

Case Study		
Country:	City:	Key Sectors:
Philippines	Santa Rosa City, Province of Laguna	Land use management, housing, wastewater treatment, urban agriculture
Local Partner Organization		Geography and Population
<p>City Government of Santa Rosa</p> <ul style="list-style-type: none"> • City Environment and Natural Resource Office • City Urban Development and Housing Office • City Planning Development Office • City Engineering Office • City Health Office • City Agriculture Office • City General Services Office <p>National Government</p> <ul style="list-style-type: none"> • National Housing Authority • Home Development Mutual Fund <p>Private Organization</p> <ul style="list-style-type: none"> • Laguna AAA Water Corporation 		<p>Santa Rosa City lies 38 kilometers south of Manila and is classified as a component city under the province of Laguna. Based on the May 2010 census, it has a population of 284,670.</p> 
Contact Information		 
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Summary

With the recent economic growth experienced by the City of Santa Rosa, the value of its land is increasing immensely. Inasmuch as the city wants to urbanize and develop, there is clamor for development that is integrated and sustainable. As a response, the city intends to maximize its existing spaces through integration of systems and efficient use and management of its resources.

This was how Santa Rosa framed its planned low-cost housing projects. The housing is divided into two phases; the first phase comprises of individual lots for informal sectors while the other is a vertical housing project designed for city government employees. The project is envisioned to be a showcase of green building, innovative waste water management, public private partnership and all inclusive city.

The housing projects will employ the vacuum sewer technology for its wastewater treatment. Treated water will be used for urban agriculture, which is already incorporated in the housing plan. In the end, this translates not only to the betterment of community members' lives that were provided with their own

housing units but also means resources such as energy and water are used efficiently.

At present, the city has already finalized the housing design and is working on detailed cost calculations. Discussions with relevant national government agencies are already underway regarding possible payment schemes.

Rationale

Known as the “Lion City of South Luzon,” the City of Santa Rosa is home to some of the biggest multinational corporations in the Philippines. Santa Rosa’s economy shifted from agriculture to industry-based from the 1980s to 1990s. This shift highlighted issues on land use conversion and its implications. To meet increasing demands and pave way for economic development, agricultural lands were converted to residential and industrial use.

These developments resulted to an increase in population which translated to a proportional increase in the city’s solid waste generation. The city’s population growth rate for the period of 2000 to 2010 is 4.37%, which is twice higher than the country’s growth rate of 2.07% for the same period. Based on 2010 data, the city’s estimated solid waste is 170.802 MT/day. This is equivalent to 0.6 kilogram/person/day of waste generated.

Compounding this is the issue on groundwater contamination due in part to improper domestic wastewater disposal. While the city does not have a centralized wastewater treatment, there is a proposal to put up one from Laguna Water, the responsible authority for water supply and wastewater discharge in the city. At present, it uses precarious decentralized wastewater treatment.

Land is now becoming a scarce resource in the city and resource management problems are becoming more intricate. Toward this end, the City intends to come up with a Nexus pilot project that addresses the aforementioned issues while ensuring that the remaining spaces in the city are utilized to yield multiple benefits including the urban poor.

Housing, as a basic and fundamental right of community members, is one area where integrated resource management can be showcased as the sector demands food, water, and energy use. Santa Rosa intends to put up low-cost housing projects which shall serve as an opportunity to organize a responsible and self-sustaining community in Santa Rosa. GIZ Urban Nexus will provide technical assistance to these initiatives where needed.

Project Description

Two phases of low-cost housing projects are currently in the pipeline. The first is intended for the relocation of 168 families currently residing near the riverbank of Barangay Labas. These families are considered informal settlers but most have sources of income. The area is prone to flooding especially during prolonged rainy season. The residents will be transferred to a government-purchased property (13,842 square meters) located in another barangay in the center of the city. A total of 178 units of row houses measuring 40 square meters per unit will be constructed.

The second phase is designed for city government employees. Six buildings will be constructed, each comprising of three floors (total of 162 units), for an area of 8,305 square meters. Each unit will have an area of 33 square meters.

Both housing projects will include the vacuum sewer technology to address problems on wastewater. Treated water will be used for urban agriculture, which will be promoted in the new housing community so that households are encouraged to “grow what they eat” and ensure food sufficiency. In the long-run

and where feasible, waste-to-energy projects will also be explored. With these pilots, socio-economically mixed settlement structures, timely provision of basic infrastructure managed partially privately, and mixed functions shall also be demonstrated as integrated urban planning and implementation, showcasing integrated (holistic) urban development.

Stakeholders / Target groups

City Government of Santa Rosa

- City Environment and Natural Resource Office
- City Urban Development and Housing Office
- City Planning Development Office
- City Engineering Office
- City Health Office
- City Agriculture Office
- City General Services Office

168 families residing in Barangay Labas
162 city employees and their families

Laguna AAA Water Corporation

National Level

- National Housing Authority (NHA)
- Home Development Mutual Fund (HDMF)

Costs / Financing

Santa Rosa is still studying if the City Government can subsidize the vacuum system technology but this will be dependent on the total project cost currently being elaborated. On a positive note, the city has a high borrowing capacity if it needs to be funded through a loan.

In terms of the payment schemes for beneficiaries, the NHA may be able to help fund housing for the informal sector. However, this is still subject to further discussion as NHA's current priority is to rebuild housing for victims of Typhoon Haiyan in 2013. On the other hand, the HDMF (PAG-IBIG FUND) will be tapped for the employee's housing.

Studies / Reports / Training

- Report: Comprehensive summary: Water, wastewater, and bio-waste in the context of the Urban Nexus in Asian cities, Fraunhofer IGB, Stuttgart, August 2014;
- Draft designs for affordable housing, GIZ Nexus, Bangkok, April 2014;
- October 27-29, 2014: Peer-to-peer learning on solid waste management (visit to Bantan Sanitary Landfill near Chiang Mai/Thailand);

Results (Impact)

The two housing projects in Santa Rosa City are still in inception phase hence tangible impacts to beneficiaries have yet to be determined. However, series of consultations and exchanges with the city government have yielded interesting insights as to what the project can accomplish.

One concrete result of this continued discussions is the integration of nexus approach in the housing

design and inclusion of nexus technologies in the subdivision plan. Introducing the vacuum sewer system instead of using individual septic tanks is one example. The use of such system can help improve environmental management by addressing issues on domestic wastewater treatment.

In addition to the process of integrating the nexus approach, the housing project adhered to the principles of a green building design including energy efficiency, daylight maximization, and compliance to standards for climate resilient housing structures.

The city government has already conducted socioeconomic profiling of the 168 families in Barangay (village) Labas who will serve as beneficiaries of the housing project's first phase.

The project is envisioned to be a showcase of green building, innovative waste water management, public private partnership and all inclusive city.