emerging from the data were identified (inductive analysis). Transparent coding allowed the use of quotations to demonstrate how the themes and findings were directly linked to the words of the participants.

Synthesis of this work connected codes and identified overarching themes. This was important to identify the range of factors and causal relationships that produced intended or unintended outcomes. The AWS Theory of Change describes how this is expected to happen, but it needed to be validated by practice on the ground, as recommended by the Phase One report, to provide confidence in attributing outcomes.

Given the qualitative nature of the research, some of the innovative practices and lessons identified through the data collection were written up as case studies. This included case studies from sites and initiatives in Ireland, Japan, China and Peru.

The data analysis concluded with a synthesis based on the observations, conclusions, lessons learned and key recommendations from the evidence.

2.5 LIMITATIONS OF THE METHODOLOGY

The key limitations of the methodology and its application included:

- The total number of sites and the numbers per sector were lower than expected because some sites in the target group were unable to participate due to time and resource limitations.
- Within the participating sites, there were some difficulties in securing in-person interviews and input from stakeholders. This was addressed by using other methods such as online interviews and surveys but this had some impact on the level of detail that could be obtained.
- Focus on the site level meant that limited information was collected about the national government level and financial incentives, which are the main focus of the 'influencers' part of the AWS Theory of Change.

3. FINDINGS

SUMMARY OF FINDINGS

Setting the scene

- Site managers identified multiple **motivations for seeking AWS Certification**, including aligning with industry sustainability goals, adopting corporate social responsibility practices, resolving community concerns, meeting expectations of end buyers, gaining a competitive edge and inspiring water stewardship leadership.
- Site managers generally recognised that good water governance **had a key role in delivering sustainable water stewardship** and sites were engaged in a range of activities related to the three dimensions of water governance (effectiveness, efficiency, and trust and engagement).

Water governance: Processes and impacts

- Many site managers noted that the AWS Standard described a process (the 'five steps') for water governance. A key element of this was **developing relationships and engaging in collaborative actions** with public authorities or agencies and local communities, as well as other stakeholders such as suppliers, stakeholders from the same industry sector and environmental organisations or NGOs.
- Auditing and AWS Certification enabled sites to demonstrate their **commitment to water stewardship and provided credible evidence of progress**. AWS Certification established both a requirement and a structure for continuous improvement that became incorporated into routine operations.
- Various impacts of good water governance after achieving AWS Certification were identified, including environmental, social and, to a lesser extent, cultural and economic impacts. It was often difficult to say whether specific impacts were the result of **applying the AWS Standard or of achieving AWS Certification** as the two were clearly intertwined. Implementing the AWS Standard resulted in change and impacts; achieving AWS Certification gave these changes a higher profile and credibility and could lead to knock-on impacts in terms of increased awareness, opportunities for partnership working with other stakeholders and improved water governance outcomes.
- **Positive social impacts** of improved water governance included greater awareness of water issues and water stewardship through sessions with school children, stronger ties with local communities and better access to water.
- There were many examples of **positive environmental impacts**, from on-site improvements in water quality and water balance, the creation of biodiverse habitats and groundwater recharge improvements, through to re-wetting of paddy fields and building retention ponds.
- There was less consistency in site managers' views about the extent or nature of the AWS Certification process' contribution to **economic improvements**, with different perspectives on whether or not there had been economic benefits or costs.
- The majority of sites felt that the AWS good water governance outcome had positive impacts on achieving one or more of the **other AWS outcomes** (sustainable water balance, good water quality status, healthy IWRAs and access to WASH for all).

Unintended impacts of governance changes linked to AWS Certification

- All site managers felt that there had been changes in **awareness of good water governance**, though their views on the nature of this change and the reasons for it differed slightly.
- Most site managers said there had been **positive unintended impacts associated with AWS Certification**, including benefits from enhanced engagement, knock-on benefits for the company's operations from having a better reputation, carrying out joint projects with other businesses and organisations, and additional funding. There were a few reports of negative unintended consequences. For example, one site manager said that the requirement for certified sites to be transparent about their water management practices sometimes meant they came in for more criticism than sites that provided less information about their activities.

- AWS Certification was found to **support progress in water stewardship** through activities such as audit preparation, applying the AWS Standard's criteria and indicators for water governance, participating in AWS Training and information sharing and engaging in water-focused initiatives with local communities.
- Most site managers felt that they could not have achieved the **impacts without AWS Certification** and/or it would have taken much longer to achieve the same impacts. They highlighted that they also brought their own good practices to the table, rather than having simply adopted the AWS approach. External stakeholders were generally positive about the contribution of the AWS Standard and AWS Certification to water governance.
- AWS Certification was seen as a **key driver of positive water governance outcomes**. Some companies with AWS Certified Sites and their stakeholders suggested that implementing the AWS Standard could introduce a fresh perspective on persistent water governance challenges and offered a structured approach to identifying and addressing poor practices. AWS Certification gave international recognition and credibility to the companies involved.

Key factors contributing to changes in water governance

- Various valuable elements or **characteristics of the AWS Standard that contributed to good water governance** were identified, including collaboration with communities and stakeholders, working with the entire water system, the inspiration of the AWS Standard and Guidance, the support of training and the credibility of AWS Certification. Site managers also identified some elements of the AWS System, specifically the audit system and subjectivity, that they felt were not significantly contributing to improved water governance.
- **Factors at site level that supported progress in water governance** included flexible governance practices, a supportive corporate culture, strong leadership, stakeholder involvement, employee incentives and regional development funding. No barriers to progress were reported.
- **External drivers of progress in water governance** included national government and private sector initiatives to strengthen water stewardship, forming business partnerships and joint projects between public and private sector organisations.
- **External challenges to progress in water governance** included government actions with negative impacts such as restrictive regulations, limited support and shifting political priorities, as well as socio-economic pressures and climate-related events like natural disasters.

This section presents the findings from the data collected, including overall results and trends, as well as comparisons between sites. Initially, the scene is set by presenting information about the motivation for participating in AWS and the site managers' views of the role of governance in sustainable water management[14].

The evidence presented is drawn from different sources, referenced as follows:

- Information from interviews with company- or site-level managers with responsibility for achieving AWS Certification: SM followed by a number from 1-12.
- Information from focus groups with site staff: SS-FG followed by 1 or 2.
- Information from focus groups with stakeholders: SH-FG followed by a number from 1-6.
- Information from surveys of site staff: SS-Survey followed by country name.
- Information from surveys of site staff: SH-Survey, followed by country name.

3.1 SETTING THE SCENE

Motivation for pursuing AWS Certification

Multiple motivations were given for seeking AWS Certification, including aligning with industry sustainability goals, adopting corporate social responsibility practices, resolving community concerns,

[14] The site or company that site managers engaged with as part of the data collection has been anonymised within this report. However, quotes/comments included from a specific site manager have been identified by an individual reference number to enable the reader to identify whether it was from the same or a different site manager.

meeting expectations of end buyers, gaining a competitive edge and inspiring water stewardship leadership.

Sites and companies generally had multiple reasons for seeking AWS Certification. Companies in both the global north and south mentioned improving water stewardship and the need to align with industry sustainability goals and standards. One site manager noted that part of their motivation had been to address and resolve community concerns about water stewardship. Another said that the company had been encouraged to get AWS Certification by their end buyer, which was itself AWS Certified and was promoting this to strategic suppliers.

Several site managers emphasised that the site or company had been adopting sustainability or corporate social responsibility practices before seeking AWS Certification and wanted to have these initiatives recognised. Two felt that AWS Certification was a way of setting an example or inspiring water stewardship leadership and collective action. One site with more recent AWS Certification hoped to gain some competitive edge and stand out in the market.

Water governance activities as part of water stewardship

Site managers generally recognised that good water governance has a key role in delivering water stewardship and sites were engaged in a range of activities related to the three dimensions of water governance (effectiveness, efficiency, and trust and engagement).

Site managers were asked what they saw as the role and importance of water governance in water stewardship. Two stated that good water governance was the foundation of water stewardship (SM3, SM6). Although none referred specifically to the OECD Principles on Water Governance, several gave examples of functions of water governance that fit with the three overarching dimensions. Under effectiveness, site managers mentioned appropriate scales within basins and clear roles and responsibilities (SM7). Examples of efficiency included: enabling the coordination of multiple stakeholders for collective action, and building and maintaining transparent and inclusive participation mechanisms to incorporate a variety of stakeholders into decision-making (SM4, SM12). Trust and engagement were referred to in relation to building trust in organisations, using negotiation rather than top-down mandates and reducing conflict-related waste of resources (SM5, SM11).

EXAMPLE OF EFFICIENCY: ENABLING THE COORDINATION OF MULTIPLE STAKEHOLDERS FOR COLLECTIVE ACTION

"*…Because of the requirement of stakeholder engagement, we're able to share our story more broadly and we're able to partner with people better. One of the initiatives that we were really close to last year was partnering with the school systems and getting out into schools and offering some educational help on water stewardship that was positively received by a lot of the schools that we went to. [In terms of] governance, when we talk with our water suppliers, we get awesome feedback, like yesterday. So from a social aspect, it's providing a lot of the conduit to be able to have these conversations*." (SM12)

Two companies, one in the global north and one in the global south, had central teams that coordinated actions across multiple sites rather than focusing all initiatives at the site level. They saw this as a more effective approach that enabled them to bring together more resources and involve more powerful actors:

> "*A lot of our resources and a lot of our larger initiatives sit at the corporate level and so when we look at things like funding or grants or partnering with other nonprofits or partnering with other larger companies … [the resourcing] has to come from the corporate level because the sites can't do these large grants on behalf of themselves. Finance runs through corporate; the resourcing and the expertise runs through corporate*". (SM12)

3.2 WATER GOVERNANCE: PROCESSES AND IMPACTS

Processes for achieving good water governance

Water governance initiatives take different forms that reflect different objectives and contexts. Following the guidelines of the AWS Standard, all the sites and companies engaged in collaborative actions with public authorities or agencies and local communities, as well as other stakeholders such as suppliers, stakeholders from the same industry sector, environmental organisations or NGOs.

Overall, site managers tended to emphasise changes that had occurred in relationships with a range of external stakeholders: regulators, policymakers, other companies and local communities. Two said their companies had become more outward facing than before.

One site manager pointed out that the way collective actions were carried out and the stakeholders involved was often specific to the context. For example, in one part of the country, this company's plant was in an industrial area and held annual meetings and discussions with neighbouring industries. None of the company's other plants were in industrial areas and they typically had annual general meetings for all stakeholders in the catchment where they reported on all initiatives taken during the previous year (information sharing) and received feedback. Alongside the annual meeting, there were more frequent meetings of user groups (for example, water user groups and School Development Management Committees) to discuss specific topics such as the use of water in agriculture or access to WASH initiatives in schools. (SM5)

Information sharing and training was an important way of increasing awareness across a wider group of stakeholders as well as among site staff. Some site teams were actively involved in water stewardship and sustainability at the local or even national level (SM6). In other countries, AWS Members had been active in pushing public organisations to create forums and structures for debate and action on issues such as transparency and accountability in water resource management (SM11) and the true cost of water (SM6). These forums were at both the national and catchment levels. Another example of collective working was creating sector-based mechanisms for delivering social and ecological investment projects (SM10, SM11). Case Study 1 describes a technical round table on water in Ica, Peru.

CASE STUDY 1: TECHNICAL ROUND TABLE ON WATER IN ICA, PERU

Los Olivos de Villacurí SAC is part of Vanguard Group International that was founded in 1991. They have been producing table grapes for export since 2016 and today employ more than 10,000 people during the grape season. Vanguard Peru's water stewardship efforts focus on sustainable agricultural practices, particularly for their table grape production in the Ica region, which is a water-scarce area. In 2022, Vanguard Peru was awarded AWS Core Certification covering four sites in Ica.

Vanguard Peru recently established the Ica Chamber of Commerce (Peru) Technical Roundtable on Water — an initiative that brings together local actors to share information and discuss matters relevant to water management. This was promoted by Vanguard Group International (the organisation's global brand name), along with a few other local businesses and community leaders. The technical group includes representatives from all relevant sectors, from mayors to low-income housing associations, providing a mechanism for greater transparency about water availability and management. Vanguard Group is encouraging the two groundwater management boards in the area to publish how much water their members (including Vanguard Group International) abstract. This will enable water users to find out where there is illegal water abstraction or where more water is being abstracted than permitted, and to see what action needs to be taken.

The Technical Round Table on Water is now part of the Chamber of Commerce's Committee on Well-being, Water and Sustainable Development and is seen as a "strategic space for generating technical dialogue" (Ica Chamber of Commerce Press Release, June 2025).

In 2023, Manuel Yzaga, Chief Executive Officer of Vanguard Peru, was named winner of the AWS Water Stewardship Prize, which recognises leaders who promote the responsible use of freshwater that is socially and economically beneficial and environmentally sustainable.

Stakeholders who contributed to this research generally agreed that the way they engaged with AWS Certified Sites varied depending on the purpose or context of the engagement. For example, a representative of a water-users' group commented that their group engaged with the AWS Certified Site on joint initiatives to create and manage water infrastructure, which played to the strengths of both partners. At the same time, the stakeholder noted that the site was also part of a business-led consortium that was able to plan and implement larger initiatives because they could mobilise greater resources (SS-FG2).

Site staff in both focus groups identified impacts on internal arrangements for water governance. On one site, an internal water committee was set up in 2021. This met monthly or sometimes fortnightly and focused solely on water management issues such as water availability in wells and groundwater, current levels of use, future projects, water needs and relationships with neighbouring water users (SH-FG2). Both sites had teams including staff from different areas of the site who promoted good water governance and provided information.

With regards to providing information for external stakeholders, seven site managers referred to specific improvements in information and communications (for example, with communities, local authorities or suppliers) and five talked about the development of joint plans of action or collaboration platforms with other industries or stakeholders from a range of organisations. Table 4 shows the actors mentioned by the site managers as engaging with their sites.

Table 4: Shared information and action with a range of stakeholders (based on site manager interviews in Phase Two of the AWS impact evaluation)

TYPE OF STAKEHOLDER	NUMBER OF SELECTED SITES ENGAGING WITH THIS STAKEHOLDER TYPE	MENTIONED BY
Private companies	5	SM3, SM5, SM10, SM11, SM12
Suppliers	2	SM4, SM6
Local government	5	SM4, SM5, SM6, SM10, SM11
National government	1	SM6
Other public agencies	2	SM5, SM6
Local community	5	SM3, SM4, SM5, SM6, SM9
Non-governmental organisation	5	SM3, SM5, SM6, SM10, SM12
Site staff	5	SM5, SM6, SM9, SM10, SM11
Others	0	-

Better information and evidence for action was a major benefit of this broader external engagement. One site manager said they now had more evidence to back up what they said about their sustainability practices to third parties, including customers and other industries.

Site staff focus groups revealed that not only had there been impacts on water use practices within the site as a result of AWS Standard-aligned improvements in communication and engagement (monthly bulletins and broad-ranging daily five-minute training sessions were two examples) but site staff often got involved in external water governance activities as members of the local communities. Staff mentioned participating in a 'water blitz' community research project (SS-FG1) and in a pilot water efficiency project in a local area (SS-FG2).

A range of different water governance actions were used by AWS Certified Sites such as:

- Convening and stakeholder dialogue (informal water governance).
- Providing information to demonstrate transparency and integrity.
- Training and institutional capacity building.

- Stakeholder awareness raising and communications/outreach.
- Collective design and delivery of local or catchment water management plans.
- Catchment monitoring and evaluation (data gathering, joint impact evaluation).
- Basin and project modelling (including modelling of any kind).
- Financing water-related projects (bankable and non-bankable/grant based).
- National and regional water policy and governance engagement.

In the survey of site staff and stakeholders in Japan and China, respondents were asked to assess the success of each action they had been involved with in improving sustainable water stewardship. There were some differences between the site staff and stakeholders' views but for the majority most of the actions were seen as very or quite effective in improving water stewardship (see Figures 6 and 7)[15]. There were two exceptions for both groups where the majority considered an action to not be so effective in improving water stewardship, or the level of success was not known:

- Financing water-related projects (bankable and non-bankable/grant based).
- National and regional water policy and governance engagement.

In addition, the majority of stakeholders could not say how effective basin and project modelling (including modelling of any kind) was at contributing to water stewardship.

[15] It was assumed that if the action was seen as successful, the way it was implemented was effective.

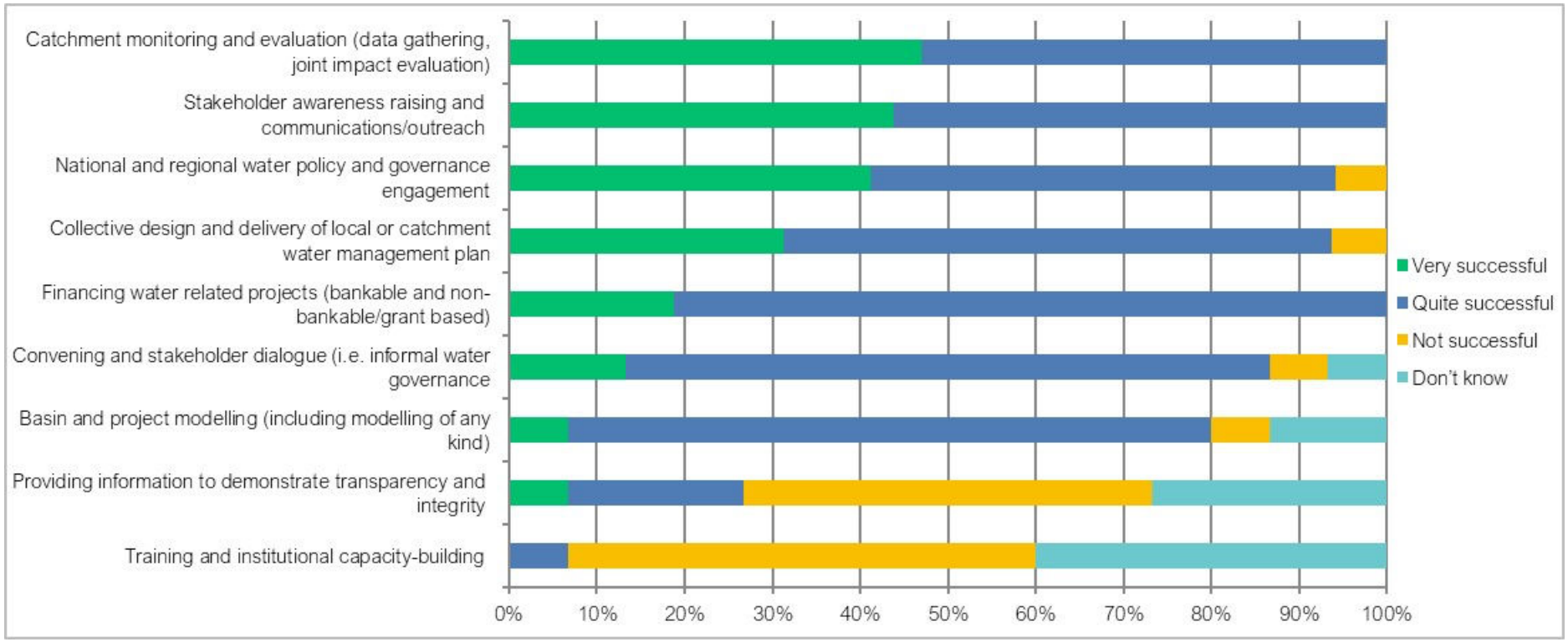


Figure 6: Responses from site staff in Japan and China to the question: 'How successful have each of the actions used by AWS Certified Sites been in improving water stewardship?'

