

Why water safety plans are the original systems approach

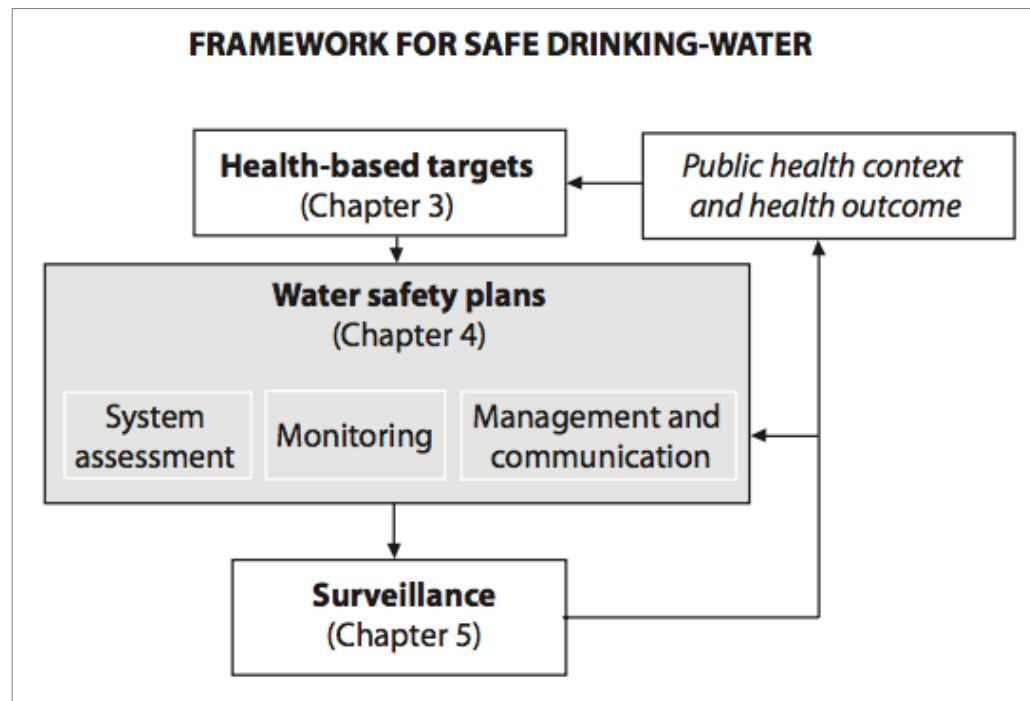
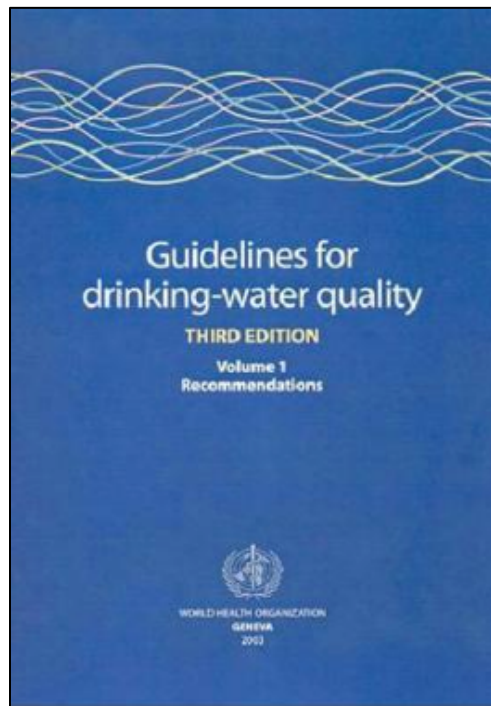
*Presented by Bruce Gordon
WHO, Geneva*

...TO PROVIDE SAFE WATER HERE



WHAT IS A WSP?

A comprehensive risk assessment and risk management approach that includes all steps in the water supply from catchment to consumer



BEFORE WSPs...

... THE FOCUS WAS ON END-PRODUCT TESTING.

