PRESERVING THE WATER QUALITY OF ILOILO RIVER

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Iloilo River, its Resource Use

Iloilo River is actually an estuarine that is 15 km long. It derives fresh water from the rivers and creeks that are connected to it and saline water from the sea that feeds it. Iloilo River maintains a high level of productive biological activities. It serves as nursery for many important fish species such as bangus and tilapia; and the rise and fall of the tide makes it possible for nutrients (such as planktons and detritus) to circulate in and out of the estuary. Iloilo River is home to 22 of the country's 35 mangrove species and the rare emerald shrimp species, metapenaues insolitus.

To some residents of the city who are dependent on fishing, it is a source of sustenance and livelihood. Its estuarine characteristic is an ideal source of brackish water for fishpond cultivation.

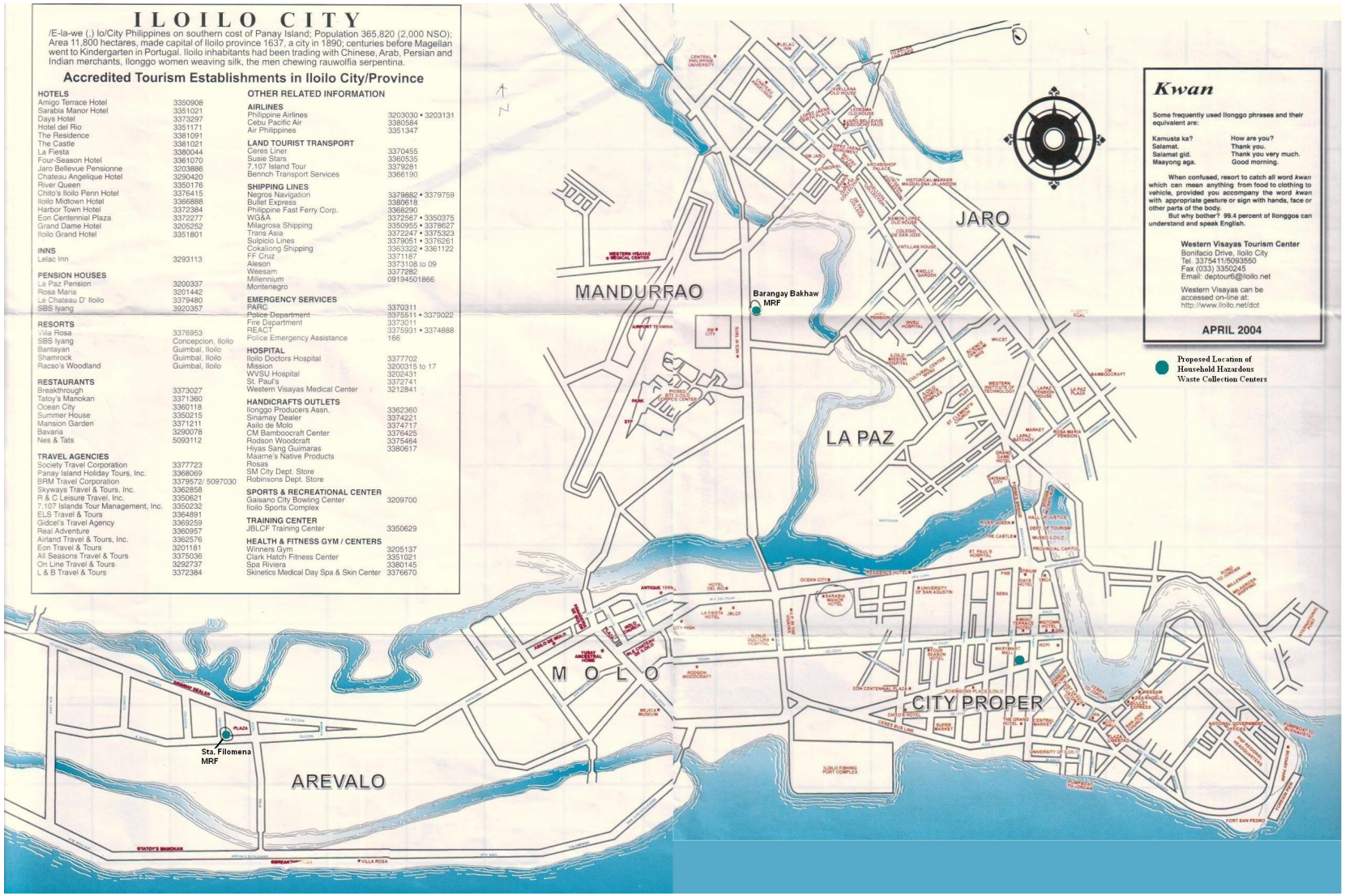
Human Activities

Iloilo River played a very important role in the history of Iloilo City. For it would not have been the "Queen City of the South" without its inherent physical location. Iloilo River wharf was constructed in the 1800's with the rise of sugar trade in Negros. Majority of the earlier developments in Station 1 are attributed to the efforts of Nicolas Loney, a British Consul, who campaigned for support from among the overseas mercantile community without the help from the Spanish government. Stone warehouses sprouted along the river after the first one was built in 1857. Among the improvements made possible by the fund contributions were widening of the waterfront, construction of a "good quay wall" and the purchase of a dredging machine from England.