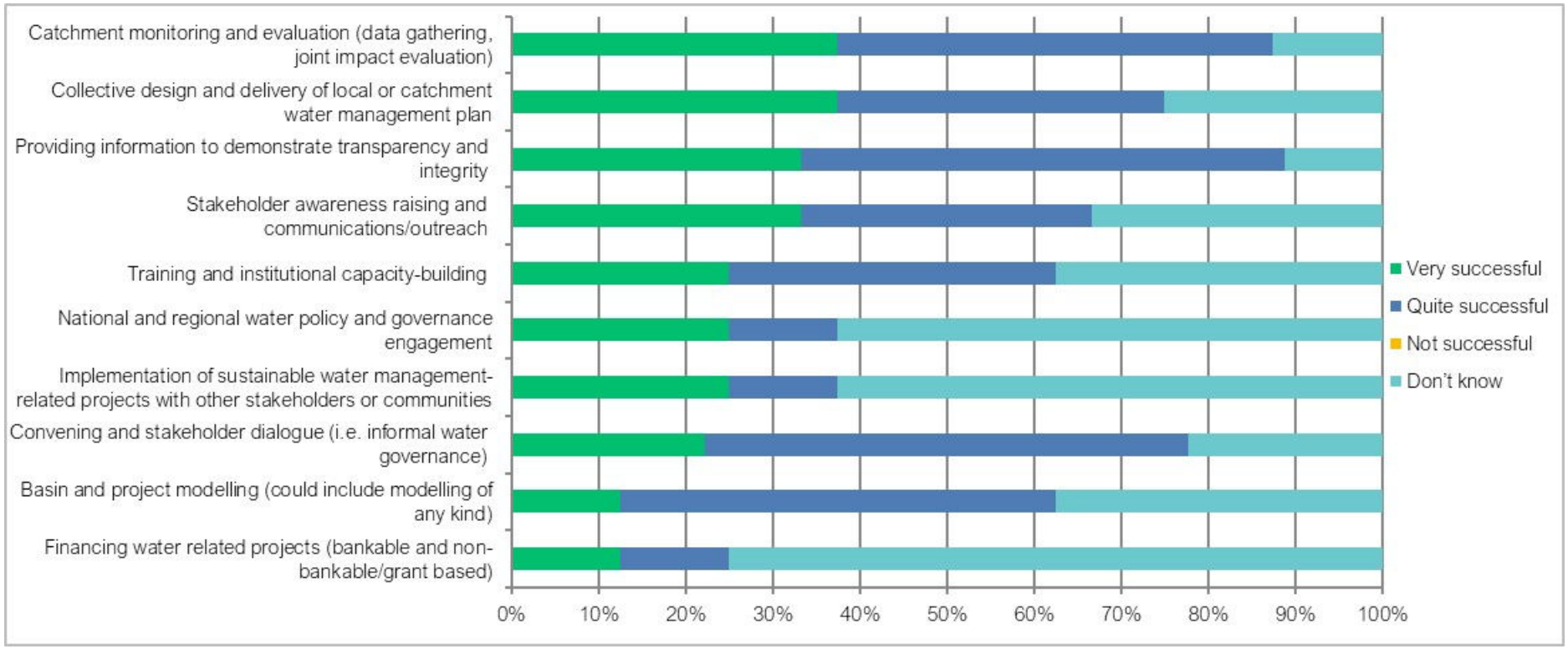


Figure 7: Responses from stakeholders in Japan and China to the question: 'How successful has each of the actions used by AWS Certified Sites been in improving water stewardship?'

The following are examples provided by site staff in Japan and China of water governance initiatives that had resulted from implementing the AWS Standard and had a positive impact on water stewardship:

- "*Since the factory began operations, we have been working in collaboration with the local government and community to participate in the town's 500-year-old festival and to continuously engage in river cleaning volunteer activities with local residents in preparation for the festival. The factory promotes co-existence with the community and nature, and in order to instil this philosophy in its employees, it focuses on disseminating information about its activities and encouraging active participation by employees.*" (SS-Survey Japan)
- "*All employees now understand the significance of our activities in the catchment area (natural water forest, winter rice paddies, cleaning activities) and participation in these activities has become established.*" (SS-Survey Japan)
- *"Utilise recycled water from the sewage treatment plant for flushing toilets in workshop restrooms, reducing water consumption and improving recycled water utilisation rates."* (SS-Survey China)
- *"Collaborating with local officials, environmental foundations, companies and other institutions and enterprises to jointly carry out river clean-ups and river protection campaigns."* (SS-Survey China)

Finally, half of the site managers noted that they had already addressed internal governance before AWS Certification, so changes in that area were minimal. One site manager explained how the company had harmonised or merged the existing sustainability structures with AWS governance structures: "*A governance system was already in place, before even the AWS Standard was applied to the site, so that itself kind of merged into the AWS governance structure*"(SM5). This view was shared by site staff in the two focus groups.

Main impacts of water governance since starting the journey to AWS Certification

Site managers identified various impacts of improved water governance following AWS Certification. These included environmental, social and, to a lesser extent, cultural and economic impacts.

Implementing the AWS Standard is based on a five-step process. This emphasises building relationships, both internally and beyond the site, at both the catchment and local levels. AWS Certification enables sites to demonstrate their commitment to water stewardship and provide credible evidence of progress.

It is often difficult to say whether specific impacts are the result of implementing the AWS Standard or of achieving AWS Certification. Some social impacts associated with collaborative working appear to be more related to AWS Standard implementation rather than AWS Certification, while others, such as impacts on reputation, are often the result of achieving AWS Certification. However, the two are clearly intertwined. Below we suggest a way of grouping impacts according to whether they are more closely linked to the application of the AWS Standard or to achieving AWS Certification as a way of organising the discussion, but these should not be seen as hard and fast distinctions. The main impacts of applying the AWS Standard System that were mentioned by site managers and site staff were:

- Collective action with public sector and/or private sector stakeholders (SM5,6,8,12).
- Impacts on sites in terms of better management of water flow among site personnel, which was considered to have led to improvements in water efficiency (SM9).
- Improvements in water quality (SM3).
- Beneficial environmental impacts such as farmers using land for more sustainable purposes (SM4).
- Social impacts including improved community relations (SM3) and creating more attractive places for recreation (SM5).

Site managers also mentioned the following significant impacts of auditing and AWS Certification:

- Accelerated progress towards sustainability goals (SM3, SM6).
- Provided a structure for continuous improvement (SM3, SM4, SM6, SM7, SM9, SM10, SM11).

- Credible evidence of current management as the basis for future monitoring (SM7, SM8, SM10, SM11).
- Motivation for ongoing improvement (SM3, SM6, SM8, SM9).

Social effects of changes in water governance (positive and intended)

Positive social impacts of improved water governance included greater awareness of water stewardship through awareness activities in schools, better communication and interaction with local communities, and better access to water.

Working with schools was an important focus for several sites (SM7, SM10, SM11, SM12). The sites' parent companies all got involved in promoting broad water stewardship themes in schools, going beyond the immediate locality. The site managers identified impacts on children's attitudes and behaviours that could have a major social impact over the longer term.

Interaction and projects with local villages and communities as a result of adopting a catchment perspective led to social, economic or environmental impacts in all the sites studied. One external stakeholder highlighted the way that collaborative research promoted by the AWS Certified Site had enabled a wider group of stakeholders to identify sustainability issues in the higher areas of the catchment and to work with the local community on a strategy to address these issues. This had positive social and economic impacts (the economic benefits are detailed below). Several interviewees mentioned the increased participation of women as bringing great social benefits as this tended to have immediate positive benefits for family wellbeing. Involving more vulnerable or traditionally marginalised groups like schoolchildren or small farmers creates conditions for greater equity in water governance.

Improved access to water took a variety of forms, from providing water infrastructure such as water storage or water recharge ponds (SM5, SM10) to improved planning and management as a result of mapping water flows across a site (SM9).

Environmental effects of changes in water governance (positive and intended)

There were many examples of positive environmental impacts, from on-site improvements in water quality and water balance and creating biodiverse habitats, to groundwater recharge, re-wetting of paddy fields and building retention ponds.

One site manager mentioned how their site had used their stakeholder engagement process to encourage local farmers to change from growing vegetables on river banks to planting trees, which allowed the river banks to be restored. Case study 2 illustrates collaborative working to promote aquifer recharge amongst agro-exporters to achieve a shared vision in Ica, Peru.

CASE STUDY 2: COLLABORATIVE WORKING TO ACHIEVE A SHARED VISION (AGRICOLA CHAPI, PERU)

Agrícola Chapi SA produces and exports fruit and vegetables. The company was founded in 1997 and is based in Ica, Peru. It has two sites in Ica: Fundo Dona Julia, a 250 hectare farm that produces table grapes, and Fundo Don Ernesto, an 850 hectare farm growing grapes, asparagus and avocados.

The integrated catchment of the Ica river is one of the most crucial water resources for Peru's economy, supporting a regional economy that contributes more than 3% of national Gross Domestic Product (GDP) and 7% of total exports. There is water stress in Ica and along the Peruvian coast in general. Agrícola Chapi has made significant efforts to promote good water governance aligned with the principles of water stewardship. Agricola Chapi's Chief Executive Officer, Augusto Baertl said: ***"I want to inspire water stewardship leadership and collective action to address common water challenges. These priorities align with the AWS Standard and principles."***

In 2021 the company joined with other agro-exporters in the Ica region to form a non-profit organisation, XynergICA[16]. The organisation was founded on the principle that working in teams builds strength and that the total is more than the sum of its parts, i.e. 1+1 = 3. The organisation seeks to demonstrate 'the relevance of connections and interactions between multiple actors in achieving shared visions of sustainable development and prosperity for Ica'.

As a member of XynergICA, Agricola Chapi has promoted the biggest aquifer recharge project implemented in Ica. This is located in Golda Meir Park in Villacuri and has shown a way forward for addressing the current water shortage in Ica. XynergICA worked with the Board of Water Users of Rio Seco (JUSH), the National Water Agency (ANA) and the regional government of Ica to make this project a reality.

A second project carried out by XynergICA has promoted and supported work with communities and local authorities in the high Andes, where the main economic activity is rearing alpacas. Work has been done to rehabilitate existing infiltration channels, to capture and retain water at the top of the catchment. The work was carried out in three micro-basins in Huaytupampa and has increased the water supply to the population of Huaytará and Ica.

Agricola Chapi's Augusto Baertle, said: ***"The actions that have greatest impact are the ones we do with other actors".***

Economic effects of changes in water governance (positive and intended)

There was less consistency in views about the extent or nature of the contribution of AWS Certification to economic improvements, with some different perspectives on whether or not there had been economic benefits or costs.

One global south stakeholder saw the growth of agro-industrial production within a framework of equitable stewardship of water resources as providing economic benefits for the local community and local economy. This stakeholder suggested that improvements in water flows and water quality had allowed the continued growth of agro-industrial production and that this in turn had created jobs, keeping the rate of unemployment low. This had brought positive impacts to women (who were often the breadwinners for their families) and children, as the stakeholder stated that mothers tended to put all their earnings into the family.

An AWS Certified Site manager in the same area noted that while joint public-private projects had increased the water available in certain locations, there was currently inadequate information about the water resources of the area as a whole. This site manager was promoting collaboration between all water stakeholders to establish information as the basis for effective water stewardship and sustainable water use. This was an example of an AWS Certified Site continuously seeking to improve its water governance.

One global north manager argued that environmental and economic improvements went hand in hand: reductions in water use or improvements in onsite water quality resulted in lower costs for the business, either directly through reductions in running costs or indirectly through avoiding pollution fines (SM12). However, another site manager stated that AWS Certification was an additional cost and did not provide an economic benefit to the AWS Certified Site (SM11).

Where positive impacts were produced, governance processes had been instrumental in establishing collaborative management systems, with clear responsibilities and standardised procedures, especially for stakeholder engagement. One company noted that good water governance drove action across all stages of the process, from planning to supervision. It promoted the implementation of water saving and water protection measures and ensured the fair and efficient allocation of water resources (SM3).

[16] https://www.xynergica.pe/

Another site manager felt that AWS Certification had not produced all the benefits they had expected. They said that the AWS Standard was not recognised by the government authorities that check compliance with environmental norms in their country, so site staff collected similar documentation several times. There had not been any streamlining of compliance checks and audits (SM5). However, one site manager said it was not the role of AWS Certification to generate these kinds of impacts. AWS was successfully providing third-party certification and the site manager felt it was for the sites and companies to use their AWS Certification to generate these impacts (SM7).

Connections between water governance impacts and achieving other AWS outcomes

The majority of the sites felt that the AWS good water governance outcome had positive impacts on the achievement of one or more of the other AWS outcomes (good water quality status, sustainable water balance, healthy IWRAs and access to WASH for all).

- Good water quality status: Three site managers reported coordinating collective river clean-up and monitoring actions with NGOs and other companies, focusing on water quality. One commented that, as a result, local residents, who once believed the site was contributing to river pollution, had changed their perceptions (SM4). Another site manager commented that it took many years to build trust among stakeholders and local communities and convince them that positive change was happening. By requiring sites to continually seek ways to improve their outcomes and to provide clear information about the water stewardship initiatives they were taking and their results, the AWS Standard contributed to this (SM6). The third site manager described how, once their site had achieved AWS Certification for the first time, the company expanded its focus from site-level management to catchment-level co-governance. At the same time, and perhaps as a result, they saw a shift in stakeholder attitudes from passive oversight to active collaboration (SM3). This demonstrated the dynamic nature of change processes and the cumulative impacts that could be achieved.
- Sustainable water balance: One site manager reported that in preparation for AWS Certification, a detailed analysis had been carried out of water flows through the site. Good water governance practices meant that the study's findings were used to develop and implement a plan for reducing water consumption (SM8).
- Healthy IWRAs: For some sites that included or were working with an IWRA, governance processes were considered essential to ensure that the areas were maintained and enhanced, as multiple stakeholders were involved. One site manager gave an example of an area where the company cleaned up a pond and created green space. A water governance structure was established. When the local authorities saw that more people were visiting the pond, they enhanced the work by creating an open gym facility (SM5). At another site, at the time of Covid, staff suggested that improvements to a natural area along the river could be combined with creating a mental health walk. This area now provided benefits for people and for nature (SM6).
- Access to WASH for all: Maintaining WASH facilities and practices required good governance (SM5). One site manager emphasised that requirements for WASH provision that existed in many countries, especially in the global north, were a key factor in prompting improvements: "*When there is a requirement to look out for WASH, that's when it starts to get implemented, it's when we start to look at it and ask those questions and invest in it*." This site manager's company partners with not-for-profit organisations to mobilise funds and deploy WASH facilities and measures in communities (SM12).

Some site managers were positive about the impacts of good water governance on the other outcomes but did not provide evidence. One noted that a lack of scientific research and ongoing monitoring made it difficult to say exactly what changes had happened (SM11). Finally, one site noted that it had already undertaken work on water stewardship outcomes, such as access to WASH for all, before beginning to work towards AWS Certification.

In the survey of site staff in Japan and China, when asked what effect implementing the AWS Standard-related water governance actions in the catchment had on achieving the other AWS Standard outcomes,

over 60% said it had either a large or medium effect on both sustainable water balance and good water quality status, over 50% said it had either a large or medium effect on access to WASH for all and over 40% said it had either a large or medium effect on healthy IWRAs (see Figure 8). However, stakeholders surveyed in Japan and China responded that implementing AWS-related water governance actions in the catchment had an even greater effect on achieving the other AWS Standard outcomes – 90-100% said it had either a large or medium effect on each of the other AWS Standard outcomes (sustainable water balance, good water quality status, healthy IWRAs, access to WASH for all) (see Figure 9).

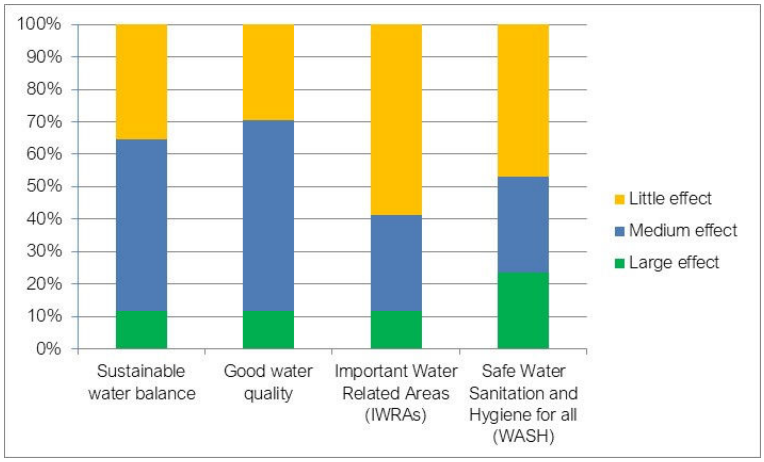


Figure 8: Responses from site staff in Japan and China to the question: 'What effect has implementing AWS-related water governance actions in the catchment had on achieving the other AWS Standard outcomes?'

