

WSP manual supplementary tool

Module 10: checklists for conducting WSP reviews

This tool is intended to support the practical application of the guidance presented in the [Water safety plan manual: step-by-step risk management for drinking-water suppliers, second edition](#) (WHO & IWA, 2023). Refer to Module 10 in the manual for detailed guidance.

This tool provides key questions and considerations for conducting successful water safety plan (WSP) reviews, including post-event reviews (e.g. following a significant incident, near miss or emergency). It can also support reviews with a particular focus on strengthening equity and climate considerations as part of continuous WSP improvement.

A. Checklist for general WSP reviews

- ✓ Assessment of operation of the WSP, including implementation of:
 - previously agreed amendments to the WSP
 - planned changes arising from improvement programmes
- ✓ Consideration of internal and external WSP audit reports
- ✓ Consideration of incidents
- ✓ Consideration of incidents in other drinking-water supplies
- ✓ Identification of changes to water supply, including changes to land use in catchment, new infrastructure, new equipment, connection of new customers and property developments
- ✓ Changes to demographics of users
- ✓ Changes to regulations or policy frameworks
- ✓ Assessment of management procedures, including standard operating procedures (SOPs) and emergency response plans (ERPs)
- ✓ Assessment of operational monitoring results and trends (including any newly implemented control measures), and compliance with operational limits
- ✓ Assessment of verification results
- ✓ Consideration of user complaints/feedback
- ✓ Comparison of performance in meeting standards and regulatory requirements against historical results, internal targets, key performance indicators
- ✓ Stakeholder requests
- ✓ Incorporation of equity and climate considerations (see Checklists B and C, respectively)
- ✓ Progress on implementing improvement plans
- ✓ Up-to-date record keeping
- ✓ Changes to the WSP team membership details (e.g. change of personnel, contact details), including changes to stakeholder details

B. Checklist when reviewing incorporation of equity in the WSP

Equity can be increasingly integrated into water safety planning by including a simple equity assessment as part of the regular WSP review process. The questions below can be modified to reflect the particular equity guidance and targets adopted in the local context.

Preparation and WSP team (Module 1)	
Assembling the WSP team (Module 1)	Is there meaningful participation of women, men and disadvantaged groups as members of, or advisers to, the WSP team? How?
System assessment (Modules 2–5)	
Describing the system (Module 2)	Has the diversity among users been explicitly explored? Which disadvantaged groups were identified? Have experiences with water been investigated for all user groups, including collection point infrastructure, water quality and service delivery, and water practices?
Identifying hazards and hazardous events (Module 3)	Were hazardous events systematically identified by thinking through the diverse user groups and their particular experiences with water?
Improvement planning (Module 5)	Where control measures directly impact the community, have they been designed to avoid or minimize adverse impacts on any stakeholder group? Have improvements considered how disadvantaged groups can be assisted? Do affected groups have equitable opportunity to participate in selection and implementation of these measures?
Monitoring (Modules 6 and 7)	
Operational monitoring (Module 6)	Does operational monitoring ensure that all stakeholder groups benefit equitably?
Verifying WSP effectiveness (Module 7)	Do compliance monitoring sampling points allow for all diverse users? Are all diverse users included in customer satisfaction monitoring?
Management and communication (Modules 8 and 9)	
Managing WSPs effectively and supporting programmes for WSPs (Modules 8 and 9)	Do incident and emergency response plans, and communication/education programmes consider and reflect the particular needs of all stakeholder groups and users?
WSP review and improvement (Module 10)	
Reviewing and revising WSPs (Module 10)	Is equity integration considered and strengthened during ongoing review and revision of the WSP?

See also [A guide to equitable water safety planning: ensuring no one is left behind](#) (WHO, 2019).

C. Checklist when reviewing incorporation of climate resilience in the WSP

The questions below can inform WSP reviews to strengthen consideration of climate impacts and the overall resilience of the water supply.

