



A guide to

EQUITABLE WATER SAFETY PLANNING



ENSURING NO ONE IS LEFT BEHIND

A guide to

EQUITABLE WATER SAFETY PLANNING

ENSURING NO ONE IS LEFT BEHIND



A guide to equitable water safety planning: ensuring no one is left behind

ISBN 978-92-4-151531-3

© World Health Organization 2019

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization.

Suggested citation. A guide to equitable water safety planning: ensuring no one is left behind. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at <http://apps.who.int/iris>.

Sales, rights and licensing. To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

Design and layout by LT Design

Printed in Switzerland

CONTENTS

Acknowledgements	iv
Acronyms	v
Introduction	1
How a WSP can support safe water for all	1
Purpose and scope	2
Target audience	2
Structure	3
How to use this guidance	3
Section 1: Integrating equity into the steps of a WSP	4
Integration at a glance	6
Step-by-step guidance	8
Stage 1: Preparation	8
Stage 2: System assessment	12
Stage 3: Monitoring	24
Stage 4: Management and communication	27
Stage 5: Feedback and improvement	29
Section 2: Addressing equity in broader WSP programme activities	31
Global and regional activities	31
National and subnational activities	32
Toolbox	35
Tool A: Equity concepts and definitions	36
Tool B: Example equity policy review	38
Tool C: Example equity guide	39
Tool D: Example household survey	40
Tool E: Household survey tips	44
Tool F: Example WSP training materials incorporating equity	46
Case studies	54
Case study 1: Bangladesh	55
Case study 2: Nepal	57
Case study 3: Philippines	60
Further reading	63
References	64

ACKNOWLEDGEMENTS

The World Health Organization (WHO) wishes to express its appreciation to all whose efforts made this publication possible by contributing their time and expertise, including the colleagues named below.

Special thanks are due to those at the Institute for Sustainable Futures, University of Technology Sydney (ISF-UTS) who authored this document and led associated research on equitable water safety planning practice, and to government and WHO colleagues in Bangladesh, Nepal and the Philippines who actively supported country research that significantly informed this guidance.

Angella Rinehold (WHO, Switzerland) coordinated development of this document and led technical editing. Jennifer De France (WHO, Switzerland) and David Sutherland (WHO Regional Office for South-East Asia, India) provided essential support and inputs throughout the document's development, and Bruce Gordon (WHO, Switzerland) provided strategic direction. Vivien Stone provided copy editing support.

LEAD AUTHORS

- Katie Ross, ISF-UTS, Australia
- Keren Winterford, ISF-UTS, Australia
- Juliet Willetts, ISF-UTS, Australia

OTHER CONTRIBUTORS AND REVIEWERS

- Alauddin Ahmed, WHO, Bangladesh
- Britta Baer, WHO Regional Office for the Western Pacific, Philippines
- Anjana Bhushan, WHO Regional Office for South-East Asia, India
- Cristina Bianchessi, formerly WHO, Switzerland
- Robert Bos, formerly WHO, Switzerland
- Naomi Carrard, ISF-UTS, Australia
- Gunel Gurbanova, Ministry of Ecology and Natural Resources, Azerbaijan
- Dragana Jovanovic, Institute of Public Health, Serbia
- Mihail Kochubovski, Institute of Public Health, the former Yugoslav Republic of Macedonia
- Waltaji Kutane, WHO, Ethiopia
- Bonifacio Magtibay, WHO, Philippines
- SG Mahmud, WHO, Bangladesh
- Rory Moses McKeown, WHO, Switzerland
- FH Mughal, Consultant, Pakistan
- Babatunde Odugbemi, Consultant at Lagos State University Teaching Hospital, Nigeria
- Sudan Raj Panthi, WHO, Nepal
- Bettina Rickert, German Environment Agency, Germany
- Oliver Schmoll, WHO Regional Office for Europe, Germany
- Leyla Taghizade, Ministry of Health, Azerbaijan
- Elena Villalobos, WHO, Switzerland

WHO also gratefully acknowledges the financial support provided by the Department of Foreign Affairs and Trade, Australia, and the Department for International Development, United Kingdom.

ACRONYMS

CBO	community-based organization
DWD	Dasmariñas Water District (Philippines)
GAD	gender and development
GLAAS	UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water
ISF-UTS	Institute for Sustainable Futures, University of Technology Sydney
JMP	WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene
NGO	non-governmental organization
PLWD	people living with disability
SDG	Sustainable Development Goal
UN	United Nations
UNECE	United Nations Economic Commission for Europe
VERC	Village Education Resource Center (Bangladesh)
WASH	water, sanitation and hygiene
WHO	World Health Organization
WSP	water safety plan
WUSC	water user and sanitation committee (Nepal)



INTRODUCTION

Safe water for all without discrimination is a human right, officially recognized by the United Nations (UN) in 2010. The global commitment to safe water for all is further demonstrated through the Sustainable Development Goal (SDG) 6 target to achieve universal and equitable access to safe and affordable drinking-water for all. However, many people cannot yet claim their fundamental right to water, and this lack of access is felt disproportionately by those who are disadvantaged socially, economically, demographically or geographically (WHO & UNICEF, 2014; WHO & UNICEF, 2017). Equitable access to safe drinking-water will therefore only be achieved if particular attention is paid to vulnerable and marginalized groups to understand and address disparities.

Water safety plans (WSPs) represent an important opportunity to contribute to the realization of the SDGs and to the human right to water, provided that equity is duly considered. Described in the WHO *Guidelines for drinking-water quality* as the most effective way to ensure the safety of drinking-water supplies, WSPs have been implemented in at least 93 countries worldwide, with 69 countries reporting to have policy instruments either in place or under development that promote or require WSPs or an equivalent (WHO & IWA, 2017). Water safety planning policy support and practice are expected to continue to grow through the SDG period due to an increased focus on the safe management of water supplies. Water safety plans, therefore, provide a well-established and widely accepted framework that can be applied to ensure social inclusion in the improvement of drinking-water supplies.

HOW A WSP CAN SUPPORT SAFE WATER FOR ALL

Water safety planning provides a practical framework to identify and address the needs of diverse groups. With relatively modest efforts, the WSP approach can bring tangible improvements in water quality and availability for disadvantaged groups. For example:

- ❖ Prioritizing the participation of women in the WSP process gives greater voice to those with first-hand knowledge of priority risks and appropriate control measures.
- ❖ Explicitly considering informal settlement dwellers when assessing risks reveals vulnerabilities that are unique to these water users and highlights the need for additional control measures.

Equity¹ is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically (WHO, 2019a). For WSPs, this means that all groups should have the opportunity for meaningful participation in, and equitable benefit from, water safety planning.

Equality is a term sometimes used interchangeably with equity, however there is an important difference. Equality is a legally defined term and a binding principle under human rights law, whereas equity is a moral imperative open to interpretation. In this guidance, the term equity is used, as the focus is primarily on taking steps to meet differential needs rather than claiming rights from duty bearers. (See Tool A for further explanation of equality, equity and other related terms used throughout this guidance.)

¹ Gender considerations are included within the term "equity".

- 💧 Recognizing the need to compensate farmers adversely impacted by surface water protection measures avoids inadvertent harm and helps ensure that the measures will be observed in practice.
- 💧 Considering geographically remote consumers when reviewing operational monitoring data ensures sufficient chlorine residual in the most vulnerable areas of the distribution network.
- 💧 Emergency response planning that considers the needs of different groups, e.g. minority groups or those without radios or television, allows for more equitable access to essential information.

WSPs contribute to positive equity outcomes by creating opportunity for meaningful participation and by facilitating the identification and mitigation of inequities in access to safe water. In addition, considering equity through the WSP process will result in stronger WSPs that address a greater range of social and technical hazardous events and identify more effective and sustainable control measures.

PURPOSE AND SCOPE

This guidance document describes how to systematically integrate equity considerations into WSP programming and practice for both urban and rural water supply systems in order to:

 **contribute to equitable realization** of the benefits of a WSP and access to safe water

 **minimize any (inadvertent) discrimination** through the WSP process

 **strengthen WSP effectiveness** through an inclusive WSP approach

This document is designed to be used in conjunction with existing WSP guidance materials, offering guidance on applying an "equity lens" to the established WSP steps described in other publications (and summarized in Section 1).

TARGET AUDIENCE

This document provides guidance for two groups of stakeholders who are already familiar with the WSP process:

1 WSP TEAMS:

These are the stakeholders responsible for the direct development and implementation of WSPs for individual water supply systems. WSP teams will generally include representatives from the water utility or water user group, as well as representatives from the health and environment sectors.

2 THOSE SUPPORTING WSP PROGRAMMES:

These are global, regional, national and subnational stakeholders who support the roll-out and uptake of water safety planning. They may represent governmental or non-governmental organizations (NGOs). For example, at the global or regional level, these stakeholders may represent UN agencies, banks, donors, NGOs or other international development organizations with a role to play in promoting and facilitating WSP programmes across countries. At the national or subnational level, they may represent government agencies (e.g. ministries of health and/or water), domestic NGOs or other organizations responsible for driving and supporting WSP programmes within a country.

STRUCTURE

SECTION 1 ▶

INTEGRATING EQUITY INTO THE STEPS OF A WSP

Guidance on systematically incorporating equity considerations into the process of developing and implementing a WSP.

SECTION 2 ▶

ADDRESSING EQUITY IN BROADER WSP PROGRAMME ACTIVITIES

Guidance on ensuring that equity considerations are reflected in activities that support WSP programmes, e.g. nationally or globally, such as guidance materials development, site selection, training, financing and monitoring.

TOOLBOX ▶

Practical examples and tools to support equity integration into WSPs and broader WSP programmes.

CASE STUDIES ▶

Experiences and lessons learned from piloting the systematic integration of equity considerations in urban and/or rural water safety planning in Bangladesh, Nepal and the Philippines.

HOW TO USE THIS GUIDANCE

TO TRAIN AND GUIDE WSP TEAMS

This document can be used directly by WSP teams as they develop and implement their WSPs, ideally following sensitization and training on the principles and steps presented. To this end, the document has been designed to serve as a convenient training resource. For example, Tool A can be photocopied and provided as a handout during a training event, and Tool F provides example training materials demonstrating where and how to address equity considerations within established WSP steps.

TO INFORM THE DEVELOPMENT OF WSP PROGRAMMES AND RESOURCES

This document can be used by those supporting WSPs at all levels to design and deliver WSP programmes that promote equity. Wherever possible, those supporting WSPs should incorporate the recommendations in this document directly into customized WSP guidance materials and tools used in their own settings, e.g. national WSP training materials. This approach will support WSP teams in understanding how to practically incorporate equity considerations within the local context, and it will help ensure that WSP teams are not overburdened with multiple WSP resources.

TO ENCOURAGE STEPWISE IMPROVEMENT IN THE SYSTEMATIC CONSIDERATION OF EQUITY

Full integration of equity considerations into WSPs will likely be a gradual process, as explicit consideration of social inclusion in water safety planning will be an unfamiliar concept to many initially. Efforts made to implement any portion of this guidance will bring equity benefits and contribute to a culture of inclusion, which can be strengthened over time. Just as water safety planning is a process of continuous improvement, an incremental approach can be taken to applying this guidance to achieve positive equity outcomes.

SECTION 1: INTEGRATING EQUITY INTO THE STEPS OF A WSP

This section explains how to consider equity through the steps of the WSP process and why this is of value to the WSP and for achieving equity outcomes. This section is relevant for those developing and implementing WSPs (i.e. WSP teams) as well those who support WSP programmes and can directly incorporate this guidance into relevant WSP resources. The integration of the guidance in this section into national or regional WSP guidance and training materials, for example, will greatly influence and facilitate uptake by WSP teams.

This section includes numerous supporting examples from water supply systems of different sizes and resource levels around the world. Many of these examples have been drawn from experiences in Bangladesh, Nepal and the Philippines considering equity through WSP development and implementation (see the case studies at the end of the document for further details).

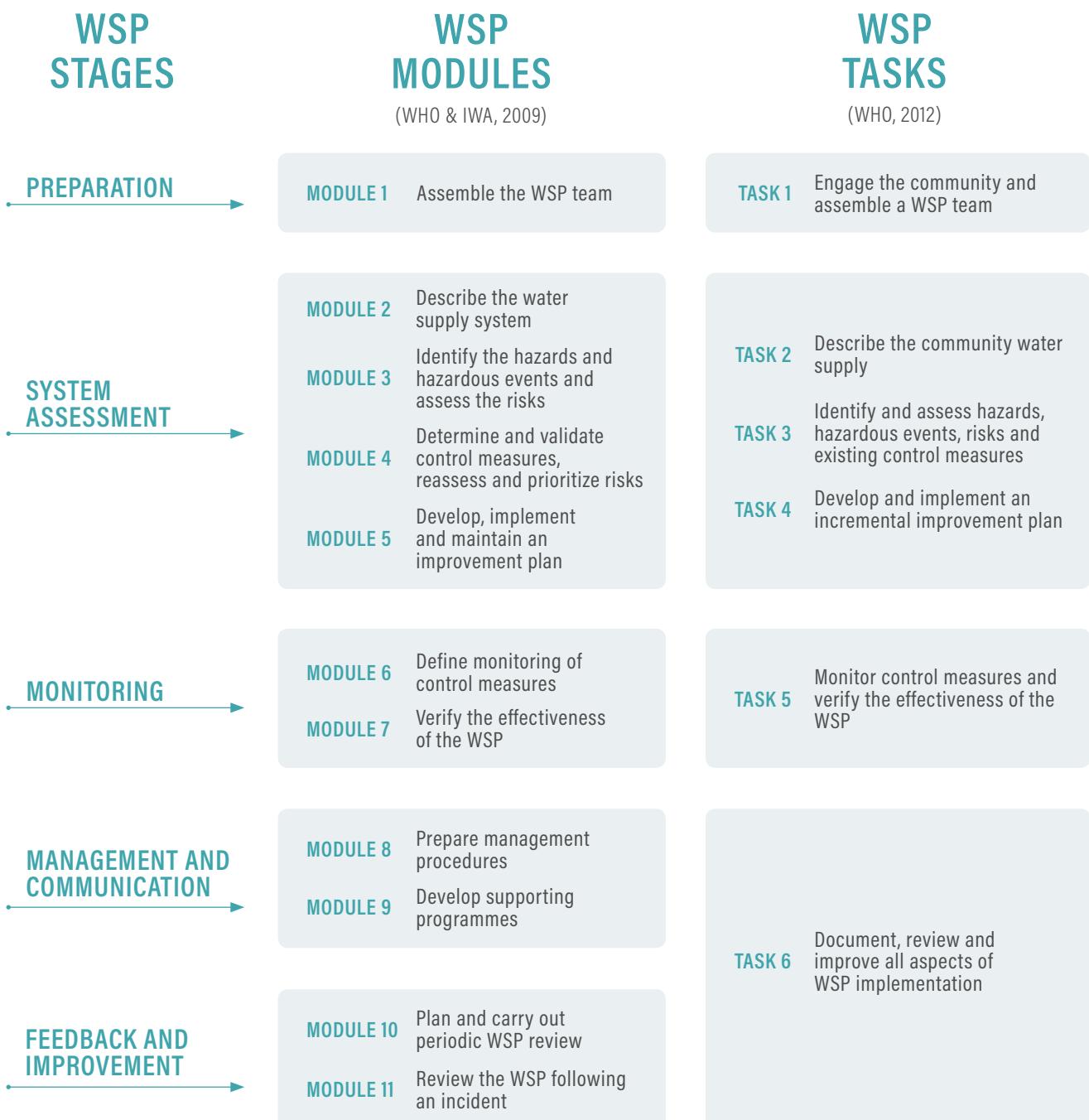
This guidance for equity integration into the WSP process is meant to supplement existing WSP guidance, not replace it. The guidance aligns with the *Water safety plan manual* (WHO & IWA, 2009) and with *Water safety planning for small community water supplies* (WHO, 2012). Guidance is presented according to the five stages of a WSP, namely:

- 1. PREPARATION**
- 2. SYSTEM ASSESSMENT**
- 3. MONITORING**
- 4. MANAGEMENT AND COMMUNICATION**
- 5. FEEDBACK AND IMPROVEMENT**

These five WSP stages relate to the various steps (tasks or modules) of WSP development as shown in Fig. 1. Not all WSP steps shown in Fig. 1 are addressed in this document. Rather, this document addresses only those WSP steps that provide a clear opportunity to integrate equity considerations into the process.



Fig. 1. WSP STAGES AS OUTLINED IN WSP GUIDANCE MANUALS



INTEGRATION AT A GLANCE



TIP ▶ Aim for stepwise improvement

Thinking about the social context of a community and the equity outcomes of the WSP process may at first feel unfamiliar to WSP team members, but it will get easier with practice. Even if only parts of this guidance can be applied initially due to limitations related to time, skill or resources, the WSP team should work towards the progressive implementation of additional recommendations over time.

Equity integration starts with the WSP **preparation** stage. If the WSP team has ensured equitable and meaningful participation of different genders and disadvantaged groups and received appropriate training on equity issues, then equity consideration through the process will be more natural and not overly burdensome.

After WSP preparation, fundamental equity issues can be identified in the second stage of the WSP – **system assessment**. System assessment should include identification of all the different users. Understanding diverse water user (and non-user) groups will help the WSP team to identify all hazardous events and appropriate control measures, and to develop a comprehensive and equitable improvement plan.

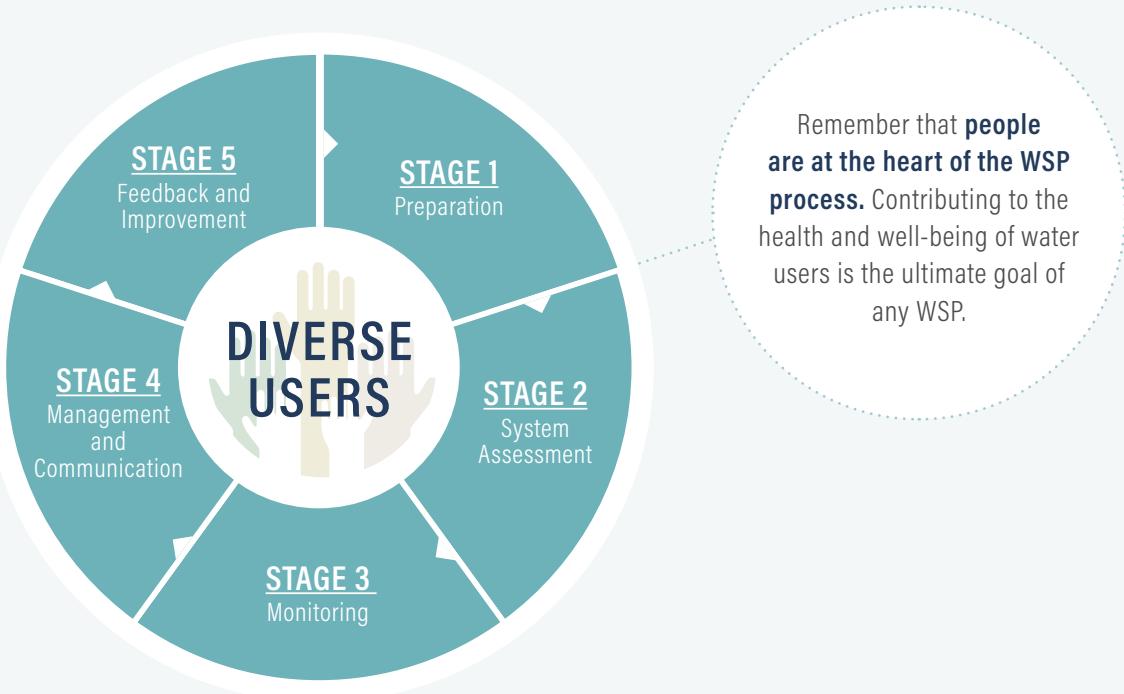
During the **monitoring** stage, the WSP team should check whether the control measures are benefiting all users equitably and think about how to monitor the satisfaction and water quality of diverse users, particularly different genders and disadvantaged groups.

During the **management and communication** stage, it will be important for the WSP team to consider what actions might be necessary for the emergency response plan and education programmes to meet the diverse needs of different genders and disadvantaged groups in particular.

Finally, the **feedback and improvement** stage provides an opportunity to review and confirm that equity has been integrated into the WSP process, aiming for incremental improvements over time.

Fig. 2 summarizes how the WSP team can integrate equity considerations into the WSP process. Detailed guidance is provided in the following sections.

