

Water Safety Plan and Selected Case Studies

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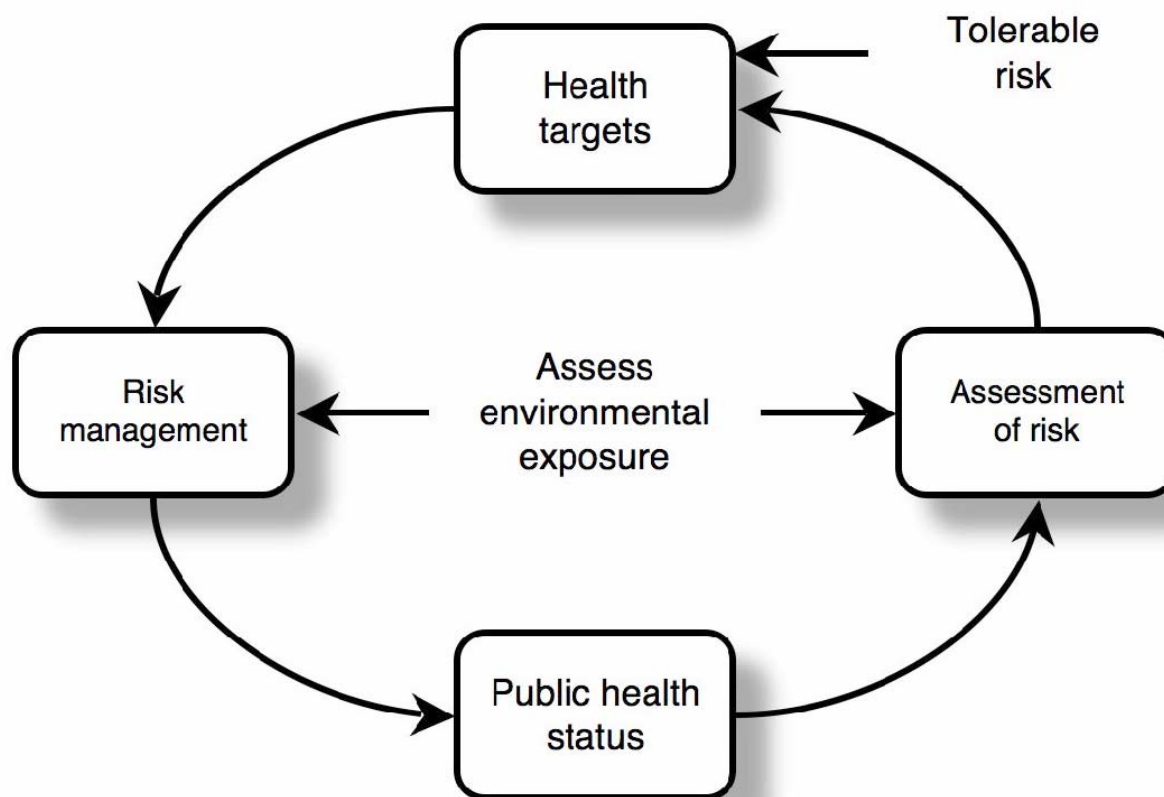
Water contaminated by pathogenic microbes and chemicals can transmit disease

- Unsafe water, together with inadequate sanitation and hygiene, is the overwhelming contributor to the 4 billion illnesses and 1.8 million deaths caused by diarrhoea every year. Around 90% of this toll is borne by children under five. Every diarrhea episode reduces calorie and nutrient uptake and sets back a child's growth and development.

Water safety can prevent waterborne diseases

- Water safety can be assured through a variety of interventions at the level of households, community, water supplier and regulator, often with an excellent cost-benefit ratio.
- WHO estimates that 94% of diarrhea cases are preventable through modifications to the environment, including increased availability of clean water.

