



## CASE STUDY: FINANCING INTEGRATED SANITATION

### Bac Ninh



#### Quick Facts

Country:	Viet Nam
Population:	206,035 Inh.
Adm. Area:	82.6 km <sup>2</sup>



**Executive Member of City Alliance**  
since 2017

#### Contact

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**Project Start/End Year**  
2014-2028

**City:** Bac Ninh.

**Country:** Viet Nam.

**Applied financing model:** Provincial or city budget or Build and Transfer option through the land exchange for infrastructure investment from the private sector.

#### Quick Facts

**Population:** 206,035 inhabitants.

**Intervention area:** 7.45 sq.km.

**City GDP:** 6,340 USD/capita.

**Country GDP:** 2,385 USD/capita.

**Estimated Capital Expenditure:**  
102,500,000,000 Dong, equivalent  
4,500,000 USD (as of Dec. 2018).

**Actual Capital Expenditure:**  
2,500,000,000 Dong, equivalent  
107,000 USD (as of Dec. 2018).

#### City Development Priorities

The priority of the government authorities is to treat wastewater disposed of by household noodle production enterprises in Khac Niem ward to meet the discharge standard through the application of Decentralized Wastewater Treatment Systems (DEWATS).<sup>1</sup>

#### Expected Project Outcomes

1. Wastewater disposed of from domestic, noodle production and husbandry activities are treated at the location and meet the discharge standard.
2. Sustained operation and maintenance by the local authority.
3. Established policies and regulations

on fee collection, schools and traditional markets.

4. Enhanced capacity of the local staff regarding DEWATS implementation, operation and maintenance.

#### Current Project Interventions

1. Develop the capacity of local authorities or implementation and operation and maintenance of DEWATS.
2. Raise awareness of the decision makers and the people on environmental protection such as wastewater treatment to reduce pollution as well as hygiene and sanitation.
3. Assist the local authorities in developing policies and regulations on fee collection for wastewater management.
4. Propose and demonstrate the technological solution to fecal sludge management.

#### Key Messages

##### For policymakers:

The project provides the appropriate practical solutions for wastewater management and sustainable operation and maintenance in noodle processing activities as well as enabling the polycentric urban wastewater planning to meet the national standards at column B and column A in 5 coming years by municipality to higher policy makers.

##### For financing institutions:

The project is optionally funded under public-private partnership (PPP)



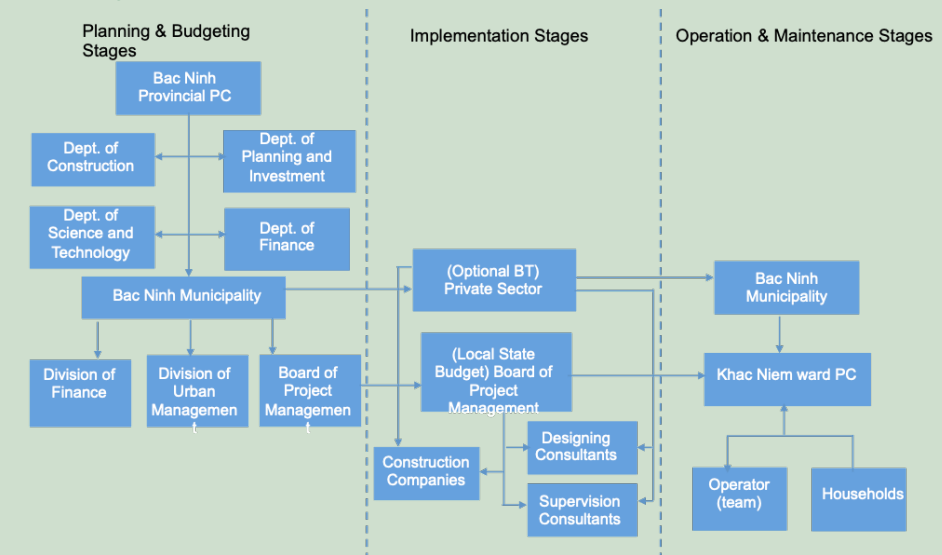
with Build and Transfer (BT) methodology that means the municipality exchanges the land for infrastructure investment from private sector so that the private sector is involved in investing and implementation of the project until handing over the complete project to municipality for operation and maintenance.