Fig. 2. OVERVIEW OF EQUITY INTEGRATION INTO A WSP



WHERE AND HOW TO INTEGRATE EQUITY INTO THE WSP PROCESS

1 PREPARATION

ASSEMBLING THE WSP TEAM:

- 1a: Seek meaningful participation of women, men and disadvantaged groups
- 1b: Seek training on the importance of considering equity

2 SYSTEM ASSESSMENT

DESCRIBING THE SYSTEM:

- 2a: Identify diverse user (and non-user) groups
- 2b: Investigate different user experiences with water

IDENTIFYING HAZARDS:

- 2c: Consider all user experiences when identifying hazardous events

IMPROVEMENT PLANNING:

- 2d: Consider prioritizing improvements that benefit disadvantaged groups
- 2e: Identify control measures that address root causes of hazardous events
- 2f: Assess proposed control measures for positive or negative equity outcomes
- 2g: Ensure equitable communication and participation in control measure selection and implementation

3 MONITORING

OPERATIONAL MONITORING:

- 3a: Monitor control measure effectiveness to ensure equitable benefit

VERIFYING WSP EFFECTIVENESS:

- 3b: Monitor water quality and consumer satisfaction for all user groups

4 MANAGEMENT AND COMMUNICATION

DEVELOPING MANAGEMENT PROCEDURES AND SUPPORTING PROGRAMMES:

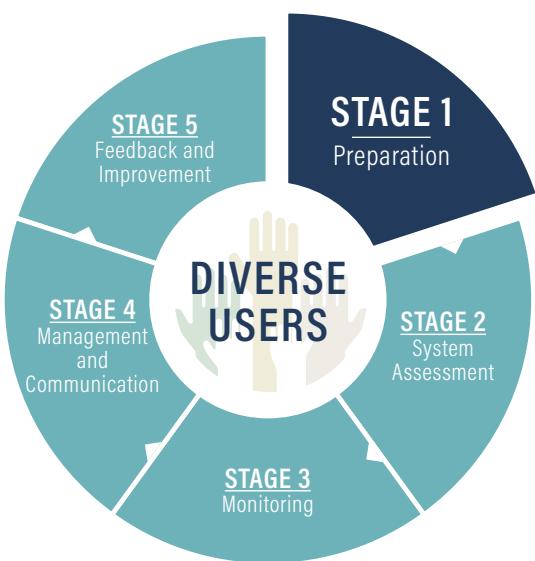
- 4a: Consider all groups when developing communication plans

5 FEEDBACK AND IMPROVEMENT

REVIEWING THE WSP:

- 5a: Strengthen equity integration during ongoing review and revision

STEP-BY-STEP GUIDANCE



STAGE 1: PREPARATION

Assembling the WSP team

Stage 1 of water safety planning, preparation, involves engaging key stakeholders to form the WSP team and arranging for necessary awareness raising and training.

ASSEMBLING THE WSP TEAM

1a. Seek meaningful participation of women, men and disadvantaged groups

Why is this important?

Meaningful participation means that all users, particularly women and disadvantaged groups, have choice and ability to influence decisions and contribute in ways that are effective and empowering (Halcrow et al., 2010). If different genders and disadvantaged groups meaningfully participate in the WSP team, integrating equity into the rest of the WSP process will be easier and more effective. Hazards, hazardous events, risks and control measures are experienced differently by different groups and are better understood by those people that experience them first hand.

There is evidence that water initiatives are improved through considering different roles, responsibilities and equality of men and women (Carrard et al., 2013; Fisher, 2008; O'Reilly, 2010; Van Wijk-Sijbesma, 1998; Willetts et al., 2010). Women are often primarily responsible for water management, not only in rural settings, but also in urban areas where the water supply system requires active management at the household level, e.g. where an intermittent piped supply necessitates storage and/or treatment at home. Therefore, women often have first-hand knowledge of issues related to water in the community and/or the household, and their participation will help to ensure that all hazardous events are identified and that proposed control measures are appropriate.

Representation of disadvantaged groups, such as people living with disability (PLWD), ethnic minorities or informal settlement dwellers, provides access to information on the particular experiences of water for these users. This helps ensure that the WSP will meet the needs of all the different user groups.

How to do this?

To ensure meaningful participation in the WSP process, particularly among women and representatives of disadvantaged groups, the WSP team can:

- ❖ Consult those supporting WSPs nationally or other government staff for information on national policies and laws that provide guidance on equitable participation in water service delivery.
- ❖ Remember that meaningful participation begins with awareness; use available tools and mechanisms to raise awareness on the WSP and opportunities to participate, e.g. mass media, posters/notice boards, community meetings and school curricula.
- ❖ Consider inviting certain groups or individuals to participate in the WSP process, either as a WSP team member or an advisor to the team (see tip below). For example, consider reaching out to:
 - representatives of existing civil society groups, e.g. women's groups, PLWD, youth groups, the elderly, ethnic groups, or representatives of informal settlements;
 - specific individuals who represent different, especially disadvantaged, user groups; and
 - representatives of user groups revealed through exploration of community diversity (see Step 2a).
- ❖ Enable all team members to contribute by ensuring the training, mentoring and coaching needed for them to feel confident and competent to influence decisions.
- ❖ Ensure times and locations of meetings are appropriate for all members, and ensure the benefits of participation outweigh any risks or unnecessary burdens that people may experience as WSP team members.

See Boxes 1 and 2 for examples of meaningful participation drivers and practice.



TIP ▶ Consider WSP team advisory roles

Remember that sustained WSP implementation depends on having an active WSP team with appropriate roles and responsibilities clearly defined. Poorly defined roles and/or unrealistic expectations for member contributions will adversely impact WSP implementation over time. It is therefore valuable to consider engaging some stakeholders as advisors to the WSP team for targeted inputs rather than expecting all participants to necessarily support all WSP team activity over the long term. Advisors' inputs can be sought at select points during WSP development and implementation without putting undue demands on participants' time.



BOX 1 ▶ National policy driver for meaningful participation

Reviewing national policy can provide guidance to integrate equity considerations into water safety planning. For example, the **Nepal** Rural Water Supply Policy (2004) requires that "the participation of gender, caste and disadvantaged ethnic groups will be made essential to all decision-making processes regarding water supply...and special emphasis will be given for their meaningful participation." Water committees should ensure proportional representation of gender, caste and disadvantaged ethnic groups, including 50% representation of women.



BOX 2 ▶ Meaningful participation in practice

A WSP in **Bangladesh** involved women in decision-making and, as a result, developed appropriate fixes for tap stands, which the women were able to install themselves with minimal tools. As women were the primary water collectors, it was important to ensure that women could identify issues with tap stands and fix them quickly. On a WSP team in **Nepal**, half the members were women with direct links with mothers' groups in the community. The women WSP team members passed along information about safe water management to mothers' group members, who played an important role in water management in the community, thereby improving the reach and impact of community education for the WSP.

1b. Seek training on the importance of considering equity

Why is this important?

For many practitioners in the water sector, particularly those with a technical background, engaging with the ideas of equity integration into water supply system initiatives may be quite new. Awareness raising and training for WSP teams will be important for developing the commitment and skills necessary to implement the guidance in this document.

Ideally, the WSP training initially provided to WSP teams (e.g. by those supporting WSP teams who apply the guidance in Section 2) should include basic training on equity considerations. Where this is not the case, or where further equity training is needed, WSP teams should proactively request equity training.

How to do this?

Training can usually be organized with specialists on equity, including gender and social inclusion, found in:

- ❖ national government;
- ❖ national and international NGOs; and
- ❖ women's and disadvantaged groups.

WSP teams, those supporting WSP teams and equity specialists may find the supporting resources listed here (see next page) to be useful. In addition, Tool F provides example training materials that may be useful in building capacity on integrating equity considerations into water safety planning. The resources listed as further reading at the end of this document may also be of value.

See Box 3 for examples of equity training.



BOX 3 ▶ Raising awareness of equity issues

As part of a WSP in **Bangladesh**, WSP programme coordinators conducted training with the WSP team on the importance of educating different groups about how to achieve safe water and how to tailor messages and education methods to be appropriate for different groups. With knowledge from this training and support from the WSP programme coordinators, the WSP team developed safe water management and hygiene promotion messages and approaches for different water user groups in the community, also recognizing the specific interests and needs of women and men within these groups (see Box 12).

RESOURCES TO SUPPORT EQUITY AWARENESS RAISING

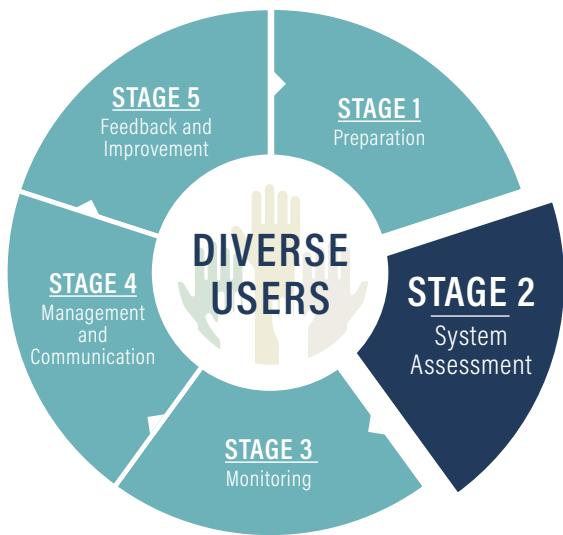
Civil Society Water, Sanitation and Hygiene Fund. Top resources. Department of Foreign Affairs and Trade, Australian Government (<http://www.cswashfund.org/shared-resources/tools>, accessed 18 January 2019).

Exploring gender aspects of community water, sanitation and hygiene: a manual for facilitating dialogue between women and men in communities. WaterAid, Timor-Leste, 2016 (<https://washmatters.wateraid.org/publications/exploring-gender-aspects-of-community-water-sanitation-and-hygiene-in-timor-leste>, accessed 18 January 2019).

Gender mainstreaming for health managers: a practical approach. Geneva: World Health Organization, 2011 (http://www.who.int/gender-equity-rights/knowledge/health_managers_guide/en/, accessed 18 January 2019).

Resource guide. Working effectively with women and men in water, sanitation and hygiene programs: learnings from research on gender outcomes from rural water, sanitation and hygiene projects in Vanuatu and Fiji (Halcrow et al., 2010). International Women's Development Agency, Melbourne; and Institute for Sustainable Futures, University of Technology Sydney, Australia (<http://www.genderinpacificwash.info/guidance-material.html>, accessed 18 January 2019).

WaterAid Inclusive WASH: Building skills towards inclusive water, sanitation and hygiene. Resource library for gender: women and girls (www.inclusivewash.org.au/resource-library-gender-women-and-girls, accessed 18 January 2019).



STAGE 2: SYSTEM ASSESSMENT

- ❖ Describing the system
- ❖ Identifying hazardous events
- ❖ Improvement planning

Stage 2 of water safety planning, system assessment, involves describing the water supply system (including users and uses); identifying hazards and hazardous events that threaten the water supply; validating the effectiveness of existing control measures; assessing risks; and developing improvement plans to manage priority risks.

Within this stage, equity should be explicitly considered when describing the system; identifying hazards and hazardous events; and improvement planning.

DESCRIBING THE SYSTEM

2a. Identify diverse user (and non-user) groups

Why is this important?

Both urban and rural communities are made up of a range of diverse water users, and possibly non-users, as shown in Fig. 3. For example, there may be wealth disparities, health inequities, gender inequalities and/or other forms of disadvantage. This diversity needs to be understood to ensure that all users benefit from the WSP. Where community diversity is not explicitly considered as an early activity in the WSP process, hazardous events impacting certain disadvantaged groups may be inadvertently overlooked during the risk assessment (see Box 4).

Water initiatives in the past may have focused on engaging with the most easily accessible parts of the community or with the more vocal/influential users, for example. Those experiencing pre-existing inequities are therefore often left out and left behind while the situation improves for others. Where diversity in the community has not been explicitly considered in the design of a water initiative, disadvantaged groups often do not receive equal benefits. Furthermore, the water initiatives may not succeed, as they are not appropriate or meaningful for all of the community (Halcrow et al., 2010; Willetts et al., 2010; Carrard et al., 2013).

Identifying the diverse community members, including disadvantaged groups, means that the many different ways in which users experience water can be understood. Where the entire community is not served by the water supply system, it is important to consider non-users of the system as well as users in order to prompt exploration of barriers to access.

See Box 4 for examples that highlight the importance of considering community diversity.

Fig. 3. DIVERSE WATER USERS (AND NON-USERS) IN URBAN AND RURAL COMMUNITIES



BOX 4 ▶ The need to consider community diversity

A water supplier serving approximately 575 000 consumers in the **Philippines** inadvertently neglected to consider informal settlements served by their water supply system when they originally developed their WSP. Rather, the WSP team focused on the 97% of the population receiving piped water inside the home and did not consider those receiving service to shared tap stands within informal settlements, where the poorest in the community lived. The particular user experience associated with this type of service delivery and the associated risks were therefore not addressed by the WSP until explicit consideration of community diversity brought attention to these system users (over 17 000 people). (Boxes 5 and 6 describe how the informal settlement residents' unique experiences with water were subsequently identified and addressed in the WSP.)

In the **United States of America**, research involving nearly 13 000 drinking-water utilities serving populations of 10 000 or more found significant disparities in Safe Drinking Water Act health violations related to class, ethnicity and race of populations served (Switzer & Teodoro, 2017). These findings make a clear case for demographic and economic consideration when prioritizing communities for interventions such as WSPs.

How to do this?

To ensure that no group is inadvertently excluded from the WSP process and its benefits, the WSP team should explicitly consider community diversity as part of describing the system. The WSP team will then be positioned to consider different experiences with water among these diverse groups (see Step 2b).

A partial picture of diversity within the community can be initiated through WSP team discussions, as WSP team members will likely have some knowledge of areas that are unserved by the water supply; areas with higher and lower levels of income; informal settlements; different ethnicities, languages and religions in the community; and the like. Ensuring that WSP team members or advisors reflect community diversity (see Step 1a) will support these early discussions.

The WSP team should then draw on other sources of information to validate and supplement initial discussions on community diversity. Certain information should be readily available through the water supplier, e.g. the percentage of the community served by the water supply system. Additional information may be available through a recent government census or the work of an NGO. Where WSP team capacity is sufficient, the WSP team can supplement and/or validate priority information through a household survey (see Step 2b).

Information that will contribute to WSP team understanding of community diversity and potential disadvantage includes:

- ❖ **Water supply connection:** What percentage of the community is served? Who is and is not served? What are the reasons for non-use or potential exclusion?
- ❖ **Poverty:** How many people live close to or below the poverty line?
- ❖ **Land tenure:** How many people live in areas of informal settlements or without housing?
- ❖ **Differently abled:** How many people living with a disability are in the community?
- ❖ **Head of household:** How many children-, women- or elderly headed households are in the community?
- ❖ **Literacy/education:** What are the literacy and education levels in the community?
- ❖ **Other:** What other types of community sub-sets exist that may contribute to disadvantage?
- ❖ **Sex:** How many males and females or other diverse gender or sexual identity groups are in the community?
- ❖ **Age:** How many people are, for example, less than 10 years old, between 10 and 50, and older than 50?
- ❖ **Ethnicity and social class:** What are all the ethnicities and social classes (where applicable)?
- ❖ **Language:** What languages are spoken in the community and how many speakers are there of each?
- ❖ **Religion:** What religions exist in the community and how many people identify with each?

2b. Investigate different user experiences with water

Why is this important?

Some water supply system users may be more likely than others to experience unsafe water because of their location within the water supply network, type of collection point infrastructure or water use and management practices. Perceptions of water quality and/or other aspects of water service delivery (see next page) may also differ within a community, impacting the way water is used.

WATER SERVICE DELIVERY

The UN human right to water explains and addresses various factors which impact the level of water service delivery and are appropriate to consider when exploring different user experiences with water:

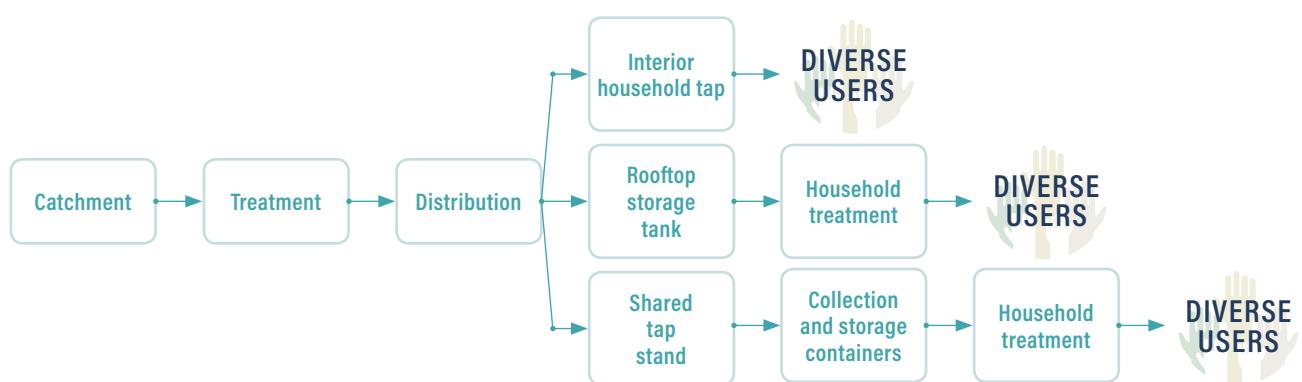
- ❖ **Quality/safety:** Can the water be consumed over the long term without risk to health?
- ❖ **Accessibility:** Is the water supply physically accessible within the vicinity of each household?
- ❖ **Availability:** Is the water supply available when needed and in sufficient quantity?
- ❖ **Acceptability:** Are all users comfortable with the taste, odour and appearance of the water supply?
- ❖ **Affordability:** Are all users able to pay for water connection and service without undue financial burden?

Knowledge of the diverse range of water user groups (see Step 2a) allows for exploration of diverse experiences with water, which will help the WSP team to systematically identify all hazards and hazardous events, develop more appropriate and successful control measures, and determine which improvements to prioritize to ensure equitable benefit from a WSP. If the experience of access to and management of water is not explored for all different groups, hazardous events experienced by disadvantaged users may go unnoticed, and the WSP may only benefit part of the community.

How to do this?

When describing the water supply system, the WSP team should consider the complete water supply chain for different user groups (see Fig. 4), as this will influence users' experience with water.

Fig. 4. EXAMPLES OF DIFFERENT WATER SUPPLY CHAINS FOR DIFFERENT WATER USERS



The WSP team should also endeavour to understand diverse users' experiences with water according to the categories shown in Fig. 5. For all diverse groups identified in Step 2a, the WSP team should investigate:

- ❖ Types of collection point infrastructure (e.g. communal tap stands versus private household connections), their locations and operations and maintenance activities.
- ❖ Water quality at different locations and different types of collection point infrastructure, as well as different perceptions of quality, accessibility, availability, acceptability and affordability.
- ❖ Water practices, which may include collection, transport, household treatment, storage and/or use.
- ❖ Barriers to participation in ensuring water safety and how they can be overcome.

Fig. 5. EXPLORING AND DESCRIBING DIFFERENT USER EXPERIENCES WITH WATER

COLLECTION POINT INFRASTRUCTURE	WATER QUALITY AND SERVICE DELIVERY
Map all different collection point types and qualities <ul style="list-style-type: none"> ❖ What are the different types of collection points (e.g. interior household tap, private yard tap, shared tap, public or private storage tanks)? ❖ How do quality and robustness vary (e.g. material, age, condition)? ❖ What problems occur and how are they fixed? 	Explore differences in water quality and service delivery <ul style="list-style-type: none"> ❖ Does water quality meet standards at different points? ❖ What are different perceptions of quality, accessibility, availability, acceptability and affordability? ❖ How do different perceptions influence user behaviour or result in inequities?
Explore differences in how water is collected, managed and used <ul style="list-style-type: none"> ❖ Which users collect, transport, treat and store their water? ❖ What are the different ways this is done? ❖ What are the different or unique water needs for all user groups? 	Identify practices and barriers related to participation <ul style="list-style-type: none"> ❖ How do different users communicate concerns with water supplies? ❖ How would different users like to receive information from or be engaged by water suppliers? ❖ Who do different user groups think is responsible for providing safe water? ❖ Are different users aware of their rights in relation to water?
<p>Explore these questions for all user groups to identify different or inequitable experiences of water and water management. Pay attention to groups such as different ethnicity, social class, religion, income level, land tenure, gender, age, PLWD.</p>	

The WSP team members and advisors should begin this investigation by reflecting on their own observations, experiences and knowledge related to the questions in Fig. 5. The WSP team should then consult other sources to confirm, complete and map (see tip below) the picture of diverse user experiences with water. The water supplier should be able to provide information to support this investigation, e.g. data on infrastructure and water quality. The health authority or other water supply regulatory agency may also be able to provide information.