Preparation and WSP team (Module 1)	
Assembling the WSP team (Module 1)	<p>What climate expertise is needed to support the WSP team?</p> <p>To consider and address the effects of climate change, the WSP team may require additional support in obtaining and interpreting climate-related information (e.g. climatologist, hydrologist, disaster management expert).</p>
System assessment (Modules 2–5)	
Describing the system (Module 2)	<p>What parts of the water supply are likely to be affected by climate change impacts (e.g. flooding, drought)?</p> <p>To facilitate understanding and subsequent identification of the water supply vulnerabilities, it is important to understand how weather events currently affect the water supply, and how the most likely projected climate change scenarios may affect the water supply in the future.</p> <p>Anticipating future impacts to the water supply will enable the water supplier to address vulnerabilities in water quality and quantity, and improve management of water resources and infrastructure.</p>
Identifying hazards and hazardous events (Module 3)	<p>What are the climate-related threats to the water supply?</p> <p>Climate variability and change can potentially introduce new hazards and hazardous events, or exacerbate existing events that could contaminate or compromise the water supply.</p>
Identifying and validating control measures, and assessing risks (Module 4)	<p>How will climate affect the risk profile of the identified hazards and hazardous events?</p> <p>In addition to introducing new hazardous events, climate change may change the likelihood and severity of existing risks.</p> <p>The effectiveness of existing control measures may also change with changing climatic conditions, affecting the risk assessment.</p> <p>Where existing controls are insufficient to adequately manage current or future risk to an acceptable level, additional control will be needed to manage these risks.</p>
Improvement planning (Module 5)	<p>What new or strengthened control measures can be put in place to manage climate risks?</p> <p>Control measures may be specific to drinking-water supplies or improve broader water resources management, which may reduce risks related to climate change.</p>

Management and communication (Modules 8–9)	
Managing WSPs effectively (Module 8)	<p>What management procedures are in place to address climatic shocks and stresses (e.g. floods and droughts)?</p> <p>A WSP can contribute to disaster risk reduction through better preparedness and contingency planning to help ensure a safe drinking-water supply during an emergency event, as well as aiding faster recovery after an incident.</p>
Supporting programmes (Module 9)	<p>What supporting programmes are in place to develop capacity and awareness of water safety planning for enhanced climate resilience?</p> <p>Supporting programmes should include aspects of climate risk management – for example, through:</p> <ul style="list-style-type: none"> • capacity development (trainings and workshops) • stakeholder engagement and outreach • research and implementation programmes.
WSP review and improvement (Module 10)	
Reviewing and revising WSPs (Module 10)	<p>What climate risks might result in an incident? What would be the impact on the drinking-water supply (e.g. damage to infrastructure)?</p> <p>A WSP can become out of date through the availability of new climate information. Such information requires a periodic review to ensure the relevance of the WSP. Furthermore, following an incident, emergency or near miss (e.g. flood event, drought), a review of the WSP is necessary to update the system description, risk assessments, control measures and supporting programmes.</p>

Source: adapted from [The climate resilience role for water safety plans](#) [website] (International Water Association, 2019).

See also [Climate-resilient water safety plans: managing health risks associated with climate variability and change](#) (WHO, 2017).

D. Post-event¹ review questions to consider and suggested process

Questions to be considered in a post-event review include the following.

- What was the cause of the problem?
- Was it caused by a new hazardous event or hazard?
- How was the problem first identified or recognized?
- What were the most essential actions that were required to manage the event?
- What were the immediate and longer-term consequences?
- How well did the emergency response plan function?
- Did the relevant protocol function effectively in responding to the event and restoring normal operation of the water supply?
- Was the documentation of the event sufficient to perform the post-event review?
- Were communications, responses to user enquiries and the issuing of public advice (if needed) appropriate and timely?
- Were all diverse user groups appropriately communicated with?
- If emergency water supplies were required, were they safe to consume, delivered in sufficient volumes and delivered in a timely fashion?
- Did the operators and managers responding to the event have appropriate skills and knowledge, and access to appropriate equipment and tools?
- Were the human resources sufficient to respond appropriately? Were there any financial constraints that limited the effectiveness of the response?

Suggested post-event review process to assist with WSP revision

- Determine whether the hazard, or the source of the hazard, is documented in the existing WSP; if not, revise the WSP accordingly.
- Determine whether control measures are in place for the hazardous event and/or the source of the hazard. If they are in place, determine whether they are working as planned and are sufficiently monitored.
- Establish whether there are relevant management procedures. If so, determine their adequacy and revise as required.
- Ascertain the adequacy of existing communication protocols for stakeholders, and update as necessary.
- Determine whether relevant technical expertise or information is readily available and up to date.
- Determine whether the risk assessment matrices and improvement programmes require updating.
- Determine whether existing trigger levels for events are appropriate, and revise as necessary.
- Establish whether the existing level of training and supporting programmes are adequate.

¹ For example, following a significant incident, near miss or emergency event.