

# Water Safety Plan Framework

Timor Leste

(Key note Presentation) 16 October 2017



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# Water Supply System: management

- In Timor Leste, Urban water supply is managed by the district water supply office (DAA)
- Rural WSS system is managed by the Water Management Group (GMF)
- Sub district facilitator of DAA is supporting GMF.
- GMF consists of chief, secretary, treasurers and members, including two technicians who operates the system.
- Technicians and GMF members work as volunteers. Technicians operate the system and solve minor problems. If the repair works are beyond their capacity they inform to GMF and GMF mobilize the users for the improvement works.
- There is no system for tariff collections and people contribute directly if there is any problem. There is a trend to collect tariff 0.25-0.5\$/M/HH.

# WSP timeline

- WSP in TLS was initiated since October 2013
- Ten sites selected @2 sites in each of the five pilot districts.
- WSP concept (6 tasks) and training manual was developed.
- **Training Workshop:** Key staff of DAA from five pilot districts and GMF participated three days training organized in March 2014. and workshop May in 2014
- WSP audit and IA (Baseline) was conducted in December 2014.
- Improvement works carried towards the end of 2015
- WSP audit and IA (follow up) conducted in February 2016
- **Water qualities tested:** All parameters taking samples from sources, tank, tap and HH in 2015 and in 2016 before Improvement and 2016 after improvement.

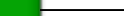
**Health-based targets**

**Public health Context  
And health outcome**

**Water Safety Plans**

**System Assessment   Control Measures   Monitoring**

**Surveillance**





# Water Safety Plan

Manual, 2017

"Water Safety Plan for the Incessant Safety of Drinking Water"



## National WSP Team

- Develops WSP modality and strategy for the country
- Organize WSP training
- Arrange for WQ monitoring
- Arrange for WQ surveillance
- Strengthen capacity of district for WSP
- Prepare annual water safety plan report