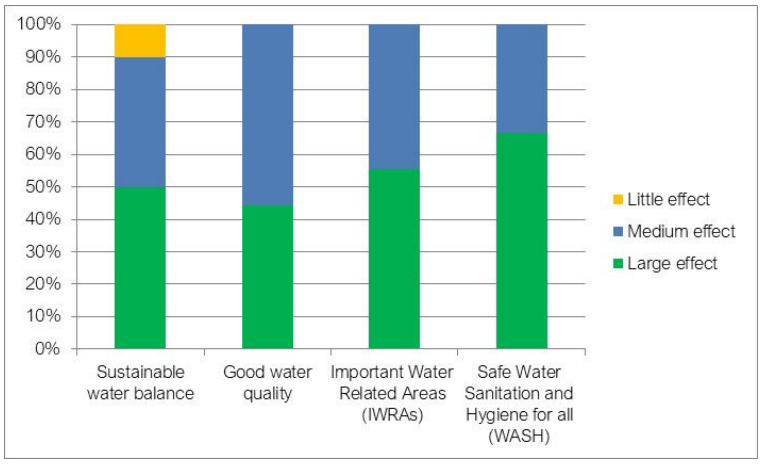


Figure 9: Responses from stakeholders in Japan and China to the question: 'What effect has implementing AWS-related water governance actions in the catchment had on achieving the other AWS Standard outcomes?'

The following are some examples that site staff and stakeholders provided of where good water governance had a large effect on the other AWS outcomes:

- "*The Natural Water Forest initiative is a significant undertaking we are proud of. We believe that by raising awareness of this initiative, it has the potential to spread globally and have a significant*

impact. Through water source conservation activities in natural water forests, we can conserve more than twice the amount of groundwater used in our factories". (SS-Survey Japan)

- "*It is estimated that 70,000 tonnes of water will be saved by 2025 through measures such as tailwater utilisation*". (SS-Survey China)
- "*We believe that conservation activities are contributing to the maintenance of spring water volume, which is on a downward trend, and to the preservation of groundwater*". (SH-Survey Japan)

3.3 UNINTENDED IMPACTS OF GOVERNANCE CHANGES LINKED TO AWS CERTIFICATION

Changes in understanding and attitudes towards good water governance

All site managers felt that there had been changes in awareness of good water governance, though their views on the nature of this change and the reasons for it differed slightly.

For several site managers, increased participation was seen as a key change (SM3, SM5, SM10), reflecting awareness of the need to work together to address water issues. Two described how public authorities and communities had changed their attitudes from passive oversight of water management to active participation in response to a more open and collaborative approach by the site (SM3, SM5). In one case, communities were actively managing water infrastructure (SM5). It was hard to identify any factors that could have contributed to this outcome as the two sites did not have any clearly similar features. For other site managers, change in awareness had been a result of providing more and better information about the plant's activities (SM7, SM12). At one site, staff shared this information with friends and family and had become more directly involved, mainly through volunteering in water stewardship activities.

Additional benefits associated with AWS Certification

Most site managers said that there had been positive unintended impacts associated with AWS Certification, including benefits resulting from enhanced engagement, knock-on benefits for the company's operations from having a better reputation, participating in joint initiatives with other businesses and organisations, and additional funding. There were a few reports of negative unintended consequences, such as by being more transparent with information it could make them more open to criticism.

- Enhanced engagement: Sites' collective actions with environmental organisations unexpectedly boosted community participation with one site (SM3). Several site managers said that collective actions improved the way that sites were perceived within the local community (SM3, SM4). In Ireland, the unintended benefits of engagement for both stakeholders and the site were highlighted by stakeholders as well as the site manager. Recognising and sharing information about these benefits of AWS Certification had made them a reference point and measure for sustainability for similar sites, supply chain partners and others who might not have considered applying for AWS Certification themselves (see Case Study 3 on multilateral stakeholder engagement). The value of bringing in a fresh narrative for considering persistent water governance problems based on systematic monitoring and reporting on rivers was noted in interviews in Ireland and Peru.
- Knock-on benefits for the company's operations from having a better reputation: For example, during a dry period, one AWS Certified Site was among a number of industries asked by the government to stop abstracting water from the nearby river. The site showed the authorities how it was managing water demand and working with local farmers. As a result, the authorities allowed the site to continue abstracting water at a reduced rate, while other local industries had to stop completely (SM5). The site manager commented that over time, the company had little problem hiring good workers because it had a good reputation.
- Collaborating with other businesses and organisations: Linking up businesses and other organisations in different parts of a catchment to share ideas and learning (SM10).

- Access to additional funding: One site reported unintended economic impacts linked to AWS Certification. The site manager described how their site had been awarded a large national special funding grant. Not only did this unexpected award give the site recognition in sustainable development circles, it also led to market expansion (SM3).

CASE STUDY 3: FROM BILATERAL TO MULTILATERAL STAKEHOLDER ENGAGEMENT (WYETH, IRELAND)

Nestlé's Wyeth Nutrition site is located in the rural area of Askeaton, County Limerick, Ireland. It produces milk-powder-based nutrition products for export. Infant nutrition has been made on-site since 1974. The plant abstracts water from the River Deel and then discharges treated water back into the river, representing a significant local water catchment interaction. The plant has AWS Platinum Certification, demonstrating leadership in water stewardship and community engagement within its watershed.

The company began working towards AWS Certification in 2018 and was first certified in 2019. Wyeth's parent company, Nestlé, was strongly motivated to demonstrate improved water stewardship because it saw that water stress was becoming a significant risk to the business worldwide. The company has invested the significant resources required to deliver water stewardship, pledging to certify all their sites to the AWS Standard by 2025.

The team responsible for AWS Certification put great emphasis on engagement at every level, from site staff to government organisations. They see bilateral and multilateral interactions as equally important, giving opportunities for different kinds of conversations depending on what the issue is. They emphasised the need to start by building bilateral interfaces: "*We have one or two bilaterals first and then start talking about the wider piece, you know. There's lots of discussions and then slowly they're brought together and really break things down. For me, that's all about trusting the people*."

As part of their efforts to extend engagement even further, in the spirit of the AWS Standard, the company communicates regularly with stakeholders identified as indirect water users about their initiatives to reduce water use and support good water governance and stewardship. The results of this approach have been an increase in the number and range of organisations participating in meetings and greater openness in discussing sensitive water stewardship issues, for example, around water quality. Bilateral cooperation on water quality monitoring has allowed gaps in monitoring to be filled, and improved the ability to respond to potential incidents. For the site itself, the ability to involve organisations of different kinds in practical actions, such as its 'water blitz' research initiative, builds interest and confidence within the local community.

The team stressed both the importance of engaging widely and the challenges involved: "*Engagement work is never ending because we keep identifying more and more stakeholders. Both the organisations [and] people change all the time… The challenge is just the time it takes to keep it going. Not to start anything new. So that, unlike a lot of other standards and a lot of other processes, where you can embed them and they're done, for stakeholder engagement, you can embed it, but it is never done*."

There were few reports of negative unintended consequences. One negative effect of companies being transparent in publishing information about their water management was that it could make them a target for criticism compared to others that did not share information. In one case, companies that cooperated with an NGO studying the water footprint of local exporters found that their names appeared in the highly critical final report, while companies that had not provided information were not named (SM10). A similar negative impact was mentioned by another site manager. They were concerned that the AWS requirement to detail all aspects of a companies' water management planning to all stakeholders, including regulatory bodies, led to problems when the regulators wanted more information about aspects of management that were not within their remit (SM5).

Transparency of information is one of the OECD key Principles on Water Governance. Referring to issues of transparency, one site manager said that in the long run, transparency was the only effective way of addressing misinformation (SM11).

There could also be misunderstandings with other stakeholders about long-term responsibility for community infrastructure. In one example, the private companies that paid for a pond to be dug to recharge groundwater were then asked to pay for additional project costs, when these had not been budgeted (SM10).

Only one site manager said that AWS Certification had not had any unexpected effects (SM12).

In the survey of site staff in Japan and China, when asked if there have been any unintended impacts (positive or negative) of the use of the AWS Standard in water governance initiatives in the catchment or beyond, approximately 60% of respondents said there had been positive unintended impacts. In comparison, approximately 40% said there had not been any positive or negative unintended impacts. None mentioned any negative unintended consequences. The positive unintended consequences included:

- Some stakeholders (local residents, government, employees) had become more environmentally conscious in relation to water and energy conservation (SS-Survey Japan).
- Awareness of water balance increased (SS-Survey Japan).
- Various awards and recognition were received (SS-Survey China).
- Obtaining AWS Certification led to the company becoming a learning model for relevant parties (SS-Survey China).
- Obtaining AWS Certification promoted the local government's environmental protection and water affairs departments' understanding of the AWS System (SS-Survey China).

The last two consequences were the results of AWS Certification itself rather than of implementing the AWS Standard System.

In the survey of stakeholders in Japan and China, no positive or negative unintended impacts were identified.

3.4 ATTRIBUTION OF IMPACTS TO AWS CERTIFICATION

Processes that led to impacts

AWS Certification was found to support progress in good water governance through requirements for regular auditing, consistent application of the AWS Standard's criteria and indicators for water governance, and involvement of stakeholders. This was facilitated by AWS Training and information sharing.

Several site managers noted that the structure of the AWS Standard and regular auditing of its application made it easy to trace impacts back to the requirements in the AWS Standard and how they had been addressed on the site (SM3, SM4, SM12). Some examples from one site (SM3) were:

- Active community collaboration resulted from implementing the 'stakeholder engagement' steps in the AWS Standard through activities such as a joint 'Fun River Observation' event involving 1,604 participants.
- Sharing water-saving technologies and joint initiatives between businesses within the catchment on joint clean-up activities implemented AWS Advanced Criterion 2.3.4 for collaboration within the catchment.
- Joint river patrols and submission of water quality monitoring results to the government with three other enterprises in 2023 was the outcome of a decision by the site to target AWS Standard Advanced Indicators (for example, 1.5.8 for catchment data collection, 3.9.12 for collective action).

The use of indicators was also mentioned by other site managers who noted that comparing their local activities with AWS Indicators reflected the influence of AWS on changes in practice (SM6, SM8, SM10). The drive for continuous improvement also tended to keep site managers' focus on the AWS requirements.

The process of preparing for audits and regularly checking progress against the AWS Standard was seen as valuable by many because it required them to re-visit initiatives to involve local people and think about new projects. The audit process gave an opportunity to share information with stakeholders and talk about positive impacts. In one case, the result of communications with stakeholders surrounding re-certification was that the multi-site was contacted by the national Ministry of Transport and Land about their experience of water management (SM9).

The survey of site staff and stakeholders in Japan and China looked at whether some of the key components of the AWS System (criteria or indicators linked to water governance in the AWS Standard, AWS Assurance System, AWS Training, AWS information sharing on good practices) facilitated progress on water governance or made progress slower or more difficult. At least 50%, and up to 100%, responded that each of these components of the AWS System facilitated good governance. None of the site staff or stakeholders responded that these components blocked good governance (see Figure 10).

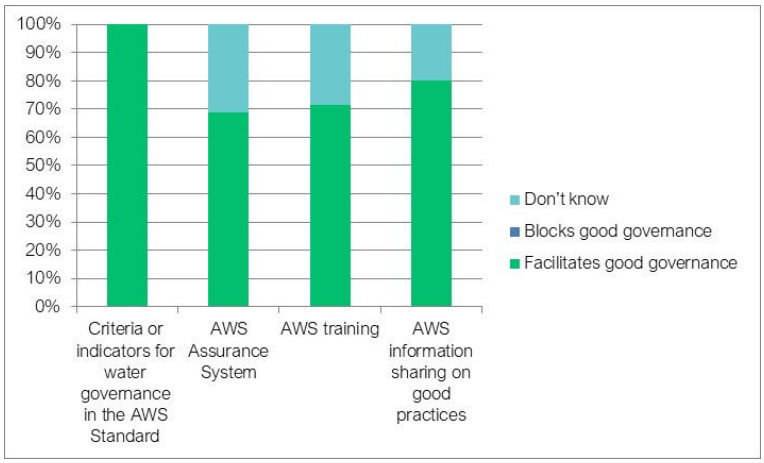


Figure 10: Responses from site staff in Japan and China to: 'For each of the components of the AWS Standard, indicate whether they facilitate progress on water governance or make progress slower or more difficult.'

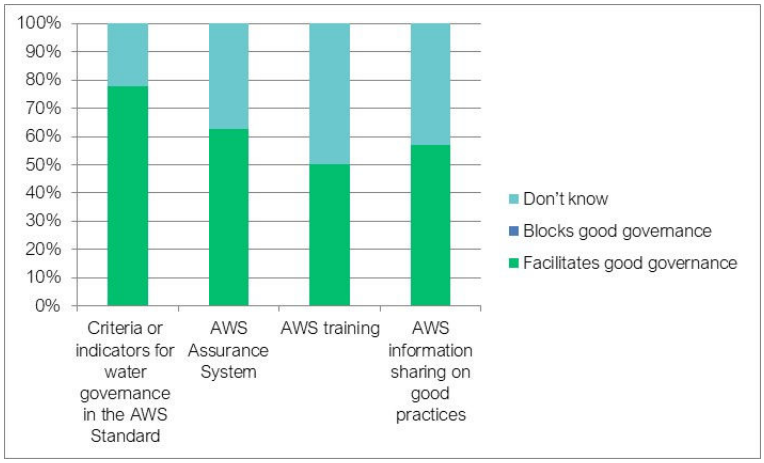


Figure 11: Responses from stakeholders in Japan and China to: 'For each of the components of the AWS Standard, indicate whether they facilitate progress on water governance or make progress slower or more difficult.'

AWS Certification itself had further impacts that were generally appreciated by site managers. Most felt that they could not have achieved the impacts without AWS Certification and/or it would have taken much longer to achieve the same impacts. They highlighted that they also brought their own good practices to the table, rather than having simply adopted AWS's approach. External stakeholders were generally positive about AWS's contribution to water governance.

One site manager stated unequivocally that without AWS Certification the site's internal activities would have had limited impact and that it would have been difficult to achieve equivalent results in external collaborative actions. The rationale was that the AWS Standard "*provides a systematic framework, clear goal orientation, multi-stakeholder collaboration mechanisms, and continuous improvement drivers*" (SM3). Another site manager emphasised the way that the continuous auditing and checking of a sites' performance drove year on year improvements: *"We always feel like we have to do something new to keep going.. we focus a lot on the indicator. If we got nothing, how did we get nothing there? What can we do there?...You can't stand still, like, you know you have to keep moving forward"* (SM6). A third site manager emphasised the importance of AWS Certification in ratifying the site's commitment to corporate social responsibility (SM4).

Case study 4 illustrates how in Japan, whilst initiatives started before AWS Certification, the certification process had raised awareness of water governance and made them more systematic and organised.

CASE STUDY 4: INCREASING LOCAL AWARENESS OF WATER GOVERNANCE (KYUSHU KUMAMOTO, JAPAN)

Suntory Group offers a diverse portfolio of drink products along with health and wellness products. The Kyushu Kumamoto Plant was completed in 2003 and is in Kumamoto Prefecture in the centre of Kyushu, the southernmost of the four major Japanese islands. It received AWS Platinum Certification in February 2023.

Before Suntory started working towards the AWS Certification they already had various activities to promote water governance and raise awareness of water resource conservation, both within the site and in the catchment. For example, since 2004 Suntory has been conducting the **Mizuiku-Education Program for Nature and Water** in Japan to help train the next generation to use water sustainably. Suntory Mizuiku was designed to help children appreciate the wonder of nature, realise the importance of water and the forests that store water and consider what they can do to pass on clean water resources to the future.

Another example is the **Natural Water Sanctuary Initiative** that seeks to foster water resource recharge in the forest areas surrounding Suntory's plants. The first sanctuary was located in Kumamoto Prefecture in 2003 and there are now 26 Suntory Natural Water Sanctuaries in 16 prefectures throughout Japan, covering a total area of more than 12,000 hectares of these freshwater forests (in Kumamoto Prefecture there are 420 hectares).

Despite this history of water stewardship, local Suntory staff expressed the view that before AWS Certification these initiatives were more "*piecemeal*" and reported that working towards the AWS Certification had made them "*more systematic, more organised*" (SM7). They now have an annual plan for their activities and there are various examples of recent initiatives to promote water governance and raise awareness of water resource conservation. For example:

- In Kumamoto Prefecture, in 2024, Suntory delivered a schools **teaching programme** for various age groups, which had a very good response. The company believes it can make a difference by teaching about the water cycle and the importance of nature through videos and experiments, so that, working with others, it can help to pass on water to future generations. The company also provides online classes and elementary schools all over Japan can participate. In Kumamoto Prefecture the company gets local residents together to teach them about the importance of groundwater. The company invites residents to visit the forests and learn about groundwater replenishment and it helps farmers to add water to their fields in

winter. This also helps to replenish the groundwater and local residents and school children come to learn about that.

- In March 2025, five companies, including Suntory, announced their collaboration as AWS Members to advance credible water stewardship in Japan. Convened by AWS, the **Japan Water Stewardship Leadership Group** supports the AWS Mission. The purpose of the group is to help build recognition and demand for credible water stewardship amongst companies operating in and from Japan.

Overall, local Suntory staff highlighted that whilst the national level is important, it is even more critical to deepen their links with the Kumamoto Prefecture, including the authorities, local residents and other companies.

Other site managers were more ambivalent. They were generally proud of their sites' and companies' track record on sustainability and were at pains to say that they brought their own good practices to the table, rather than having simply adopted the AWS approach (SM5, SM9, SM10). One site manager welcomed the fact that AWS puts less emphasis on standardisation than other certification systems and that sites were recognised for what they did rather than having to demonstrate uniformity (SM8).

International recognition was a key factor for most sites: "*We do have our own approach. But yes, an internationally recognised standard does help in aligning our approach. So [we made] some small tweaks to our approach*" (SM5). These site managers pointed to the continuity with their own pre-existing goals, which suggested a lesser influence of the AWS Standard and perhaps a greater interest in validation of the company's credentials through AWS Certification.