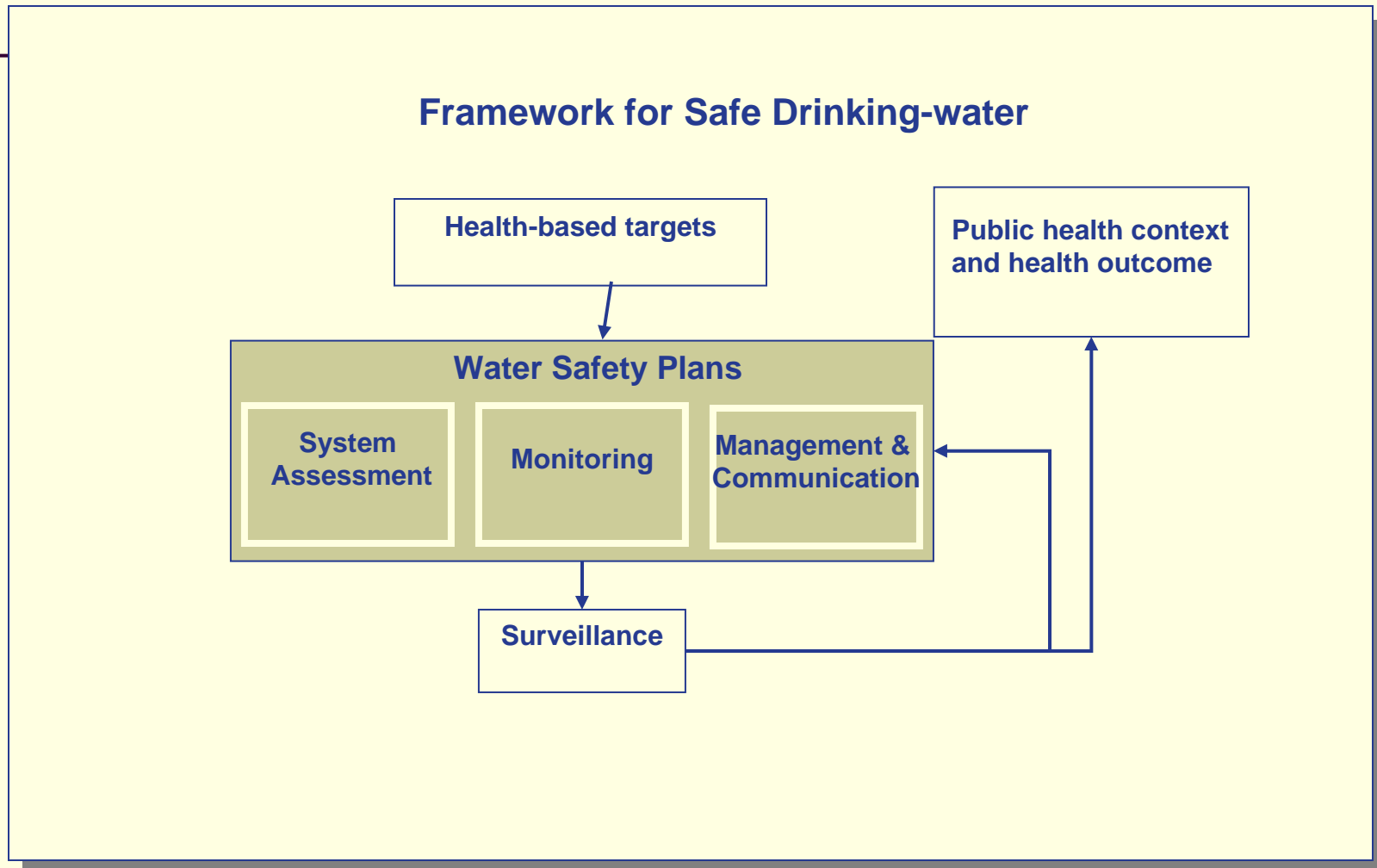
WHO Harmonized Framework



Traditional approach
Curative,
reactive

Water Safety Plans
Preventive,
proactive

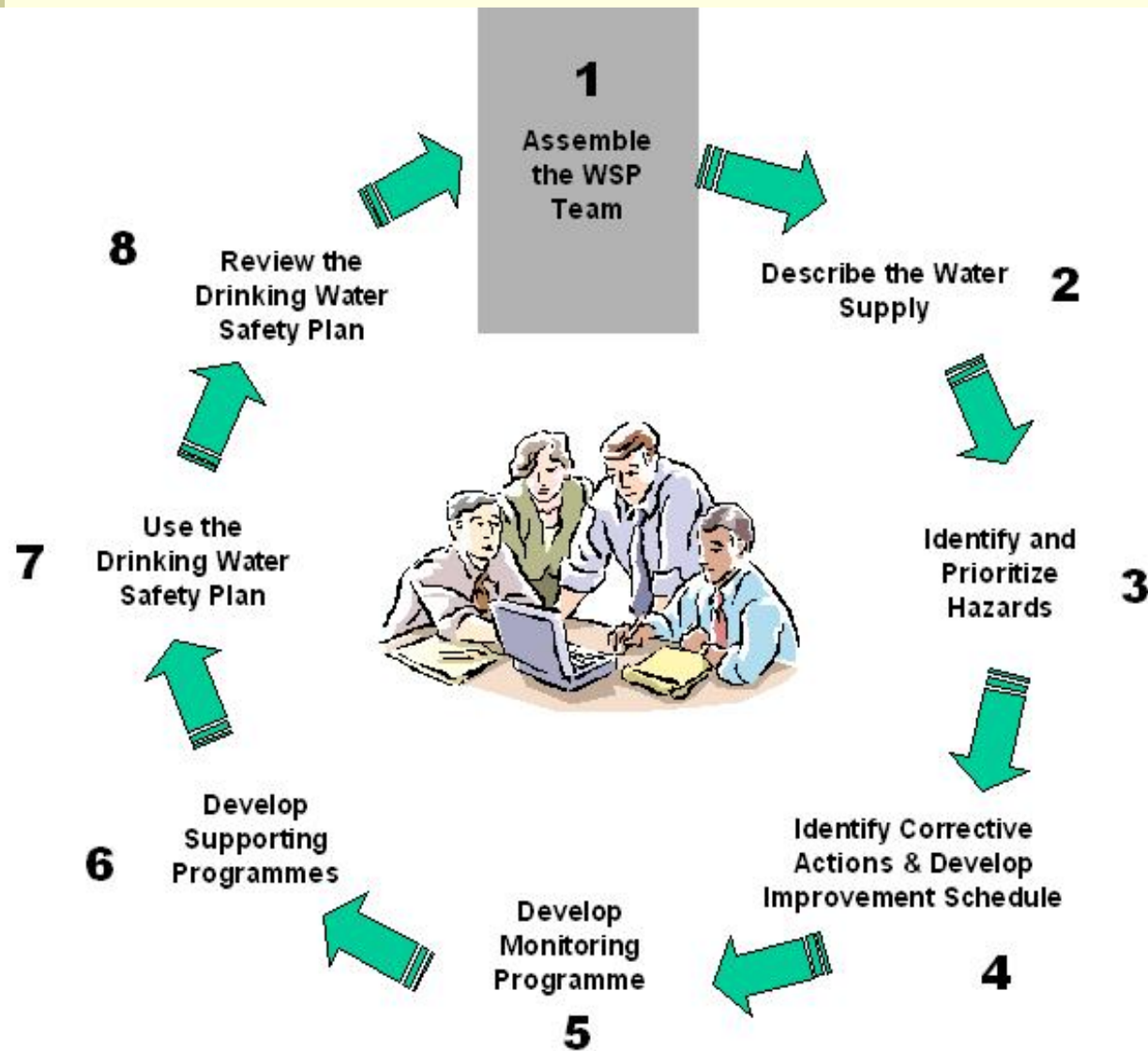
Framework for Safe Drinking-water



Important Modern Concepts of WSPs

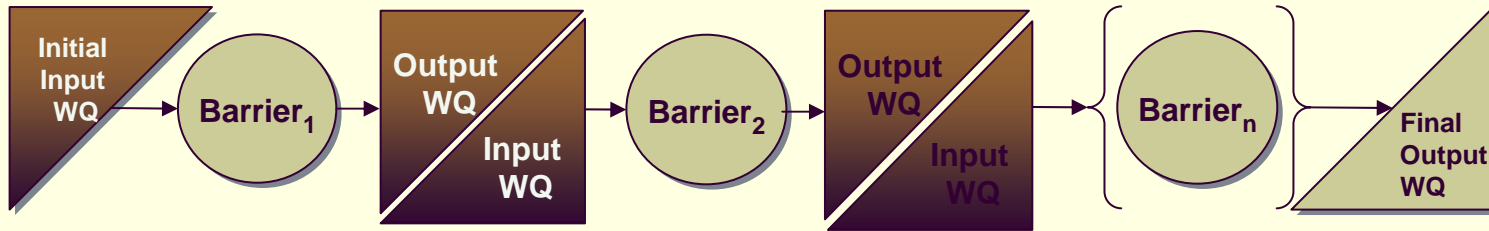
- Prevent contamination, don't wait for it to happen
- Notification comes in time
 - E.g chlorine residual monitoring on line
 - If residual drops a correction is applied
 - Consumers are protected
 - Same principle applies to all processes
- Risks are managed by control processes
- Use multiple barriers so that if one barrier fails the water stays safe
- Use management systems to make water safety management reliable
- Every improvement is worth it and helps improve public health