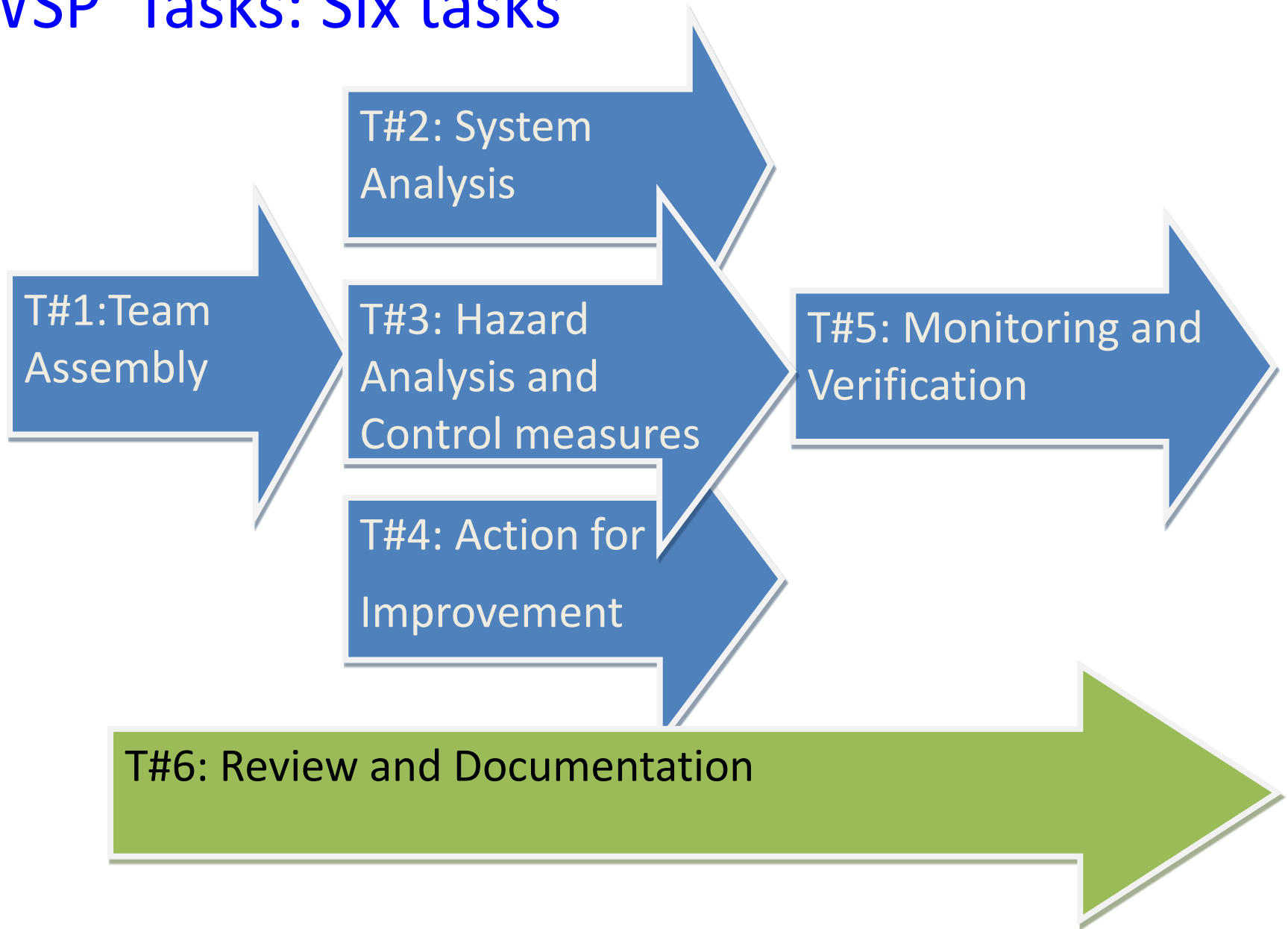
## District WSP Team

- Develops WSP model and strategy for the district
- Apply WSP in the urban system
- Organize WSP training for rural system
- Arrange for WQ monitoring
- Arrange for WQ surveillance
- Strengthen capacity of sub district for WSP
- Prepare annual water safety plan report
- Prepare annual WSP report

## Sub District WSP Team

- Organize WSP training for GME
- Support WSP in the rural system
- Arrange for water quality monitoring
- Arrange for WQ surveillance
- Monitor rural water supply system twice a year
- Conduct community survey

# WSP Tasks: Six tasks



# Findings

- ❖ GMFs understand the key process of WSP, Concept of hazard analysis and control practically. Need support for documentation
- ❖ GMFs have a clear process for operation and maintenance with clear role of technician, GMF and community. Need support for documentation
- ❖ WSP audit done after update of documents for four rural WSP indicated that audit score is between 22-25 out of 30.

# Findings

- ❖ Process gap: Record of meeting and decision, display of system map in office, focus on key hazards (prioritizing), taking action on the improvement plan, consumer survey.
- ❖ There is thinking of replicating the concept of WSP in the all rural water supply systems.
- ❖ Six sites in urban likely to meet the national standard for all parameters if chlorine is used regularly following SOP. Four sites in rural meets standards at source except in rainy season. These sources either need to improve further or use



# Findings

- ❖ There is a good collaboration between DAA, DHS and community for the application of WSP. This will help for joint surveillance or auditing process.
- ❖ There is practice of using CL2 in all urban and two rural (Raifusun and Morae) but not regular.
- ❖ Oecusse have basic test kits in districts but not in use other districts do not have basic test kits in the districts or existing one already damaged.
- ❖ Liquisa and Aileu using comparator for measuring FRC. Technicians are well trained and experienced
- ❖ GMFs are in the process of regulating water tariff between 0.25 to 0.5\$/ HH/Month