Limitations:

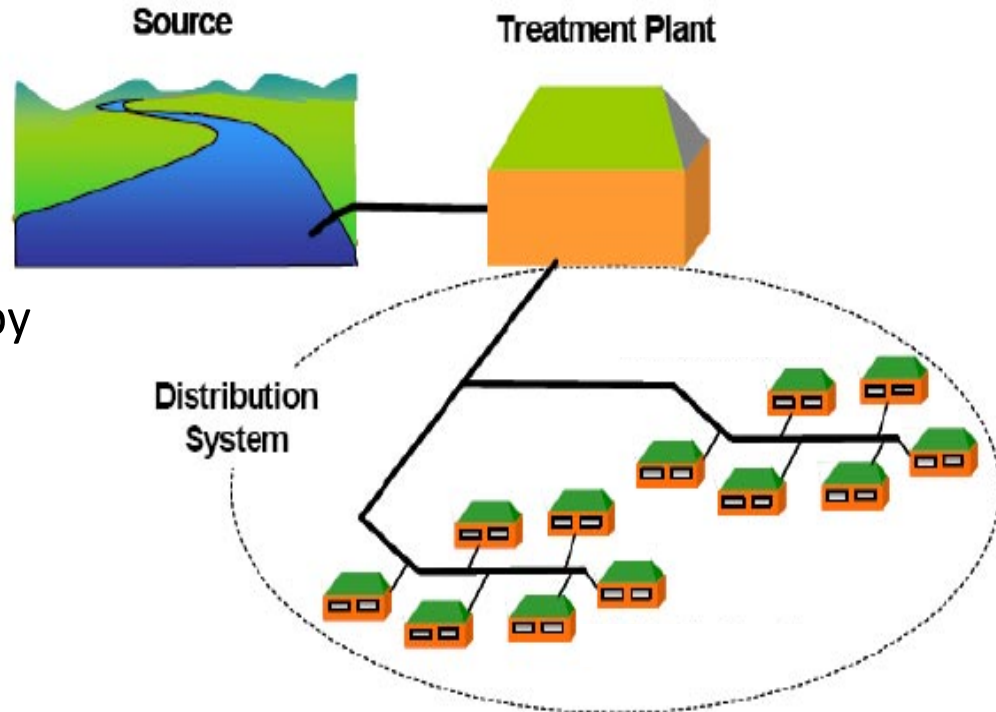
- X** Reactive approach (problem has occurred!)
- X** Test results provide a “spot check” only in space and time
- X** Limited laboratory/equipment capacity
- X** Testing can be very expensive
- X** Not always clear what went wrong, where and when



WHOLE-OF-SYSTEM APPROACH NEEDED

A proactive, whole-of-system approach needed to:

- ✓ minimize the contamination of source water;
- ✓ reduce or remove contamination by treatment; and
- ✓ prevent contamination during storage, distribution & consumer practices.



➡ WSP

WHAT'S INVOLVED IN WATER SAFETY PLANNING?

- ✓ Supporting **policy/legislation**
- ✓ Planning and **resource allocation** (HR and \$)
- ✓ **Institutional strengthening**, including coordination between water, health and environment
- ✓ **Capacity and tools** development
- ✓ Improved **O&M, management and infrastructure**
- ✓ Routine **monitoring**
- ✓ External **enforcement/audit**