Where WSP team capacity is sufficient, the team can supplement and verify available information on diverse user experiences by undertaking a household survey designed to explore the topics outlined in Fig. 5. Tool D provides an example of a household survey that WSP teams can use to collect information on different user experiences with water (and potentially use to validate or supplement the demographic information gathered in Step 2a). Household surveys are also an opportunity to inform users about the WSP process, share the goals of the WSP, explain how the community can help, and provide information on service levels the community should expect so the community can help monitor implementation and outcomes of the WSP in later stages.



TIP ▶ Mapping user experiences

The WSP team should add the information gathered on user experiences to the water supply system map. This is a useful way to record the information, as the pictorial representation of diverse experiences can offer clues on systemic reasons for differences and how they can be overcome.

To the extent feasible, the WSP team should disaggregate information gathered on user experiences with water by appropriate social stratifiers (e.g. land tenure, head of household) and analyse the data to look for areas of difference. Inequity may exist where one group is experiencing less favourable collection point infrastructure, has poorer water quality (or perceptions of water quality), is engaging in riskier water practices, or is experiencing barriers to participation.

See Box 5 for examples of considering diverse user experiences with water to inform water safety planning.



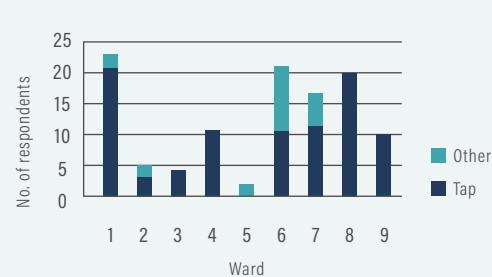
BOX 5 ▶ Exploring diverse user experiences with water

To better understand informal settlement water users' experiences to inform the WSP, an urban WSP team in the **Philippines** (see Box 4) designed and conducted a household survey in the informal settlements. The survey revealed several issues relevant to water safety planning, including:

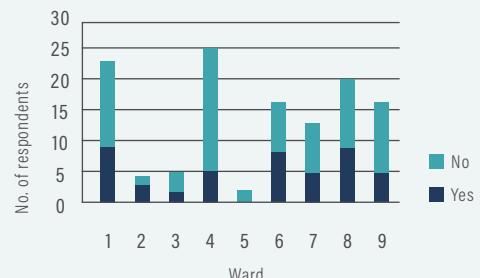
- ❖ concerns related to affordability of water service, resulting in illegal connections to the piped system;
- ❖ service delivery to shared tap stands marked by heavy use and degrading infrastructure;
- ❖ user practices that included collecting, transporting and storing water at home; and
- ❖ perceptions of poor water quality resulting in the use of unhygienic home filtration or buying bottled water, creating an economic burden on poor people who could least afford this extra expense.

In **Nepal**, a WSP team completed a household survey across all nine wards of their community as part of the system assessment. They identified the differing demographic situation in the community as well as diverse water user groups and water use practices across the nine wards. The survey identified several threats to safe water that needed to be addressed by the WSP. Learnings included differences in the source of drinking-water in different parts of the community and different practices of water treatment, as shown in the figures below.

Where do you get your drinking-water?



Do you treat your water?



IDENTIFYING HAZARDOUS EVENTS

2c. Consider all user experiences when identifying hazardous events

Why is this important?

If the WSP team takes care to consider the full range of user experiences with water for all diverse user groups when listing hazards and hazardous events, it is likely that additional issues will be identified, including issues specific to disadvantaged groups that may otherwise have been inadvertently overlooked.

How to do this?

The WSP team should systematically think through the various user experiences with water (see Step 2b) (e.g. collection point infrastructure, perceived and/or actual water quality and service delivery, water collection and storage practices) and consider which hazardous events are associated with that particular user experience (see Table 1). The hazardous events identified through this exercise should then be incorporated into the WSP's main table of hazards and hazardous events for subsequent assessment and management planning through the WSP process.

Table 1. EXAMPLES OF HAZARDOUS EVENTS ASSOCIATED WITH DIFFERENT USER EXPERIENCES

USER EXPERIENCE	HAZARDOUS EVENTS ASSOCIATED WITH THAT EXPERIENCE
Collecting water from a public tap stand	Potential contamination from poorly maintained and unsanitary collection area
	Potential contamination from containers used for collecting and storing water
Perception that the water is unsafe	Exposure to contamination when less safe alternative water sources are used
	Potential contamination through unsafe household water treatment practices

Seeking meaningful participation of different genders and disadvantaged groups when building the WSP team (Step 1a) will support this activity by ensuring that those with relevant perspectives and experiences are included.

See Box 6 for an example of identifying additional hazardous events through explicit consideration of different users' experiences with water.



BOX 6 ▶ Identifying additional hazardous events specific to certain user experiences

When an urban WSP team in the **Philippines** considered the experience of water users in an informal settlement (see Box 5), several hazardous events were added to the WSP that had been inadvertently overlooked during the WSP's initial development. The additional issues identified generally related to the use of public tap stands (rather than the private household connections) and difficulties paying water supply system connection fees. The table below lists some of the hazardous events that were added to the WSP.

LOCATION	HAZARDOUS EVENT
Distribution system	Illegal connections may result in contaminant ingress into the pipe network
	Use of improper pipe materials used for illegal connections may contaminate the water supply
Collection point (public tap stand)	Unsanitary tap stand conditions may result in contamination
	Water collection and transport in open containers may result in contamination
Household	Storage of water in open containers or poor hygiene practices in dispensing water (e.g. dipping a dirty cup or hand into the container) may result in contamination

IMPROVEMENT PLANNING

2d. Consider prioritizing improvements that benefit disadvantaged groups

Why is this important?

Impacts of unsafe water are greater on the most disadvantaged in the community, such as the poorest, PLWD, children, elderly or pregnant women. For example:

- ❖ When the poor experience unsafe water, it may lead to a relatively greater financial burden or lost economic opportunity and/or medical expenses.
- ❖ Children, elderly and PLWD may have less resilient health, leading to higher levels of illness or premature mortality associated with contaminated water.

Therefore, hazardous events that disproportionately affect disadvantaged groups should be identified and prioritized as appropriate to ensure equity outcomes are achieved. Considering and prioritizing disadvantaged groups during improvement planning can help uncover and address discrimination through the WSP process.

How to do this?

After all hazardous events have been identified and associated risks assessed, the WSP team will need to take action to manage significant risks. In many cases, limited resources will not allow all significant risks to be addressed immediately, and it will be necessary to prioritize.

Among the various factors considered when determining priority improvements, the WSP team should consider which user groups are impacted by the various hazardous events and, as appropriate, consider prioritizing actions that will benefit the most disadvantaged user groups. For example, the WSP team should ask:

- ❖ Who are the most disadvantaged user groups?
- ❖ Which significant hazardous events affect the most disadvantaged?
- ❖ Are disadvantaged groups disproportionately impacted by the hazardous event?
- ❖ Can improvement actions that will benefit disadvantaged groups be prioritized?

See Box 7 for an example of considering disadvantage when prioritizing improvement actions.



BOX 7 ▶ Prioritizing improvements that benefit vulnerable groups

When a community-based organization (CBO) in **Bangladesh** developed and implemented a WSP in their community, the first step was to map the water collection points (which were all shared tap stands) and the levels of income in the community. Community members that were “hard-core poor” (as defined by national policy) were identified through the mapping process.

Two hazardous events identified through the WSP process were the degradation of the tap stands and the lack of sanitation facilities in homes near the tap stands. The CBO considered the hard-core poor to be more vulnerable to contamination resulting from these hazardous events, and funds available for associated improvements were prioritized for this group. Members of the CBO were proud that their WSP prioritized the needs of the most disadvantaged, noting that the practice also provided a benefit to everyone in their community: “It is important for the poorer people, as they get more sick. If they are targeted, their income and wealth and health increases...if certain groups have more income, the overall situation will improve.” (WSP team member)

2e. Identify control measures that address root causes of hazardous events

Why is this important?

Investigating and addressing systemic causes of the hazardous events will increase the likelihood that control measures address the fundamental issues that contribute to the hazardous event and to discrimination of the most disadvantaged. Examples of systemic causes include:

- ❖ **Socioeconomic:** People living in poverty, low levels of literacy, no land tenure.
- ❖ **Political:** Lack of citizenship or rights as a legal resident.
- ❖ **Institutional:** No functioning organizational structures that regulate water supply and ensure access.
- ❖ **Cultural:** Ethnicity or caste.

While it will not always be feasible to address underlying causes of hazardous events within the scope of the WSP, root causes should be identified and considered through the WSP process in order to design effective control measures. Further, the WSP team can contribute to addressing broader disadvantage by raising awareness of the issues, highlighting water safety risk implications and encouraging action.

How to do this?

For each hazardous event, the WSP team should:

- ❖ Explore patterns of exposure to hazardous events across different user groups in order to determine underlying or systemic causes.
- ❖ Identify control measures that address these systemic causes, mitigating any embedded inequity or discrimination.

See Box 8 for an example of addressing systemic disadvantage through water safety planning.



BOX 8 ▶ Identifying and addressing underlying causes of hazardous events

When an urban WSP team in the **Philippines** identified hazardous events associated with illegal connections and unsafe piping materials in an informal settlement (see Box 6), the WSP team identified and addressed systemic causes.

While the water supplier is responsible for piping up to the water meter, piping beyond the meter is the responsibility of householders. In the informal settlement area, the distance between the meter and the tap was around 100 m or greater, whereas in the more affluent areas the distance was significantly less (e.g. 3 m). Households in the informal settlement were therefore responsible for installing and maintaining more pipework. In addition, these users tended to use improper materials for the piping beyond the meter, resulting in greater risk of contamination.

Understanding the root cause of exposure to these hazardous events allowed the WSP team to design effective and equitable control measures. The WSP team proposed placing the meters closer to the points of water use, thereby reducing the pipeline installation and maintenance burden and the risk of poorer households using low-quality materials for piping to the home. The team also suggested offering a service to users for repair of household piping with a fee to be included as part of bill payment.

2f. Assess proposed control measures for positive or negative equity outcomes

Why is this important?

Some control measures have the potential to directly impact people, particularly control measures related to the catchment level or the consumer level of the water supply system. Assessing the human impact of proposed control measures, especially for the most disadvantaged, is important because:

- ❖ Control measures may cause unintentional harm or discrimination, particularly to those most disadvantaged. For example, removing illegal connections without exploring alternative connection options may present a burden to poor householders unable to afford service fees.
- ❖ Equitable control measures contribute to WSP effectiveness, as people are more likely to follow control measures that do not contribute to disadvantage. For example, restricting farming activity within a catchment without considering and addressing impacts on livelihoods may result in non-compliance with the control measure and ineffective risk management.

How to do this?

If the WSP team considers the potential impact of relevant control measures (see tip below) on different stakeholder groups, the WSP team can anticipate when a control measure may cause harm or disadvantage. The WSP team can then pursue an alternative control measure, modify the control measure or consider compensation measures to avoid any unintentional discrimination.



TIP ▶ Recognize relevant control measures

Not every control measure will need to be assessed for equity impacts. This guidance is especially relevant for control measures that directly impact people, e.g. those applied in the catchment or at the consumer level. An equity assessment is unlikely to be necessary for technical control measures, such as those applied at the treatment plant or main distribution lines.

For each relevant control measure proposed, the WSP team should ask:

- ❖ Will the control measure provide equitable benefit?
- ❖ Are there any potential negative consequences of the control measure to any stakeholder group?
- ❖ Are there alternatives, modifications or compensation measures for any control measure that is expected to cause harm or inequitable benefit?
- ❖ Are different control measures needed for different users based on their unique needs?

Table 2 presents examples of equity assessment questions. See Box 9 for examples of designing equitable and effective control measures.

Table 2. EXAMPLE QUESTIONS TO EXPLORE AND ENSURE EQUITABLE CONTROL MEASURES

CATCHMENT
Some catchment control measures will directly impact people and would thus benefit from an equity assessment. For example, if restricting farming operations near a water intake is proposed, the following equity questions could be explored: How can disadvantage to farmers be avoided? Is there a form of compensation that could be offered to farmers? Can farming practices be changed to reduce hazards? Are different control measures needed to account for any diversity within the group of farmers, depending on their gender, age, etc.?
CONSUMER
Most control measures associated with hazardous events at the consumer level will benefit from an equity assessment. For example, if removal of illegal connections is proposed, an equity assessment could ask: What is driving the illegal connections? What will be the impact of removing the illegal connections on those who have connected illegally? Can solutions be found in which those needing water can still access water?



BOX 9 ▶ Designing equitable and effective control measures

In **Australia**, cattle grazing near a river offtake was identified through the WSP process as a high risk to source water quality. The WSP team identified the need for additional fencing to protect the riparian buffer zone. Recognizing the potential adverse impact of the fencing on ranchers whose cattle were dependent on access to the river, the water supplier also provided an off-stream watering system to fill troughs for the livestock. In **China**, the impact of rice farming on source water quality was identified as a critical threat to water quality and quantity. Recognizing that imposing restrictions on rice farming would significantly impact livelihoods, farmers were offered compensation to change their crop from rice to corn – a lower impact crop. Cost savings related to increased water yield and improved water quality exceeded the costs of compensating the farmers. In **Brazil**, where sedimentation from eroding catchment areas impacted surface water supplies, farmers were compensated to reforest and terrace their fields using revenue from water tariffs. In **Germany**, water suppliers and farmers commonly engage in cooperation agreements to manage pesticide and nitrate levels in source waters. Topics covered under these agreements include consultations on water-protective application of fertilizers and financial support for intercropping.

Source: *Protecting surface water for health* (WHO, 2016a).

A WSP team in **Nepal** determined that contaminated water collection containers, unhygienic user practices at tap stands and contamination by human waste represented significant risks and required action. The team identified possible control measures and assessed which control measures would have more positive, equitable outcomes in the community, as shown below.

HAZARDOUS EVENT	POSSIBLE CONTROL MEASURES	EQUITY ASSESSMENT
Use of paint containers for water collection	Ban use of containers	The WSP team felt this control measure was discriminatory and would not be effective, as some users could only afford old paint containers and had no other option.
	Provide subsidies for poor to purchase safe collection containers	The WSP team felt this was a more equitable action.
Washing clothes at tap stand	Post written notices at tap stands	The WSP team felt this control measure was potentially discriminatory as not everyone could read notices and thus have equitable access to information about how to ensure safe water.
	Post written notices (in the users' language) together with pictures at tap stands	Blind users may not have access to the notices (additional measures may be needed for them), but more users would benefit from this control measure than the other.
Informal settlers openly defecating at source	Forcibly move people	The WSP team felt this control measure was discriminatory, as it would cause inequitable harm to the relocated community.
	Support sanitation facilities in informal settlement households	This would result in a more equitable outcome by improving living conditions and health standards in the informal settlement as well as ensuring safe water for the community.
	Upgrade water treatment facilities	This action would ensure safe water for the community, but it would miss an opportunity to create a positive improvement in the informal settlement.

2g. Ensure equitable communication and participation in control measure selection and implementation

Why is this important?

The success and sustainability of some control measures will depend on the awareness, support and/or participation of different stakeholders, particularly those control measures applied at the catchment or consumer levels of the water supply system. Developing appropriate communication methods and facilitating meaningful participation for all appropriate groups will increase the success of these control measures. It will also help ensure that no group is discriminated against by being denied access to information or the opportunity to participate.

How to do this?

Communication: Where proposed control measures depend on community awareness, buy-in and/or participation, the WSP team should seek feedback from the community on the most appropriate control measures. The WSP team should also ensure that control measures are communicated to all groups equally. This involves informing all different stakeholders about the control measures that are being implemented and why they are important in ways that are meaningful and accessible to each group.

For each control measure, the WSP team should consider what needs to be communicated to the community and how to best communicate it to diverse groups, e.g. those with different languages, education levels, mobility and places to access the information.

Participation: The WSP team should consider what opportunities there are for diverse groups to participate in control measure implementation.

For each control measure, the WSP team should consider if the community can be involved in its implementation. If an opportunity exists for community participation, consider how to offer this role to different groups equitably, particularly thinking about gender and disadvantaged groups. Consider if any education activities need to be conducted to enable participation.

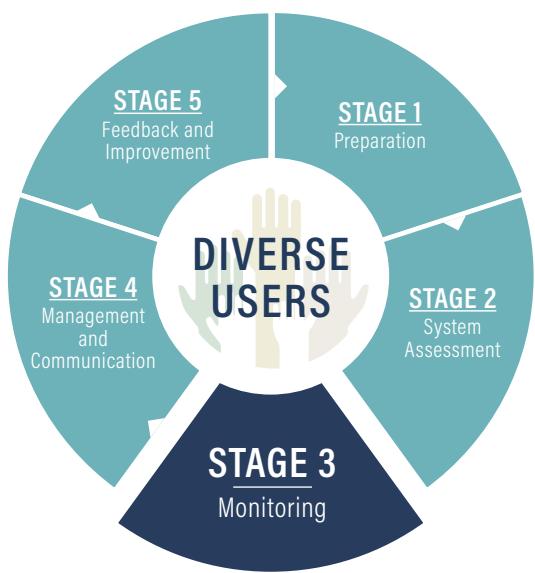
See Box 10 for an example of an inclusive approach to control measure implementation.



BOX 10 ▶ Inclusive participation in control measure implementation

Through WSP implementation in **Bangladesh**, the education of tap stand caretakers was identified as a way to prevent collection point contamination. Both male and female caretakers were trained to create equal opportunity for participation. Trainers recognized that many women were not experienced in public roles in the community and were not as knowledgeable or comfortable with the technical aspects of tube well maintenance. The training aimed to address this gap to ensure that both women and men developed the skills and confidence needed to carry out the role. Also, and importantly, care was taken to ensure that the requirements of managing the tap stands did not place an unfair burden on women in terms of time required or uncomfortable status in the community (which depends very much on the individual). The approach taken served to optimize WSP effectiveness and contribute to improved gender equality in the community.

To facilitate wider community participation in the management of the tap stands, visual monitoring tools were created to reflect the community's diverse literacy levels.



STAGE 3: MONITORING

- ❖ Operational monitoring
- ❖ Verifying WSP effectiveness

Stage 3 of water safety planning, monitoring, involves operational monitoring to ensure the ongoing effective operation of control measures; and verification to confirm the effectiveness of the WSP as a whole, including monitoring the delivery of safe water and consumer satisfaction.

OPERATIONAL MONITORING

3a. Monitor control measure effectiveness to ensure equitable benefit

Why is this important?

By monitoring control measure effectiveness for all intended beneficiaries, the WSP team can ensure that the benefit of control measures is achieved for all. If the WSP team does not consider all user groups during monitoring, the benefit may be limited to certain user groups only, while others may continue to experience unsafe water.

How to do this?

By this stage in the WSP process, the WSP team will be aware of the diverse user groups, especially the disadvantaged, and how control measures may impact different user groups. When developing and implementing the operational monitoring programme, the WSP team should:

- ❖ Note the intended beneficiaries of each control measure.
- ❖ Confirm that the control measures are in place and experienced equally by all the intended beneficiaries.

The scenarios described (see next page) are intended to illustrate the importance of monitoring for equitable control measure benefit.

SCENARIOS HIGHLIGHTING THE NEED TO CONSIDER EQUITY IN OPERATIONAL MONITORING

REMOTE COMMUNITIES ARE NOT SUFFICIENTLY PROTECTED BY CHLORINE

A water supplier ensures microbial safety of the water supply by maintaining a chlorine residual throughout the pipe network of at least 0.2 mg/L, which is confirmed through regular operational monitoring. However, explicit consideration of diverse groups in the community reveals that water quality monitoring locations have not been established at certain remote locations in the network that serve low-income housing. Subsequent monitoring at these locations reveals inadequate chlorine levels due to the distance from the water treatment plant and highlights a need for chlorine booster stations to ensure equitable protection from microbial hazards.