### For think-tanks and academia:

The project contributes to the continuous improvement of modules to meet column A of national standards after 5-year commitment of column B for wastewater treatment from noodle processing activities and helps to raise awareness of municipality on necessity of piloting the faecal sludge treatment from household septic tanks.



## Financing Scheme (as of January 2019)



- Bac Ninh provincial People Committee (PC) issued the Decision No.1139/2014 on investment to five new DEWATS treatment plants to solve the pollution problem caused by the disposal of untreated wastewater from noodle productions at Khac Niem village (nowadays Khac Niem ward) in Bac Ninh city. Bac Ninh provincial PC is also to decide the methodology of investment with Build and Transfer (exchanging land for infrastructure investment) or using the local state budget.
- Dept. of Planning and Investment is under the direct management of Bac Ninh provincial PC and is charged to plan and review the project planning as well as the legal framework on project investment. It advises the provincial PC for an informed decision on investment in accordance with the legal processes.
- Dept. of Finance is under the direct management of Bac Ninh provincial PC and is mandated to review the legal framework, regulations on finance and perform the project financial appraisal in accordance with the existing legal framework, as well as manage capital flows of the province during project implementation.
- Dept. of Construction and Dept. of Science and Technology are also under the management of Bac Ninh provincial PC and are responsible for the selection of proper technologies for drainage/sewage and wastewater treatment according to the civil construction law to be invested for the project. They advise Bac Ninh provincial PC on effective investment in accordance with the existing legal framework.
- Bac Ninh Municipality manages the professional divisions and decides on deploying the implementation of the project in accordance with the legal process after being assigned by Bac Ninh provincial PC to be the project owner.
- Division of Urban Management is the advisor to Bac Ninh Municipality about the process of project management in accordance with the legal framework, approval and deployment of the project in the city.
- Division of Finance is managing the capital flows in the project implementation to control the cash flow, disbursement progress, payment and settlement, checking, inspection of the project finance.
- Board of Project Management is assigned to manage and deploy the project as project owner by Bac Ninh

Municipality, especially during the stage of project implementation.

- If the Bac Ninh provincial PC decides to apply BT investment, the private sector is the project investor. The private sector will be the project owner to deploy and manage the project, perform the trial operation, provide training on operation and maintenance and then hand over the completed project to Bac Ninh Municipality.

- Bac Ninh Municipality, with its functions as the project owner, will supervise and receive the project hand-over from the private sector.

To ensure the sustainability of the operation and maintenance of the project, Bac Ninh Municipality will hand over the completed project to Khac Niem ward PC.

The receiver will be responsible for the establishment of the operator team and collection of the fee from households/beneficiaries with the suitable fee in consideration as following:

1. The operator team will operate and maintain the wastewater treatment plants. The fee for operation & maintenance will be calculated considering the labour costs, equipment purchased for operation and maintenance, management and maintenance costs.
2. The fee will be collected by local authority or operators' team.
3. Sludge from the wastewater treatment plants will be removed and transported to centralized treatment plant of the city for further treatment. The cost for desludging and treatment will also be calculated and collected from the households including with the fee for operation and maintenance of wastewater treatment plant.
4. According to the requirement of Dept. of Natural Resources and Environment, the effluent shall meet class A standard (Announcement No.38/2018). Bac Ninh Municipality proposed to Bac Ninh provincial PC to allow effluent to meet class B standard (in the first stage of investment) and commit to meet class A standard within 5 years so that the revenue will be earmarked to improvement and extension of the wastewater treatment plant.

## Contribution to the 2030 Agenda for Sustainable Development

Implementation of the concept of Integrated Sanitation that is applied in this city contributes to achievement of a cluster of Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development, such as SDG 1- No Poverty; SDG 6 - Clean Water and Sanitation; SDG 7 - Affordable and Clean Energy; SDG 9 - Industry, Innovation and Infrastructure; SDG 11 - Sustainable Cities and Communities; and SDG 17 - Partnerships for the Goals.

## Contacts

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<sup>1</sup> UN ESCAP, UN-Habitat and Asian Institute of Technology (2015). Policy Guidance Manual on Wastewater with A Special Emphasis on Decentralized Wastewater Treatment System.