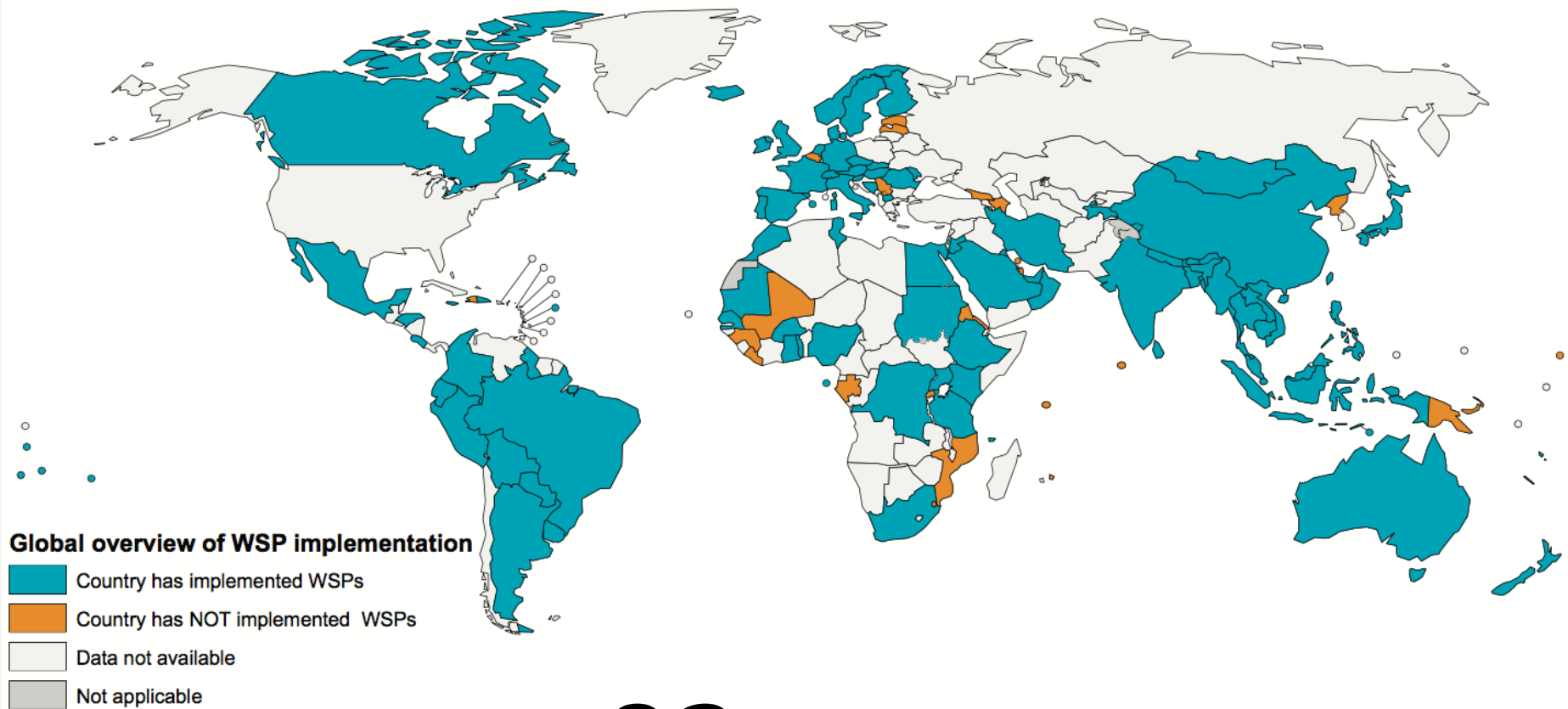
WATER SAFETY
PLANNING
FOLLOWS A
WASH SYSTEMS
APPROACH

GLOBAL UPTAKE



How many countries have
implemented WSPs?

GLOBAL UPTAKE



93 countries have implemented WSPs

GROWING POLITICAL SUPPORT



- ✓ **46 countries** have WSP policies or regulations in place
- ✓ **23 countries** have WSP policies or regulations under development
- ✓ SDG target 6.1 indicator of “safely managed” drinking-water creates further support for WSPs

WSP BENEFITS

WSP OUTCOMES

- Improved system understanding
- Strengthened communication and collaboration among stakeholders
- Improved operations and management
- Reductions in non-revenue water
- Improved infrastructure
- Leveraged financial support from governments, donors and banks

Many WSP benefits measured, including...

WSP IMPACTS

- Improved water quality
- Improved service delivery
- Improved health



A guide to

EQUITABLE WATER SAFETY PLANNING



ENSURING NO ONE IS LEFT BEHIND

Coming soon (WWD 2019)

SAFE WATER FOR ALL

Water safety planning provides a framework for the systematic consideration of **vulnerable and marginalized groups** – and their particular experiences with water – to improve equity outcomes



EXAMPLE: Considering informal settlers in the Philippines

CONTEXT:

- *575,000 people served by the water supply*
- *97% receiving water inside the home*
- *3% (17,000 people) living in informal settlements and receiving water at shared taps*
- *Informal area had been inadvertently excluded from initial WASH assessment and improvement planning*

Explicit consideration of informal areas revealed:

- *Concerns related to affordability and resulting in illegal connections, impacting water safety*
- *Shared tap stands marked by heavy use and degrading infrastructure*
- *Vulnerabilities associated with water collection, transport and storage practices*
- *Poor household treatment practices, e.g. filtration through used socks*



**ONCE IDENTIFIED, THESE ISSUES WERE ADDRESSED
THROUGH THE WSP FOR MORE EQUITABLE BENEFIT.**

THERE ARE ALSO CHALLENGES...