EDUCATION CAMPAIGNS DO NOT REACH ALL MEMBERS OF THE COMMUNITY

A WSP team implements a community awareness campaign on safe water practices using posters and pamphlets. However, monitoring of user practices reveals little or no behaviour change in some neighbourhoods. By asking questions of community members, the WSP team learns that low levels of literacy have prevented many from reading the pamphlets and posters. WSP team members are advised to present at neighbourhood meetings and engage teachers to deliver water safety messages instead of disseminating pamphlets in order to ensure that all groups benefit from the community education efforts.

VERIFYING WSP EFFECTIVENESS

3b. Monitor water quality and consumer satisfaction for all user groups

Why is this important?

As part of verifying the effectiveness of the WSP, the WSP team should regularly undertake compliance monitoring of water quality as experienced by each user group and communicate results to ensure that:

- ❖ All users have access to safe water.
- ❖ All users are aware of their water quality to inform their water practices, e.g. household treatment.

In addition to compliance monitoring, regular assessment of consumer satisfaction among all user groups will help the WSP team understand perceptions of water quality and service delivery throughout the community. If the WSP team only monitors the satisfaction of those who represent the majority of users or have easy access to the WSP team, the concerns of the most disadvantaged may go unnoticed.

How to do this?

Where WSP team capacity is limited, monitoring to verify WSP effectiveness can be undertaken by the surveillance authority or other supporting agency.

Compliance monitoring: Regular water quality testing to confirm compliance with drinking-water quality standards should be conducted across sites representative of all different collection point infrastructure types and all diverse user groups, ensuring that the most vulnerable areas and users of the system are included. The results should be communicated back to all diverse users in ways accessible to all.

Consumer satisfaction: Consumer use of, and satisfaction with, the water supply is also an important indicator of WSP effectiveness. Consumer complaints should be investigated equitably. The WSP team should regularly survey all different user groups on perceptions of water quality and satisfaction with service. The household survey presented in Tool D can be used to monitor consumer satisfaction.

Satisfaction surveys should be designed to collect demographic data on users (e.g. gender, age, PLWD, ethnicity, location, income level), and the WSP team should disaggregate survey responses by gender and other social stratifiers and analyse the data to look for areas of difference in user perceptions. Inequity may exist where one group has more concerns and/or is less satisfied with the water quality or service. Questions the WSP team could consider to help ensure an equitable experience of safe water include:

- ❖ What did lower income users think versus higher income users?
- ❖ What did the women think? How was that different from what the men thought?
- ❖ What did the young think? How did that compare with the views of the elderly or middle-aged?

See Box 11 for examples of inclusive compliance monitoring and assessment of user satisfaction.

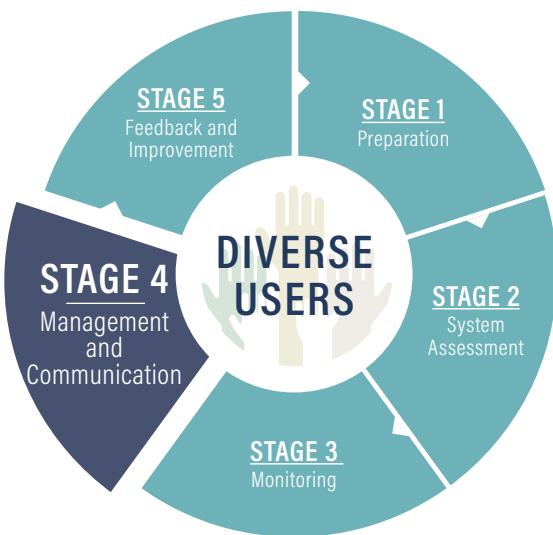


BOX 11 ▶ Inclusive monitoring of water quality and user satisfaction

In **Portugal**, when a structured process was introduced to allow all water supply system users to register complaints, consumer feedback increased significantly. Prior to these changes, an average of just 45 complaints were received per year. Once users had access to a low-cost and user-friendly mechanism to share their concerns and claim their rights, the number of complaints grew to more 3000 in a year, highlighting the importance of giving all water users a voice.

Source: *No one left behind* (United Nations, 2012).

A consumer survey conducted in an informal settlement area by an urban water supplier in the **Philippines** found that one third of those surveyed were buying bottled water for drinking due to a perception that tap water was unsafe. This practice placed a financial burden on those in the informal settlement, who could least afford the extra cost of bottled water. Informed by the survey results, the WSP team decided to begin a compliance monitoring programme in the informal settlement to assure users of the water quality. The results of this monitoring were to be shared with the community so that users would feel comfortable consuming tap water where its safety could be confirmed.



STAGE 4: MANAGEMENT AND COMMUNICATION

- Developing management procedures and supporting programmes

Stage 4 of water safety planning, management and communication, involves developing management procedures (e.g. emergency response plans) and supporting programmes (e.g. education campaigns) to contribute to the safe and effective operation and management of the water supply system.

DEVELOPING MANAGEMENT PROCEDURES AND SUPPORTING PROGRAMMES

4a. Consider all groups when developing communication plans

Why is this important?

Considering different user groups is critical when developing emergency response plans. For example, plans to advise consumers to boil water during a contamination event should consider how to effectively communicate with people who speak a different language, do not have a television or radio, have lower literacy levels or have a hearing or seeing disability. Without due consideration of diversity among users, critical safety messages may fail to reach everyone.

Communication and education programme development more broadly should also take into account the specific needs and interests of different stakeholder groups. For example, the content and method of delivering education materials on catchment protection or safe household water practices must be accessible to all relevant stakeholders to ensure effectiveness and equitable benefit.



How to do this?

When developing **emergency response plans**, consider:

- ❖ How will critical messages be delivered to consumers during an emergency situation?
- ❖ Are there any user groups who may be excluded from this communication method, and how could they be reached?
- ❖ Which users are the most vulnerable to water supply system emergencies, and what is the best way to communicate with them?
- ❖ Can the proposed remedial actions (e.g. boiling) be implemented by all user groups?
- ❖ If alternative water supplies will be provided, will they be accessible to all user groups?

When developing **communication and education programmes** more broadly, consider:

- ❖ How best to communicate to different stakeholders, e.g. women, men, boys, girls, elderly, different ethnicities and PLWD? For example, are graphics needed for members of the community with lower literacy levels, or larger fonts for those with poor vision?
- ❖ What are the languages and levels of literacy among stakeholders?
- ❖ What are all the different mechanisms for communicating (e.g. word of mouth, text message, meter reader, community leaders, local radio, television, individual notices, posters)? Who has access to these mechanisms and who might be missing out? How can those missing out be reached?

See Box 12 for examples highlighting the importance of inclusive communication plans.



BOX 12 ▶ Inclusive and effective communication plans

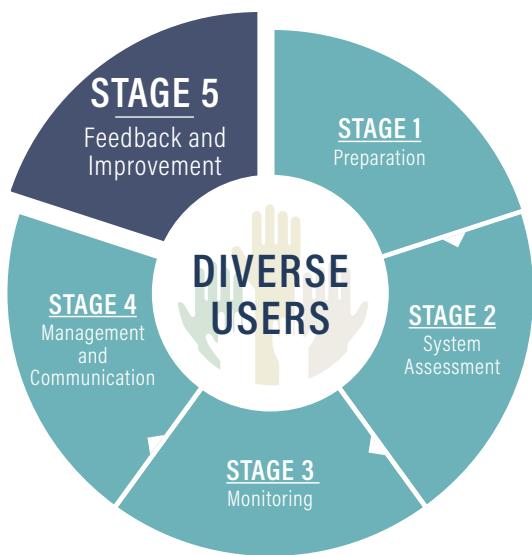
During an outbreak of *Escherichia coli* in **Canada**, a boil water advisory was issued via local AM and FM radio only; no television advisory was released and door-to-door notification was not pursued. This limited communication approach proved ineffective at promptly reaching all community members with critical water safety messages, and it contributed to the outbreak reaching tragic proportions. Ultimately, seven deaths and 2300 cases of gastrointestinal illness (dozens with potentially lifelong health implications) were reported among the community's 5000 residents. Consumers made more vulnerable by age (children and the elderly) were disproportionately affected. A more inclusive and effective communication plan that included special consideration for particularly vulnerable consumers would likely have helped to control the public health impact of this contamination event.

Source: *Water safety plans – training package* (WHO & IWA, 2012).

A WSP team in **Bangladesh** considered the reasons for exclusion experienced in their community in order to address them when designing community education programmes: "We ask ... what is the root of exclusion? We have to work from there first. ... We then target different groups differently ... We used loud speakers travelling in the community, discussion groups in the mosque, and rallies and those sorts of things to ensure no one is excluded".

The WSP team recognized different ways to raise awareness among men and women. In order to engage men, the WSP team trained tea stall owners to deliver safe water messages to the men who visited daily. In addition, a survey was conducted to find the most disadvantaged tea stall owners and prioritize their engagement with the WSP behaviour change communication. Safe water education for women was undertaken at tube wells and in the home, where women are primarily responsible for water management. Women caretakers of the tube wells promoted safe water management amongst their neighbours.

Education materials tailored for specific stakeholder groups included cartoon books for school students, cups and posters for (male) tea stall holders, pictorial monitoring checklists for (female) tube well caretakers, and a simple five-point message mass awareness campaign for safe water management. Education materials used simple pictures to reach all in the community, especially those with lower literacy levels.



STAGE 5: FEEDBACK AND IMPROVEMENT

Reviewing and revising the WSP

Stage 5 of water safety planning, feedback and improvement, involves reviewing and revising the WSP regularly and as needed to ensure that the WSP remains up to date and effective.

REVIEWING AND REVISING THE WSP

5a. Strengthen equity integration during ongoing review and revision

Why is this important?

A WSP is a living document that should undergo continuous review and improvement. Each cycle of review and revision provides an opportunity for the WSP team to strengthen the WSP and its implementation in practice, including the effective integration of equity considerations.

As explicit consideration of social inclusion in water safety planning may be unfamiliar to many WSP teams initially, addressing all of the guidance in this document during a WSP's original development may not be feasible. Rather, WSP teams will often need to take an iterative approach, addressing equity to the extent feasible with available resources and capacity, and continuing to strengthen equity integration and outcomes over time through the WSP review process.

How to do this?

Continuous strengthening of equity integration into water safety planning can be achieved by including a simple equity assessment as part of the regular WSP review process. Refer to Table 3 for an example checklist to assess equity integration into the WSP. This checklist can be modified to reflect the particular equity guidance and targets adopted in the local context, as illustrated in Tool C.

Table 3. QUESTIONS TO CONSIDER WHEN REVIEWING EQUITY INTEGRATION INTO THE WSP

PREPARATION		
ASSEMBLING THE WSP TEAM	✓	How inclusive is the WSP team? Is there meaningful participation of women, men and disadvantaged groups as members of, or advisors to, the WSP team?
	✓	If the WSP team does not include representation of disadvantaged groups, how is consideration of the needs and interests of all groups ensured?
	✓	What type of training has been organized for WSP team members on equity integration into water safety planning?
SYSTEM ASSESSMENT		
DESCRIBING THE SYSTEM	✓	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, water practices and opportunities for participation?
IDENTIFYING HAZARDOUS EVENTS	✓	Were hazardous events systematically identified by thinking through the diverse user groups and their particular experiences with water?
	✓	Have improvements been prioritized that benefit disadvantaged groups?
	✓	Have the systemic causes of hazardous events been considered to ensure more effective control measures?
IMPROVEMENT PLANNING	✓	Where control measures directly impact the community, have they been designed to avoid or minimize adverse impact to any stakeholder group?
	✓	Where control measures impact the community, do all user groups have equitable opportunity to influence control measure selection, access information and participate in implementation?
MONITORING		
OPERATIONAL MONITORING	✓	Does control measure monitoring ensure that all stakeholder groups benefit equitably?
VERIFYING WSP EFFECTIVENESS	✓	Are all diverse users included in ongoing water quality and consumer satisfaction monitoring?
MANAGEMENT AND COMMUNICATION		
DEVELOPING MANAGEMENT PROCEDURES AND SUPPORTING PROGRAMMES	✓	Do emergency response plans and communication/education programmes consider and reflect the particular needs of different stakeholder groups?
FEEDBACK AND IMPROVEMENT		
REVIEWING AND REVISING THE WSP	✓	Is equity integration considered and strengthened during ongoing review and revision of the WSP?

SECTION 2: ADDRESSING EQUITY IN BROADER WSP PROGRAMME ACTIVITIES

Those who promote or support WSPs globally, regionally, nationally and subnationally have an essential role to play in mainstreaming equity considerations into WSP programmes. Examples of how these stakeholders can encourage and support equity consideration in water safety planning are provided below.

GLOBAL AND REGIONAL ACTIVITIES

Those supporting WSPs globally or regionally can foster more equitable and sustainable WSP outcomes by:

- ❖ Ensuring that **global and regional WSP guidance materials, tools and training workshops promote good equity practice** as described in Section 1. (See Boxes 13 and 14. Also refer to Tool F for training materials that can be used to integrate equity into a WSP training workshop.)
- ❖ Encouraging **monitoring of equity practice and outcomes** by promoting appropriate indicators, tools and mechanisms to monitor equity inputs to and outcomes of water safety planning. Monitoring should collect data disaggregated by appropriate social stratifiers. (See Box 15. Also refer to Tool D for an example of a household survey that can be customized to include priority indicators and collect disaggregated data.)



BOX 13 ▶ Standardized WSP training package to address equity

A general WSP training package is currently under development by WHO (anticipated for publication in 2020). The standardized WSP training materials, which will apply **globally** and are intended to be adapted and used directly by national or subnational WSP trainers, will include messages to prompt trainers to consider equity at key points in the WSP process.



BOX 14 ▶ Promoting equity consideration in regional and global WSP training workshops

At a **South-East Asia** regional WSP master trainer workshop convened in Thailand in 2014, equity experts were engaged to prepare and present general equity awareness-raising material as well as specific suggestions for equity integration into relevant WSP steps. The objective was to sensitize national WSP trainers from the seven participating countries on the importance of explicit consideration of equity in urban water safety planning and to demonstrate where and how equity could be systematically addressed. The training materials presented in Tool F are based on the materials developed for this regional training event.

In 2017, an urban WSP training-of-trainers workshop was held to strengthen the WSP training skillset of a group of WSP experts from **countries around the world**. The event was attended by WSP experts from 19 countries representing Africa, Europe, the Eastern Mediterranean Region, Central and South-East Asia, and North and South America. Based on guidance provided by equity experts, the training materials delivered by the workshop facilitators highlighted the importance of identifying all different types of users (and non-users) of water supply systems at the start of the WSP process to ensure equitable WSP outcomes and benefits for all.



BOX 15 ▶ Monitoring tools that address equity

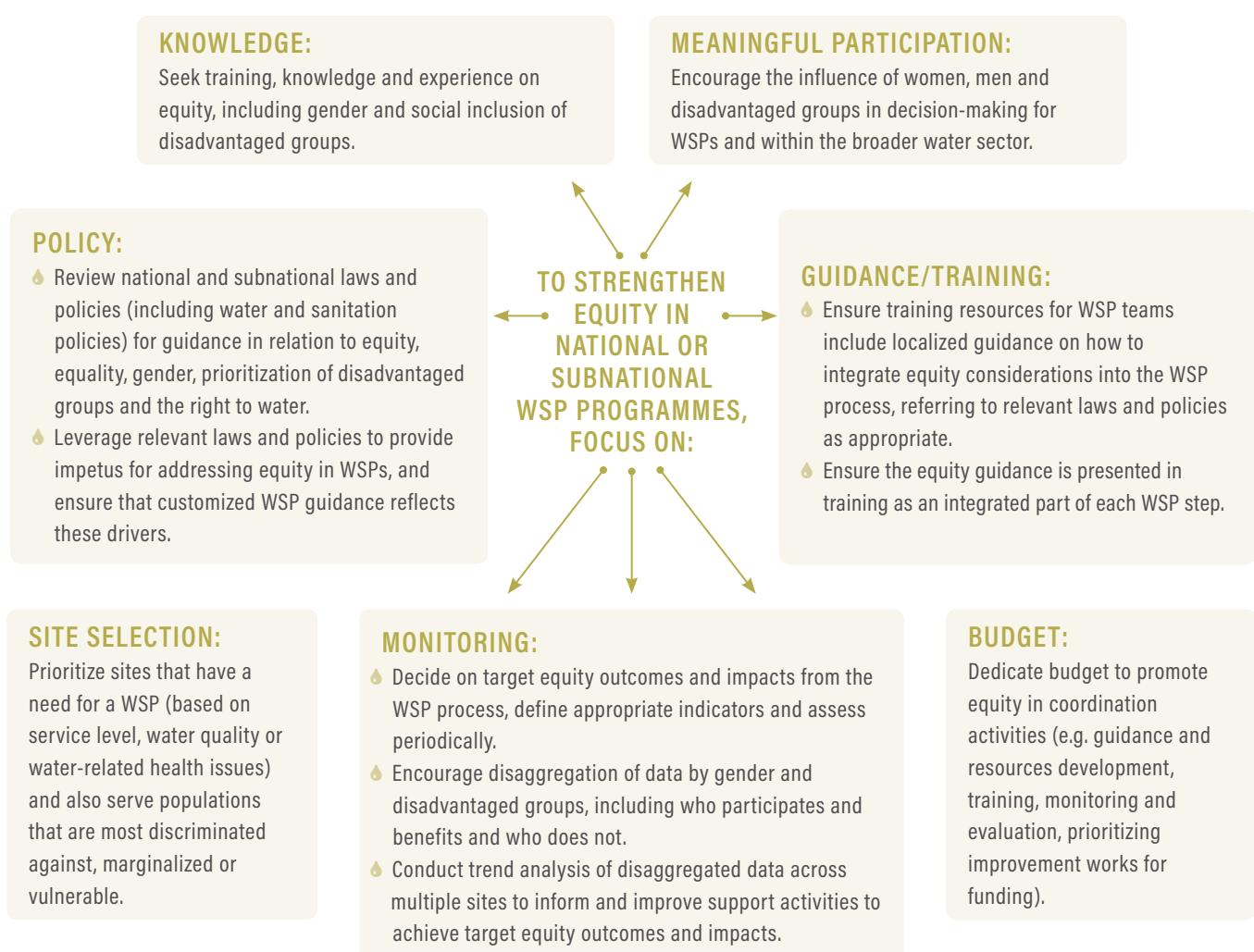
The UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) 2018 survey – a **global** WASH monitoring instrument – includes numerous indicators that address equity in WASH. For example, the monitoring instrument explores the extent to which disadvantaged groups are addressed in WASH programme planning and delivery and allows for disaggregation by various potential contributors to disadvantage (e.g. poverty, ethnic minority status, geographic remoteness, physical disabilities, health vulnerabilities).

The equitable access score-card (United Nations, 2013) was developed under the United Nations Economic Commission for Europe (UNECE)/WHO Regional Office for Europe Protocol on Water and Health for adaptation and use by countries in the **pan-European region**. The score-card was designed to support a process of country self-assessment of progress in achieving the human right to water and sanitation. It includes indicators on mechanisms to identify and address water and sanitation needs of vulnerable and marginalized groups, as well as indicators on budget allocations to address these needs.

NATIONAL AND SUBNATIONAL ACTIVITIES

To ensure the integration of equity into WSP programmes within a country, those supporting WSPs nationally or subnationally should focus on the seven key areas summarized in Fig. 6. Good practice examples related to these focus areas are presented in Box 16.

Fig. 6. KEY FOCUS AREAS FOR THOSE SUPPORTING NATIONAL OR SUBNATIONAL WSP PROGRAMMES





BOX 16 ▶ Good practice examples for those supporting national and subnational WSP programmes

POLICY ▶

Understanding government laws and policies related to equity in water service provision: National (or international) laws and policies can provide significant guidance, impetus and even resources for integrating equity into water safety planning. For example, in the **pan-European region**, all Parties to the UNECE/WHO Regional Office for Europe Protocol on Water and Health are legally committed to provide equitable access to water for all members of the population, especially those who suffer disadvantage or social exclusion (United Nations, 2012). Through the Magna Carta of Women 2009 (Philippines Gender Law), the **Philippines** Government requires all government agencies to designate 5% of their annual budget for gender and development activities, which provides a great opportunity for supporting equity integration. The Framework for Monitoring Realization of the Rights to Water and Sanitation in **Kenya** notes the need to demonstrate progressive allocation of funding for highly disadvantaged and vulnerable groups, with the aim of making up for long-standing marginalization of these groups (Government of Kenya, 2017). **Nepal's** Rural Water Supply Policy (Government of Nepal, 2004) recognizes the different roles and responsibilities of women and men in relation to water collection, time availability of individuals based on their gender roles, vulnerability of the poor in relation to water access, and appropriate methods of raising awareness based on differences within the community. The **Republic of the Marshall Islands'** National Water and Sanitation Policy has a monitored objective to target the disadvantaged, defined as "those living in or with extreme poverty, severe disability due to age, disease, injury or other causes, disaster or conflict-affected households, significantly adverse ground conditions (necessitating expensive construction), or lack of space for private facilities" (Kohlitz et al., 2016). (See Tool B for an example of a national legal/policy analysis intended to leverage support for prioritizing equity in water safety planning.)