Pacific Water Safety Planning

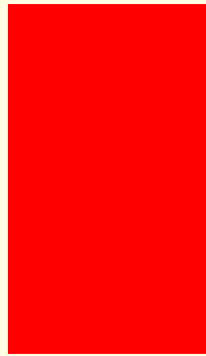


WSPs Process Control

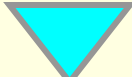

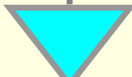




Watershed — — — — — **Consumer**



Hazards



System flow diagrams – WSP Maynilad, Philippines

| DESCRIPTION | STEP | RESPONSIBILITY |
|--|--|---|
| Catchment (Angat Dam) |  | Multiple Stakeholder (NPC, DENR, MWSS, NIA, NWRB) |
| Natural and Human Activity |  | DENR, NPC, MWSS, NWRB |
| Primary Storage |  | Utility (NPC) |
| Transport (Gravity flow to Ipo, Bicti and Aqueducts) |  | MWSS, MWSI, MWCI, CPF |
| Legal and Illegal Connections |  | |
| Splitting of Raw Water Flow (Portal) |  | Common Purpose Facilities |
| Raw Water Transmission from Portal Weir to LP 1&2 |  | Water Production, MWSI |

Pacific Water Safety Planning – Draft DWSPs developed

NATIONAL DRINKING WATER SAFETY PLAN PROGRAMME REPUBLIC OF PALAU

DRINKING WATER SAFETY PLAN FOR KOROR AIRAI WATER SUPPLY

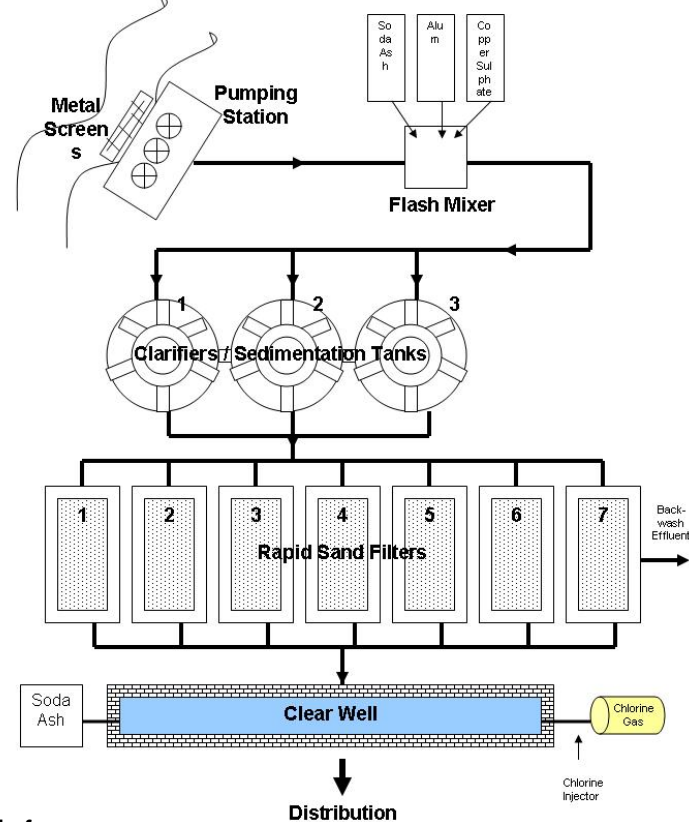


This document was compiled by the Palau Water Safety Plan National Steering Committee on behalf of the Ministry of Lands and Resource Development.

The Ministry of Lands and Resource Development is responsible for the implementation and oversight of this plan. This plan is due for revision March 2008.

Cover Page from Koror-Airai DWSP, Palau

System Description



Schematic for Wailea Treatment Plant,, Fiji

WSPs Download

Water safety plans: Managing drinking-water quality from catchment to consumer

http://www.who.int/water_sanitation_health/dwq/wsplans/en/

http://www.who.int/water_sanitation_health/dwq/wsp0506/en/index.html

- **WHO information products on water, sanitation, hygiene and health can be freely downloaded at:**

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

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