Majority of the current changes occurring in the Iloilo River ecosystem originate from human activities. Out of the total 180 barangays in Iloilo City, thirty-five (35) are found along Iloilo River. Land use along Iloilo River is a combination of residential, commercial, institutional, open space, fishpond, transport facility and mangrove areas. Port facilities, storage facilities, commercial buildings, offices in combination with residential structures surround Station 1 (Quirino Bridge- Parola).

Hotels, schools, hospitals, offices in combination with residential units surround Station 2 (IBRD Bridge-Quirino Bridge). Stations 3 (Carpenters Bridge –IBRD Bridge) and 4 (Carpenter's – Upper portion of Iloilo River) are predominantly utilized for fishery activities, fishpond cultivation and salt beds with some residential use.

Iloilo River, Biggest Septic Tank



Over the next few decades the major challenge would be to control the untreated sewage that Iloilo River receives from 121 of the 180 barangays (villages) of Iloilo City and from 51 other barangays outside the city.

There is no sewerage system in the city and majority of the residence rely on on-site treatment through septic tanks that are mostly ill constructed and poorly maintained. The high cost of investment and high operating cost required of conventional sewerage system has been the major setback for controlling untreated sewage.

A two year study conducted by the University of the Philippines in the Visayas (UPV) showed that Iloilo River has been experiencing low dissolved oxygen.

Aerial view of Iloilo River and Map Showing Iloilo City and vicinity

Local Action – the Creation of Iloilo River Development Council

To address the problem of improving the environmental quality of the estuary while providing economic development opportunities, the City of Iloilo sought support from various sectors in the preparation of the Iloilo River Master Plan.. Completed sometime in 2004, the plan laid the foundations for the creation of a multi-agency, consultative and coordinative body, the Iloilo River Development Council (IRDC). Its primary functions are as follow:

a) implement the master plan
b) promote co-regulation, co-monitoring and co-implementation;
c) provide the setting for inter-action where complementing, conflicting functions can be effectively coordinated ; and
d) provide the venue for consultation of common issues affecting project implementation, monitoring and law enforcement.

The IRDC operates in consonance with the Iloilo River Master Plan, which seeks to:

a) preserve the water quality and ecology;

b) minimize flood;
c) promote eco-tourism;
d) generate space along the river banks and the provision of access to the river;
e) enhance scenery;
f) improve the quality of life in the river;
g) promote fishery and economic potential of the river; and
h) improve circulation in the vicinity and construction of essential structures

Since its establishment in 2005, the council has been taking up issues and problems affecting environmental quality of the estuary as well as matters pertaining to economic development. It has taken initiatives to promote co-regulation and has provided the venue for inter-agency coordination. To date, the council is finalizing the Implementing Rules and Regulations (IRR) of the Iloilo River Master Plan.

Local Action - The Local Initiative for Affordable Wastewater Treatment Program (LINAW)

The LINAW Program, a collaboration of Iloilo City and the USAID, introduced low-cost wastewater technologies that avoid or minimize the use of mechanical or energy dependent parts and imported materials. It recognizes the fact that centralized sewerage system are often expensive and difficult to operate. These low cost technologies are designed based on the client's particular need and are suited for decentralized application, requiring only simple operation and maintenance.

In June 2005, was the launching of the LINAW Program with Iloilo River as the venue. Highlighted by a fluvial parade, the launching event was timed during the celebration of the Iloilo River Week. Since then, the city undertook projects and programs to avert water pollution in Iloilo River, to wit:

1. Awareness raising- the aim of this program is to raise public awareness on the connection between haphazard septic tank practices, water pollution and waterborne diseases. It also aims to prepare the constituency for the eventual implementation of the city's septage management program and the proposed city ordinance requiring households to clean their septic tanks regularly. While still considered insufficient, the city government hopes to expand the program to as many parts of the city particularly in Iloilo River, through the involvement of colleges and universities. To date, the John B. Lacson Foundation, St Therese College, Central Philippine University and the University of the Philippines have initially agreed to help the city's awareness raising program.

   The campaign for public awareness has long been considered by the city as a pre-requisite to the desired physical improvements. To be effective, the city has adopted a new campaign strategy called social marketing. The task involved persuasion, information, education and triggering actions. The communication materials develop at the initial stage of the program was a product of stakeholders participation during the planning.

   The program's communication materials consist of radio plug, tri-media interviews, forums, workshops,

exhibits, billboards and posters.