KNOWLEDGE ▶

Seeking knowledge and experience on equity, including gender and social inclusion: Engaging with relevant local experts can help ensure due consideration of equity in water safety planning. **Ethiopia's** One WASH National Program notes that the Women's Affairs Directorate is responsible for conducting orientation sessions to support gender equity in WASH programmes, and a Gender Mainstreaming Guideline has been developed to support equity training (Federal Democratic Republic of Ethiopia, 2013). **Bangladesh** rolled out its rural WSP programme in collaboration with a development partner due to the partner's knowledge of and commitment to equity outcomes, including those related to gender and poverty. In **Nepal**, staff responsible for gender and social inclusion in the Department of Water Supply and Sanitation were included in WSP training teams.

MEANINGFUL PARTICIPATION ▶

Encouraging the influence of women, men and disadvantaged groups in decision-making for WSP coordination and within the broader water sector: To improve water service delivery, those supporting WSPs should encourage more qualified female professionals and professionals from disadvantaged groups to participate in decision-making (ADB, DFID, WB, 2012; ADB, 2014). Existing national laws and policies may provide impetus to prioritize meaningful participation. For example, to track progress of professional women and disadvantaged groups, the **Nepal** WASH sector reports on workforce diversity in the government department responsible for water service delivery (Government of Nepal, 2011). In the **Philippines**, the Provincial Water Utilities Act of 1973 requires the district boards of directors to include at least one female representative on each five-person panel.

GUIDANCE/TRAINING ▶

Ensuring local WSP guidance and training programmes integrate equity considerations: Tailoring the recommendations in this document to the specific country context and incorporating recommendations into local WSP guidelines and training programmes is essential to mainstreaming equity integration into water safety planning. This process might involve using local terms for gender and equity. In **Nepal**, equity is referred to as GESI – gender equality and social inclusion. Tool C provides an example of a WSP equity guide from Nepal, which has tailored the general guidance in

BOX 16 (continued) ▶

this document to reflect the steps and structure of Nepal's particular WSP approach and guidelines. Nepal's equity guide can be easily printed and provided to WSP team members as part of local WSP training and support activities. It can also be used to inform the modification of WSP training programmes to incorporate equity considerations. See Tool F for example training materials on equity in water safety planning.

SITE SELECTION ▶

Site selection that supports equitable access: An important consideration in deciding where to implement WSPs is the potential for the WSP to improve access to safe water for those most disadvantaged. In **Bangladesh**, equity was a core criterion in selecting sites for rural WSPs. WSP programme coordinators specified that NGO partners supporting WSP activities should select areas with hard-to-reach populations in addition to areas with a lack of access to safe water. In **Nepal's** Rural Water Supply Policy (Government of Nepal, 2004), a commitment is made to provide a basic level of water supply to all on a priority basis, especially targeted to remote and ethnic groups. National government site selection criteria for any water supply project in Nepal includes poverty, availability and condition of existing water supply, incidence of diarrhoea and prevalence of water-related diseases. Elsewhere, national water quality assessments have been undertaken that provide a sound basis for prioritizing sites for WASH interventions.² In **Serbia**, for example, a national assessment of small-scale water supplies in rural areas found one third of systems to be non-compliant with microbiological standards. By comparison, urban water supply systems showed a compliance of 96% for microbiological parameters during the same year, highlighting a significant urban-rural disparity and a need for targeted attention to rural sites for WASH interventions (WHO, 2017). In the **Republic of Moldova**, a study of all schools found that 50% of pupils were exposed to drinking-water that did not meet microbiological and chemical standards, indicating a critical need for improved WASH in schools (WHO, 2016b).

BUDGET ▶

Budget allocation that includes equity considerations: WSP effectiveness and equitable outcomes can be optimized by making budget decisions that reflect an understanding of the practical barriers posed by financial disadvantage in WSP implementation. When allocating budgets for WSP development and implementation, national WSP programme coordinators in **Nepal** made specific budget allocations for rural WSPs, recognizing relative disadvantage in poorer rural areas. A budget of US\$ 1000 was provided for system improvements at each rural WSP. Similarly, the Government of **Scotland** instituted a small-scale water supply systems grant scheme to assist with capital improvements required to ensure safe water delivery in order that rural consumers were not disadvantaged by financial barriers (WHO, 2016c).

MONITORING ▶

Monitoring and evaluation that includes equity outcomes: Monitoring equity inputs to and outcomes from WSPs will serve to highlight successes and opportunities to strengthen equitable water safety planning. **Nepal's** Rural Water Supply Policy (Government of Nepal, 2004) articulates how community-based monitoring (e.g. participatory monitoring and community self-monitoring) will be actively supported to ensure equitable access to services and to ensure involvement in water and sanitation management and decision-making by people disadvantaged on the basis of gender, caste and ethnicity. In addition, project impact will be measured through pre- and post-project assessments using sex-disaggregated indicators. **Ethiopia's** One WASH National Program indicates that gender disaggregated indicators will be used where relevant to track gender equity in WASH programme roles and benefits (Federal Democratic Republic of Ethiopia, 2013). In **Kenya**, a national WASH monitoring framework includes indicators on: the implementation of pro-poor water policies; and operationalizing policies encouraging participation of local communities in water and sanitation management (Government of Kenya, 2017).

² Data presented in WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) reports can also be used to identify areas critically lacking in safely managed drinking-water to broadly inform site selection for WASH interventions (WHO & UNICEF, 2017; UNICEF & WHO, 2018).

TOOLBOX

This section provides practical examples and tools that WSP teams and those supporting WSPs can use to facilitate the integration of equity into water safety planning. All examples and tools provided are intended to offer ideas as starting points only for local customization. Each tool will need to be adapted to suit the local context.

An overview of the examples and tools included in this section is provided in the table below.

EXAMPLES AND TOOLS		DESCRIPTION
A	EQUITY CONCEPTS AND DEFINITIONS	An overview of key concepts and terms related to equity for readers of this document and for participants of training events based on this guidance.
B	EXAMPLE EQUITY POLICY REVIEW	An example of the outputs of a review of national laws and policies related to equity in water service provision, offering guidance and providing impetus for the integration of equity into WSPs.
C	EXAMPLE EQUITY GUIDE	An example of a simple guide developed by national WSP programme coordinators describing how to integrate equity at appropriate steps within the national WSP process. The tool provides an example of local adaptation and application of the guidance in this document.
D	EXAMPLE HOUSEHOLD SURVEY	An example of a household survey used to: <ul style="list-style-type: none">❖ identify diverse water users within a community❖ investigate different user groups' experiences with water❖ monitor consumer satisfaction❖ monitor equity outcomes over time.
E	HOUSEHOLD SURVEY TIPS	Simple tips on designing and carrying out household surveys to inform equity integration into a WSP. Topics covered are: <ul style="list-style-type: none">❖ how to design an effective and appropriate survey❖ who to include in the survey❖ good practice tips for the survey team.
F	EXAMPLE WSP TRAINING MATERIALS INCORPORATING EQUITY	Example training materials used to integrate equity considerations into a standard WSP training workshop. Training materials include: <ul style="list-style-type: none">❖ a three-day WSP training programme with points of equity inputs flagged❖ PowerPoint slides on equity to be incorporated at appropriate points during the training.

TOOL A: EQUITY CONCEPTS AND DEFINITIONS

Below is an overview of equity-related concepts and terms for readers of this guidance. These pages can also be reproduced and shared with participants of training events that are based on this guidance.

HUMAN RIGHT TO WATER AND SANITATION

The human right to water and sanitation means providing services that are safe, affordable, acceptable, accessible and available to all different users, without discrimination. In water safety planning, this means ensuring that equitable benefits are experienced by all, including women, men, and people of different ages, religions and abilities (UN Special Rapporteur on the human right to safe drinking water and sanitation, 2014).

Non-discrimination: The legal principle of non-discrimination prohibits the less favourable treatment of individuals or groups or the detrimental impact on such individuals or groups based on ethnicity, sex, religion or other status. In water safety planning, non-discrimination requires consideration of all groups through the WSP steps to ensure that no group suffers less favourable treatment or impact as a result of a WSP.

VULNERABLE, MARGINALIZED AND DISADVANTAGED GROUPS

The terms vulnerable, marginalized and disadvantaged are often used interchangeably, and in many cases they do overlap. However, there are important distinctions:

Vulnerable indicates a trait or characteristic of a person which makes that person at risk to harm or injury (physical and/or emotional), for example, from microbial pathogens. In water safety planning, vulnerable groups would typically include children, the elderly and people living with chronic diseases.

Marginalized describes people who lack access to services, in this case drinking-water, due to poverty, tenure status, remote location or for reasons of discrimination.

Both vulnerability and marginalization can result in disadvantage. A person who is vulnerable has special needs. A person who is marginalized experiences inequality. This guidance describes how to identify disadvantaged groups as part of the WSP process.

EQUITY, EQUALITY AND GENDER EQUALITY

Equity is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically (WHO, 2019a). For WSPs, this means that all groups should have the opportunity for meaningful participation in, and equitable benefit from, water safety planning.

Equity seeks to ensure that everyone receives safe drinking-water, while recognizing existing differences in the community. Treating everyone the same will not necessarily result in safe water being provided to all, since not all start from the same place and their needs and interests are different. Equity, as described in this guidance, takes these differences into account.

Equality is a term sometimes used interchangeably with equity, however there is an important difference. Non-discrimination and equality are fundamental principles of human rights law, and therefore "equality" is a legally defined term and a binding principle under law. By contrast, "equity" is a moral imperative open to interpretation, and its lack of legal clarity can reduce the potential for accountability from duty bearers who are responsible for ensuring equality and human rights for all. There is growing use of the term "equality" in place of "equity" in relation to the human right to water, since it emphasizes the legal obligation of

progressively realizing this human right. In this guidance, the term "equity" is used, as the focus is primarily on taking steps to meet differential needs rather than claiming rights from duty bearers.

Gender equality is the absence of discrimination on the basis of a person's gender or sexual identity in providing opportunities, in allocating resources and benefits, or in access to services (WHO, 2019b).

Sex: Female and male biological and physiological characteristics.

Gender: Socially constructed norms, roles, behaviours, activities and attributes that a given society considers appropriate for men, women, boys, girls and people with other gender and sexual identities.

Gender equality means that rights and opportunities will not depend on gender. In water safety planning and other drinking-water initiatives, gender equality requires promoting participation and outcomes that address the different but equally important needs and hopes of people of different genders.

This document includes gender considerations within its use of the term "equity". Explicit mention of gender or gender equality is selectively included to draw attention where consideration of gender equality is particularly important, but it is implied throughout the document.

SOCIAL INCLUSION AND MEANINGFUL PARTICIPATION

Social inclusion involves thinking about ways of involving representatives of all groups in a community, whether rural or urban, and encouraging their meaningful participation in the WSP process. This includes women, men, boys, girls and disadvantaged groups. Different members of a community have different needs, priorities and knowledge because of factors such as their status, age, health or gender roles and responsibilities.

Participation is more than providing labour or attending meetings (Halcrow et al., 2010). Meaningful participation in a WSP requires all different members of a community, especially disadvantaged groups, to have a choice and ability to contribute to decision-making for WSP development and implementation in ways that are effective and empowering.



TOOL B: EXAMPLE EQUITY POLICY REVIEW

It is important to understand laws and policies related to equity in water service provision as they may provide important guidance, impetus and even resources for integrating equity into water safety planning. For example, laws and policies that reflect a national commitment to the human right to water and sanitation can provide a legal foundation to support the integration of equity considerations into WSPs.

Below is an example of such an analysis. Outcomes from a review of national laws and policies in the Philippines highlight the commitment to equity which can be leveraged to promote equity in water safety planning.

LEGAL/POLICY INSTRUMENT AND RELEVANT PROVISIONS

THE MAGNA CARTA OF WOMEN 2009 (PHILIPPINES GENDER LAW)

- ❖ Comprehensive law encompassing numerous aspects relevant to promoting the rights of women and gender equality in the Philippines – based on internationally agreed human rights principles.
- ❖ Contains a section on institutional mechanisms for gender mainstreaming which includes the provision that agencies (including local government) must allocate 5% of their budget to gender and development (GAD) programmes.
- ❖ Specifies that investment in GAD should be annually monitored and evaluated in terms of its success in influencing the gender-responsive implementation of agency programmes funded by the remaining 95% budget.
- ❖ Refers to the Women in Development and Nation Building Act (1991) requirement that 5-30% of official development assistance should be directed to GAD activities.
- ❖ Requires the creation and/or strengthening of GAD focal points by all departments "to catalyse and accelerate gender mainstreaming within the agency or local government unit".
- ❖ Requires all agencies to implement a GAD focal point system involving senior staff, an executive and a technical working group comprising representatives from across the agency.

WOMEN IN DEVELOPMENT AND NATION BUILDING ACT 1991

An Act administered by the National Economic and Development Agency that preceded the Philippines Gender Law, establishing the high-level objective to achieve "fundamental equality before the law of women and men". The Act aims to achieve three primary policy outcomes:

- ❖ A "substantial portion" of official development assistance funds be invested in programmes and activities for women.
- ❖ All government agencies ensure women benefit from, and participate directly in, development programmes.
- ❖ All government agencies revise regulations and related policy instruments to remove gender bias.

PROVINCIAL WATER UTILITIES ACT - PD 198 OF 1973, SECTION 8

Requires that women are represented on boards of directors: "The Board of Directors of a district shall be composed of five citizens of the Philippines who are of voting age and residents within the district. Board members are to be representatives of (1) civic-oriented service clubs, (2) business, commercial, or financial organizations, (3) educational or religious institutions, (4) professionals and (5) **women's organizations**" (emphasis added).

MAGNA CARTA FOR DISABLED 1992

Details state commitments to support the total well-being of disabled persons and their integration into mainstream society. There is no specific mention of water or sanitation services.

PHILIPPINES' 1976 WATER CODE

Exempts basic water uses (drinking, cooking, bathing, and other domestic or household uses) from requiring any form of permit, and in doing so implicitly recognizes the fundamental right to water for all.

1997 INDIGENOUS PEOPLES' RIGHTS ACT

Recognizes customary water rights of indigenous communities.

TOOL C: EXAMPLE EQUITY GUIDE

Below is an excerpt from a WSP equity guide developed by national WSP stakeholders in Nepal for use by WSP teams. This guide has been customized to align with the particular WSP steps in the *Nepal Handbook for Water Safety Planning*, providing an example of how the recommendations in this document can be adapted to reflect local WSP processes and translated into local guidance for WSP teams.

WSP STEP	GUIDANCE ON INCLUDING EQUITY
BUILDING THE WSP TEAM	<ul style="list-style-type: none"> ❖ Include representatives of men and women on the WSP team. ❖ Include representatives of disadvantaged groups on the WSP team. ❖ Include representatives of different wards on the WSP team. ❖ Where representation of disadvantaged groups on the WSP team is not possible, ensure that decision-making processes include needs and interests of all groups, especially the most disadvantaged.
DESCRIBING THE SYSTEM	<ul style="list-style-type: none"> ❖ Prepare a community map which includes both the technical and social aspects of the water supply system: <ul style="list-style-type: none"> – Different types of tap infrastructure (public, private, government, commercial) and private piping in wards/households. – Different types of water use practices – source of drinking-water (tap or traditional source), collection/transport practices, storage and treatment of drinking-water. – Types of participation/non-participation by different water user groups. – Types of communication from water providers to users. ❖ Record results of water quality testing at different parts of the system.
IDENTIFYING HAZARDS	<ul style="list-style-type: none"> ❖ For each hazard, identify "which place/who experiences". ❖ Check all different types of user groups (disadvantaged groups/wards/households). Are there any groups not already recorded which do experience hazards? ❖ If yes, add additional hazard and "which place/who experiences". If no, go to next step.
IMPROVEMENT IMPLEMENTATION	<ul style="list-style-type: none"> ❖ Where possible, prioritize control measures where hazards are most experienced by disadvantaged groups. ❖ Ensure that control measures are effectively communicated to different types of user groups, especially the most disadvantaged. ❖ Promote participation of different user groups in carrying out the control measures, especially the most disadvantaged. ❖ Identify barriers to participation for any groups and address to ensure active participation.
OPERATIONAL MONITORING	<ul style="list-style-type: none"> ❖ Ensure that implementation of control measures is across all different types of water user groups, especially the most disadvantaged (especially for control measures for "water use practices"). ❖ Promote participation of different user groups in carrying out monitoring, especially the most disadvantaged. ❖ Identify barriers to participation for any groups and address to ensure active participation.
VERIFYING WSP EFFECTIVENESS	<ul style="list-style-type: none"> ❖ Ensure that water quality testing is representative of all different water users, especially the most disadvantaged groups.
MANAGEMENT AND COMMUNICATION	<ul style="list-style-type: none"> ❖ Ensure water quality testing results are communicated and accessible to all different user groups.
REVIEWING THE WSP	<ul style="list-style-type: none"> ❖ Ensure appropriate equity integration during ongoing reviews of the WSP and consider outcomes. ❖ Include an assessment of equity integration in regular WSP reports to WSP coordinators.

TOOL D: EXAMPLE HOUSEHOLD SURVEY

A household survey can be utilized for multiple purposes in development, implementation, monitoring and evaluation of a WSP. In terms of equity integration, household surveys can help to:

- ❖ identify diverse groups within the community;
- ❖ identify opportunities for all different types of water users to participate and influence decisions in relation to the provision of safe water;
- ❖ investigate different user groups' experiences with water, including exposure to hazardous events;
- ❖ monitor consumer satisfaction; and
- ❖ monitor equity outcomes over time.

The example household survey below combines aspects of customer satisfaction, system assessment and impact assessment. The survey gathers experiences of diverse water user groups in relation to collection point infrastructure, water quality and service delivery, water practices and participation.

This example survey should be adapted and revised for use in other contexts, bearing in mind the household survey tips provided in Tool E.

EXAMPLE SURVEY ON CUSTOMER SATISFACTION AND HOUSEHOLD WATER PRACTICES



Introduce yourself
and your team.

Explain the purpose of the
interview, including how
information will be used.

Ask permission
to interview.

FOR EXAMPLE:

Hello. My name is I am from....

Do you have 20 minutes to answer questions about your experiences with your water supply?

Your name will not be recorded and your responses will be used to help improve water services.

The information you provide will remain private and anonymous.

There are no right or wrong answers, we want your honest views.

If at any time you want to end the survey, you are free to do so.

Household location (ward/neighbourhood): _____

Gender of interviewee: Male Female Other Prefer not to say

Age: _____

How many people live in your household? _____

Are there any people living with disability in your household? Yes No

If yes, describe what type: _____

1. At present, where do you receive or collect your drinking-water?

- Tap → If tap, tick one: Private (yard) Private (inside home) Shared/public
- Well → If well, tick one: Private Shared/public
 - If well, tick one: Tube well/borehole Protected dug well Unprotected dug well
- Spring → If spring, tick one: Protected spring Unprotected spring
- Surface water (river, lake, pond)
- Bottled water
- Other: _____

2. At present, do you treat your drinking-water at home? Yes No

If yes, how do you treat it? (Tick all that apply.)

- Boil
- Chlorine
- Filter – cloth
- Filter – bought from the market
- Other: _____

3. Does the source of your drinking-water change seasonally? Yes No

If yes, where do you receive or collect your drinking-water in other seasons?

- Tap → If tap, tick one: Private (yard) Private (inside home) Shared/public
- Well → If well, tick one: Private Shared/public
 - If well, tick one: Tube well/borehole Protected dug well Unprotected dug well
- Spring → If spring, tick one: Protected spring Unprotected spring
- Surface water (river, lake, pond)
- Bottled water
- Other: _____

4. Do you treat your drinking-water at home in other seasons? Yes No

If yes, how do you treat it? (Tick all that apply).