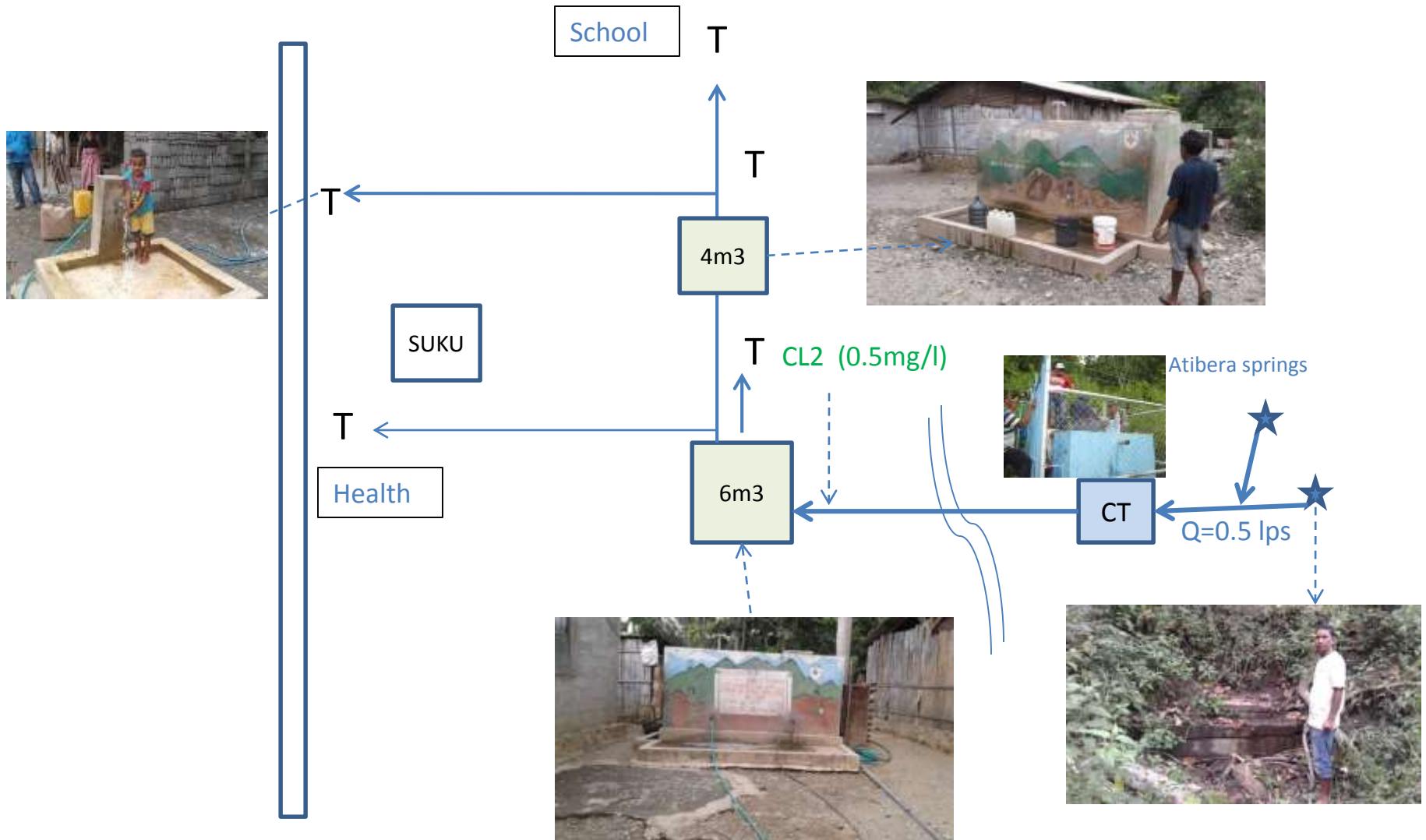
# Audit(Internal) Result

WSP process indicators		Score
<b>Task 1: Team assembly</b>		<b>5</b>
1	WSP team formed	1
2	Team membership documented	1
3	Team member current and up to date and meet regularly	1
4	Relevant supporting organizations and stakeholders involved	1
5	Meetings and outcomes documented	1
<b>Task 2: System analysis</b>		<b>4</b>
1	System map has been prepared	1
2	All major water supply steps and community included in the map	1
3	Flow chart prepared showing flow of water and contaminants	0
4	WSP team described activities in the catchment area and potential contaminants	1
5	System map displayed in office or public places	1
<b>Task 3: Identify and assess hazards, hazardous events, risks and existing control measures</b>		<b>4</b>
1	WSP team understands what could go wrong and adversely impact drinking-water safety	1
2	The most relevant hazardous events being considered, and documented	1
3	The hazardous events have been ranked/ prioritized	0
4	Control measures identified and categorized as existing, new and need improvement.	1
5	It is clear which hazardous events are most important and require more attention by the WSP team?	1

