Kampung Bandar Water Supply, Communal Waste Water Collection and Communal Septic Tank Project

THE PROPOSED PROJECT

NEXUS

REGIONAL WORKSHOP ON RESOURCE EFFICIENCY IN ASIAN CITIES: THE URBAN NEXUS
DA NANG/VIETNAM, 25-27 JUNE, 2014
Background

Pekanbaru city is the capital of Riau province in Indonesia and nowadays it is highly needed to expand urban water & sanitation infrastructure to satisfy the rapid growth of population and urbanization (1.1 million inhabitants in year 2012). According to the recent evaluation (2012) to the Millennium Development Goals 2015’s target in water supply sector & sanitation, Riau Province was ranked on the top ten bottoms in Indonesia, by which the average coverage ratio for water supply sector was just around 10%, and installed water pipeline in Pekanbaru City was just only 15% average NRW level during the last four years was very high (65%) and number of connections around 13,000 units.
Policies and Roadmap
National Urban Development

NDUP 2005-2025
- 100% Sanitation
- 0% Slums & Squatters
- 100% Water Supply

Baseline
2015

NUDP 2026-2045
- 100% Urban Services Standard Indicators Fulfilled
- 100% Green and Livable City Indicators Fulfilled

2025
2035

SUSTAINABLE CITY
- 100% Smart and Sustainable City Indicators Fulfilled

2045

Fulfillment of Urban Services Standard

Embodiments of the National Urban System

Urban Governance Indicators Fulfilled

Guidance towards the Future City
**Background**

In Pekanbaru City at present only 15% of demand is covered by the municipality water company, PDAM “Tirta Siak”. Currently, the PDAM only covers the central part (downtown area) of the city, while suburb area depends on underground water and water vendors, which does not satisfy the water quality standard and demand. To resolve these issues, it is important to expand and improve the water supply facilities of Pekanbaru City.
Background

The sub-districts of Pekanbaru with no PDAM’s piped water supply have to rely on individual shallow water pumps from private wells. The quantity of water from the shallow wells is adequate but the quality is not so good. The reason is the lack of a sewage system, so the individual shallow wells are infiltrated by wastewater from individual septic tanks. As a consequence, waterborne diseases are widespread (i.e. diarrhea, dysentery, cholera, etc.). To get access to safe drinking water, the inhabitants buy clean water in 1 gallon of plastic container drums in the price range of Rp. 3,500,- per 19 liters (refill water depot) to Rp. 16,000,- per 19 liters (for “Aqu” brand) in accordance with required water quality criteria.
Kampung Bandar is one of the village in The Senapelan Sub-district. It is located near by The Siak River. This location is known as “where the Pekanbaru begin” and City government had a plan to develope this village become tourism place. Therefore the improvement Water supply and sanitation system is inevitable and very urgent.
Proposed Project

KAMPUNG BANDAR COMMUNAL WASTE WATER COLLECTION

KAMPUNG BANDAR COMMUNAL SEPTIC TANK

KAMPUNG BANDAR WATER SUPPLY
Purpose Project

The purpose of the project is to provide high quality of drinkable water to satisfying huge increase of drinkable water demand due to rapid growth of Pekanbatu City especially Kampung Bandar and accelerating the development of kampung Bandar Sanitation.
The goals of this project are follows:
• Protect Ground Water And River
• Improve sanitation environment and living standard;
• Stable provide of high quality drinkable water;
• Establish basic water, waste water and sewage system infrastructure to support toward the level of tourism place;
Objectives

The objectives of this Project are follows:
• Construct optimum water supply facilities;
• Construct optimum Waste water and Sewage System facilities;
• Introduce highly efficient water treatment process;
• Introduce highly efficient waste water and sewage treatment process;
• Introduce integrated automatic operation system;
• Introduce effective management system;
Project Area

Project site is located in the village Kampung Bandar and part of Senapelan district area. The original name of the village is Bandar Senapelan which is the origin of the Pekanbaru City.
Why Kampung Bandar?

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<tr>
<th></th>
<th>A</th>
<th>Historic location</th>
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<tr>
<td>B</td>
<td>Where Pekanbaru begins</td>
<td></td>
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<tr>
<td>C</td>
<td>Population (4,578)</td>
<td></td>
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<tr>
<td>D</td>
<td>Physical ;</td>
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<table>
<thead>
<tr>
<th></th>
<th>Area (Ha)</th>
<th>240 Ha</th>
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<tr>
<td>2</td>
<td>Regularity of the building</td>
<td>&lt;35% of the building does not have the regularity</td>
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<td>3</td>
<td>Building density</td>
<td>Building density &lt;80 units / ha</td>
</tr>
<tr>
<td>4</td>
<td>Physical condition of the building</td>
<td>&gt; 60% of permanent buildings</td>
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## Why Kampung Bandar?

<table>
<thead>
<tr>
<th></th>
<th>Road environment</th>
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<td>5</td>
<td>&lt;30% bad roads / damaged</td>
<td>&lt;30% of the roads are not equipped channel</td>
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<td>6</td>
<td>Rain drains (drainage environment)</td>
<td>30-60% is not functioning properly</td>
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<td>&gt; 60% of construction cement / concrete</td>
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<td></td>
<td>&gt; 60% underserved areas</td>
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<td>7</td>
<td>Wastewater disposal</td>
<td>&gt;50% of homes have alatrine/septic tank</td>
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<td>&lt;20% of the areaserved by sewer/wastehousehold</td>
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## Why Kampung Bandar?

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<tr>
<th></th>
<th>Provision of clean water</th>
<th>30-60% of the areaserved piping network</th>
<th>30-60% of domestic wells/rivers</th>
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<td>8</td>
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<tr>
<td>9</td>
<td>Drinkingwater</td>
<td>3 artesian wells &amp; refill water depot</td>
<td></td>
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<td>10</td>
<td>Solid waste management</td>
<td>&gt;60% of the areaserved by the city Solid waste management system</td>
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<td>11</td>
<td>Firesafety</td>
<td>Not available hydrrant firefighters</td>
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The "urban nexus" component in it

Researching, designing and to devise local infrastructure design & cost estimation for Kampung Bandar Water Supply, Communal Waste Water Collection and Communal Septic Tank Project.
Expected benefits

Assisting in:
• Constructing optimum water supply facilities;
• Constructing optimum Waste water and Sewage System facilities
• Introducing highly efficient water treatment process;
• Introducing highly efficient waste water and sewage treatment process;
• Introducing integrated automatic operation system;
• Introducing effective management system;
Updates on Nexus Task Force if any

Not specified, not established yet, but for general pekanbaru have Special city sanitation Task Force.
Enabling policy/institutional framework to support this initiative

- The White Book and City Sanitation Strategy for Pekanbaru, which is provided a basic framework for Sanitation Development.
- Regional Medium Term Development Plan (2012-2016)
Key challenges in addressing the Water-Food-Energy security

PUBLIC AWARENESS
THANK YOU