However, most recognised the influence of the AWS Standard on the way the companies engaged with others: "*The only thing that I can confidently say is strictly due to AWS, is our stakeholder engagement, everything else [the company] was already doing as a part of our publicly committed goals"* (SM12).

External stakeholders were generally positive about the contribution of AWS Certification to water governance. One representative body of users of groundwater resources in an area facing water stress appreciated the AWS Standards' whole catchment perspective: "*I think we are on the right path. And AWS is helping with that. At least there are some companies working in the same way. If those companies weren't there, we would have to work on our own*" (SH-FG3).

Overall significance of AWS Certification in generating positive water stewardship impacts

AWS Certification was seen as a key driver of positive water stewardship impacts. Companies with AWS Certified Sites provided evidence that the AWS Certification process introduced a fresh perspective on persistent water governance challenges and offered a structured approach to identifying and addressing poor practices.

Stakeholders in one focus group said that the work of companies that had achieved AWS Certification had brought a fresh narrative for considering persistent water governance problems, because of their systematic monitoring and reporting on rivers: "*I think when you have something like AWS, you have a kind of an independent, almost like a survey of your area, saying, look, this is really good, we have a [AWS] Platinum Certification, therefore we must be doing a lot right, but here are some concerns as well. So I think it brings a fresh narrative*" (SH-FG1). Other companies were learning from AWS Certified Sites as they had seen sites' achievements and it had *"piqued their interest"* (SH-FG1).

AWS Certification provided examples of good practice in water stewardship in a local area or region that allowed 'enablers' to call out the bad practice of others. The commitment to transparency of information on the part of AWS Certified Sites also put pressure on other actors to come clean about their water management: "*Something that was standard for years is now socially unacceptable… now it is acceptable that if a water treatment plant or a company or an individual is blatantly not adhering to legislation or common practice, that it can be called out without fear of recrimination*" (SH-FG1).

In the survey of site staff in Japan and China, when asked: "Overall, how significant do you think the AWS Standard has been in generating positive water stewardship impacts?" approximately 12% said it was by far the most significant factor, approximately 71% said that it was a significant but not the only factor, and a further 12% that it was one of several equally significant factors. Only approximately 6% said it was virtually insignificant as a factor. Stakeholders in Japan and China broadly agreed, but more thought it was by far the most significant factor (50%). Combining site staff and stakeholders in Japan and China, approximately 26% thought it was by far the most significant factor and approximately 59% thought it was a significant but not the only factor (see Figure 12).

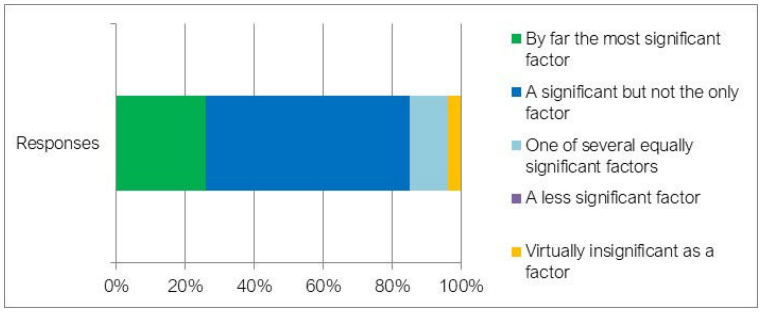


Figure 12: Responses from site staff and stakeholders in Japan and China to the question: 'Overall, how significant do you think the AWS Standard has been in generating positive water stewardship impacts?'

3.5 KEY FACTORS CONTRIBUTING TO CHANGES IN WATER GOVERNANCE

Characteristics of the AWS Certification System that contributed to or hindered progress on good water governance

Site managers identified many elements or characteristics of the AWS Certification System that contributed to good water governance, including the requirement for working together with communities and stakeholders and for working across catchments, the inspirational nature of the AWS Standard and Guidance, the training provided, and the credibility of AWS Certification.

Site managers also noted some elements of the AWS Certification System, such as the audit procedure and the presence of a degree of subjectivity, that they felt were not significantly contributing to improving water governance.

The following section provides selected comments by site managers on valuable elements or characteristics of the AWS Certification System that helped to achieve good water governance impacts:

- Focus on stakeholder engagement and working across the catchment:
  - Working in collaboration with others: "*A good element of the AWS scheme is that for obtaining the certification you can't just work internally as one company, but you have to collaborate with the community and in the entire water system area and also with other stakeholders. We have to work together in order to obtain the accreditation*" (SM9).
- AWS System structure and tiered indicators:
  - The AWS Standard and Guidance on implementation "*inspires and guides*" (SM4).
- Phased process encouraging continuous improvement
  - Tiered indicators "*motivate continuous improvement by setting clear goals and providing ongoing incentives*" (SM4). "*Phased design lowers the implementation barrier, enabling factories to gradually improve water management performance according to their capabilities"* (SM3).
  - The five AWS outcomes and the five-step process (SM7).
- AWS Certification (global, credible and trustworthy):
  - Global range: "*There is no specific characteristic, it's the global nature of the [AWS] Standard that is important and gives the [AWS] Certification weight with local and global actors*" (SM10).

- AWS Certification sets minimum requirements, enhancing credibility (SM3).
- AWS Members can use AWS Certification to stand up for their record and counter disinformation (SM11).
- The AWS Certification System has rigorous requirements and this means that site staff have to work hard to develop their understanding of the approach: "*We're working daily to increase our understanding of water stewardship"* (SM7).

While training is not a requirement for AWS Certification (although sites seeking AWS Certification are encouraged to participate in training) many site managers emphasised its value:

- Training for staff increased capacity and provided consistency: "*Supports understanding of the criteria, promotes awareness, and aids in system development*" (SM4). "*The training I think is good. We have done a lot with the training and how to collect information*" (SM12).
- Training for staff about the AWS Standard contributed to disseminating AWS's approach: "*And we obviously train our people and we're trying to escalate that and […] train as many stewards as possible, yeah, so that when they go into the world, they bring that information with them*" (SM6).

Some site managers highlighted elements of the AWS Certification System they felt were not contributing to the improvement of water governance, as reflected in the comments below:

- Audit process:
  - "*What I personally feel is sometimes as if AWS [is becoming] more of a reporting standard rather than [about] implementation*" (SM5). The concern expressed is about a perceived over-emphasis on documenting evidence at the expense of doing water governance work. This was felt to lessen the motivation of the teams who had to collect the information.
  - "*The audit is different every single year. What we're asked for, for the exact same indicators, is different. It can be kind of a little bit frustrating and a bit disappointing when you put a lot of work into something and it's been working and you're constantly evolving that and making it better. And then by the next audit you're told 'No, that makes no sense. That doesn't work at all for this'*" (SM6).

- Subjectivity:
  - The AWS Guidance documents were sometimes seen as difficult to use and contradictory. When auditors took the AWS Guidance as the bar against which they audited, this could cause problems as it did not establish requirements (SM12).
  - Not using the AWS materials (AWS Guidance, AWS Training) as the site was already doing the things required: "*As I said, we were already doing most of these activities. So it's more about the recognition for us rather than the actual audit. For everyday business purposes, we already had our internal standards that we followed. So we don't really refer that much to the AWS materials*" (SM8).

Site-related factors that contributed to or hindered progress on good water governance

Factors at the site level that supported progress in water governance included flexible governance practices, a supportive corporate culture, strong leadership, stakeholder involvement, employee incentives and regional development funding. No barriers to progress were reported.

The characteristics and processes of some companies and sites could themselves facilitate the achievement of AWS outcomes. One manager noted that AWS was not prescriptive about governance practices, such as the way that sites communicated with stakeholders, and this meant that sites could adapt their practice to the local context, as long as they maintained the spirit of the AWS Standard (SM5).

Several site managers said that achieving AWS Certification had been supported by the corporate culture and strong leadership from senior management (SM4, SM11, SM12). On one site, senior management had encouraged innovation by giving staff space to try out new solutions, accepting that sometimes these

innovations would fail (SM6). Support from the top of the company created the opportunity for site managers or those responsible for AWS Certification to become champions of good water governance within the catchment area. These managers played a key role in bringing together stakeholders and promoting collective action.

Another way in which site managers demonstrated leadership was by adapting management mechanisms, such as Key Performance Indicators, to encourage teams to reduce their water consumption and incentivise employees in relevant positions to develop water governance and sustainable management skills (SM3). Some site managers reported that there were positive synergies between the AWS Standard and government initiatives to improve water management. One company in China drafted a new corporate standard for 'Sustainable Water Management Procedures', inspired by the AWS Standard. The document was evaluated and awarded the '2021 Enterprise Standard Leader' title by the China Society of Technology and Economics. The following year, the company won a special funding award from its regional development authority and used the funding for investments in technology and to create a special rewards mechanism for individuals and teams demonstrating outstanding performance in water resource management (SM3). (See Case Study 5).

External factors that contributed to progress on good water governance

External drivers of progress in water governance included national government and private sector initiatives to strengthen water stewardship, forming business partnerships, and joint initiatives between public and private sector organisations.

Site managers from four countries (SM3, SM5, SM6, SM8) stated that their national government was taking measures to improve water stewardship. Some examples were:

- China: The 'River Chief' system, which incentivises private companies to participate in the governance of rivers and lakes, was introduced nationwide in 2016 (see Case Study 5).
- India: The government tightened its scrutiny of industrial water use because of pressure on water resources. No specific measures were mentioned but the government introduced water-positive certification for new buildings (the Green Rating for Integrated Habitat Assessment - GRIHA) in 2023. This did not affect the operation of existing buildings, but was a sign that the national government was looking for ways to encourage more sustainable use of natural resources, including water.
- Ireland: The Environmental Protection Agency has run a Large Water Users community of practice for over ten years. AWS Certified Sites were active in this peer-to-peer work. Important issues were raised and discussed in the forum, which led to developing a better understanding of topics such as the true cost of water and improvements in water mapping.
- Japan: Some regional governments (prefectures) are very interested in good water governance. The Kumomoto Prefecture, for example, had introduced various regulations. An important recent one was the requirement that new plants and factories had to return twice the volume of water that they used to the water system.

Site managers in Japan and the USA mentioned the creation of national private sector initiatives promoting good water management or sustainability. In Japan, the Japan Water Stewardship Group was set up in March 2025. This body is made up of AWS Members and supports AWS "*to ignite and nurture leadership in credible water stewardship that recognises and secures the social, cultural, environmental, and economic value of freshwater*" [AWS Press release]. Ecolab in the USA promotes business partnerships both internationally and at state level. Ecolab is a founding member and co-chair of the Water Resilience Coalition, an industry-led initiative of the UN Global Compact's CEO Water Mandate[17,18].

[17] https://ceowatermandate.org/resilience/
[18] https://ceowatermandate.org/

In 2023, Ecolab co-founded the California Water Resilience Initiative, a collaboration that involves private and public sector organisations in addressing California's water challenges[19].

One site manager talked more generally about the value of good water governance on sites and clear water stewardship principles that ensure a company is working with government authorities and agencies and is tapping into information about changes in requirements and incentives. This allows companies to adjust their own processes to ensure they are making the same requirements of suppliers. They can also tap into incentives more quickly and effectively (SM12).

CASE STUDY 5: SUPPORTING AND INCENTIVISING WATER GOVERNANCE (BIG WANT FOODS, CHINA)

Founded in 1995, Guangzhou Big Want Foods is in Guangdong, a coastal province of southeast China that borders Hong Kong and Macau. Big Want mainly manufactures a variety of rice crackers. The site and receiving water bodies are located in the Yonghe River Basin, a tributary of the Dongjiang river (one of the three major water systems in the Pearl River Basin).

In Huangpu District, Guangzhou City, a three-level 'River Chief' and four-level 'Lake Chief' system has been established. The pioneering enterprise River Chief system mandates that heads of wastewater treatment plants and industrial park managers serve as enterprise River Chiefs, regularly inspecting discharge outlets and participating in watershed governance. The achievement of water resource management outcomes has been significantly supported by financial incentives. Informed by the AWS Standard, a corporate standard for 'Sustainable Water Management Procedures' was drafted, which was evaluated and awarded the '2021 Enterprise Standard Leader' title by the China Society of Technology and Economics. In 2022, the company received a special funding award of RMB 500,000 from the Guangzhou Development Zone Quality Enhancement Program, which focuses on high-quality development through strategic initiatives in innovation, industry and e-commerce, aiming to build a leading international hub. This financial incentive motivated the site to allocate funds specifically towards technological upgrades and system optimisation for water resource management (advanced water recycling and treatment equipment).

Additionally, a special rewards mechanism funded by these incentives was established to provide material rewards to individuals and teams demonstrating outstanding performance in water resource management. This greatly enhanced team members' enthusiasm and sense of responsibility. This incentive model not only improved the team's professional capabilities and execution efficiency but also fostered a positive competitive atmosphere within the company. It encouraged proactive participation in water resource management across departments and ensured efficient cross-departmental collaboration, providing sustained momentum for consolidating and expanding water stewardship achievements. This aligns with China's characteristic catchment governance structure, including the River Chiefs system and Watershed Management Committees.

External factors that hindered progress on good water governance

External challenges to progress in water governance included certain government actions such as restrictive regulations, limited support and shifting political priorities as well as socio-economic pressures and climate-related events like natural disasters.

While many interviewees said that their national governments had contributed to improvements in water stewardship (see above), several noted that some government measures had a detrimental effect. Participants in one stakeholder focus group said that national regulations required private companies and farmers to take immediate remedial action if they were found to be polluting, whereas state-owned water treatment plants were given several years to address problems and were able to access grant funding for

[19] https://wateractionhub.org/basin-collaborative/california-water/

this purpose. This was felt to be unfair and not an approach that encouraged responsible water stewardship as water pollution problems were not tackled, with a negative impact on neighbouring sites and activities (SH-FG1).

Other site managers were concerned about a lack of support from their national governments in promoting AWS Certification. It was felt that government support could lead to an increase in the number of certified sites and overall AWS impact: "*National level – the [AWS] Standard is recognised, but there has been no concrete action toward implementation or adoption*" (SM4).

In some countries, efforts to improve water governance and water stewardship were hampered by shifts in political priorities. One stakeholder mentioned a collective research project involving public and private bodies that had been awarded funding by the government. When the government changed, the new administration stopped the project. A site manager responsible for AWS Certification in the same country felt that national and regional institutions for water governance were still immature and that it would take several more years for policies to be developed. This site manager was working at regional and local levels to build spaces for dialogue between different actors with an interest in water stewardship to allow the collective development of relevant policies (SM11).

In the survey of site staff and stakeholders in Japan and China, when asked what effect external or contextual factors (things that were beyond the control of individual actors) had on AWS-related water governance actions, there was broad consensus. Only a few factors (socio-economic conditions and climate conditions or events such as natural disasters) were considered to block progress by a few respondents. More respondents felt they facilitated good governance rather than blocked progress (see Figures 13 and 14).

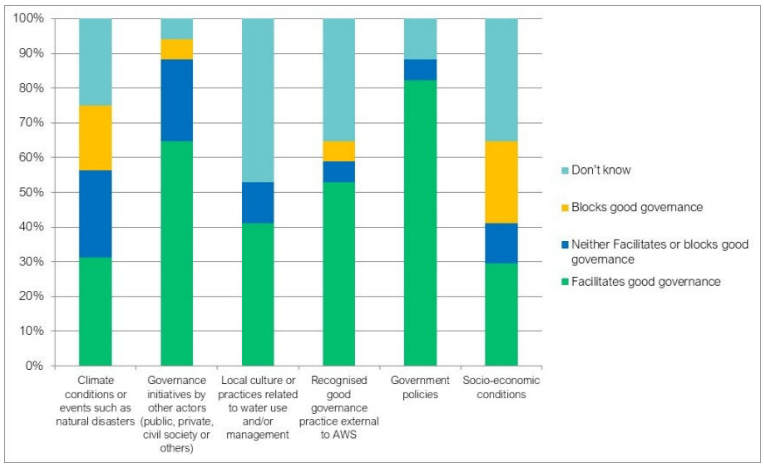


Figure 13: Responses from site staff in Japan and China to the question: 'Which of the following external or contextual factors have contributed to or blocked progress on AWS-related water governance actions?'

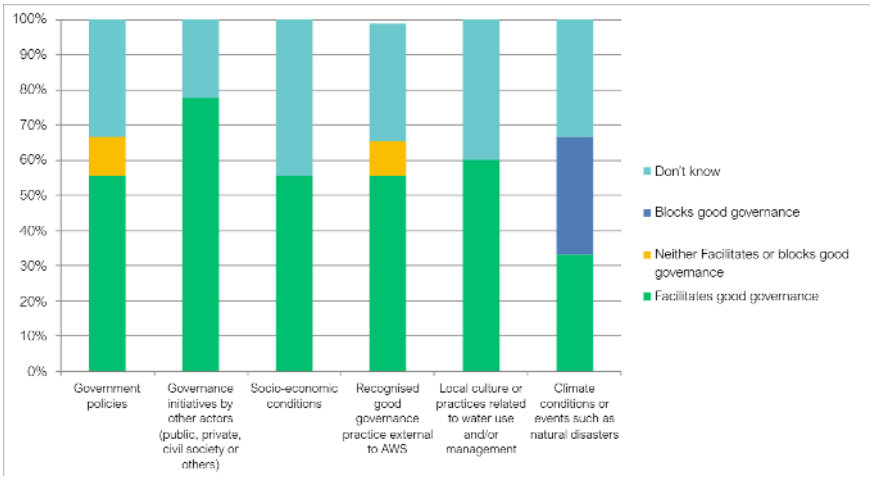


Figure 14: Responses from stakeholders in Japan and China to the question: 'Which of the following external or contextual factors have contributed to or blocked progress on AWS-related water governance actions?'

4. CONCLUSIONS

Key conclusions, organised under the four primary research questions, are presented in the sub-sections below. Each sub-section includes a table that focuses on general conclusions representing the body of evidence, which means that the experience of individual sites cannot always be included. Note that some of the conclusions cut across the research questions and so may be referred to under more than one research question.