- Boil
- Chlorine
- Filter – cloth
- Filter – bought from the market
- Other: _____

5. Do you store water in your home before drinking it? Yes No

If yes, can you please show me the storage containers you use. (*Record the type of storage containers you see in use. Take photos if possible after obtaining permission.*)

- | | | | |
|--|---|----------------------------------|------------------------------------|
| <input type="checkbox"/> Reservoir tank (plastic/concrete) | → | <input type="checkbox"/> Covered | <input type="checkbox"/> Uncovered |
| <input type="checkbox"/> Storage vessel | → | <input type="checkbox"/> Covered | <input type="checkbox"/> Uncovered |
| <input type="checkbox"/> Containers | → | <input type="checkbox"/> Covered | <input type="checkbox"/> Uncovered |
| <input type="checkbox"/> Other: _____ | → | <input type="checkbox"/> Covered | <input type="checkbox"/> Uncovered |

6. Do you have any concerns with the accessibility of your water supply (physical accessibility and distance/time to collect water)? Yes No

How long does it take (round trip) to collect/transport drinking-water to your home?

Time in minutes: _____ or N/A (water is delivered directly to the home)

7. Do you have any concerns with the affordability (price) of your water supply? Yes No

7a. Did your household pay for a water connection? Yes No Don't know

If yes, how did you pay? Cash (how much): _____ Labour (how much): _____ Don't know

7b. Does your household pay the water tariff regularly? Yes No Don't know

7c. Are there any difficulties for your household to pay the tariff on time? Yes No Don't know

8. Do you have any concerns with the continuity (available all the time/seasonally) of your water supply?

Yes No

How many hours per day and days per week do you receive the water supply?

Hours per day: _____ Days per week: _____

9. How satisfied are you with the quality of your water supply?

At present Within last year

Very satisfied

Adequate

Unsatisfied

Please explain any concerns: _____

10. How satisfied are you with the quantity of your water supply?

At present Within last year

Very satisfied

Adequate

Unsatisfied

Please explain any concerns: _____

11. What practices do you know to keep water safe in your home? (Tick responses given.)

Collection: Clean containers for collection Other

Storage: Clean storage tank Store water with lid Other

Treatment: Use of home treatment Other

Handling: Washing hands Washing/storing utensils Other

12. Is water quality important for your family's health? Yes No

Please explain: _____

13. Has anyone in your household suffered from water-related illness in the last two weeks?

Or within the last year?

Within last two weeks? Within last year?

Cholera	<input type="checkbox"/>	<input type="checkbox"/>
Typhoid	<input type="checkbox"/>	<input type="checkbox"/>
Diarrhoea	<input type="checkbox"/>	<input type="checkbox"/>
Dysentery	<input type="checkbox"/>	<input type="checkbox"/>
Worms	<input type="checkbox"/>	<input type="checkbox"/>
Jaundice	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>
Don't know/remember	<input type="checkbox"/>	<input type="checkbox"/>

14. Have you heard of the WSP team? Yes No

If yes, what does the WSP team do? _____

15. Have you attended a meeting organized by the WSP team within the last year? Yes No

16. Do you think that your household interests and needs have been taken into account by the WSP team? Yes No

If yes, how? If not, why not? _____

17. Do you think that the interests of everyone in the community have been taken into account by the WSP team? Yes No

If yes, how? If not, why not? _____

18. Do you know of ways that you can provide feedback or complain about your water quality/service?

Yes No

If yes, what ways are there? _____

19. Have you had any issues with your water quality/service in the last six months? Yes No

19a. If yes, what were the issues? _____

19b. Did you complain about the issues to the water service provider?

Yes No Don't know N/A (no issues)

19c. Were you satisfied with the water service provider's response in fixing the issues?

Very satisfied Adequate Unsatisfied Don't know N/A (no complaint was made)

20. Are you satisfied with the communication you receive about your water quality/service?

Very satisfied Adequate Unsatisfied

If satisfied, describe what is good. If unsatisfied, describe what is not good. (*If needed, prompt interviewee to consider content, timing and methods of communication.*) _____

21. Do you have any suggestions to improve your water quality/service?

Thank you for your time, your answers will be collected with others and used to identify ways to improve water quality and service.

TOOL E: HOUSEHOLD SURVEY TIPS

These simple tips are intended to inform the process of designing and carrying out household surveys, as appropriate, to collect information on diverse groups within a community and their experiences with water. This guidance is not comprehensive and is intended to provide basic considerations and tips as a starting point only. The topics covered are:

 **how to design** an effective and appropriate survey

 **who to include** in your survey

 **good practice tips** for the survey team

HOW TO DESIGN AN EFFECTIVE AND APPROPRIATE SURVEY

It may not be necessary to design a household survey from scratch. A good starting point, therefore, is to explore relevant survey instruments already available that can be reviewed and adapted for use.

When designing (or adapting) the household survey, consider the particular objectives, for example:

- ❖ identify diverse groups within the community;
- ❖ identify opportunities for all different types of water users to participate and influence decisions in relation to the provision of safe water;
- ❖ investigate different user groups' experiences with water, including exposure to hazardous events;
- ❖ monitor consumer satisfaction; and
- ❖ monitor equity outcomes over time.

It is important to prepare a survey that is appropriate for the community, ensuring that the questions are clear and relevant and use appropriate language for the local context. Take care to avoid questions that are overly personal or sensitive in order to ensure a comfortable and positive experience for interviewees. Appropriate questions will vary according to the local context.

WHO TO INCLUDE IN THE SURVEY

A community is made up of different water users with different needs and interests. The survey should gather information on all of these different perspectives.

Planning

- ❖ With the survey team, identify if there are different types of people living in the community. Ensure that the survey is conducted in all different parts of the community and includes different types of people. Consider differences such as:
 - distance from the centre of town
 - income levels
 - ethnicity
 - social class
 - sexual and gender minorities
 - religion
 - land ownership
 - types of water supply connection.
- ❖ An easy way to plan the survey process is to use local government structures (e.g. villages/wards) to assign the survey team to different parts of the community.
- ❖ Collect information on population served in various areas, number of connections, type of coverage, etc. to make sampling decisions and allocate survey teams to different areas.

- ❖ Ideally, 10% of the total population served should be included in the survey. It is important that the survey is representative of the differences between the areas and user groups served.
- ❖ Allocate survey teams to different locations and agree on the number of surveys to be completed.
- ❖ Brief the survey team on the questions and how to conduct the survey (see below).

Conducting the survey

- ❖ It is best to choose households that are not side by side. Walk a little to find different types of households. Visit poorer and richer houses. Or count three houses between interview respondents.
- ❖ Try to interview both men and women.
- ❖ Try to interview a range of age groups, but do not interview children; the interviewee should be able to respond to the questions.
- ❖ Ensure that you reach your target number of survey respondents in each defined location.

GOOD PRACTICE TIPS FOR THE SURVEY TEAM

- ❖ Ensure that the survey team understands the intent of each question prior to beginning field work.
- ❖ It is best to work in small teams of two or three people to visit each household. Larger teams may intimidate householders.
- ❖ Be respectful of each person's views. Do not comment or judge. The purpose of the survey is to listen to different perspectives and record information only.
- ❖ Be sensitive to the comfort level of the interviewee at all times, moving past any questions that appear to cause discomfort.
- ❖ Guidance for the survey team member asking the questions, i.e. the interviewer:
 - Seek permission/consent for the interview. Explain the purpose of the interview, what the information will be used for, and how long the interview will take. Make sure the individual agrees to participate.
 - Ensure that the interview is conducted in a safe and comfortable place for the interviewee.
 - Sit directly near the interviewee to facilitate a nice conversation.
 - Ask the questions and ensure that responses are provided for each question.
 - Make sure that the interviewee is the one answering questions! If there are other people gathered nearby, ask them to please remain silent and explain that only the interviewee should be answering the questions. As required, move locations if the interviewee is having problems answering the questions with a big crowd.
- ❖ Guidance for survey team member(s) recording the information provided by the interviewee, i.e. the note taker(s):
 - Become fully familiar with the survey form, e.g. which questions involve tick box versus fill-in responses, where one versus multiple answers may be recorded, etc.
 - Where interviewees are answering open question such as "why/why not" or "please describe", take care to record the interviewee response in detail.
 - Record responses on the survey form in writing that is neat and clear for others to read.
 - Assist the interviewer in making sure that all questions are responded to, and help if the interviewer gets stuck or has trouble asking a question.

TOOL F: EXAMPLE WSP TRAINING MATERIALS INCORPORATING EQUITY

The following training materials are included in this guidance document as an illustrative example of how and where equity considerations can be integrated into a standard WSP training programme.

These example training materials provided in this section are based on materials that were developed by WSP trainers in collaboration with equity experts from ISF-UTS and incorporated into an international WSP training workshop. The materials provided are:

- ❖ a three-day WSP training programme with points of equity inputs flagged; and
- ❖ PowerPoint (PPT) slides on equity for presentation at appropriate points in the training.

These training materials are structured according to the 11 modules of a WSP as presented in the *Water safety plan manual* (WHO & IWA, 2009), but they can be readily modified according to the six tasks of a WSP as presented in the manual on *Water safety planning for small community water supplies* (WHO, 2012) (refer to Fig. 1).

WSP TRAINING PROGRAMME

DAY 1

09:00 – 09:30	Welcome remarks, objectives, participant introductions
09:30 – 10:00	Introduction to WSPs
10:00 – 10:30	Introduction to equity and its role in water safety planning (see PPT slides 1–13)
10:30 – 11:00	Tea break
11:00 – 12:30	Module 1: Water safety plan team (including equity, see PPT slides 14–18)
12:30 – 13:30	Lunch
13:30 – 15:00	Module 2: System description (including equity, see PPT slides 19–27)
15:00 – 15:30	Tea break
15:30 – 17:00	Module 3: Hazard ID (including equity, see PPT slides 28–32)

DAY 2

09:00 – 09:30	Module 3: Existing control measures and validation
09:30 – 10:30	Modules 3 & 4: Risk assessment
10:30 – 11:00	Tea break
11:00 – 12:30	Module 5: Improvement planning (including equity, see PPT slides 33–40)
12:30 – 13:30	Lunch
13:30 – 17:00	Field trip to practise system mapping, hazard ID and risk assessment

DAY 3

09:00 – 10:30	Group presentations of field trip findings
10:30 – 11:00	Tea break
11:00 – 12:30	Module 6: Operational monitoring (including equity, see PPT slides 41–44)
12:30 – 13:30	Lunch
13:30 – 14:00	Module 7: Verification (including equity, see PPT slides 45–47)
14:00 – 14:30	Module 8: Management procedures (Modules 8 & 9 equity messages combined, see next row)
14:30 – 15:00	Module 9: Supporting programmes (including equity, see PPT slides 48–50)
15:00 – 15:30	Tea break
15:30 – 16:00	Modules 10 & 11: Review and revision (including equity, see PPT slides 51–54)
16:00 – 16:45	Q&A + discussion
16:45 – 17:00	Workshop close

POWERPOINT SLIDES

These PPT slides are available in electronic format for adaptation and use at https://www.who.int/water_sanitation_health/publications/equitable-wsp/en/.

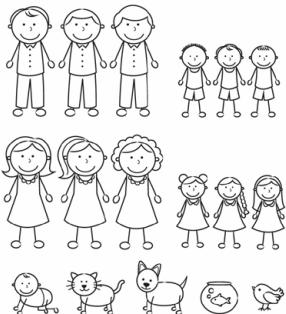
AN INTRODUCTION TO EQUITABLE WATER SAFETY PLANNING

1

Objective:
This introduction aims to explain what is meant by equitable water safety planning and why it is important.

2

Who experiences water?



A community is made up of different people with different life experiences and different experiences with water.

3

Thinking about your own community or a community where you work...

Who are the different types of water users?

Activity: Discuss in table groups, and write down all different types of water users that come to mind.

4

A community is made up of a range of diverse water users.

DIVERSE USERS					
SERVICE LEVEL	DISABILITY	INCOME	SOCIAL	SEX	
Shared tap	Mobility	Below poverty line	Language	Women	
Private yard tap	Sight	Above poverty line	Religion	Men	
Interior plumbing	Hearing	Wealthy	Culture	Boys	
Non-users	Mental		Ethnicity	Girls	
EDUCATION	AGE	LAND TENURE	LOCATION	GENDER	MANY OTHERS
Illiterate	Young	Formal	Central	Roles and responsibilities for water	
Highly literate	Old	Informal	Remote		Health Household head

How many of these different user groups did you write down?

5

Thinking about diverse water user groups...

Who do you think are the most disadvantaged?

Activity: Discuss in table groups, and write down who you would consider to be the most disadvantaged.

6

What contributes to disadvantage?

Vulnerability: indicates traits or characteristics that put people at special risk to harm, e.g. babies are especially vulnerable to unsafe water

Marginalization: indicates a lack of access to safe water due to explicit or implicit discrimination, e.g. as experienced by the poor or remote

7

Who might experience vulnerability? Or marginalization?

DIVERSE USERS					
SERVICE LEVEL	DISABILITY	INCOME	SOCIAL	SEX	
Shared tap	Mobility	Below poverty line	Language	Women	
Private yard tap	Sight	Above poverty line	Religion	Men	
Interior plumbing	Hearing	Wealthy	Culture	Boys	
Non-users	Mental		Ethnicity	Girls	
EDUCATION	AGE	LAND TENURE	LOCATION	GENDER	MANY OTHERS
Illiterate	Young	Formal	Central	Roles and responsibilities for water	
Highly literate	Old	Informal	Remote		Health Household head

Activity: Discuss who is likely to experience vulnerability. Why? And marginalization? Why?

8

“Equity” includes gender considerations

EQUITY

Gender equality

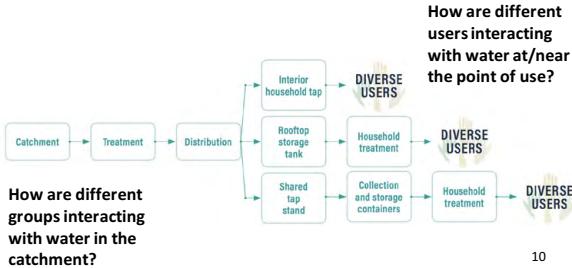
The absence of avoidable or remediable differences among groups of people

People's rights and opportunities do not depend on gender

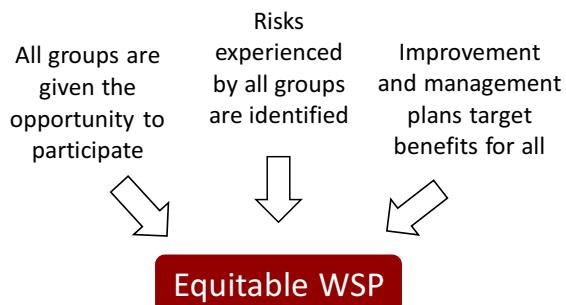
9

WSPs go from catchment to consumer

WSPs should consider diverse experiences with water along the water supply chain, especially at the catchment and user levels.



Inputs to an equitable WSP



Outcomes of an equitable WSP

Equitable WSP



Equitable realization of WSP benefits



No one is made worse off in the process of managing risk



WSP is made more effective through an inclusive approach

All WASH initiatives have equity outcomes, whether intentional or not. Let us contribute to positive outcomes!

12

Can you identify any examples of how discrimination may result from a WSP?

Any examples of how a WSP can contribute to positive equity outcomes?

Activity: Discuss these questions in table groups, and write down the examples identified.

13

CONSIDERING EQUITY IN

MODULE 1: ASSEMBLING THE WSP TEAM

14

Considering equity here means:

- Seeking meaningful participation of diverse groups in the WSP team

15

Thinking about the diverse range of water user groups...

Who should participate in the WSP team? How can the different groups contribute?

Activity: Discuss these questions in table groups, and write down different groups' contributions.

16

Equitable participation

(representation of women, men and disadvantaged groups in the WSP team)

Experiences and interests of diverse groups are taken into account during risk assessment and management planning

WSPs can be communicated and shared with different parts of the community through WSP team members

Risks to water safety are better understood and controlled by understanding different perspectives within the community.

17

What are ways to support meaningful participation of diverse groups in the WSP team?

Activity: Discuss this question in table groups.

18

CONSIDERING EQUITY IN
MODULE 2:
DESCRIBING THE SYSTEM

19

Who are the users?

Defining intended water uses and users is an important part of describing the water supply system.

A typical example:

Intended use	Intended users
Intended for consumption, food preparation, bathing and laundry.	General population Intended consumers do not include those that are significantly immuno-compromised or industries with special water quality needs.

But what is meant by "general population"?
Do we need to be more specific to ensure equitable benefit?

21

User diversity

In a community, there may be wealth disparities, health inequities, gender inequalities and/or other forms of disadvantage that impact experiences with water.



22

Why is it important to understand user diversity for an equitable WSP?

Activity: Discuss this question in table groups, and write down reasons discussed.

23

Diverse water experiences

If the diverse groups and their different experiences with water are not considered through the WSP process, the WSP may overlook important risks affecting some users.

E
X
A
M
P
L
E



Users of this public tap stand in an informal settlement face different risks than users with a household connection.

24

Why is it important to understand these experiences?

COLLECTION POINT INFRASTRUCTURE	WATER QUALITY AND SERVICE DELIVERY	WATER PRACTICES	PARTICIPATION
Map all different collection point types and qualities.	Explore differences in water quality and service delivery.	Explore differences in how water is collected, managed and used.	Identify practices and barriers related to participation.

Explore these topics for all user groups to identify different or inequitable experiences of water and water management.

Activity: In table groups, discuss how each of

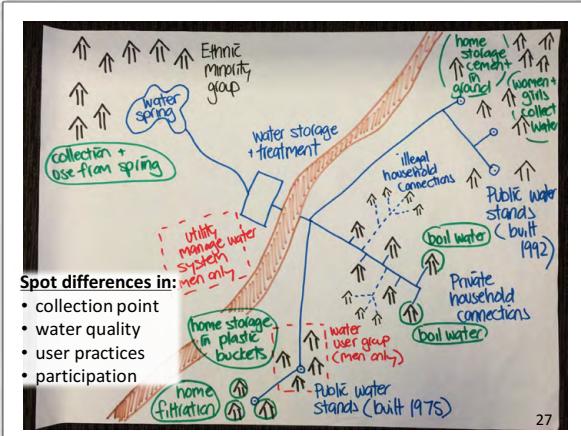
25

Looking at the system map on the next slide, do you see...

1. Different types of **collection points**?
 2. How **water quality** may differ by collection point?
 3. Different water **user practices**?
 4. Different **opportunities for participation** in decision-making relating to water management?

Activity: Discuss these questions in table groups, and write down differences identified.

26



Spot differences in:

- collection point
 - water quality
 - user practices
 - participation

27

CONSIDERING EQUITY IN **MODULE 3:** IDENTIFYING HAZARDS & ASSESSING RISK

28

Considering equity here means:

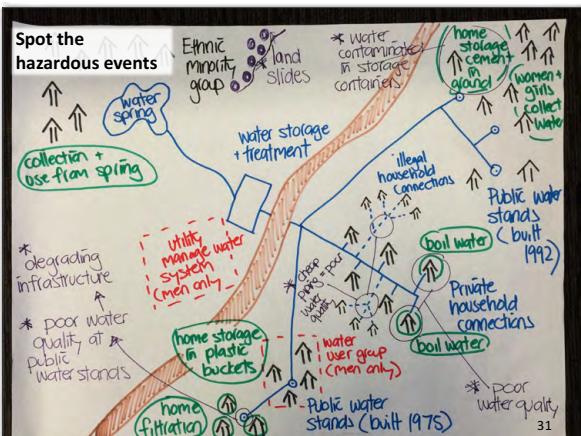
- Bearing in mind diverse user experiences when identifying hazardous events

29

Looking at the system map on
the next slide...

What different hazardous events do you see?

Activity: Discuss this question in table groups, and write down hazardous events identified.



21

From the map, we can see...

LOCATION	HAZARDOUS EVENT
Catchment	Landslide in remote area threatens raw water quality/quantity
Distribution system	Contamination enters the pipe network due to low pressure
	Illegal connections in informal settlements allow contaminants to enter the pipe network
	Improper pipe materials used for illegal connections in the informal settlement leach chemicals into the water supply
Collection point	Degrading public tap stands threaten water quality/quality
	Water collection from tap stands in open containers could allow contamination during collection and transport
Household	Household storage of water in underground tanks could allow contamination from surface runoff

32

CONSIDERING EQUITY IN

MODULE 5: IMPROVEMENT PLANNING

33

Considering equity here means:

- Prioritize improvements that benefit the disadvantaged
- Ensure root causes are addressed
- Identify positive and negative equity outcomes
- Ensure equitable control measure participation and communication

34

Prioritizing disadvantaged groups

Hazardous events that disproportionately affect disadvantaged groups should be identified and prioritized (as appropriate) to ensure equity outcomes are achieved.

