

Viet Nam: Meeting the MDGs, Policies and City Sanitation Strategies

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Viet Nam = WSS Sector Outline

- **Viet Nam passed MDG => VDG**
- **Urban Coverage (108 Cities and Towns):**
 - WS: Improved source = 98% ; Piped = 73%
 - WW: < 10% centrally sewerred (Others septic tanks)
- **440 Communes** (Total 646 – Population 4,000 to 50,000) without piped water supply & sanitation
- **Average Tariff:**
 - > Water Supply > \$0.25/m³ (block, lifeline, connection)
 - > Environmental Fee: Up to 10% water tariff
 - > Wastewater >\$0.02/m³ – From 10% water tariff
(First cities breaking ceiling with tariff over \$0.10)

Viet Nam: ADB Sanitation Sector Work

- **2009: ADB-DMC Sanitation Dialogue:**
 - Need for Capacity Development (ongoing)
 - PPTA Coastal Cities (ongoing) & Industrial Wastewater (2015 – 2016)
- **2011: CDTA 7885-VIE** (2012 – 2015) \$2 Million funded by Japan Fund for Poverty Reduction – Technical Assistance
 - Ministry of Construction: Executing Agency
 - Donor Sanitation Coordination Group since 2012
 - Objective: Define options for improved sanitation & Capacity Development Central and Local Governments
- **2013 - 2015: REG-TA & PPTA Green City Approach Supporting Government Green Growth Strategy**

Why City Sanitation Strategies (CSS) ?

- **Local Governments**

- Technology driven for treatment: Little focus on collection system and no focus on household connections.
- Centralized systems favored by leaders / consultants: Expensive CAPEX/OPEX (high energy, no O&M capacity)
- Focus on core city center: Does not benefit the poor and the peri-urban areas

- **Need to consider all options before PPTA**

(Feasibility Study and Loan Preparation):

- City Sanitation Strategy: Rapid Assessment sanitation situation / Master Plan – Outline Strategy (3 months)
- Option Study: Pre-Feasibility Study (6 months)

CSS Approach

- Focus on secondary / tertiary cities (50,000 to 300,000 population)
- Screening, Diagnostic and Rapid Appraisal:
 - Review Master Plans / existing drainage / wastewater plans
 - Sustainability existing plan? Climate change issues?
- Review:
 - Institutional / Socioeconomic situation & Leadership
 - Willingness to invest? Project owner will operate?
 - Alternatives to centralized systems? Energy use?
- Prepare Options, Prelim cost estimates & Strategy
- Propose areas for further focus in Option Studies

CSS To Date

- **CSSs completed to date (WFPF Funding):**
 - Dong Hoi & Sam Son (2010)
 - 4 in small towns in Hue Province (2012 with SNV)
- **CDTA7885-VIE (2013 – 2014):**
 - CSS rapid appraisal completed in 10 cities with MOC: Dong Nai and Mekong River Basins, 2 out of 3 priority river basins
 - CSS close to completion: Long Khanh & Tan An
 - Further cities identified for potential CSS completion with Donors: Soc Trang, Nha Bay, and Con Dao



2 Cities Dong Hoi and Sam Son

4 Towns in Thua Tien Hue Province - Thuan An, Sia, Phong Dien, Khe Tre

3 Cities in Dong Nai Basin Di An, Long Khanh, Tan An

7 Cities in Mekong Delta- Bac Lieu, Vi Thanh, Rach Gia, Ving Long, Sa Dec, My Tho and Ben Tre

Case Study – Dong Hoi



LEGEND:

- WASTE WATER PIPELINE, PHASE II
- INTERCEPTION PIPELINE, PHASE II
- ▲ SEWAGE PUMPING STATION, PHASE II
- WASTE WATER TREATMENT PLAN, PHASE II

CITY SANITATION STRATEGY DONG HOI

TITLE OF DRAWING	DATE : 21 OCTOBER 2010
EXTENT OF WORLD BANK CCSP PHASE II	-----

Case Study – Dong Hoi

OP2: Combination Decentralised and Centralised, 9 BASTAFS Plus 10,000 M3/D WWTP at Duc Ninh



Legend:

 Wastewater treatment plan

 Pumping Station

 Bastaf

CITY SANITATION STRATEGY DONG HOI

TITLE OF DRAWING

OPTIONS 1-2 10,000 M3/DAY DUC NINH PLANT
AND SOME DECENTRALISED BASTAF OPTIONS

DATE : 24 NOVEMBER 2014

SCALE : 1/1000

2 Options Compared in Dong Hoi

- Option 1: 10,000 m³/d WWTP and extension of the current sewerage network to unserved areas
- Option 2: Centralized / Decentralized WW management
- Capital costs Options 1 and 2 similar (Topo & Density)
- Benefit Centralized / Decentralized: Reduction O&M \$0.6 M to \$0.4M with resource recovery
- Conclusion for Dong Hoi:
Once committed & constructed Centralized WWTP, No cost advantage to combine centralized / decentralized for future expansion: Probably better to stick with centralized

Case Study - 4 Small Towns Hue Province



Locations of Open Defecation

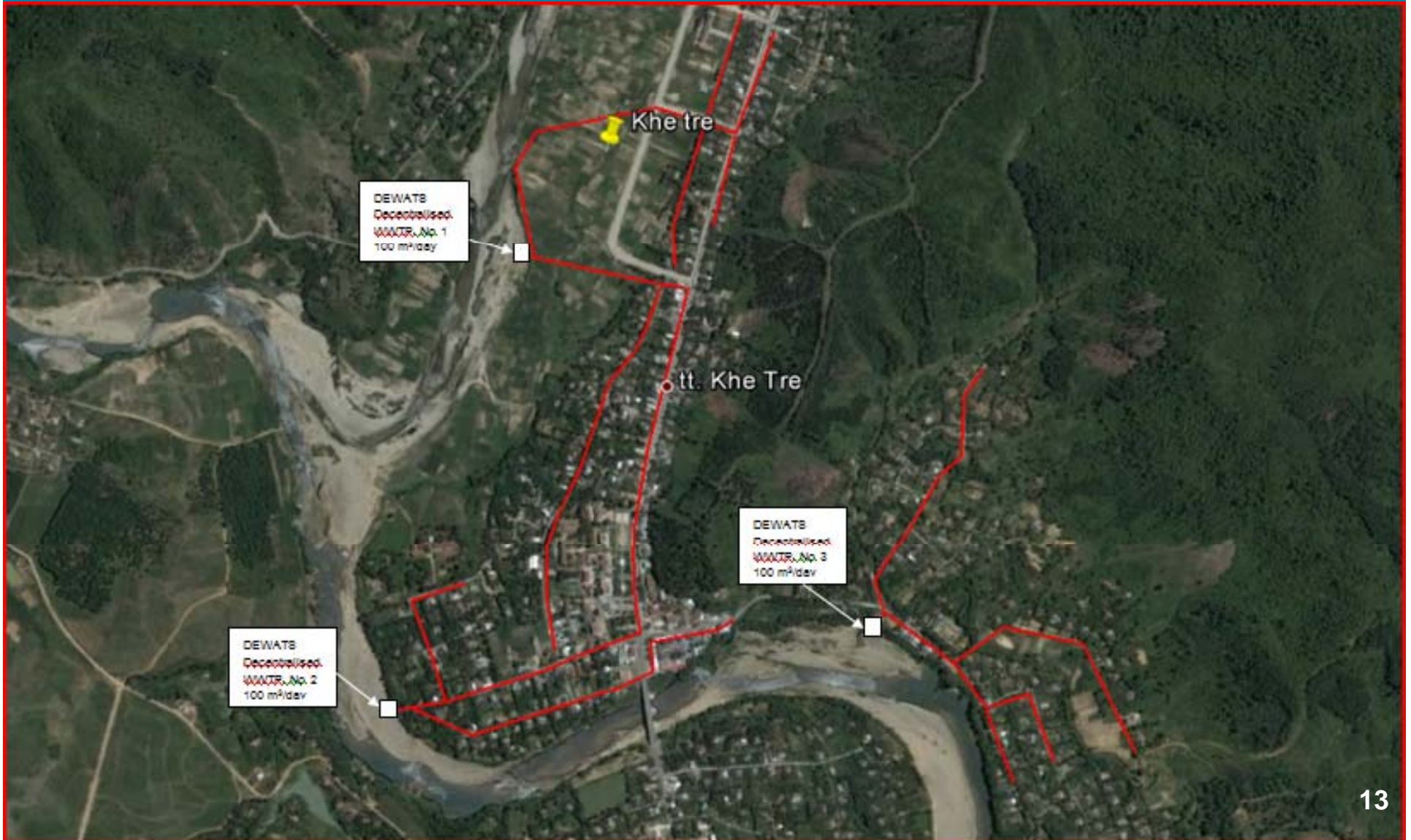


No	Open defecation locations	Thuan An	Phong Dien	Sia	Khe Tre
		%	%	%	%
1	Beach	15.4	0	0	0
2	Sea or lagoon	12.8	0	0	0
3	Desert grounds	10.3	2.8	7.1	0
4	River/lake bank	5.1	0	0	12.5
5	Streams/springs	0	0	0	12.5
6	Dams	5.1	0	0	0
7	Cemetery/grave yard	12.8	0	0	0
8	Sand dune	0	5.6	0	0
9	Paddy-field	12.8	0	28.6	0
10	Household garden/yard	0	86.7	57.1	37.5
11	Forest/plantation/hill	0	5.6	0	25.0
12	Toilets of relatives, neighbors	12.8	2.8	7.1	12.5

Thuận An Combined Decentralised Sewerage



Khe Tre Separate Decentralised Sewerage



Case Study – Cost Estimates 4 Small Towns Hue Province



Cost Estimates Summary



Sewerage Costs	Cost US\$M	Cost per capita
Thuan An	\$10.3	\$501
Sia	\$6.4	\$311
Phong Dien	\$2.1	\$103
Khe Tre	\$2.2	\$107
School Sanitation, Public Toilets	\$1.5	
Total	\$22.5	

Lessons Learned CSS Rapid Appraisal (Mekong Delta)

Several changes required to match ADB strategy:

- Awareness - Priority projects related to climate change mitigation, flooding, embankment, water supply salinity
- Some cities lack leadership: Unsure next steps WW
- Institutional arrangements lacking
- Closer collaboration with Development Partners

⇒ **Planning WW Selection Matrix: “LEADERSHIP”**

- ⇒ Local GDP
- ⇒ Environment / Climate Change
- ⇒ Water Resources / Supply Protection

Next Steps Sanitation Viet Nam?

Sanitation Review Viet Nam (WB):

- 17 existing & 30 new WW Projects show misguided focus centralized & secondary WWTP
- 75% of WW Projects cost in network with weak influent (infiltration) and small flow from combined systems