4.1 INTENDED IMPACTS OF AWS CERTIFICATION

Table 5 summarises the key conclusions related to research question 1: **To what extent does AWS Certification produce the desired positive intended social, cultural, economic and/or environmental water stewardship outcomes and impacts?**

Table 5: Summary of the key conclusions for research question 1

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
1.1. What governance processes and measures have been implemented to achieve AWS Certification?	1.1. The research identified a range of governance processes and measures that had been implemented as part of each of the five AWS Standard steps[20]. The processes and measures most frequently implemented with positive water stewardship outcomes were: communication and engagement with all stakeholders; involvement of site staff through regular communications, training and/or participation in committees; public commitment to water stewardship measures; mechanisms for communication and liaison with public authorities; partnerships for practical action – the nature of these partnerships varied according to local contexts and priorities.
1.2. How successful have the governance processes and measures implemented been in achieving the good water governance outcome?	1.2. Overall, the governance processes and measures implemented had been very successful in achieving the good water governance outcome and they aligned with the OECD Principles on Water Governance. Although none of the site managers interviewed talked specifically about these principles, several gave examples of functions of water governance that fit with the three overarching dimensions of effectiveness, efficiency, and

[20] The five steps are: 1. Gather and understand; 2. Commit and plan; 3. Implement; 4. Evaluate; 5. Communicate and disclose.

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
	trust and engagement. Several sites or companies commented that they had already been implementing measures of this kind before seeking AWS Certification, but most of these recognised that the AWS Standard introduced key elements such as the catchment perspective and/or ensured a more systematic application of the approach.
1.3. How have contributions to good water governance supported the achievement of other AWS outcomes?	1.3. Generally, good water governance had positive impacts on one or more of the other AWS outcomes. The outcomes where most impact had been made varied according to national and local priorities because collective action depended on finding common interests with other actors. The AWS Standard requirement for systematic monitoring and communication of data had been important in creating a new narrative about water balance in some countries and in providing evidence to galvanise action on water quality by a range of actors. Access to WASH actions varied more widely, while healthy IWRA initiatives seemed generally to be a component of work on other AWS outcomes such as sustainable water balance and good water quality status, rather than a main focus.

The most frequently-mentioned impacts of AWS Certification were the development of dialogue, engagement and communication with communities and other stakeholders, and collective action across catchments. These were seen as social impacts.

Somewhat fewer site managers mentioned positive environmental impacts but several gave examples. They ranged from farmers changing their farming practices to improve environmental benefits in the catchment to restoring aquatic ecosystems.

Economic impacts of good water governance were mentioned less frequently. For those who mentioned economic impacts, they were generally associated with water efficiency as reduction in water use led to economic savings. One site manager also felt that AWS Certification increased green competitiveness across the supply chain. Another reported unexpected positive economic impacts, with AWS Certification leading to grant funding and opportunities for market expansion. However, not all site managers agreed and some argued that the costs associated with AWS Certification outweighed any economic benefits.

None of the participants in the research mentioned cultural impacts, whether positive or negative. This may have been because they were not clear what these cultural benefits might have been.

Overall, AWS Certification was generally considered to be a significant factor in generating positive water stewardship impacts. It was not necessarily seen as the only factor, but certainly a significant factor.

4.2 UNTENDED IMPACTS OF AWS CERTIFICATION

Table 6 summarises the key conclusions related to research question 2: **What unintended social, economic and/or environmental effects (positive or negative) have resulted from the implementation of the AWS Standard and AWS Certification?**

Table 6: Summary of the key conclusions for research question 2

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
2.1. What have been the unintended consequences (positive	2.1. A number of positive unintended consequences of implementing the AWS Standard and AWS Certification on good water governance were identified. These included: changes in

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
or negative) of implementation of the AWS Standard on good water governance at the catchment level? What caused these effects?	awareness of good water governance; enhanced engagement; knock-on benefits for the company's operations from having a better reputation; joint initiatives with other businesses and organisations, and additional funding. Very few negative unintended consequences were identified. One example was that by being more transparent and publishing information, companies could become a target for criticism compared to those that did not share information. Another was that collective action with public sector stakeholders could lead to unrealistic expectations and demands.
2.2. How have any unintended consequences on the good water governance outcome affected the achievement of the other AWS outcomes?	2.2. An unintended consequence was the positive contribution of good water governance outcomes to the achievement of other AWS outcomes. Increased awareness of the importance of good water governance among site staff, public authorities and local communities led to greater willingness to commit to actions to improve sustainable water balance, good water quality status and access to WASH for all outcomes. The research did not identify any ways in which negative unintended outcomes on good water governance had affected other AWS outcomes.

The research revealed that implementing the AWS Standard and AWS Certification produced unintended as well as intended impacts. These unintended consequences were generally positive and mainly related to the increase in awareness of water stewardship and good water governance among site staff, local communities and a range of stakeholders. This was a social impact.

There were some reports of negative reputational impacts of AWS Certification. These were mentioned by a site manager in a water-stressed region where there had been debate for many years about the causes of pressure on scarce water resources. As in other countries, industrial and export activities had often been seen as responsible for water scarcity and many large water users were secretive about the amount of water they used and how it was managed. This site manager said that in this context, being one of only a few companies that provided transparent information about their water use could be used against AWS Certified sites. However, the site manager also recognised that AWS Certification provided sites with evidence that they were using positive water stewardship and good water governance practices, which they could use to rebut accusations.

There were a few reports of unexpected economic impacts. Several site managers commented that AWS Certification had not brought the operational or economic benefits that they had hoped. For example, one site manager was concerned about the amount of time staff were having to spend on preparing information for different audits or reporting processes, both statutory and private. This site manager said they had expected that AWS Certification would be recognised by other certification bodies, but had found this was not the case and that many public authorities were not familiar with AWS. They were not able to reduce the burden of reporting by showing their AWS Certification. In the same way, some sites producing goods for export found that retailers in important markets in Europe and the USA did not acknowledge their AWS Certification or pay a premium for their products.

4.3 VALIDATION OF THE AWS THEORY OF CHANGE

The impact evaluation considered the extent to which it is possible for sites to attribute observed social, cultural, economic and/or environmental effects to AWS Certification, and specifically the degree to which the contributions of enablers, implementers and influencers in the AWS Theory of Change are borne out (see Appendix 1).

It is important to recognise that the results presented in this section are based on a small sample of sites that have progressed to AWS Certification. While robust conclusions can be drawn about the value of the AWS Standard and AWS Certification for these sites, there can be less confidence in extrapolating from them onto the impact and performance of the wider AWS Standard System.

Table 7 summarises the key conclusions related to research question 3: **To what extent is it possible for sites to attribute observed social, cultural, economic and/or environmental effects to AWS Certification?**

Table 7: Summary of the key conclusions for research question 3

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
3.1. What changes would there have been to good water governance in the absence of implementation of the AWS Standard and AWS Certification?	3.1. Whilst different experiences were observed, overall it could be concluded that without implementing the AWS Standard and AWS Certification it would have been difficult for the sites included in the study to have achieved equivalent results and if some of them had been achieved, it would have taken much longer and been more fragmented.
3.2. To what extent and how do any changes in water governance since AWS Certification align with the Theory of Change?	3.2. Generally, the changes in water governance since AWS Certification of these sites aligned with the Theory of Change. Certification to the AWS Standard involved developing structures for good water governance or enhancing them where they already existed. A key element was engagement with a range of stakeholders that allowed the sites to embed positive practices at site level and extend their action to the wider catchment. Site managers reported that transparency and communication of results improved companies' reputations and informed water governance approaches locally and nationally. The evaluation could not demonstrate an increase in membership as this was a system level indicator (rather than site or catchment level) but data from the annual AWS Performance Monitoring Reports showed an increase in numbers. The data here provided some insight into the mechanisms that may have (in part) contributed to this increase.
3.3. Has progress in achieving the good water governance outcome had the expected impacts on other AWS outcomes?	3.3. The research found that the majority of sites felt that good water governance had positive impacts on one or more of the other AWS outcomes. Generally, the greatest impacts cited were on sustainable water balance and good water quality status. The impact on access to WASH was significant in specific cases. Some impacts on IWRAs were also mentioned.
3.4. Are there any other ways in which observed effects can be attributed to AWS Certification?	3.4. Some sites can clearly trace impacts on AWS outcomes back to the processes and measures required by the AWS Standard. This was seen, for example, in the award and subsequent funding for water stewardship improvements obtained by one company as a result of its developing a corporate water stewardship standard, based on the AWS approach. For others, AWS Certification was itself a reflection of the site's commitment to water governance, which in some cases had influenced practices for many years. The ways and degree to which AWS Certification had generated impacts were specific to the context and experience of each site, but overall the most transformational aspects appeared to be the catchment perspective, the structured AWS approach and engagement

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
	with a range of stakeholders.

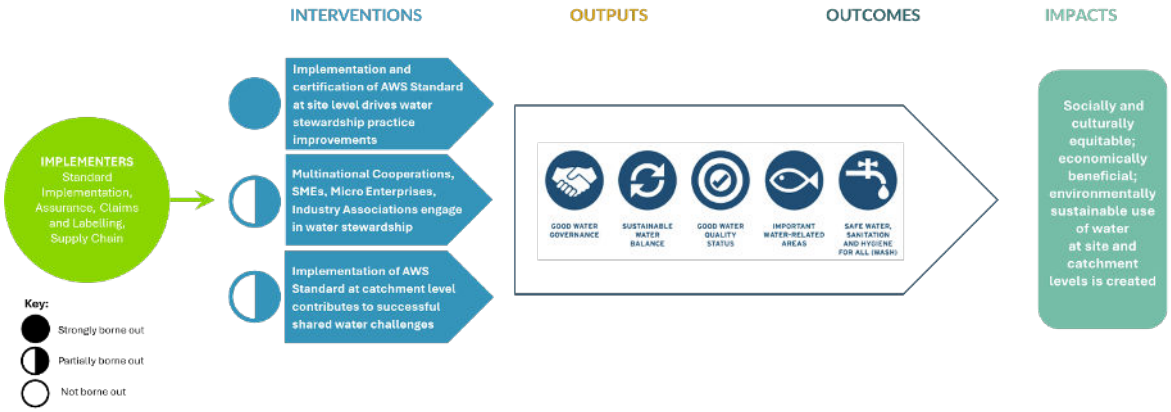
The AWS Theory of Change refers to the group of stakeholders that enable, implement and influence water stewardship, with each making the following contributions (see Figure 15):

- Implementers: Implementing the AWS Standard and AWS Certification, assurance, claims and labelling, and supply chain.
- Enablers: AWS Membership, training and capacity building.
- Influencers: Awareness raising and collaboration.

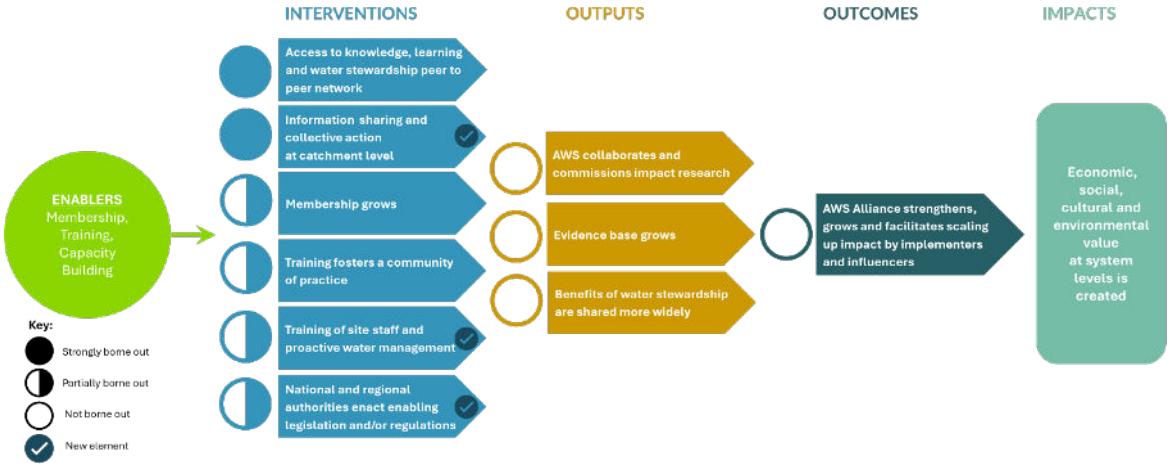
The Theory of Change explores the interventions, outputs, outcomes and impacts associated with each particular group. The elements in the 'causal chains' associated with each group are discussed in the following sub-sections and, in particular, which elements the impact evaluation found were strongly borne out and which it did not find evidence for based on the sites in the sample (see Figure 16). Given the nature of this impact evaluation, the majority of evidence collected relates to the implementers causal chain as this is the group that relates directly to the AWS Certification process. Insights on the causal chains of the enablers and influencers were collected primarily where they had direct links to achieving AWS Certification.

Figure 15: AWS System stakeholder mapping: enablers, implementers and influencers

Implementers



Enablers



Influencers

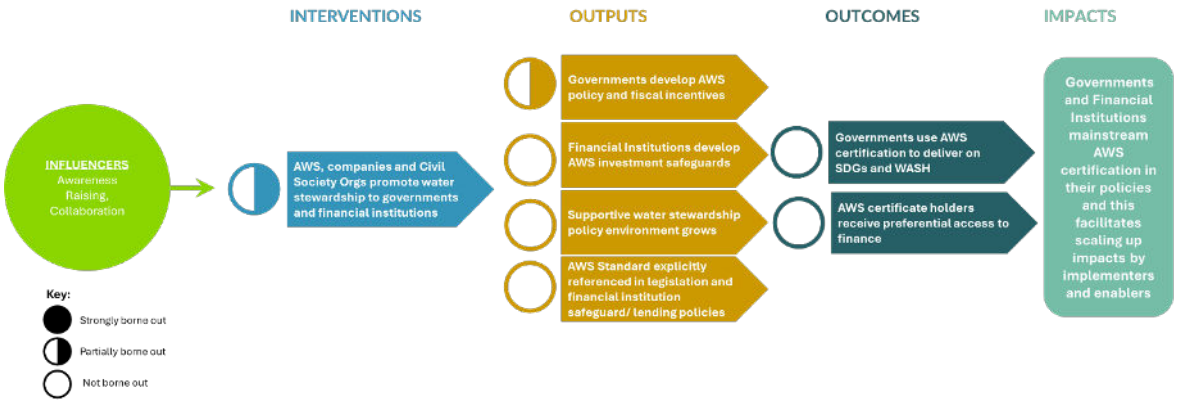


Figure 16: Implementers, enablers and influencers: How far the AWS Theory of Change elements were borne out and what other elements were identified by the impact evaluation

Implementers

The impact evaluation found one intervention in the implementers causal chain that was strongly borne out and two that were partially borne out (see Figure 16), as explained below.

- Implementation and certification of the AWS Standard at site level drives water stewardship practice improvements [*Fully borne out*]
    - All site staff and most stakeholders considered that AWS Certification contributed to effective water stewardship practices at the site level. This is not to say that water challenges were overcome, but rather that the water flow across and beyond the site was mapped, risks were been identified and processes designed for addressing or managing those risks. There was high level ownership of the water management plan and changes in relevant water indicators were monitored regularly. All site staff knew about the approach being followed and were given regular training to encourage them to actively participate in water stewardship.
- Multi-national cooperations, SMEs, micro-enterprises, industry associations engage in water stewardship [*Partially borne out*]
    - There were no SMEs nor micro-enterprises included in the sample as there were no such sites with three or more years of AWS Certification. Increasing SME and micro-enterprise AWS Certification is something that AWS is planning to work on. Some site managers suggested that it was difficult for smaller companies to get AWS Certification because of the costs involved. However, site managers did not have oversight of the full range of companies engaged nor the number of AWS Certifications because this was a system level indicator. The introduction of group certification was partly intended to help with that.
- Implementation of AWS Standard at catchment level contributes to successful shared water challenges [*Partially borne out*]
    - The formation of partnerships and collaborative mechanisms for catchment-level governance and collective action were the ways of working with external stakeholders that were described by most site managers responsible for AWS Certification. The majority felt that the catchment-based approach was an effective way of working as it brought together relevant stakeholders and focused on shared challenges.
    - However, not all sites were taking this approach. Some companies organised some strands of work at the national level, specifically partnering with large institutions and donor agencies to bring external resources into catchments to support larger initiatives that may have been part of national programmes. Sites participated in these initiatives mainly through volunteering and the main organising work was done at the national level.
    - Given the divergence of approaches found, this factor was considered to be only partially borne out.

Enablers

The impact evaluation found some of the elements in the enablers causal chain were strongly borne out while others were not identified as part of the impact evaluation. These are described here and a revised causal chain is presented in Figure 16.

- Access to knowledge, learning and water stewardship peer-to-peer network [*Fully borne out*]
    - Most site managers and many site staff felt that the AWS Standard provided a valuable organising structure for water management, even if the company already had its own processes for water governance. AWS provided access to knowledge and learning, which was used and appreciated by members.

- Information sharing and collective action at the catchment level [*Fully borne out*]
    - This was a new element, added to broaden the scope of the first enabler 'Access to knowledge'. This intervention refers to sharing information between companies in the same catchment (whereas the 'Access to knowledge' enabler was seen as the individual sites' or companies' relationship to AWS).
    - Sharing information and working with catchment stakeholders in a range of partnerships were among the most frequently mentioned actions both by site staff (including site managers responsible for AWS Certification) and stakeholders. These actions were also seen as having a positive influence on water governance and water stewardship.
    - These actions were taken by AWS, members and trainers. Several contributors to the research felt that auditors were not contributing effectively to information sharing because they were sometimes seen as taking a 'tick-box' approach and not being consistent in their application of the AWS Standard.
- Membership grows [*Partially borne out*]
    - Growth in AWS Membership was seen by many site managers as an important part of the AWS process, giving greater visibility and weight to the AWS Standard and potentially leading to operational and economic benefits for certified sites. These benefits could take the form of a reduced burden of reporting if certification were recognised as covering certain national statutory requirements and therefore AWS Certified Sites would not have to produce evidence for these requirements. Economic benefits would be obtained if international retailers began to actively seek out suppliers with AWS Certification and to pay a premium for their products.
    - In several cases AWS Members were promoting membership through their supply chains. This had proved to be a positive approach that improved the information provided to the AWS Member site for its own reporting as well as increasing the number of AWS Members.
    - The research showed that while sites in some countries were promoting AWS Membership and contributing to training courses, in other countries there was concern that membership was not growing at the rate sites had hoped and that there was therefore a lack of knowledge of the AWS Standard among relevant government bodies.
- Training fosters a community of practice [*Partially borne out*]
    - The term 'community of practice' covers the coming together of different actors in water management, for example, at the catchment level or even the national level (the Irish Environmental Protection Agency's Large Water Users community of practice is an example). One site reported that staff provided training as part of a community of practice. This built interest among other companies in their experience of working with the AWS Standard and promoted interest from participants in their water stewardship approaches. However, few site managers talked about external training.
- Training of site staff and proactive water governance [*Partially borne out*]
    - This new element was added because training of site staff was mentioned much more frequently than participation of site staff in training linked to external communities of practice. Most site managers responsible for the AWS Standard indicated that training led to changed behaviours onsite, including proactive action to ensure efficient water use. It also spread awareness in the external community as staff took what they had learned and applied it in their own homes. The impact of staff training was borne out by all the site managers who talked about it, but it was not mentioned by two site managers, so it was not fully borne out.
- National and regional authorities enact enabling legislation and/or regulations [*Partially borne out*]

- The importance of national and regional legislation and/or regulations in creating an enabling environment for changes in water governance was raised by several site managers, so this was added as a new intervention. It was not discussed by all the site managers.