The WSP team should ask:

How might we be able to prioritize management of hazardous events affecting the most disadvantaged in the community?

35

Addressing root causes

Understanding systemic causes of hazardous events will increase control measure effectiveness and may address discrimination of the most disadvantaged.

To do this, the WSP team should:

- ✓ Explore patterns of exposure to hazardous events across different groups to identify systemic causes
- ✓ Identify control measures that address systemic causes, mitigating any embedded inequity or discrimination

36

Considering equity outcomes

Some control measures can directly impact people. Assessing human impact is important to avoid inadvertent discrimination and to maximize effectiveness.

To do this, the WSP team should assess each control measure to:

- ✓ Determine if all groups will benefit equitably
- ✓ Identify potentially negative impacts on any group
- ✓ Identify alternatives or compensation measures in cases of potential harm or inequitable benefit
- ✓ Determine if different solutions are needed for different groups based on their unique needs

37

Considering equity outcomes

Catchment

If restricting farming operations near a water intake is proposed, the following equity questions could be explored: How can disadvantage to farmers be avoided? Is there a form of compensation that could be offered to farmers? Can farming practices be changed to reduce hazards?

Consumer

If removal of illegal connections is proposed, an equity assessment could ask: What is driving the illegal connections? What will be the impact of removing the illegal connections on those who have connected illegally? Can solutions be found in which those needing water can still access water?

38

Considering equity outcomes

EXAMPLE



People are more likely to participate in control measures that do not contribute to disadvantage!

39

Ensuring equitable participation and communication

Some control measures depend on the awareness, support and/or participation of different groups. Appropriate communication and meaningful participation impact success.

For relevant control measures, the WSP team should consider:

- ✓ **Communication:** Seek feedback on optimal control measures and ensure messages are delivered in ways accessible to all
- ✓ **Participation:** Identify opportunities for diverse groups to participate in control measure implementation

40

CONSIDERING EQUITY IN

MODULE 6: OPERATIONAL MONITORING

41

Considering equity here means:

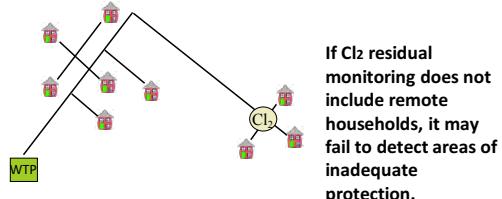
- Monitoring control measure effectiveness to ensure equitable benefit

42

Monitoring for equitable benefit

If the WSP team does not consider all user groups during control measure monitoring, some user groups may be excluded from benefits.

E
X
A
M
P
L
E



43

Monitoring for equitable benefit

To do this, the WSP team should:

- ✓ Note the intended beneficiaries of each control measure
- ✓ Confirm that control measure benefits are experienced equitably by diverse users

44

CONSIDERING EQUITY IN

MODULE 7: VERIFYING WSP EFFECTIVENESS

45

Considering equity here means:

- Monitoring water quality and consumer satisfaction for all groups

46

Verifying WSP effectiveness for all

Compliance monitoring and consumer satisfaction monitoring should confirm that all groups receive safe water and are satisfied with their service.

To do this, the WSP team should:

- ✓ Ensure compliance monitoring reflects all user experiences, e.g. different collection point types and user practices
- ✓ Include all user groups in consumer satisfaction surveys
- ✓ Review consumer satisfaction survey data for trends in user perceptions according to social stratifiers (e.g. level of wealth)

47

CONSIDERING EQUITY IN

MODULES 8 & 9: DEVELOPING MANAGEMENT PROCEDURES & SUPPORTING PROGRAMMES

48

Considering equity here means:

- Considering all groups when developing communication plans

49

Accessible communication plans

Diverse needs of different users must be considered when developing communication plans and programmes to ensure that important messages are accessible to all.

To do this, the WSP team should:

- ✓ Ensure **emergency response plans** consider how to deliver critical messages to all diverse groups
- ✓ Ensure **communication and education programmes** reflect the needs of diverse users, e.g. those with lower literacy levels or who speak a different language

50

CONSIDERING EQUITY IN MODULES 10 & 11: REVIEWING & REVISING THE WSP

51

Continuous equity strengthening

Each cycle of WSP review and revision provides an opportunity for the WSP team to strengthen equity consideration and outcomes.

To do this, the WSP team should:

- ✓ Develop a simple equity checklist outlining opportunities for equity integration in each WSP module
- ✓ Use the checklist to assess equity integration each time the WSP is reviewed and revised

53

Considering equity here means:

- Strengthening equity integration during ongoing review and revision of the WSP

52



54

CASE STUDIES

This section presents case studies documenting the experiences and lessons learned from the systematic integration of equity considerations in urban and/or rural WSPs in Bangladesh, Nepal and the Philippines. Each case study has been written to serve as a stand-alone example of good practice, i.e. suitable for reproducing and sharing independently of the full guidance document.

An overview of the case studies included in this section is provided in the table below.

CASE STUDIES		DESCRIPTION
1	BANGLADESH	Describes how one community-based WSP team considered the needs and interests of all different groups in the community, especially the most disadvantaged, to ensure equity outcomes were achieved.
2	NEPAL	Demonstrates that within a single workshop, it is possible for WSP teams to come to understand and value equity integration in the WSP process.
3	PHILIPPINES	Demonstrates the benefits of exploring diversity in a community through a user survey to strengthen the WSP and to realize safe water for all without discrimination.



Integration of equity in the water safety plan process in Bangladesh

This case of a rural water safety plan (WSP) in Bangladesh describes how one community-based WSP team considered the needs and interests of all different groups in the community, especially the most disadvantaged, to ensure equity outcomes were achieved through the WSP process.



© ISF



Nordash Union is a nine-hour drive from Dhaka, with a population of 1500. The WSP approach was piloted in Nordash Union in 2011. WHO and WaterAid supported the Department of Public Health Engineering and the Village Education Resource Center (VERC) in facilitating the WSP process. The WSP team was an existing community-based organization leading water, sanitation and hygiene activities in Nordash.

Equity is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically. Every water initiative has an equity impact, whether intentional or not. This means a WSP process can either increase or decrease existing disadvantage within communities. To ensure WSPs have a positive impact for all groups of people and to realize the human right to safe water for all, equity outcomes should be considered when developing and implementing a WSP.

Considering the needs and interests of different groups, especially women, the poor and the most vulnerable, will also make the WSP more effective. Engaging all different groups will help WSP teams identify a greater range of both social and technical hazards and develop more effective and sustainable control measures.

Good practice examples for integrating equity into water safety planning

1. Aiming for equitable participation in the WSP team

VERC encouraged at least one member of the WSP team to be female and people from disadvantaged groups, including the poor and people living with disability, to participate: "When we form a committee we also ask people with disability, he may have a problem with his leg, but he can contribute with his mind". The WSP team co-chairman identified himself as a representative of the "hard-core poor", a disadvantaged group in Nordash Union.

Meaningful participation of women and disadvantaged groups in the WSP team aims to ensure that needs and interests of different groups in the community are considered during the development and implementation of a WSP and that there is active participation and commitment of these groups.

2. Identifying different water practices and hazardous events in the community

VERC and the WSP team, through an open community meeting, mapped the water supply system and community characteristics to identify: (i) different water practices of diverse community groups; and (ii) hazardous events experienced by diverse groups to inform their improvement plan. The WSP team was encouraged to *"find people who have ethnic needs or disability, so when the improvement plan is developed, it considers their needs"*. Through this exercise, the WSP team identified diverse user groups, different water and sanitation technologies and disadvantage related to varying standards of collection points.

Recognizing different water practices and different standards of collection points will help ensure that all relevant hazardous events are identified and control measures are appropriate to ensure safe water for all.

3. Recognizing the most disadvantaged users in the community

The WSP team believed the most disadvantaged group in Nordash was the poor. They recognized that the very poor are more vulnerable to the consequences of unsafe water, for example, because of their lack of resources to receive medical attention or the consequences of missing work. Therefore, as part of mapping the water supply system, the WSP team identified and mapped the income level of water users using a scale: very rich – rich – moderate – poor – very poor. The WSP team developed its own locally relevant definition for wealth ranking, informed by national pro-poor government policy.

National government policy often provides guidance and standards to achieve equity in the provision of safe water.

4. Prioritizing the needs of the most disadvantaged

The WSP team felt that the whole community benefited by ensuring that the needs of the disadvantaged were met first in the WSP: “*their income and wealth and health increases, and if certain groups have more income, the overall situation of the community will improve*”. The WSP team prioritized WSP improvements that addressed the needs of the most disadvantaged. This included: (i) constructing latrines, tube wells and tube well platforms for the poor; (ii) facilitating land purchase for the poor to construct latrines; and (iii) prioritizing tap stand construction for the greatest number of users.

Prioritizing the needs and interests of the most disadvantaged within a WSP will help ensure that the benefits are realized by all.

5. Designing education programmes to reach diverse audiences

WaterAid developed safe water management and hygiene promotion messages for different audiences and water users in the community, recognizing diverse interests and needs. WaterAid was especially concerned to ensure that excluded groups in the community were included in the WSP. They first sought to understand the reasons for exclusion in order to respond appropriately. “*We ask why are they excluded? What is the root of exclusion...This type of understanding needs to be developed first. We then target different groups differently... we used miking, discussion groups in the mosque, and rallies and those sorts of things to ensure no one is excluded*”.

Hygiene promotion focused on the different needs and interests of men and women. When implementing the education programmes, WaterAid “*noticed it is hard to reach the males, so we targeted the tea stalls, so we will see males involved in the WSP. We tried to train the tea stall owners so they can include the WSP in their discussions*”. Cups and posters were provided to tea stall owners to reach the predominantly male customer base.

Hygiene education for women was promoted at the tube well and in the home, where women are primarily responsible for water management. Women caretakers of the tube wells promoted safe



A Nordash WSP team member shares their community map and shows how the WSP team recognized disadvantaged groups in the community.

water management amongst their neighbours. Pictorial monitoring checklists were provided for the public tap stand caretakers. Other targeted efforts for specific groups in the community included: cartoon books for school students (equal participation for boys' and girls' schools) and a simple five-point message mass community campaign for safe water management. Community-based education materials used simple pictures to reach all in the community, especially those with lower literacy levels.

Recognizing different water user groups will maximize education programme success by allowing messages and approaches to be tailored to the particular needs and interests of diverse audiences.

6. Considering different interests and needs of women and men in caretaker training

When conducting the training of caretakers responsible for the operation and maintenance of communal tube wells, VERC recognized that many women were not experienced in public roles in the community and were not as knowledgeable or comfortable with the technical aspects of tube well maintenance. The training therefore aimed to address this gap to ensure that both women and men developed the skills and confidence needed to carry out the role. The approach taken served to optimize WSP effectiveness and contribute to improved gender equality in the community.

The WSP process can promote equity outcomes in a community by recognizing existing disadvantage and by taking intentional steps to dismantle unjust differences. Intentional efforts are required to ensure that WSPs have a positive impact for all groups.

This brief was prepared as part of a study to explore equity aspects of water safety planning, undertaken in 2013–2014 by ISF-UTS in partnership with WHO.

Community workshop in Nepal raises awareness on the benefits of integrating equity into water safety plans

This case study demonstrates that within a single workshop, it is possible for water safety plan (WSP) teams to come to understand and value equity integration in the WSP process.



Deurali is a rural community 200 km from Kathmandu. A community-based water user and sanitation committee (WUSC) manages public water stands in Deurali. A WSP team was formed in 2010 and is linked to the WUSC through shared membership.

Equity is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically. Every water initiative has an equity impact, whether intentional or not. This means a WSP process can either increase or decrease existing disadvantage within communities. To ensure WSPs have a positive impact for all groups of people and to realize the human right to safe water for all, equity outcomes should be considered when developing and implementing a WSP.

Considering the needs and interests of different groups, especially women, the poor and the most vulnerable, will also make the WSP more effective. Engaging all different groups will help WSP teams identify a greater range of both social and technical hazards and develop more effective and sustainable control measures.

Integrating equity into the WSP process can improve the impact of water safety planning, as demonstrated through a review of relevant policies and a participatory workshop held with WSP team members in Deurali, a rural community in Nepal. Workshop participants considered how some new actions to integrate equity might benefit their WSP and what it would take for the WSP team to carry out this integration. The workshop highlighted that even with limited experience considering equity, a WSP team can quickly realize its value.

Benefits of integrating equity into water safety planning

1. Building on government policies that emphasize equity strengthens the WSP process

The Deurali WSP facilitators successfully used government policies as drivers for equity integration into the WSP. Existing policy guidance for water supply projects in Nepal, such as the National Rural Water Supply and Sanitation Policy (Government of Nepal, 2004), was used to inform the WSP. This policy requires women's participation in decision-making roles for water supply programmes. It also calls for a whole-of-community approach to improving water supply, which led to decisions to ensure active participation in WSP implementation by different groups in the community, including

a mothers' group, forest users group and schools. This whole-of-community approach leads to more sustainable programmes.

The 2004 policy also provides guidance for ensuring equity in water supply programmes through site selection targeting the most disadvantaged. Site selection is expected to be poverty-targeted and prioritize the provision of basic service to remote and ethnic groups. Hardship, availability and condition of existing water supply services, incidence of diarrhoea, and prevalence of water-related diseases must be considered in site selection to alleviate existing disadvantage.

The same policy also informs budgeting, monitoring and evaluation to promote equitable outcomes in the provision of safe water. For example, national policy provides a methodology for identifying the poorest households within the community to provide grants for system construction. Contributions for projects are not compulsory for the poorest households. This guidance provides a valuable basis for ensuring equity outcomes in water safety planning.

National government policy may provide guidance on, and impetus for, integrating equity into water supply programmes. Such policy guidance can be used as a foundation and catalyst for ensuring equity outcomes are achieved in water safety planning.

2. Taking equity into account when forming the WSP team ensures a better informed WSP

When workshop facilitators asked the WSP team about their thoughts on appointing a social inclusion focal person or involving a minority group representative to serve on the WSP team as a means of making the WSP process more equitable, the team appreciated the value of intentionally promoting equity within the WSP team.

What do you think are the benefits of appointing a gender and social inclusion focal point on the WSP team?

This will help create an equal opportunity for all and to have someone who is dedicated to this will help to make sure this will happen. (male)

If there is some discrimination for someone, then we will be sure to know about it. (male)

What do you think are the benefits of including a minority group representative on the WSP team?

I strongly support their participation in the WSP, so they can go back to their community to create awareness. (female)

We have had experience with having minorities in the users committees before, and it is good, but in a volunteer committee it is hard for them to come to the meetings. (male)

Taking equity into account in WSP team formation can ensure that the needs and interests of different groups in the community are considered and that they actively participate in:

- sharing their water practices and perceptions of water safety;
- contributing to control measure selection, implementation and monitoring; and
- engaging in WSP education and communication efforts.



A WUSC member shares her thoughts on the benefits of including minority group representatives on the WSP team.

3. Considering equity as part of WSP system description allows for identification of all hazardous events

Workshop facilitators asked the WSP team to consider the benefits of several actions to integrate equity into the system description and hazard identification steps of the WSP. Suggested actions included:

- A: Measure water quality at each collection point.
- B: Survey different types of users about their water practices.
- C: Identify locations and populations vulnerable to different hazardous events.
- D: Mark A-C on a map.
- E: Keep the map current.

Key

Road

Distribution lines

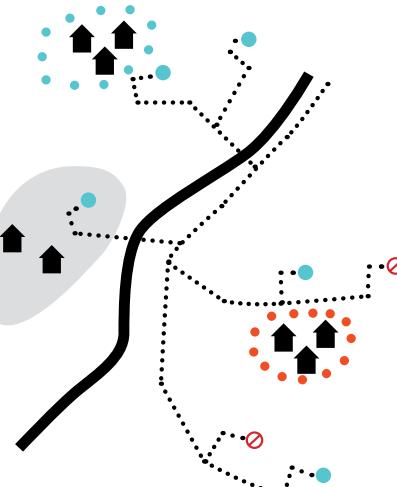
Safe water quality

Poor water quality

Safe water practices

Poor water practices

Other hazards



Comprehensive surveys of user practices and water quality at different types of collection points helps identify and address all hazardous events experienced by different groups in the community. This is critical for ensuring equitable access to safe water.

The WSP team appreciated the importance of including these actions in the WSP process, recognizing that identifying all types of hazardous events experienced by different groups in the community would lead to a more effective WSP. Benefits to the WSP identified by the community included:

"If we check each tap stand we will know the quality of each and it will help focus our work."

"This is better for focusing in particular areas and focus can be given to vulnerable groups. When we make improvements, we will know who is more vulnerable."

"Having all of this information readily available would help in the continuity with the other team members."

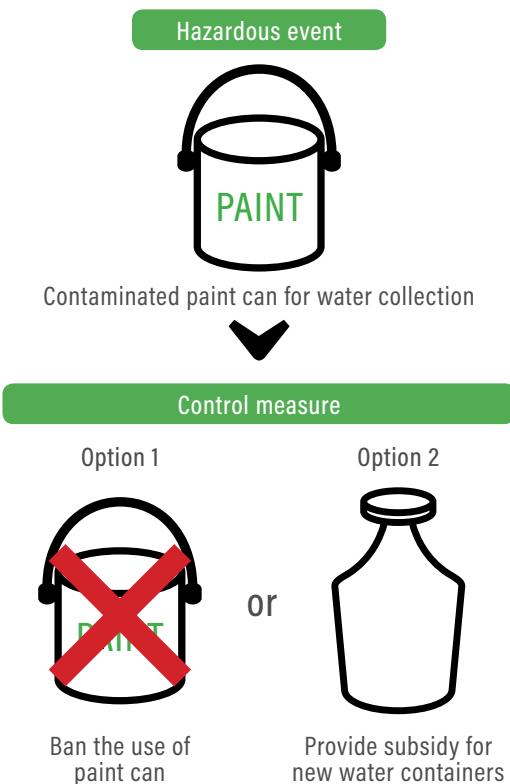
There were mixed views on how easy it would be to carry out this type of mapping exercise; some were concerned that they did not have the capacity, while others felt it was so important to do that they could do it, and that it would get easier and faster with practice.

4. Assessing control measures for equity impact improves control measure design

During the workshop, the WSP team was asked to discuss the benefit of conducting an "equity assessment" of proposed control measures, which entailed:

- Identifying possible control measures to address the hazardous event.
- Assessing each control measure for different user groups (such as women, men, boys, girls, old, young, persons with disability, poor, etc.) to determine if there are any potential negative consequences from the control measure.
- Where a control measure would have a negative impact on a group of users, developing an alternative control measure to ensure that no individuals or households are discriminated against. In other words, determining which control measure would have the most equitable outcomes for the breadth of users, or if different control measures are needed for different users according to their unique needs.

Workshop facilitators discussed example equity assessments with the WSP team. For instance, the team discussed potential control measures to reduce the use of hazardous paint containers as water collection and storage vessels by the poorest in the community. The team felt it was more equitable to provide a subsidy for the poorest to purchase safe water storage containers instead of banning the use of paint containers.



The WSP team and WUSC members discuss and agree that an equity assessment of control measures would benefit the WSP.

The WSP team members all felt that an equity assessment of the proposed control measures was relatively easy to do and very beneficial to the WSP process. The assessment would ensure that proposed control measures do not make anyone worse off than before and that the control measures are accessible to all intended users in the community. They also agreed that it was important to ask community members themselves whether the proposed control measures were equitable or not.

Considering equity implications of control measures is critical to water safety planning, since control measures are more likely to be followed if they are beneficial, do not cause negative consequences to any user group, and are appropriate for the intended water user groups. In achieving safe water for all, control measures should not discriminate or make anyone worse off, but instead should aim to reduce any existing disadvantage in the community.

This brief was prepared as part of a study to explore equity aspects of water safety planning, undertaken in 2013–2014 by ISF-UTS in partnership with WHO.

User surveys strengthen water safety planning and equity outcomes in the Philippines

The Dasmariñas Water District water safety plan (WSP) team experience demonstrates the benefits of exploring diversity in a community through a user survey to both strengthen the WSP and to realize safe water for all without discrimination.