Data from 118 countries

GLOBAL STATUS REPORT ON WATER SAFETY PLANS:

A review of proactive risk assessment
and risk management practices to ensure
the safety of drinking-water



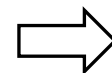
World Health
Organization



the International
Water Association

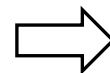
Challenges identified include:

More focus is
needed on
WSP elements
that support
sustainability



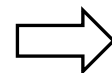
Need more “back-end”
focus, e.g. integration
into day-to-day

WSP audit
practice is limited
and should be
strengthened



Most implementing
countries not yet
auditing

There are financial
barriers to
overcome



80% of countries
flagged finance
concerns



World Health
Organization

STORY TIME



**This is the story of a WSP that was a glowing success...
... until it wasn't.**

What went wrong? What can we learn?

A PROMISING START...

- **Initially considered a great example of what a WSP could be!**
- **Major opportunities to improve operations and management identified and addressed, including:**
 - *Critical operator capacity issues re: chlorine batching and dosing*
 - *Inappropriate chlorine addition point, greatly impacting disinfection efficacy*
 - *Lack of basic WQ testing equipment, e.g. chlorine and turbidity*
 - *Lack of regular operational monitoring and record keeping*
- **With minimal financial investment, addressing these issues resulted in:**
 - *Operators empowered with the knowledge and tools to do their jobs*
 - *Improved operator morale and commitment*
 - *Greatly improved system operations*
 - *Optimal chlorine residuals achieved*
 - *Significant improvements in microbial water quality achieved*

A FEW YEARS ON...

- **A review of WQ surveillance data revealed:**
 - *No chlorine residual detected anywhere in the network in 2018*
 - *Regular faecal coliform detections throughout the system*
- **An impromptu visit to the WTP to investigate found:**
 - *The same operators on site (i.e. no issues with staff turnover)*
 - *No chlorine testing reagent available (and operators unsure how to get more), so no chlorine residual testing*
 - *Power supply (extension cord) to computer unavailable, so WQ testing records not accessible for viewing*
 - *Chlorine dose far too low (no residual)*
 - *Chlorine dosing point relocated to previous (and problematic!) location*



WHAT HAPPENED? WHY THIS RETURN TO BUSINESS AS USUAL?

A CRITICAL REVIEW

What was done well?

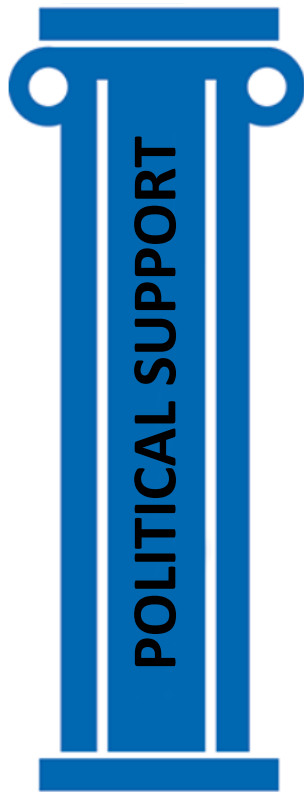
- ✓ Regulatory driver for WSPs in place (required for all systems)
- ✓ Critical system deficiencies flagged, i.e. need for the WSP clear
- ✓ Much achievable at little cost
- ✓ Quick wins achieved to demonstrate value and build support for WSP
- ✓ Major focus on integrating the WSP into day-to-day operations (not a document for the shelf)

What came up short?

- ✗ No WSP implementation oversight within water supplier (no strong support at senior levels)
- ✗ Systems to sustain critical WSP interventions not established, e.g. supply chains for WQ testing consumables and operator refresher trainings
- ✗ Limited WSP audit practice to provide external accountability

TO DISCUSS TODAY...

WHAT DO WE NEED FOR EFFECTIVE & SUSTAINABLE WSPs?
AND HOW ARE THESE PILLARS ACHIEVED?



THANK YOU!