- AWS collaborates and commissions impact research. Evidence base grows. Benefits of water stewardship are shared more widely [*Not borne out*]
    - The research participants did not bring up AWS research as an output and there were no research questions specifically about this element, so it was not possible to say how far this was contributing to change.

Influencers

The impact evaluation found that some of the elements in the influencers causal chain were partially borne out by the evidence, but that there was insufficient evidence from research at the site level to provide conclusive evidence on national government and financial institutions' actions (see Figure 16).

- AWS, companies and civil society organisations promote water stewardship to governments and financial institutions [*Partially borne out*]
    - The research found that while some companies were actively promoting water stewardship to governments through their participation in government initiatives and the development of national and international initiatives, others were less able to influence government because of the national policy context. Many site managers were aware of initiatives that AWS was carrying out, but some felt that AWS could be doing more to promote the approach.
    - The research only involved a small number of civil society organisations in the focus groups, so the experience and views of these organisations on this topic were not explored.
- Governments develop AWS policy and fiscal incentives. Financial institutions develop AWS investment safeguards [*Partially borne out*]
    - Where governments developed AWS policy, this could be very important in creating a supportive environment for the development of water stewardship. Close working between governments and AWS was seen in Ireland and to some extent in China and Japan. In the latter countries it was unclear how far the initiatives were being taken by private organisations to influence the government or whether the government was also involved.
    - Perhaps because the research focused on the site level, there seemed to be closer relations and greater cooperation between site staff and regional or local authorities than with national government. Few of the site managers responsible for AWS Certification talked about fiscal incentives. The one that did talk about this aspect emphasised the importance of being aware of the fiscal incentives available and adapting strategies to take advantage of these. They did not suggest that the site or its parent company might have been able to influence the development of such incentives.
- Supportive water stewardship policy environment grows. AWS Standard explicitly referenced in legislation and financial institution safeguard/lending policies [*Not borne out from the data available*]
    - See the comments on the two previous factors in this causal chain. The research did not find evidence of significant growth in a supportive water stewardship policy environment, or reference to AWS being explicitly referenced in legislation, except in a very few cases. The research did not look explicitly at financial institution policies so cannot comment on these institutions' safeguard/lending policies.

- Governments use AWS Certification to deliver on Sustainable Development Goals (SDGs) and access to WASH for all. AWS Certificate holders receive preferential access to finance [*Not borne out from the data available*]
    - It was not possible to verify this element of the causal chain from the data collected. There were very few references to the SDGs, the access to WASH initiatives mentioned seemed to be led and delivered by private sector bodies and there were no examples of preferential access to finance.

The conclusions in this section should be read with the caveat that they were reached by extrapolating from a small sample of AWS Certified Sites, as explained earlier.

4.4 FACTORS THAT INFLUENCED THE IMPACTS OF AWS CERTIFICATION

Table 8 summarises the key conclusions related to research question 4: **What factors likely influence observed social, cultural, economic and/or environmental effects (factors within the control of the AWS Standard System and other external factors)?**

Table 8: Summary of the key conclusions for research question 4

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
4.1. What are the primary internal factors that affect the achievement of the good water governance outcome?	4.1. At the level of the AWS Standard, collaborative working and good governance are core principles and therefore run through every aspect of implementing the AWS Standard and AWS Certification. Some specific elements of the AWS process identified as contributing to achieving good water governance were: the use of tiered indicators and emphasis on continuous improvement that lowered the initial barriers to implementation at the same time as they generated motivation and incentives to seek new and better ways of collaborative working; promoting training for staff and awareness raising with stakeholders and the wider community, contributing to disseminating the water stewardship approach. At the site level, the primary internal factors that affected the achievement of good water governance outcomes were identified as: company and site processes that facilitated the achievement of outcomes, such as the way that sites communicated with stakeholders and adapted their practice to the local context; corporate culture and strong leadership from senior management; mechanisms such as Key Performance Indicators and other incentives for employees; and adherence to the AWS Standard's processes, where these had not already being implemented. In most participating sites, company and site values were closely aligned with the AWS Standard and this had created positive synergies as progress towards the achievement of AWS outcomes reinforced the site or company's identity and standing.
4.2. What are the primary external factors?	4.2. The primary external factors that affected the achievement of good water governance outcomes included: national government measures to improve water management; and private sector initiatives and business partnerships promoting good water governance.
4.3. What are the positive and/or negative effects of these factors on good water governance?	4.3. The positive effects of identified internal factors on good water governance had been to create an enabling environment for promoting and coordinating collective action to address water issues. Where governments had introduced legislation or stricter regulations for water management, AWS Certified Sites had tended to be at an advantage because they were likely to be compliant with much of the new requirements. This in turn reinforced the value of the good water governance approaches being implemented. External factors such as the introduction of national water management legislation or regulations had a negative impact when they were not aligned with the AWS

GOVERNANCE SUB-QUESTIONS	SUMMARY OF KEY CONCLUSIONS
	Standard and AWS Certified Sites found they had to provide two sets of documents for the different certifications. Internal factors promoting good water governance did not seem to be associated with negative impacts.
4.4. What are their knock-on effects on other AWS outcomes?	4.4. The impact evaluation identified knock-on effects of implementing good water governance measures on other AWS outcomes, particularly as a result of the systematic approach to assessing and monitoring sustainable water balance and good water quality status; and increased impact across the catchment as a result of collective action.

Internal factors were key to creating a climate where good water governance could flourish. Some of the participating companies had a strong ethos of water stewardship before applying for AWS Certification and their internal processes included many elements of the AWS Standard. Others commented on the importance of gathering and understanding water-related data and challenges, having a plan to implement changes and communicating to and working with a range of stakeholders.

There was some evidence to suggest that external factors such as government policies and initiatives could provide a supportive environment for water stewardship. However, the majority of the evidence collected during the current research referred to the catchment or regional policy levels. There some companies were developing strong links with policymakers and positive policy changes had been made. In one country, big changes in government and uncertainty about the political system resulted in unwillingness to spend time and effort engaging with political systems at the national level and, to a lesser extent, with regional government.

Several companies were part of national private sector initiatives promoting good water stewardship or sustainability and business partnerships.

There was limited evidence of progress blockers on AWS-related water governance actions. Some participants mentioned socio-economic conditions and climate conditions or events such as natural disasters.

Further evidence would be needed to demonstrate a causal relationship between external factors and the achievement of AWS Standard outcomes. Given the differences between countries and the shifting political, economic and climate contexts that combine to create networks of drivers and influences that are characterised by complexity, it would be difficult and extremely resource intensive to achieve certainty on this aspect.

5. RECOMMENDATIONS

Based on the findings and conclusions of the 'Independent Impact Evaluation of AWS System – Phase Two: Good Water Governance', several recommendations are presented for consideration:

1. Promote the AWS Standard and good water governance

AWS, its members and certified sites need to do more to promote and raise awareness of the AWS Standard and the benefits of AWS Certification across all stakeholder groups. This should result in the impact of AWS Certification becoming better recognised by governments, authorities/regulators, sectors/businesses and stakeholders. The research identified additional benefits that sites or companies felt could be gained if the AWS Standard and AWS Certification were more widely known and recognised. In terms of governments, the principles of the AWS Standard could have a greater influence on water policy and its implementation. This would be a benefit for water stewardship in general, as well as a benefit for individual sites and companies. The main benefit in terms of regulatory processes, would be the recognition by national and regional authorities of AWS Certification as equivalent to relevant national regulatory requirements, which would, for example, reduce the burden of reporting. Wider recognition by other sector stakeholders could lead to greater influence on the authorities, which would have the additional benefit of promoting private sector involvement in water governance. AWS could also further encourage its members to play a part in promoting the AWS Standard in their relations with policymakers, regulators, sector stakeholders and their supply chains.

2. Feedback learning from the impact evaluation to improve AWS System processes

AWS could consider some of the issues raised by the impact evaluation to improve the AWS System where it was not felt to be maximising impacts on good water governance. This could include reflecting on comments from site managers such as: a perceived over-emphasis on documenting evidence at the expense of doing water governance work, which was felt to lessen the motivation of the teams who had to collect the information; inconsistencies between audits; the AWS Guidance documents sometimes being seen as difficult to use and contradictory; and auditors taking the AWS Guidance as the bar against which they audited, although it does not establish these requirements. Many site managers suggested that they had adapted their existing processes to meet the requirements of AWS Certification. These initiatives should be welcomed and shared as potentially enriching the AWS System.

3. Refine the AWS Theory of Change

The research identified potential refinements to the Theory of Change for AWS to consider, including new interventions in the 'enablers' causal chain: information sharing and collective action at catchment level; training of site staff and proactive water governance; and national and regional authorities enacting enabling legislation and/or regulations. Generally, the changes in water governance following the implementation of the AWS Standard aligned with the Theory of Change. One element that the research could not demonstrate was the increase in membership, as this was a system-level indicator that site managers and stakeholders did not have information about. AWS Membership data shows that this is increasing, but some participating site managers had the perception that membership had not increased in their countries as much as they would have expected. Given the absence in the impact evaluation of SMEs or other smaller sites, AWS should do further research on this area of their membership.

4. Additional research requirements and opportunities

The research highlighted areas in which it would be useful for AWS and its members to have more detailed evidence about the outcomes of AWS Certification.

- Economic assessment: The scope of the research excluded detailed economic assessment, but many contributors indicated that this was an important aspect for them. It was apparent that the

national context could affect costs and benefits but it would be useful to have more data on the main factors contributing to the economic impact of AWS Certification, such as potential cost reductions and/or economic benefits. Some site managers suggested that it was difficult for smaller companies to achieve AWS Certification because of the costs involved. The impact of introducing group certification on the participation of SMEs could be studied as a separate research project or as an element of future evaluations.

- Policy assessment: Whilst the OECD Principles of Water Governance were used in this research to provide insight on activities, processes and impacts related to water governance linked to AWS Certification, there is scope for a more detailed assessment of how the AWS Standard and AWS Certification could contribute to the various principles, and hence the design and implementation of government policy on water.
- Social and cultural equity assessment: Data collected indicates that the stakeholder-inclusive catchment perspective to water management adopted by sites, led to positive social, economic or environmental impacts for a range of different stakeholder groups. There is evidence of a greater involvement of stakeholders, including vulnerable or traditionally marginalised groups, in the identification of water-related issues, as well as the development of strategy to address them. A detailed assessment of the impacts of achieving AWS Certification on social and cultural equity could be conducted to provide more detailed insights.
- Take-up of AWS Certification: During the research, several managers responsible for AWS Certification expressed uncertainty over whether the number of sites being certified was increasing as much as hoped (see recommendation 3). The uptake of AWS Certification in different territories and sectors and the factors impacting rates of AWS Certification could usefully be researched and shared with members and potential members.

5. Approach to and focus of future impact evaluations

Potential lessons and considerations for future impact assessments include:

- Considering the sample of sites to be involved (including their characteristics, sectors, geographical spread) and securing their participation in advance. For example, could sites be evaluated longitudinally (for example, re-visit sites included in this impact evaluation) and/or a deep dive into one or two countries.
- Considering how to secure data collection for M&E and whether there is the potential to do this alongside audits rather than as a separate exercise whilst maintaining the independence and rigour needed for the evaluations.
- The outcomes to focus on in addition to governance, considering how easy and valuable it would be to look at these other outcomes.
- Identifying how far outcomes, or elements of outcomes, are being achieved, alongside the impacts of implementing the AWS Standard and AWS Certification. The AWS Theory of Change has ‘enabler’ and ‘influencer’ tracks of which some elements of both tracks move faster than others. For example, implementation tends to progress more quickly than policy. Focus on the site level also meant that there was limited information collated about the national government level and on financial incentives. Some site managers reported that they were giving greater importance to the national level, especially to promote wider initiatives that drew in bigger stakeholders and greater resources. These are important actors in the influencers part of the Theory of Change and should be included in future impact evaluations.

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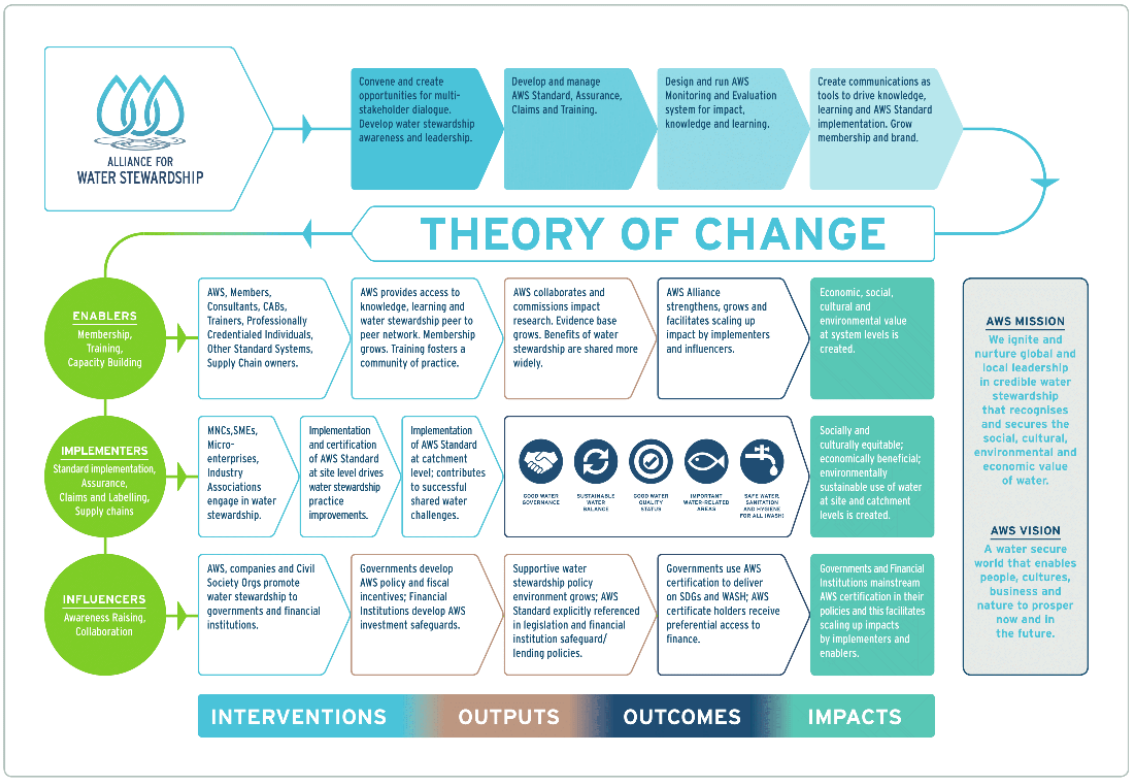
APPENDIX 1: THE AWS THEORY OF CHANGE



Source: AWS (2019)

APPENDIX 2: RESEARCH QUESTIONS AND GOVERNANCE SUB-QUESTIONS

RESEARCH QUESTIONS	GOVERNANCE SUB-QUESTIONS
1. To what extent does AWS Certification produce the desired positive intended social, cultural, economic and/or environmental water stewardship outcomes and impacts?	• What governance processes and measures have been implemented to achieve AWS Certification? • How successful have the governance processes and measures implemented been in achieving the good water governance outcome? • How have contributions to good water governance supported the achievement of other AWS outcomes?
2. What unintended social, economic and/or environmental effects (positive or negative) have resulted from the implementation of the AWS Standard and AWS Certification?	• What have been the unintended consequences (positive or negative) of the implementation of the AWS Standard on good water governance at the catchment level? What caused these effects? • How have any unintended consequences on the good water governance outcome affected the achievement of the other AWS outcomes?
3. To what extent it is possible for sites to attribute observed social, cultural, economic and/or environmental effects to AWS Certification?	• What changes would there have been to good water governance in the absence of implementing the AWS Standard and AWS Certification? • To what extent and how do any changes in water governance since AWS Certification align with the Theory of Change? • Has progress in achieving the good water governance outcome had the expected impacts on other AWS outcomes? • Are there any other ways in which observed effects can be attributed to AWS Certification?
4. What factors likely influence observed social, cultural, economic and/or environmental effects (factors within the control of the AWS Standard System and other external factors)?	• What are the primary internal factors that affect the achievement of the good water governance outcome? • What are the primary external factors? • What are the positive and/or negative effects of these factors on good water governance? • What are their knock-on effects on other AWS outcomes?

APPENDIX 3: OECD PRINCIPLES ON WATER GOVERNANCE

Enhancing the effectiveness of water governance

Principle 1. Clearly allocate and distinguish roles and responsibilities for water policymaking, policy implementation, operational management and regulation, and foster co-ordination across these responsible authorities.

Principle 2. Manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions, and foster co-ordination between the different scales.

Principle 3. Encourage policy coherence through effective cross-sectoral coordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning and land use.

Principle 4. Adapt the level of capacity of responsible authorities to the complexity of water challenges to be met, and to the set of competencies required to carry out their duties.

Enhancing the efficiency of water governance

Principle 5. Produce, update, and share timely, consistent, comparable and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy.

Principle 6. Ensure that governance arrangements help mobilise water finance and allocate financial resources in an efficient, transparent and timely manner.

