

HACCP & WHO Water Safety Plans

Using Risk Management to Deliver
Safe Drinking Water

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Pre-WSP Events

- ❑ 1994 Arie Havelaar (WHO) - First published concept
- ❑ 1998 - First HACCP for Water Training Manual and Course
- ❑ 1998 South East Water Australia - First full implementation of HACCP in a utility
- ❑ 1998 WHO Meeting in Stockholm
 - ❑ Deere and Havelaar invited
- ❑ 1999 South East Water Australia - First certified system in a utility
- ❑ 2001 WHO Stockholm book - Chapter from Deere et al., Risk Management Strategies



Post-WSP Events

- ❑ WSP name decided - analogous to FSP
- ❑ WSP writers invited and “enlisted”
- ❑ First draft initiated in 2001
- ❑ Several versions >2.5 years
- ❑ Currently text undergoing final edit

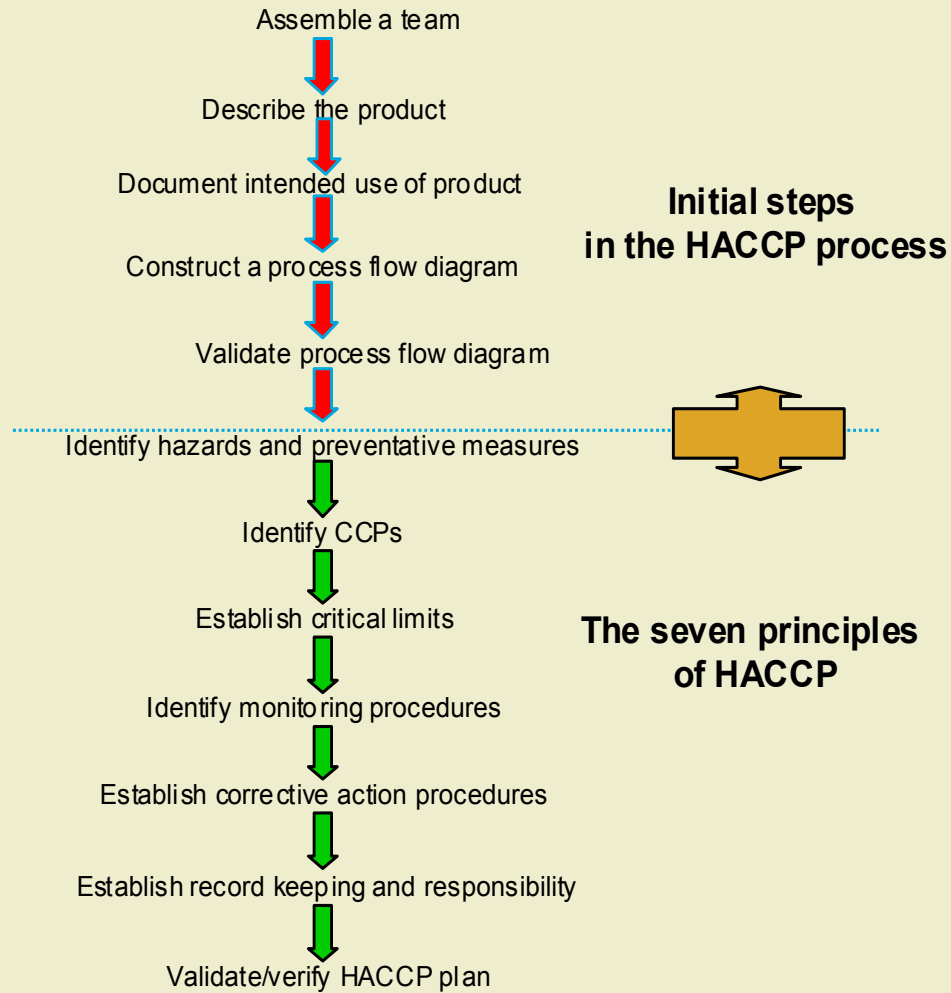


WHO Water Safety Plans

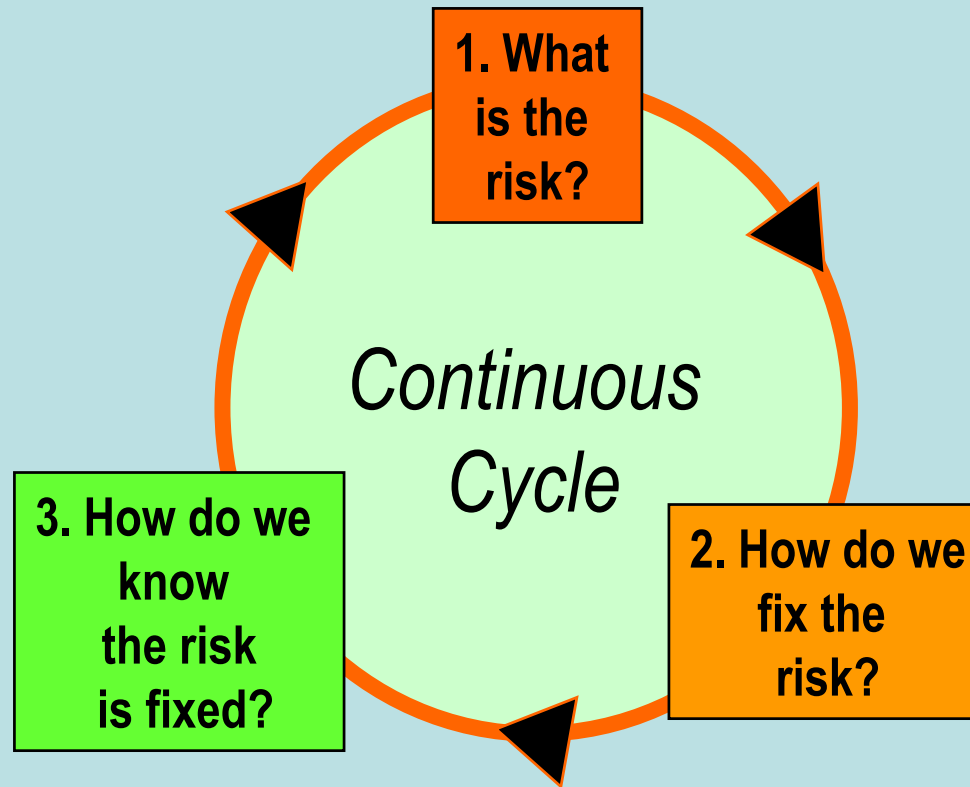
- ❑ 2nd Edition Volume 3, Small Systems Guidance:
 - ❑ HACCP-like approach
- ❑ 3rd Edition of the WHO Guidelines for Drinking-water Quality:
 - ❑ Currently being finalised
 - ❑ Contains guidance on risk management that incorporates:
 - ❑ HACCP; and
 - ❑ Supporting Programmes



Steps and Principles



WSP - Plain English



Source: Davison et al, 2001



WSP Overview

Health Based Targets

- 1 System Assessment
- 2 Effective Management - control measures and actions
- 3 Management Plans

Public Health Surveillance



System Assessment

..... to determine whether the water supply chain (up to the point of consumption) as a whole can deliver water of a quality that meets identified targets

- Reality check before starting WSP