© WHO



Dasmariñas is located 30 km south of Manila with a population of 570 000. Dasmariñas Water District (DWD) is the third largest water district in the Philippines with 110 000 connections. It has installed 144 public water stands in informal settlements where the poorest in the district live, serving a population around 17 000. It developed a WSP in 2009.

Equity is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically. Every water initiative has an equity impact, whether intentional or not. This means a WSP process can either increase or decrease existing disadvantage within communities. To ensure WSPs have a positive impact for all groups of people and to realize the human right to safe water for all, equity outcomes should be considered when developing and implementing a WSP.

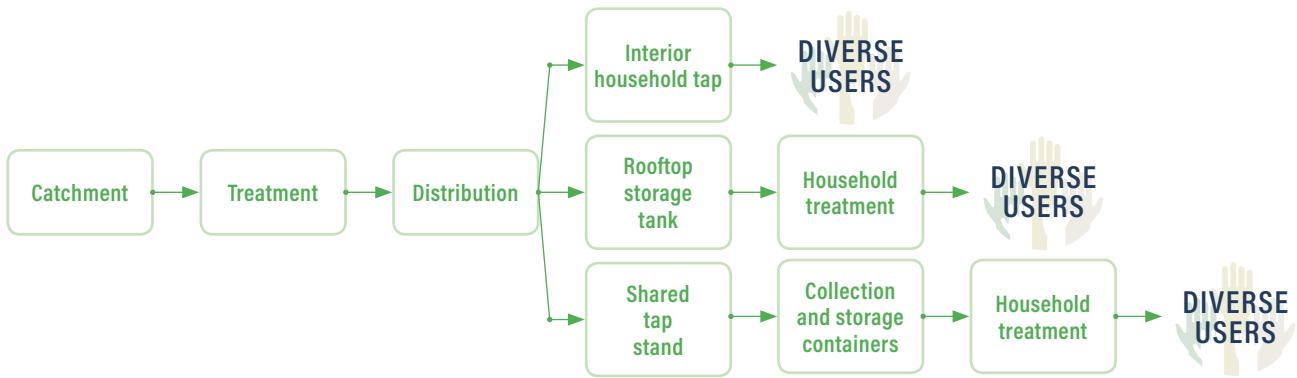
Considering the needs and interests of different groups, especially women, the poor and the most vulnerable, will also make the WSP more effective. Engaging all different groups will help WSP teams identify a greater range of both social and technical hazards and develop more effective and sustainable control measures.

Understanding diverse groups in a community, their different experiences with water, and their unique vulnerabilities to unsafe water allows for a more comprehensive, sustainable and equitable WSP. Diversity in how individuals collect, store and use water and differences in how water collection points are managed should be considered as part of water safety planning. Conducting user surveys provides a valuable way to explore differences amongst users.

This case study describes how one urban WSP team in the Philippines surveyed an informal settlement to understand user experiences with water to find out if their WSP was equitably serving all in the community. The DWD WSP team experience demonstrates how asking the right questions will uncover ways to ensure equitable access to safe water through a WSP.

User surveys reveal inequitable access to safe water

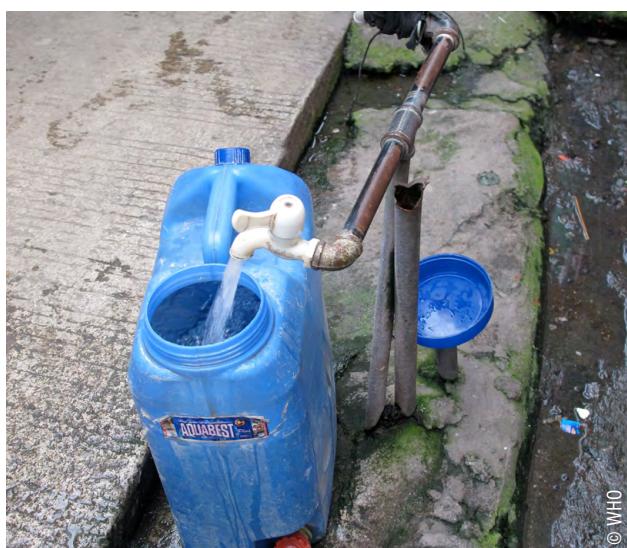
One of the early steps in water safety planning is to "walk the system" to map water supply components from catchment to use, including source, treatment, distribution, storage and user practices. A valuable tool to understand diversity in water user practices, collection point infrastructure and perceptions of water safety is a user survey to investigate different user groups' experiences with water.



Recognizing diversity and disadvantage in their community, the WSP team surveyed 78 people in an informal settlement area, where the poorest in their city live, to see if householders were experiencing safe water in line with their WSP goals. The survey identified several risks and inequitable access to safe water for many people living in the area.

1. Inequitable user burden and increased risk of contamination

The survey revealed that people in the informal settlement were responsible for installing and maintaining significantly more pipework than in urban areas. DWD is responsible for pipework only up to the point of the meter, while pipework beyond this is the responsibility of householders. In the informal settlement area, the length of pipe between the meter and the tap is typically around 100 m or more, whereas in the more affluent urban areas the distance is closer to 3 m. This greater responsibility is an inequitable burden for informal settlers.



Water collection at a public tap stand in an informal settlement.

This inequitable burden of installing and maintaining more pipework also resulted in an increased risk of water contamination. People in informal settlements were found to be using unsafe pipe materials from the meter to the tap, as they did not have sufficient resources to buy proper materials. This created an inequitable risk of unsafe water.

Water quality in relation to our WSP should only address up to the meter. After the meter, this is the household's responsibility. DWD is ensuring that water delivered to meters is within the limits of the Department of Health's requirements. However, if the households don't have a very good, clean piping system, it could be seen as the fault of the company...A risk was identified for this group based on their household piping". (WSP team member)

The survey results prompted DWD to explore a more equitable distribution system. The WSP team proposed placing the meters closer to the collection points such that DWD is responsible for more pipework at the end of the distribution line. This would reduce the burden of pipeline installation and maintenance on poorer households and reduce the risks to water quality associated with low-quality pipe materials. The team also thought of offering a household pipe repair service to ensure that proper materials are used. To encourage users to take advantage of this service, the WSP team suggested ways to make the payment easier, such as including any fees for repair in the bill payment. The team also thought of offering a one-year guarantee for any repairs to incentivize people to use this service.

The proposed corrective measures increase water safety and also decrease existing disadvantage caused by prior protocols for water distribution.

2. Perceptions of low water quality and increased costs to low-income households

Another concern revealed by the survey was the perception among some users that water quality was unsafe. This meant that one third of those surveyed were buying bottled water for drinking, as they considered tap water to be contaminated. The WSP team recognized the additional and disproportionate economic burden this placed on poor water users. The WSP team decided to begin a water testing and communication programme in the informal settlement to determine and communicate water quality to the users and allow for more informed decision-making.

"When we conducted the community survey we realized it would be important to monitor here. We had only been monitoring at near and far points in the water distribution system. We raised to the Board the idea to monitor in the new area and received approval."

(WSP team member)

3. Degradation of water infrastructure in the informal settlement

The WSP team also identified problems with infrastructure in the informal settlement, which posed a risk to low-income users. The WSP team observed that tap stand faucet threads were running bare from overuse and that some plastic tap stands were weak from heavy use and sun exposure. The WSP team brainstormed ideas to reduce risks, including stronger tap stand designs.

Such survey results highlight the need for intentional efforts to understand and respond to different groups' experiences with water in the development of a WSP, especially those most disadvantaged.

Example of user survey questions:

These are example user survey questions. Practitioners can draw on these and other questions as appropriate for their context to develop survey tools. Questions like these can be asked across the community and then analysed to reveal different experiences with water for different demographic groups in a community.

- What is your age, sex, caste, ethnicity?
- Is there any member of the family who is a senior citizen or person with a disability?
- Where do you get your water supply for general household use? For drinking-water?
- If you rely on public faucets, who usually collects the water?
- Are there any challenges for your family members in accessing water?
- Within your household, do you take any steps to keep water safe? If so, what steps?
- How often do you pay your water bill? Is it ever hard to pay?
- What do you do if the system ever needs repairs or maintenance?
- How do you contact the water supplier if you want to let them know of a concern or feedback?
- How do you get information from the water service provider about any service issues?
- Do you ever have any concerns about your water supply?
- Have you ever seen water quality testing results from the area where you live? If yes, do you know the results of the testing?

 This brief was prepared as part of a study to explore equity aspects of water safety planning, undertaken in 2013–2014 by ISF-UTS in partnership with WHO.

FURTHER READING

RESOURCES PROVIDING ADDITIONAL GUIDANCE AND INFORMATION ON EQUITY IN WASH

From practical to strategic changes: strengthening gender in WASH. Final research report (ISF-UTS, 2016). Sydney (<https://opus.lib.uts.edu.au/handle/10453/85767>, accessed 23 January 2019).

Gender and SDG 6: the critical connection. A framing paper for the High-Level Panel on Water (Australian Water Partnership, 2016). Canberra (<https://www.uts.edu.au/sites/default/files/HLPW-Gender-SDG6-short.pdf>, accessed 23 January 2019).

Gender equality and Goal 6: the critical connection (Australian Water Partnership, 2017). Canberra (<https://opus.lib.uts.edu.au/bitstream/10453/115346/1/Gender-Goal6-Critical-Connection.pdf>, accessed 23 January 2019).

Guidance note on the development of action plans to ensure equitable access to water and sanitation (United Nations, 2016). New York and Geneva: United Nations Economic Commission for Europe; and Copenhagen: WHO Regional Office for Europe (<https://www.unece.org/environmental-policy/conventions/water/envwaterpublicationspub/brochures-about-the-protocol-on-water-and-health/2016/guidance-note-on-the-development-of-action-plans-to-ensure-equitable-access-to-water-and-sanitation/doc.html>, accessed 23 January 2019).

Manual on the human rights to safe drinking water and sanitation for practitioners (IWA, 2016). London: International Water Association (<http://www.iwa-network.org/publications/manual-on-the-human-rights-to-safe-drinking-water-and-sanitation-for-practitioners/>, accessed 23 January 2019).

Manual on the right to water and sanitation: a tool to assist policy makers and practitioners develop strategies for implementing the human right to water and sanitation (Centre on Housing Rights and Evictions, 2008). (<http://globalinitiative-escr.org/wp-content/uploads/2013/05/COHRE-Manual-on-Right-to-Water.pdf>, accessed 23 January 2019.)

No one left behind: good practices to ensure equitable access to water and sanitation in the pan-European region (United Nations, 2012). New York and Geneva: United Nations Economic Commission for Europe; and Copenhagen: WHO Regional Office for Europe (<http://www.unece.org/index.php?id=29170>, accessed 22 January 2019).

On the right track: good practices in realising the rights to water and sanitation (UN Special Rapporteur on the human right to safe drinking water and sanitation, 2012). (https://www.ohchr.org/Documents/Issues/Water/BookonGoodPractices_en.pdf, accessed 23 January 2019.)

The equitable access score-card: supporting policy processes to achieve the human right to water and sanitation (United Nations, 2013). New York and Geneva: United Nations Economic Commission for Europe; and Copenhagen: WHO Regional Office for Europe (<http://www.unece.org/?id=34032>, accessed 22 January 2019).

REFERENCES

- ADB, DFID, WB (2012). Sectoral perspectives on gender equality and social inclusion. Gender and social exclusion assessment 2011. Sectoral series: monograph 7. Kathmandu, Nepal: Asian Development Bank, Department for International Development (United Kingdom), World Bank (<https://think-asia.org/bitstream/handle/11540/856/spgsi-monograph-7-water-supply-sanitation.pdf?sequence=1>, accessed 30 January 2019).
- ADB (2014). From the shallows to the deep – who is taking the lead? Women, water, and leadership. A workshop for Asia and the Pacific. Conference synthesis. Manila: Asian Development Bank (<https://www.adb.org/publications/women-water-and-leadership>, accessed 22 January 2019).
- Carrard N, Crawford J, Halcrow G, Rowland C, Willetts J (2013). A framework for exploring gender equality outcomes from WASH programmes. *Waterlines*. 32(4):315–333.
- Federal Democratic Republic of Ethiopia (2013). One WASH National Program: a multi-sectoral SWAp. Program document – final. Government of Ethiopia (<http://www.moh.gov.et/documents/20181/21665/ONE+WASH+NATIONAL+PROGRAM.pdf/3d3fc19c-352d-4b8c-a87b-3b72df8b6df2>, accessed 22 January 2019).
- Fisher, J (2008). Women in water supply, sanitation and hygiene programmes. *Proceedings of the Institution of Civil Engineers - Municipal Engineer*. 161(4):223–229.
- Government of Kenya (2017). Framework for Monitoring Realization of the Rights to Water and Sanitation in Kenya. Nairobi: Kenya National Commission on Human Rights (<http://knchr.org/Portals/0/EcosocReports/PHE-Framework.pdf>, accessed 22 January 2019).
- Government of Nepal (2004). Rural Water Supply and Sanitation National Policy, 2004 & Rural Water Supply and Sanitation National Strategy 2004. Kathmandu: Ministry of Physical Planning and Works (unofficial translation) (<https://mowss.gov.np/article/32/rural-water-supply-policy-2004-and-rural-water-supply-strategy-2004.html>, accessed 22 January 2019).
- Government of Nepal (2011). Water supply, sanitation and hygiene: sector status report May 2011. Kathmandu: Ministry of Physical Planning and Works, Water Supply and Sanitation Division, Sector Efficiency Improvement Unit (<http://codefnepal.org/wp-content/uploads/2016/12/wash-sector-status-report-2011-for-web.pdf>, accessed 22 January 2019).
- Halcrow G, Rowland C, Willetts J, Crawford J, Carrard N (2010). Resource guide. Working effectively with women and men in water, sanitation and hygiene programs: learnings from research on gender outcomes from rural water, sanitation and hygiene projects in Vanuatu and Fiji. International Women's Development Agency, Melbourne; and Institute for Sustainable Futures, University of Technology Sydney, Australia (<http://www.genderinpacificwash.info/guidance-material.html>, accessed 23 January 2019).
- Kohlitz J, Chong J, Willetts J (2016). Monitoring the human rights to water and sanitation: an analysis of policy in Pacific island countries. *Water Policy*. 18(6):1436–1453.

O'Reilly, K (2010). Combining sanitation and women's participation in water supply: an example from Rajasthan. *Development in Practice*. 20(1):45–56.

Switzer D & Teodoro M (2017). The color of drinking water: class, race, ethnicity, and Safe Drinking Water Act compliance. *Journal AWWA*. 109(9):40–45.

UNICEF & WHO (2018). Drinking water, sanitation and hygiene in schools: global baseline report 2018. UNICEF/WHO Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. United Nations Children's Fund and World Health Organization (https://www.who.int/water_sanitation_health/publications/jmp-wash-in-schools/en/, accessed 22 January 2019).

United Nations (2012). No one left behind: good practices to ensure equitable access to water and sanitation in the pan-European region. New York and Geneva: United Nations Economic Commission for Europe; and Copenhagen: WHO Regional Office for Europe (<http://www.unece.org/index.php?id=29170>, accessed 22 January 2019).

United Nations (2013). The equitable access score-card: supporting policy processes to achieve the human right to water and sanitation. Geneva: United Nations Economic Commission for Europe; and Copenhagen: WHO Regional Office for Europe (<http://www.unece.org/?id=34032>, accessed 22 January 2019).

UN Special Rapporteur on the human right to safe drinking water and sanitation (2014). Realising the human rights to water and sanitation: a handbook by the UN Special Rapporteur Catarina de Albuquerque (<https://www.ohchr.org/en/issues/waterandsanitation/srwater/pages/handbook.aspx>, accessed 22 January 2019).

UN-Water (2018). Global Analysis and Assessment of Sanitation and Drinking-Water (http://www.who.int/water_sanitation_health/monitoring/investments/glaas-2018-2019-country-survey-documents/en/, accessed 30 January 2019).

Van Wijk-Sijbesma, C (1998). Gender in water resources management, water supply and sanitation: roles and realities revisited. Delft, the Netherlands: IRC International Water and Sanitation Centre.

WHO (2012). Water safety planning for small community water supplies. Geneva: World Health Organization (https://www.who.int/water_sanitation_health/publications/small-comm-water_supplies/en/, accessed 18 January 2019).

WHO (2016a). Protecting surface water for health: identifying, assessing and managing drinking-water quality risks in surface-water catchments. Geneva: World Health Organization (https://www.who.int/water_sanitation_health/publications/pswh/en/, accessed 22 January 2019).

WHO (2016b). The situation of water, sanitation and hygiene in schools in the pan-European region. Copenhagen: WHO Regional Office for Europe (<http://www.euro.who.int/en/publications/abstracts/situation-of-water,-sanitation-and-hygiene-in-schools-in-the-pan-european-region-the-2016>, accessed 22 January 2019).

WHO (2016c). Taking policy action to improve small-scale water supply and sanitation systems: tools and good practices from the pan-European region. Copenhagen: WHO Regional Office for Europe (<http://www.euro.who.int/en/publications/abstracts/taking-policy-action-to-improve-small-scale-water-supply-and-sanitation-systems.-tools-and-good-practices-from-the-pan-european-region-2016>, accessed 18 January 2019).

WHO (2017). Improving drinking-water supplies in rural areas of Serbia. Copenhagen: WHO Regional Office for Europe (<http://www.euro.who.int/en/countries/serbia/publications/improving-drinking-water-supply-in-rural-areas-of-serbia-2017>, accessed 22 January 2019).

WHO (2019a). Equity [website]. Geneva: World Health Organization (www.who.int/healthsystems/topics/equity/en, accessed 18 January 2019).

WHO (2019b). Gender: definitions [website]. Copenhagen: WHO Regional Office for Europe (<http://www.euro.who.int/en/health-topics/health-determinants/gender/gender-definitions>, accessed 30 January 2019).

WHO & IWA (2009). Water safety plan manual. Geneva: World Health Organization and London: International Water Association (https://www.who.int/water_sanitation_health/publications/publication_9789241562638/en/, accessed 18 January 2019).

WHO & IWA (2012). Water safety plans – training package. Geneva: World Health Organization and London: International Water Association (https://www.who.int/water_sanitation_health/publications/wsp_training_package/en/, accessed 18 January 2019).

WHO & IWA (2017). Global status report on water safety plans: a review of proactive risk assessment and risk management practices to ensure the safety of drinking-water. Geneva: World Health Organization and London: International Water Association (https://www.who.int/water_sanitation_health/publications/global-status-report-on-water-safety-plans/en/, accessed 28 January 2019).

WHO & UNICEF (2014). Progress on drinking water and sanitation: 2014 update. Geneva: World Health Organization and the United Nations Children's Fund (https://www.who.int/water_sanitation_health/publications/2014/jmp-report/en/, accessed 18 January 2019).

WHO & UNICEF (2017). Progress on drinking water, sanitation and hygiene: 2017 update and SDG baselines. UNICEF/WHO Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. United Nations Children's Fund and World Health Organization (https://www.who.int/water_sanitation_health/publications/jmp-2017/en/, accessed 18 January 2019).

Willetts J, Halcrow G, Carrard N, Rowland C, Crawford J (2010). Addressing two critical MDGs together: gender in water, sanitation and hygiene initiatives. Pacific Economic Bulletin. 25(1):162–176.

HOW EQUITABLE IS OUR WATER SAFETY PLAN?

PREPARATION

- ❖ Is there meaningful participation of women, men and disadvantaged groups in the WSP team?

SYSTEM ASSESSMENT

- ❖ Have diverse water users and their different experiences with water been explored?
- ❖ Are all different user experiences reflected in the hazardous events identified?
- ❖ Do improvement plans address root causes of problems and take care to avoid harm to any groups?

MONITORING

- ❖ Are all diverse users included in monitoring of water quality and consumer satisfaction?

MANAGEMENT AND COMMUNICATION

- ❖ Do communication plans and programmes reflect the particular needs of different groups?

FEEDBACK AND IMPROVEMENT

- ❖ Is equity integration strengthened during ongoing review and revision of the WSP?



FOR MORE INFORMATION, CONTACT:

WORLD HEALTH ORGANIZATION

Water, Sanitation, Hygiene and Health
20, Avenue Appia | 1211 Geneva 27 | Switzerland

✉ gdwq@who.int

🌐 http://www.who.int/water_sanitation_health/en/

ISBN 978-92-4-151531-3