- Very low households connections (Counterpart funding)
- Current investment \$150 M/Y (last 10 years) = 0.45% GDP
- Need urban sanitation \$8 Billion to 2025 (GDP loss 1.3%)

Viet Nam Sanitation: Institutional Issues

- **Revision Decree 88/2007 inline with Decree 25/2013: Environmental Fees vs. Water Tariff**
- **Water quality standards:** Flexible and relevant to economic / environmental objectives
- **Decentralisation & accountability / Governance**
 - Level of Service
- **Ownership & private sector participation**
 - Clarity regulatory framework to encourage PSP
- **Training and Education / Dissemination**
 - Framework for human resources development

Viet Nam Sanitation: Social Issues

- **Affordability and Willingness to Pay:**
 - Access to Service
 - O&M
 - **Awareness**
- **Pro poor:**
 - Technical solutions (Latrines / Septic tanks / Connections / Decentralized)
 - CAPEX and Tariff subsidies
- **Participatory approach:**
Design, Implementation, O&M - Citizen Report Card
(assessment service)

Viet Nam Sanitation: Technical Issues

- **Flexible, Adaptable and Phased**
 - Design should allow phasing and upgrading
 - From Decentralized to Centralized over 20 years
- **Dealing with Combined Systems & Septic Tanks**
Septage Management (Septic Tanks here to stay!!!)
 - Septic tanks maintenance (4% properly treated!)
 - Sludge management & disposal: Potential for valorisation
- **Options for Treatment Technology**
 - Energy considerations
 - Influent and Effluent Standards - Reuse

Viet Nam Sanitation: Financial Issues

- **Principles Subsidy & Cost Recovery**
 - Subsidies for Capital Expenditures
 - Cost recovery for Operation and Maintenance
 - Phasing to cost recovery: Future loans to cover Viability Gap Financing
- **Household Connections**
 - Mandatory and Included in Tariff
 - Output Based Aid for poor households
 - Revolving Fund for others

Proposed Sanitation Strategy (Viet Nam)

- **Capacity Development (2010 – 2015)**
- **Large Cities (15): Ongoing central wastewater projects (up to 60% coverage) by Donors (WB, JICA, ADB, Finland, DANIDA, GiZ / KfW):**
Plan centralized / decentralized WW in peri-urban areas and septage management (2015 – 2030)
- **Secondary & Tertiary Cities (50,000 to 300,000 population):**
Plan decentralized WW & septage management (2015 – 2030)
- **Small Towns and Communes (<50,000):**
Septage management (2015 – 2030)