System Assessment

Example: *Cryptosporidium* in fully treated supply

Source Water Concentration 10 - 1,000 oocysts/L (range)
95th % 125 oocysts/L



Effective Management - control measures

Monitoring of the control measures in the supply chain that are of particular importance in securing water safety

- ❑ HACCP
- ❑ Understanding the capabilities and limits of barriers
- ❑ Operational monitoring (control points and supporting programmes)



Management Plans

Management plans documenting the system assessment and monitoring and describing actions to be taken during normal conditions or incident conditions, including upgrade and improvement, documentation and communication

- ❑ HACCP and Supporting Programmes
 - ❑ standard operating procedures
 - ❑ employee training
 - ❑ risk communication



Public Health Surveillance

*Systematic independent surveillance that verifies that the above
are operating properly*

- ❑ Audit of Water Safety Plan
 - ❑ shows WSP is being adhered to
- ❑ Validation of control measures
 - ❑ WSP **should** work as planned
 - ❑ operational monitoring
- ❑ Verification
 - ❑ end-product final check
 - ❑ WSP **is** working as planned



Document Includes:

- ❑ Case Studies:
 - ❑ Melbourne Water - bulk supplier
 - ❑ Gold Coast Water - water utility
 - ❑ HACCP Certification
 - ❑ Extracts from HACCP plans
- ❑ Model plans:
 - ❑ Guidance for HACCP Plan development
 - ❑ 7 model plans
 - ❑ dug wells
 - ❑ rainwater tanks
 - ❑ Uganda
 - ❑ Practical examples



WSPs In Action - Bangladesh



Summary

- ❑ Formalised risk assessment and management approach
- ❑ Public health anchor
- ❑ Consistency across systems