# Audit(Internal) Result

WSP process indicators		Score
<b>Task 4: Develop and implement an incremental improvement plan</b>		<b>4</b>
1	Improvement works have been identified for all significant hazards and, including those requiring external support	1
2	Improvement plan has been documented	1
3	The plan clearly describes what should be done, who should do it, how much it will cost and when it should be done	1
4	The improvement plan is current and updated	1
5	Improvements being carried out as planned	0
<b>Task 5: Monitor control measures and verify the effectiveness of the WSP</b>		<b>4</b>
1	A monitoring/inspection plan documented for important control measures	1
2	A caretaker regularly inspects the water system as per monitoring plan	1
3	A caretaker regularly monitors water quality (e.g. turbidity, chlorine residual) or keeps result tested by external agencies	1
4	The plan addresses what will be done (Corrections) if something is wrong	1
5	The results indicate compliance with water quality standards	1
<b>Task 6: Document, review and improve all aspects of WSP implementation</b>		<b>4</b>
1	Written document for standard operation procedure prepared	1
2	The WSP team knows what to do in the case of a WQ incidence or emergency	1
3	The consumer survey carried for the effectiveness of WSP	0
4	WSP documented	1
5	WSP regularly reviewed and revised and up to date	1
Total Score (Full score=30)		<b>26</b>

# Process Map: Manatuto-Cribas



# Chlorine units: Cribas, Oefoko, Raifusun, Liquisa, Morae



# Recommendations (GMF)

- ❖ GMF need to complete WSP process indicated by internal audit. SDF (SAS) and the EH focal person of respective sub districts need to help.
- ❖ GMF need to monitor the whole system by the full team twice in a year and update document. SDF (SAS) and the EH focal person of respective sub districts need to help.
- ❖ GMF need carry out improving action-focusing hazards in the source and distribution. Until is it is controlled use chlorine
- ❖ GMF need to maintain data related to O&M, WQ test and source flow. Collect tariff

# Recommendations (District)

- ❖ DAA need to update WSP document.
- ❖ DAA need to arrange water quality test kit for minimum parameter like pH, Turbidity, Iron, EC, FRC and E-coli.
- ❖ Related SDF and EH focal person need to work jointly for further capacitating GMF for excellent WSP. DAA need to mobilize part of the O&M budget for improvement works.
- ❖ DAA need to regulate for the use of chlorine in urban system using standard processes. DAA need to operate WTP, O&M following standard process.
- ❖ The district WSP team needs to monitor different system of Urban in the interval of one to two months as joint monitoring and discuss for the improvement.

# Recommendations (Center)

- ❖ Support GMF for further improvement of WSP beyond their capacity.
- ❖ Organize capacity building workshop in respective district
- ❖ Support districts to have water quality test kits
- ❖ Test one round of water quality by DNSA lab annually. Organize evident based discussion with five districts
- ❖ DNSA need to capacitate DAA for excellent WSP and staff for regular application of chlorine following SOP and test FRC.
- ❖ Activate surveillance process in line with national drinking water quality guideline and standard.
- ❖ Think towards climate resilient WSP for sustainability.



# Feature in new WSP Manual

## Part one: Water Safety Plan

Water Safety Plan: Concept

Water Safety Plan: Institution

Water Safety Plan Tasks: Process/steps

## Part two: Water Safety Plan Document

WQ Test data

Checklist for Hazard control and monitoring

## Part three: Water Safety Plan Training: Course for WSP team for Urban/Rural Water Supply

## Part four: Reference Materials

RF1: Chlorine dosing

RF2: Sampling and Bacteriological Testing process

RF3: Recording WQ test on production site

RF4: Water Quality Surveillance

RF5: Standard Operating Process for Operation and Maintenance

RF6: Rural WSP Audit Form(Indicators for Internal Audit)

# Thank you