Principle 7. Ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest.

Principle 8. Promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders.

Enhancing trust and engagement in water governance

Principle 9. Mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision-making.

Principle 10. Promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation.

Principle 11. Encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations.

Principle 12. Promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed.

APPENDIX 4: LONG LIST OF SITES AND SITES SELECTED FOR IN-DEPTH RESEARCH

Key:

Sites selected – in-person data collection	3 sites
Sites selected – virtual data collection	12 sites

AWS SITE REGISTRATION NO	ACCOUNT NAME	AWS SITE: AWS SITE NAME	SITE COUNTRY	STRATEGIC SECTOR	CERTIFICATION LEVEL	CERTIFICATION TYPE	SITE SELECTED FOR INCLUSION IN RESEARCH (YES / NO)	DATA COLLECTION METHOD FOR SELECTED SITES (IN-PERSON / VIRTUAL)
AWS-000044	Avary Holding (Shenzhen) Co. Ltd.	Avary Holding (Shenzhen) Co. Ltd.	China	Technology & microelectronics	Platinum	Single	No	N/A
AWS-000122	APCB (Kunshan) Electronics Co. Ltd.	APCB (Kunshan) Electronics Co. Ltd.	China	Technology & microelectronics	Gold	Single	No	N/A
AWS-000127	Ecolab Inc.	Ecolab – Taicang	China	Other	Platinum	Single	No	N/A
AWS-000128	Flexium Interconnect (Kunshan), Inc.	Flexium Technology Kunshan Co., Ltd.	China	Technology & microelectronics	Platinum	Single	Yes	Virtual
AWS-000174	Taiwan Semiconductor Manufacturing Company (TSMC)	TSMC F6	China	Technology & microelectronics	Platinum	Multi	No	N/A
AWS-000175	Taiwan Semiconductor Manufacturing Company (TSMC)	TSMC Fab 14B P5&6	China	Technology & microelectronics	Platinum	Multi	No	N/A
AWS-000176	Taiwan Semiconductor Manufacturing Company (TSMC)	TSMC Fab 14 B P7	China	Technology & microelectronics	Platinum	Multi	No	N/A
AWS-000238	Qing Ding Precision Electronics Technology (Huai'an) Co. Ltd.	Qing Ding Precision Electronics Technology (Huai'an) Co., Ltd.	China	Technology & microelectronics	Platinum	Single	No	N/A

AWS SITE REGISTRATION NO	ACCOUNT NAME	AWS SITE: AWS SITE NAME	SITE COUNTRY	STRATEGIC SECTOR	CERTIFICATION LEVEL	CERTIFICATION TYPE	SITE SELECTED FOR INCLUSION IN RESEARCH (YES / NO)	DATA COLLECTION METHOD FOR SELECTED SITES (IN-PERSON / VIRTUAL)
AWS-000239	HongHengSheng Electronical Technology (Huai'an) Co. Ltd.	HongHengSheng Electronical Technology (Huai'an) Co., Ltd.	China	Technology & microelectronics	Platinum	Single	No	N/A
AWS-000240	Taiwan Semiconductor Manufacturing Company (TSMC)	TSMC Fab 15A	China	Technology & microelectronics	Platinum	Multi	No	N/A
AWS-000241	Taiwan Semiconductor Manufacturing Company (TSMC)	TSMC Fab 15B	China	Technology & microelectronics	Platinum	Multi	No	N/A
AWS-000242	Tripod (Wuxi) Electronic Co., Ltd.	Tripod Electronic - Tuanjie Site, Wuxi	China	Technology & microelectronics	Platinum	Multi	No	N/A
AWS-000243	Tripod (Wuxi) Electronic Co., Ltd.	Tripod Electronic - Furong Site, Wuxi	China	Technology & microelectronics	Platinum	Multi	No	N/A
AWS-000251	Avary Holding (Shenzhen) Co. Ltd.	Hongqisheng Precision Electronics (Qinghuangdao) Co., Ltd.	China	Technology & microelectronics	Platinum	Single	No	N/A
AWS-000283	Guangzhou Meadville Electronics Company Ltd.	Guangzhou Meadville Electronics Company Limited	China	Technology & microelectronics	Gold	Single	No	N/A
AWS-000287	Guangzhou Big Want Foods Ltd.	Guangzhou Big Want Foods Ltd.	China	Food & beverage manufacturing	Platinum	Single	Yes	Virtual
AWS-000059	ITC Limited	ITC Kovai Plant	India	Other	Platinum	Single	Yes	Virtual
AWS-000316	Nestlé S.A.	Wyeth Nutrition Ireland Ltd.	Ireland	Food & beverage manufacturing	Platinum	Single	Yes	In-person
AWS-000156	Suntory Holdings Ltd.	Suntory Okudaisen Bunanomori Water Plant-Tottori	Japan	Food & beverage manufacturing	Core	Single	Yes	Virtual

AWS SITE REGISTRATION NO	ACCOUNT NAME	AWS SITE: AWS SITE NAME	SITE COUNTRY	STRATEGIC SECTOR	CERTIFICATION LEVEL	CERTIFICATION TYPE	SITE SELECTED FOR INCLUSION IN RESEARCH (YES / NO)	DATA COLLECTION METHOD FOR SELECTED SITES (IN-PERSON / VIRTUAL)
AWS-000187	Suntory Holdings Ltd.	Suntory Spirits Limited Kyushu Kumamoto Plant	Japan	Food & beverage manufacturing	Platinum	Single	Yes	Virtual
AWS-000201	Agricola Chapi	Agricola Chapi - Fundo Don Ernesto	Peru	Agricultural supply chains	Core	Multi	Yes	In-person
AWS-000202	Agricola Chapi	Agricola Chapi - Doña Julia	Peru	Agricultural supply chains	Core	Multi	Yes	Virtual
AWS-000203	Vanguard Peru	Vanguard - Agricola Challapampa – Ica	Peru	Agricultural supply chains	Core	Multi	Yes	Virtual
AWS-000206	Vanguard Peru	Vanguard - Los Olivos de Villacuri, El Arenal-Ica	Peru	Agricultural supply chains	Core	Multi	Yes	Virtual
AWS-000551	Vanguard Peru	Vanguard - Los Olivos de Villacuri, Fundo Causerinas - Ica	Peru	Agricultural supply chains	Core	Multi	Yes	Virtual
AWS-000552	Vanguard Peru	Vanguard - Los Olivos de Villacuri Fundo los Laureles - Ica	Peru	Agricultural supply chains	Core	Multi	Yes	Virtual
AWS-000051	Ecolab Inc.	Ecolab Garyville	United States	Other	Core	Single	No	N/A
AWS-000125	Ecolab Inc.	Ecolab Carson City Plant	United States	Other	Core	Multi	Yes	Virtual
AWS-000126	Ecolab Inc.	Ecolab City of Industry	United States	Other	Core	Multi	Yes	Virtual
AWS-000750	Ecolab Inc.	Ecolab Placentia	United States	Other	Core	Multi	Yes	Virtual
AWS-000136	Miller-Coors Llc, Milwaukee Brewery	Molson Coors - Milwaukee	United States	Food & beverage manufacturing	Core	Single	No	N/A

AWS SITE REGISTRATION NO	ACCOUNT NAME	AWS SITE: AWS SITE NAME	SITE COUNTRY	STRATEGIC SECTOR	CERTIFICATION LEVEL	CERTIFICATION TYPE	SITE SELECTED FOR INCLUSION IN RESEARCH (YES / NO)	DATA COLLECTION METHOD FOR SELECTED SITES (IN-PERSON / VIRTUAL)
AWS-000306	Nestlé USA	Nestlé Modesto Factory	United States	Food & beverage manufacturing	Core	Single	No	N/A
AWS-000315	Tyson Fresh Meats, Inc.	Tyson Fresh Meats Finney County Plant	United States	Food & beverage manufacturing	Core	Single	No	N/A
AWS-000332	Apple Inc.	Apple Prineville Data Center	United States	Technology & microelectronics	Core	Single	No	N/A

APPENDIX 5: INTERVIEW SCHEDULE

INTERVIEW WITH SITE MANAGER

Preamble

Good morning/afternoon. Thank you for making time for this interview. My name is…. and I will be conducting the interview today.

I understand that you have received and read the background information about this research and that you are aware that the interview is part of an impact evaluation of the Alliance for Water Stewardship (AWS) Standard, which has been commissioned by AWS. The research involves gathering data from site staff, stakeholders and managers of AWS Certified Sites in six different countries. The data collection will provide information about how the AWS Standard is performing and its outcomes. We would like to emphasise that the evaluation is not focusing on the performance of the individual sites or companies that are contributing.

Thank you for returning the consent form for the use of the data you provide.

The first questions will be about your work on the AWS Standard and the AWS outcome of good water governance. By water governance, the evaluation refers to collective action for sustainable water management.

Interview

Firstly, I would like to ask about your work here on the AWS Standard and good water governance.

1) Were you already involved in water governance before you started working on the AWS Standard at this site? (If Yes) Could you very briefly tell me about that involvement?
2) What are the company's main motivations for seeking AWS Certification?
3) What have been the main changes in water governance since the site began to work towards AWS Certification? And what is your own role in these changes?
4) What do you see as the role of good water governance in sustainable water management?

Now I would like to move on to look at the outcomes of AWS Certification and how they are produced.

5) To what extent does AWS Certification produce positive intended social, cultural, economic and/or environmental outcomes and impacts? What is the role of water governance in this?
6) What forms does the site's collective action on water governance with other stakeholders take? For example, do you engage in bilateral or multi-stakeholder actions, actions with other companies in your sector, actions led by others, (e.g. water authorities) or other types of collective actions? Please give examples and say why the company uses these forms of collective action.
    - What differences are there, if any, in the forms of collective action you use at different levels, for example site, catchment, regional, national?
7) What types of collective action on water governance have been implemented at the site as part of the process to achieve AWS Certification? [*The interviewer can use the following examples as prompts if the interviewee is struggling to think of collective actions]:*
    - *Catchment convening and stakeholder dialogue (bringing together stakeholders within the*

catchment)

- Policy and regulatory engagement (engagement with policymakers and regulators)
- Financing or supporting the delivery of water-related projects
- Stakeholder awareness raising and communications/outreach
- Catchment monitoring or modelling

8) What effects, if any, have these collective actions had on the achievement of the other AWS Standard outcomes? These are:

   - Sustainable water balance
   - Good water quality status
   - Healthy Important Water-Related Areas (IWRAs)
   - Access to Water, Sanitation and Hygiene for all (WASH)

9) To what extent has implementation of the AWS Standard resulted in changes in attitudes towards and understanding of good water governance? In which actors (internal and external) have these changes been seen?

10) What other unintended or unexpected social, economic or environmental effects have resulted from the implementation of the water governance element of the AWS Standard? For example, have there been additional benefits to sites, benefits to catchment stakeholders or supply chain partners, or unexpected publicity for the site or its stakeholders?

    - If there have been unintended effects, at what level are they seen?
    - Which of these effects are positive and which negative, or both negative and positive?

11) What evidence do you have that changes in water governance are due to achieving AWS Certification?

12) How exactly has the process of implementing the AWS Standard facilitated the social, cultural, economic and environmental effects described?

13) Would you have achieved the same results without the AWS Standard? Why or why not?

14) Has anything changed in the site-level or wider national/international context for implementing the AWS Standard, and specifically water governance, that might have influenced the change described?

15) What characteristics of the AWS Standard System (e.g. clarity of the AWS Standard/Guidance, AWS Certification System, training, support, or any other) are likely to have contributed to progress (or lack of progress) on the good water governance outcome?

16) What site-related factors (e.g. company culture or practices, leadership, communications, capacity building) are likely to have contributed to progress (or lack of progress) on the good water governance outcome?

17) What external factors, e.g. regional or national policies, regulation, fiscal incentives, other financial incentives are likely to have contributed to progress (or lack of progress) on the good water governance outcome?

18) What is the most important thing that AWS could do to increase the positive effects of the AWS Standard?

[*If the interview goes much more quickly than expected, please ask at the end whether the interviewee would like to mention anything else that they feel is relevant*.]

Thank you very much for taking the time to contribute to this research.

APPENDIX 6: SITE STAFF FOCUS GROUP SCHEDULE

OBJECTIVES OF THE FOCUS GROUP

The aims of the focus group are:

1. To hear external stakeholders' experiences of working with the site and its managers in relation to the AWS Standard and its requirement for good water governance.
2. To understand how AWS good water governance works in practice, from a stakeholder perspective.
3. To explore stakeholders' perception of the AWS Standard on understanding of good water governance and its role in water stewardship.
4. To discuss how and how well governance outcomes contribute to wider AWS outcomes.

PARTICIPANTS

The participants are company staff who have worked on the site or carried out governance-related work there for at least six months. The focus group will involve between five and eight people. The site manager will not participate in the focus group as s/he will have had a separate interview with the consultant.

PROGRAMME

TIME	WHAT HAPPENS	RATIONALE
<5 min	**Arrival and settling in** [Start the focus group as soon as everyone expected has arrived and settled in, or at five minutes after the programmed time, even if all participants have not yet arrived.]	
<5 min	**Welcome and introductions to the project and focus group** Quick overview of the project and its aims, emphasising that this is an evaluation of the AWS Standard and its good water governance outcome, not of individual sites. Explanation of objectives of the session. *The aims of this session are:* 1) To hear your experience of working with the AWS Standard to achieve the good water governance outcome. 2) To explore the effect of having the AWS Standard on your understanding of and attitudes to good water governance and its role in water stewardship. 3) To understand how implementing the AWS Standard works in practice: how you research, plan, implement, monitor and/or learn from the site's water governance initiatives?	Give basic information so that participants understand the aims of the session and how their input will be used.

TIME	WHAT HAPPENS	RATIONALE
	4) To discuss how and how well governance outcomes contribute to wider AWS outcomes on the site. Facilitator briefly introduces themselves. Confidentiality: You should all have signed a consent form giving permission for the use of your anonymised data in our reporting. The form also explains how we will handle your data. Can I check that you are all ok with the consent form? If you have not returned the completed form, could you please sign it now.	
5-10 mins	**Introductions** As you know, all of you here work on XXX site. It would be very useful for me to see where you work, what your roles are and to what extent you work together or separately. XX (site manager) has provided this useful map of the site and catchment, and I would like to ask you to each show on the map where your work is focused. [Going round the group, facilitator annotates the map, and prompts people to say whether they work on water governance specifically.]	

	1. Initial awareness of and action on water governance
	
	[Group discussion. Facilitator makes sure that all participants contribute].
	
	• Could you tell me how you first got involved in work on the AWS Standard on this site?
	  ○ Were you already aware of the AWS Standard, water stewardship or water sustainability? (If so, how?)
	  ○ Did you choose to work on the AWS Standard or was it part of your job description?
	• Thinking back to when you started, what were your initial feelings about the topic of water stewardship generally? How did you see the role of water governance?
		Participants build on each other's points rather than repeating each other.

20 mins	**2. Implementation of water governance within the AWS Standard** [Group discussion: start with one participant describing their water governance work and then ask others to add focuses or activities that are different. Then guide discussion through remaining points.]	

TIME	WHAT HAPPENS	RATIONALE
	Let us look at how water governance is implemented on the site: • What are the main water governance activities you are involved in, separately or together? (Prompt: internal meetings, external meetings, leadership group or board). • [When the activities seem to have been covered, check:] Is there any aspect of the site's water governance work that is not covered because the person/people involved (apart from site manager) are not here? What type of work is that? • What changes have there been over time in the work you do on water governance and why? (Prompt: scope of work, training, team structure, external stakeholders). • I understand from the company's reporting that the site's main achievements in relation to the good water governance outcome have been [list]. o What internal factors (e.g. knowledge and skills, company culture or practices, team relationships) have facilitated or hampered progress on water governance? What external factors (e.g. local culture or practices, other organisations, events, etc) have facilitated or hampered progress on water governance?	Encourage participants to discuss different forms of collective action for water governance: • Bilateral action (e.g. company and another organisation). • Multi-sectoral collective action (e.g. several companies and several organisations in just one sector). • Sectoral collective action (e.g. several companies from the same sector and an organisation, e.g. NGO, government body). • Multi-stakeholder (e.g. several companies and organisations from different sectors). • Government-led water governance (Integrated Water Resources Management) (e.g. government and companies) • Other/unspecified.
10 mins	**3. Outcomes/results of implementing the water governance element of the AWS Standard** I would like you to help me complete the list of the results of implementing water governance actions as part of the AWS Standard. As you will see, I have already noted on the list the elements of the good water governance outcome that you have reported. But I am also interested in identifying other results of your water governance work: unintended results (both positive and negative) and results affecting the other AWS outcomes. [Facilitator shows the flipchart. During the discussion, the facilitator notes the results mentioned in the appropriate area of the flipchart, checking with participants if it is not clear where a result should go.] • Have there been any water governance results, apart from those reported? Are any of these not expected/mentioned by the	Introduce new activity, with focus on the points being recorded. By this time the participants should feel confident in putting forward new or even challenging points.

TIME	WHAT HAPPENS	RATIONALE
	AWS Standard? Which of the unexpected results are positive and which are negative? [+ used to show positive results, - used to show negative results]. • Has the work on water governance resulted in changes in relation to other AWS outcome areas? If so, what changes and in relation to which AWS outcome areas? Are any of these not expected/mentioned in the AWS Standard? Which of the unexpected results are positive and which are negative? • Have there been any other unintended social, economic or environmental results of the AWS Standard water governance work? Which of these are positive? Which are negative?	
5 mins	**4. How far has the AWS Standard contributed to the changes described?** Thinking about what else has changed during the period you have been implementing the AWS Standard on this site: • What has changed in the *context* for implementing water stewardship and water governance? (Prompt: external political, financial, climatic factors; internal corporate objectives, management, practical constraints). • [If there have been changes in the wider context] To what extent have these changes influenced the good water governance outcome, other AWS outcomes or any other social, cultural, economic or environmental results identified? • Can you think of any other factors or events that may have contributed to changes in water governance or other intended outcomes of the AWS Standard?	
5 mins	**5. Assessment of the results of implementation of the AWS Standard and possible improvements in the future** • Dots on flipchart to answer the question: Overall, how significant do you think the good water governance outcome of the AWS Standard has been in generating positive water stewardship outcomes, in relation to other causes? Likert scale options: 1) by far the most significant factor, 2) a significant but not the only factor, 3) one of several equally significant factors, 4) a less significant factor, 5) virtually insignificant as a factor.	Use a 'voting' technique to get an overall sense of participants' perception of the good water governance outcome of the AWS Standard. Have a final open question to pick up any issues not covered.

TIME	WHAT HAPPENS	RATIONALE
	• Is there anything else that you would like to say about the good water governance outcome of the AWS Standard or its implementation?	
Total: 60 mins	Thanks, next steps, what will happen to the information and close.	

APPENDIX 7: STAKEHOLDER FOCUS GROUP SCHEDULE

OBJECTIVES OF THE FOCUS GROUP

The aims of the focus group are:

1. To hear external stakeholders' experiences of working with the site and its managers in relation to the AWS Standard and its requirement for good water governance.
2. To understand how AWS good water governance works in practice, from a stakeholder perspective.
3. To explore stakeholders' perception of the AWS Standard on understanding of good water governance and its role in water stewardship.
4. To discuss how and how well governance outcomes contribute to wider AWS outcomes.

PARTICIPANTS

The participants are company staff who have worked on the site or carried out governance-related work there for at least six months. The focus group will involve between five and ten people.

PROGRAMME

TIME	WHAT HAPPENS	RATIONALE
<5 mins	**Arrival and settling in** [Start the focus group as soon as everyone expected has arrived and settled in, or at five minutes after the programmed time, even if all participants have not yet arrived.]	
<5 mins	**Welcome and introductions to the project and focus group** Quick overview of the project and its aims, emphasising that this is an evaluation of the AWS Standard and its good water governance outcome, not of individual sites. Explanation of objectives of the session. *The aims of this session are:* 1) To hear your experience of working with the AWS Standard to achieve the good water governance outcome. 2) To explore the effect of having the AWS Standard on your understanding of and attitudes to good water governance and its role in water stewardship. 3) To understand how implementing the AWS Standard works in practice from a stakeholder perspective. 4) To discuss how and how well governance outcomes contribute to wider AWS outcomes. Facilitator briefly introduces themselves.	Give basic information so that participants understand the aims of the session and how their input will be used.

TIME	WHAT HAPPENS	RATIONALE
	Confidentiality: You should all have signed a consent form giving permission for the use of your anonymised data in our reporting. The form also explains how we will handle your data. Can I check that you are all ok with the consent form? If you have not returned the completed form, could you please sign it now.	
5-10 mins	**Introductions** As you are all external stakeholders, it would be very useful for me to see what your roles are and to what extent you work together or separately. I would like to ask you each to say where in the catchment your work is focused. Going round the group, facilitator annotates the map, and prompts people to say whether they work on water governance specifically and how long they have been involved.	

	1. Initial awareness of and action on water governance
	
	[Group discussion. Facilitator makes sure that all participants contribute].
	
	• Could you tell me how your organisation first got involved in work on water governance (related to the AWS Standard) with XXX [the company]?
	  ○ Were you already involved in water governance? (If so, how?)
	  ○ Is the work part of your organisation's regulatory responsibilities?
	  ○ Did you seek to network with relevant people or to find out what was happening?
	  ○ Were you seeking help to address specific water challenges?
	• Thinking back to when you started, what were your initial feelings about the topic of water stewardship generally? How did you see the role of water governance?
		Participants build on each other's points rather than repeating each other.

20 mins	**2. Implementation of water governance within the AWS Standard** [Group discussion: start with one participant describing their water governance work and then ask others to add things that are different. Then guide discussion through remaining points.] Let us look at how water governance is implemented on the site: • What are the main water governance	Encourage participants to discuss different forms of collective action for water governance: • Bilateral action (e.g. company and another organisation). • Multi-sectoral collective action (e.g. several companies and several organisations in just one

TIME	WHAT HAPPENS	RATIONALE
	activities you are involved in, separately or together? [Prompt list] • What changes have there been over time in the work you do on water governance and why? (Prompt: scope of work, training, team structure, external stakeholders). • How successful have the activities been? Have they achieved their intended outcomes? • What have been the reasons for their success or lack of success? • What internal factors (e.g. knowledge and skills, company culture or practices, team relationships) have facilitated or hampered progress on water governance? • What external factors (e.g. local culture or practices, other organisations, events) have facilitated or hampered progress on water governance?	sector). • Sectoral collective action (e.g. several companies from the same sector and an organisation, e.g. NGO, government body). • Multi-stakeholder (e.g. several companies and organisations from different sectors). • Government-led water governance (Integrated Water Resources Management) (e.g. government and companies). • Other/unspecified.
10 mins	**3. Outcomes of the implementation of water governance element of the AWS Standard** I am interested in identifying other results of your water governance work: unintended results (both positive and negative) and results affecting the other AWS outcomes. [Facilitator shows the flipchart. During the discussion, the facilitator notes the results mentioned in the appropriate area of the flipchart, checking with participants if it is not clear where a result should go.] • Have there been any good water governance results, apart from those reported? Are any of these not expected/mentioned by the AWS Standard? Which of the unexpected results are positive and which are negative? • Has the work on good water governance resulted in changes in relation to other AWS outcome areas? If so, what changes and in relation to which AWS outcome areas? Are any of these not expected/mentioned in the AWS Standard? Which of the unexpected results are positive and which are negative? • Have there been any other unintended social, economic or environmental results of the AWS Standard water governance work? Which of these are positive? Which are negative?	Change in dynamic of the group, with focus on the points being recorded. By this time the participants should feel confident in putting forward new or even challenging points.
5 mins	**4. How far has the AWS Standard contributed to the changes described?**	

TIME	WHAT HAPPENS	RATIONALE
	How can you show that the changes described are a result of the AWS Certification? • What has changed in the *context* for implementing water stewardship and water governance? (Prompt: external political, financial, climatic factors; internal corporate objectives, management, practical constraints). • [If there have been changes in the wider context] To what extent have these changes influenced the good water governance outcome, other AWS outcomes or any other social, cultural, economic or environmental results identified? • What would have happened without the AWS Standard?	
5 mins	**5. Assessment of the results of implementation of the AWS Standard and possible improvements in the future** • Dots on flipchart to answer the question: Overall, how significant do you think the good water governance outcome of the AWS Standard has been in generating positive water stewardship outcomes, in relation to other causes? Likert scale options: 1) by far the most significant factor, 2) a significant but not the only factor, 3) one of several equally significant factors, 4) a less significant factor, 5) virtually insignificant as a factor. • Is there anything else that you would like to say about the good water governance outcome of the AWS Standard or its implementation?	Use a 'voting' technique to get an overall sense of participants' perception of the good water governance outcome of the AWS Standard. Have a final open question to pick up any issues not covered.
Total: 60 mins	**Thanks, next steps, what will happen to the information and close.**	

APPENDIX 8: SITE STAFF SURVEY QUESTIONS

IDENTIFICATION QUESTIONS

1. Name

2. Job title or position (Please tick the most relevant one)
   - Company Director
   - Division/Section Manager
   - Project Manager
   - Technical Expert
   - External Relations Expert
   - Operator
   - Other

3. Name of AWS Certified Site/company(s) where you work (Please select which site or sites apply)

WATER GOVERNANCE QUESTIONS

4. Were you involved in water governance before you began working on this topic in the context of AWS Certification and, if so, for how long? (Please select the option that applies to you)
   - No, I was not involved in water governance before this
   - Yes, for less than one year
   - Yes, for between one and three years
   - Yes, for more than three years

5. A range of different water governance actions are used by AWS Certified Sites. For the following actions that you have been involved with while working with the site mentioned, indicate how successful each of the actions has been in improving sustainable water management. (Please select which applies to each type of action)
   [Very successful / Quite successful / Not successful / Don't know]
   - Convening and stakeholder dialogue (i.e. informal water governance)
   - Providing information to demonstrate transparency and integrity
   - Training and institutional capacity building
   - Stakeholder awareness raising and communications/outreach
   - Collective design and delivery of local or catchment water management plan
   - Catchment monitoring and evaluation (data gathering, joint impact evaluation)
   - Basin and project modelling (including modelling of any kind)
   - Financing water-related projects (bankable and non-bankable/grant based)
   - National and regional water policy and governance engagement

6. For each of the following water governance actions (the same as those listed in question 5), indicate how far the AWS Standard has contributed to each action that you have been involved with. (Please select which applies to each type of action)
   [A lot / A little / Not at all / Don't know]
   - Convening and stakeholder dialogue (i.e. informal water governance)
   - Providing information to demonstrate transparency and integrity
   - Training and institutional capacity building
   - Stakeholder awareness raising and communications/outreach
   - Collective design and delivery of local or catchment water management plan
   - Catchment monitoring and evaluation (data gathering, joint impact evaluation)
   - Basin and project modelling (including modelling of any kind)
   - Financing water-related projects (bankable and non-bankable/grant based)

- National and regional water policy and governance engagement

7. **Please briefly describe one example of a successful water governance initiative that has resulted from the implementation of the AWS Standard in your catchment** *(Max. 30 words)*.

8. **For each of the following components of the AWS Standard that you are familiar with, indicate whether they facilitate progress on water governance or make progress slower or more difficult.** (Please select which applies to each component)
   *[*Facilitates good governance / Blocks good governance / Don't know]
   - Criteria or indicators for water governance in the AWS Standard
   - AWS Assurance System
   - AWS Training
   - AWS information sharing on good practices
   - Other (Max. five words) _____

9. **For each of the following components of the AWS Standard that you are familiar with (the same components as listed in question 8), indicate the levels at which their influence operates.** (Please select all that apply to each component)
   *[*Site/ Catchment / National / Global / Sector / Don't know]
   - Criteria or indicators for water governance in the AWS Standard
   - AWS Assurance System
   - AWS Training
   - AWS information sharing on good practices
   - Other (Max. five words) _____

10. **What effect has the implementation of the AWS-related water governance actions in the catchment had on the achievement of the other AWS outcomes?** (Please select which applies to each outcome)
    [Little effect / Medium effect / Large effect]
    - Sustainable water balance [a]
    - Good water quality status [b]
    - Healthy Important Water-Related Areas (IWRAs) [c]
    - Access to Water Sanitation and Hygiene for all (WASH) [d]

Notes:
a – Ensuring that water usage is balanced with water availability and that water sources are not depleted.
b – Maintaining water quality at levels that are safe and healthy for both human and environmental use.
c – Protecting and restoring critical water-related ecosystems and areas, such as wetlands and rivers.
d – Ensuring access to safe drinking water, sanitation and hygiene facilities for everyone, particularly in vulnerable communities.

11. **If good water governance has had a large effect on any of the AWS outcomes above, please provide an example.** (*Max. 10 words*)

12. **Which of the following external or contextual factors (i.e. things that are beyond the control of individual actors) have contributed to or blocked progress on AWS-related water governance actions?** (For each factor, please select which applies)
    [Facilitates good governance / Blocks good governance / Neither facilitates nor blocks good governance / Don't know]
    - Socio-economic conditions
    - Government policies
    - Recognised good governance practice external to AWS

- Local culture or practices related to water use and/or management
- Governance initiatives by other actors (public, private, civil society or others)
- Climate conditions or events such as natural disasters

13. **For any external or contextual factors that affect progress on good water governance (also shown in question 12), please indicate at what levels they affect progress.** (Please select all that apply)
    [Site / Catchment / National / Global / Sector]
    - Socio-economic conditions
    - Government policies
    - Recognised good governance practice external to AWS
    - Local culture or practices related to water use and/or management
    - Governance initiatives by other actors (public, private, civil society or others)
    - Climate conditions or events such as natural disasters

14. **Have there been any unintended outcomes (positive or negative) of the use of the AWS Standard in water governance initiatives in the catchment or beyond?** (Please select the options that apply)
    - No positive or negative unintended outcomes
    - Yes, there have been positive unintended outcomes
    - Yes, there have been negative unintended outcomes

    Please briefly describe any positive or negative unintended outcomes:

15. **Overall, how significant do you think the AWS Standard has been in generating positive water stewardship outcomes?** (Please select one of the following options)
    - By far the most significant factor
    - A significant but not the only factor
    - One of several equally significant factors
    - A less significant factor
    - Virtually insignificant as a factor

Thank you very much for completing this survey.

APPENDIX 9: STAKEHOLDER SURVEY QUESTIONS

IDENTIFICATION QUESTIONS

1. Name

2. Company, institution or organisation

3. Position (Please select the most relevant one)
   - Company Director
   - Division/Section Manager
   - Project Manager
   - Technical Expert
   - External Relations Expert
   - Operator
   - Other

4. Name of AWS Certified Site/company(s) you are working with. (Please select which site or sites apply)

5. How long have you personally been working with the AWS Certified Site/company(s) on water governance? (Please select the one that applies)
   - Less than one year
   - Between one and three years
   - More than three years

WATER GOVERNANCE QUESTIONS

6. Were you involved in water governance actions before you began working with the AWS Certified Site/company(s)?
   - Yes
   - No

7. What motivated your organisation to get involved with the AWS Certified Site(s) on water governance actions? (Please select all that apply)
   - I was already involved in water governance activities in the area
   - It is part of my organisation's regulatory responsibilities
   - To find out what was happening or network with relevant people related to water governance
   - To help address specific water challenges in the area
   - To promote a particular programme or project
   - Because of a personal or research interest
   - Other (*Max. 10 words*).

8. A range of different water governance actions are used by AWS Certified Sites. For the following actions that you have been involved with while working with the site mentioned, indicate how successful each of the actions has been in improving sustainable water management. (Please select which applies to each type of action)
   [Very successful / Quite successful / Not successful / Don't know]
   - Convening and stakeholder dialogue (i.e. informal water governance)
   - Providing information to demonstrate transparency and integrity
   - Training and institutional capacity building

- Stakeholder awareness raising and communications/outreach
- Collective design and delivery of local or catchment water management plan
- Catchment monitoring and evaluation (data gathering, joint impact evaluation)
- Basin and project modelling (could include modelling of any kind)
- Implementation of sustainable water management-related projects with other stakeholders or communities
- Financing water related projects (bankable and non-bankable/grant based)
- National and regional water policy and governance engagement

9. For each of the following water governance actions (the same as those listed in question 8), indicate how far the AWS Standard has contributed to each action that you have been involved with while working with the site mentioned. (Please select which applies to each type of action)
   [A lot / A little / Not at all / Don't know]
   - Convening and stakeholder dialogue (i.e. informal water governance)
   - Providing information to demonstrate transparency and integrity
   - Training and institutional capacity building
   - Stakeholder awareness raising and communications/outreach
   - Collective design and delivery of local or catchment water management plan
   - Catchment monitoring and evaluation (data gathering, joint impact evaluation)
   - Basin and project modelling (could include modelling of any kind)
   - Implementation of sustainable water management-related projects with other stakeholders or communities
   - Financing water related projects (bankable and non-bankable/grant based)
   - National and regional water policy and governance engagement

10. Please briefly describe one example of a successful water governance initiative that has resulted from the implementation of the AWS Standard in your catchment. *(Max 30 words)*

11. For each of the following components of the AWS Standard that you are familiar with, indicate whether they facilitate progress on water governance or make progress slower or more difficult. (Please select which applies to each component)
    *[*Facilitates good governance / Blocks good governance / Don't know]
    - Criteria or indicators for water governance in the AWS Standard
    - AWS Assurance System
    - AWS Training
    - AWS information sharing on good practices
    - Other (Max. five words) _____

12. For each of the following components of the AWS Standard that you are familiar with (the same components as listed in question 11), indicate the levels at which their influence operates. (Please select all that apply to each component)
    *[*Site/ Catchment / National / Global / Sector / Don't know]
    - Criteria or indicators for water governance in the AWS Standard
    - AWS Assurance System
    - AWS Training
    - AWS information sharing on good practices
    - Other (Max. five words) _____

13. **What effect has the implementation of the AWS-related water governance actions in the catchment had on the achievement of the following other AWS outcomes?** (Please select which applies to each outcome)
    [Little effect / Medium effect / Large effect]
    - Sustainable water balance [a]
    - Good water quality status [b]
    - Healthy Important Water-Related Areas (IWRAs) [c]
    - Access to Water Sanitation and Hygiene for all (WASH) [d]

Notes:
a – Ensuring that water usage is balanced with water availability and that water sources are not depleted.
b – Maintaining water quality at levels that are safe and healthy for both human and environmental use.
c – Protecting and restoring critical water-related ecosystems and areas, such as wetlands and rivers.
d – Ensuring access to safe drinking water, sanitation and hygiene facilities for everyone, particularly in vulnerable communities.

14. **If good water governance has had a large effect on any of the AWS outcomes above, please provide an example.** (*Max 10 words*)

15. **Which of the following external or contextual factors (i.e. things that are beyond the control of individual actors) have contributed to or blocked progress on AWS-related water governance actions?** (For each factor, please select which applies)
    [Facilitates good governance / Blocks good governance / Neither facilitates nor blocks good governance / Don't know]
    - Socio-economic conditions
    - Government policies
    - Recognised good governance practice external to AWS
    - Local culture or practices related to water use and/or management
    - Governance initiatives by other actors (public, private, civil society or others)
    - Climate conditions or events such as natural disasters

16. **For any external or contextual factors that affect progress on good water governance (also shown in question 15), please indicate at what levels they affect progress**. (Please select all that apply)
    [Site / Catchment / National / Global / Sector]
    - Socio-economic conditions
    - Government policies
    - Recognised good governance practice external to AWS
    - Local culture or practices related to water use and/or management
    - Governance initiatives by other actors (public, private, civil society or others)
    - Climate conditions or events such as natural disasters

17. **Have there been any unintended outcomes (positive or negative) of the use of AWS Standard in water governance initiatives in the catchment or beyond?** (Please select the options that apply)
    - No positive or negative unintended outcomes
    - Yes, there have been positive unintended outcomes
    - Yes, there have been negative unintended outcomes

    Please briefly describe any positive or negative unintended outcomes:

18. **Overall, how significant do you think the AWS Standard has been in generating positive water stewardship outcomes?** (Please select one of the following options)
    - By far the most significant factor
    - A significant but not the only factor

- One of several equally significant factors
- A less significant factor
- Virtually insignificant as a factor

Thank you very much for completing this survey.