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Fluvial Parade in Iloilo River, 2005

Campaign Poster

Lessons are learned not only from public responses but also from several ASEAN forums where the City had the opportunity to share its awareness raising program and the opportunity to learn from others. In 2008, a program of twinning and exchange visits was launched in the ASEAN region by USAID. This gave the city

the opportunity to partner with the City of Phnom Penh. While the city's role was to help Phnom Penh in developing its communication strategies, Iloilo City benefited from the exchange visits:

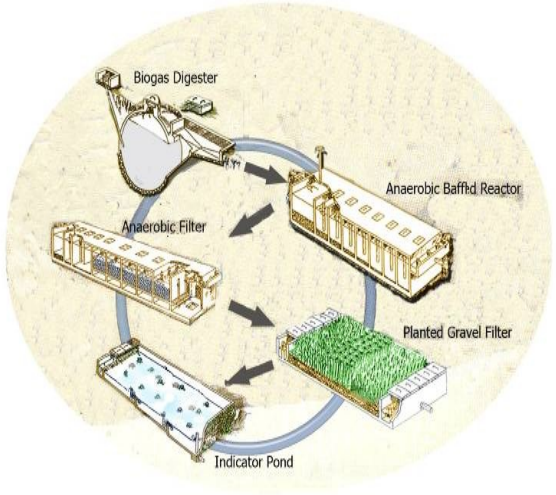
a. During his visit to Iloilo, the Vice Governor, Mann Chhoeurn, demonstrated the importance of youth dialogue . This in turn inspired the city to give emphasis to training and empowering the youth.

b. The city was inspired to work harder and improve further

Mann Chhouern posing with one of the fine art students who painted the 20 meter long moving mural during the Sanitation Exhibit at Marymart Mall, 2008

2. Piloting and modeling – the construction of a pilot low-cost treatment facility was the key objective of the LINAW Program. It aims to demonstrate technology options that are affordable and viable. To fulfill this objective the City of Iloilo City in collaboration with the Department of Agriculture constructed a demonstration project at the new Iloilo City Slaughterhouse in 2007. The system was designed to treat 75 cu.m. per day of effluent from the slaughterhouse. The project demonstrated not only the feasibility of constructing a treatment plant that is affordable but also:

a. it demonstrated that such system can be tailored fit to the needs of the client
b. it demonstrated the advantage of stakeholders participation during the planning stage



Iloilo City Model Low Cost Wastewater Treatment Facility

3. Replicating – the actual adaptation of the low cost treatment technology by the Iloilo Mission Hospital and Iloilo Doctors Hospital afterwards helped strengthen the city's campaign for the adoption of low cost treatment technologies. It was a product of advocacy, technical workshops, sponsored study tours organized by the City ENRO. This on-going intervention program aims to reduce discharges entering Iloilo River, attributable to Small and Medium Enterprises (SME) , primarily from hotels and hospitals (estimated to be no less than half a million gallons daily).

The actual adaptation of the decentralized model by the two (2) hospitals created a demand for technical expertise on low cost treatment since the model hospitals were also able to demonstrate that low investment and low maintenance treatment is possible. To date, hospitals, malls, schools and hotels who are either applying for building permits or seeking compliance are preparing their own low cost treatment facilities through the assistance of technical experts who have been identified by the LINAW program.

To date, Mission hospital and Iloilo Doctors have also become a venue for field trips. Here, both the City of Iloilo and the hospitals demonstrated their strong partnership by bringing sanitation education to schools and Universities.

4. "Bantay Suba" (River Watch) – relative to the need for the strict implementation of the City's Anti-littering Ordinance along Iloilo River, the Mayor through an Executive Order deputized volunteers from the Philippine Coast Guard Auxiliary (PCGA), the Philippine Navy Naval Reserve Unit (PNNRU) and Bantay Bayan to apprehend, issue Citation Tickets to violators of Ordinance 2004-149.

5. Regular Clean Up – clean up drive in Iloilo River is maintained regularly by the City ENRO in collaboration with the PNNRU. The involvement of many schools and university in the city and the private sector in th cleaning of Iloilo River has prompted the City ENRO to prepare guidelines for volunteers.

Volunteers gather solid waste and derelicts during a clean-up drive, Iloilo River, July 2010

The Water Quality Management Area (WQMA)

The designation of Iloilo River and Batiano River as a Water Quality Management Area is a national government effort in collaboration with the city and four other local government units, pursuant to Sec. 5, Article 1 of the Clean Water Act and its Implementing Rules and

Regulations. The selection of Iloilo River was based primarily on its poor water quality, specifically because of low dissolved oxygen and secondly because of the existence of an active Iloilo River Development Council and the Iloilo River Master Plan.

The mission of the Iloilo-Batiano WQMA is the revival, preservation, protection, and the promotion of sustainable development in the Iloilo-Batiano River System. It seeks to :

1. establish a comprehensive and integrated strategy to prevent and minimize pollution in Iloilo-Batiano River system through multi-sector and participatory approach involving stakeholders.
2. implement a Wastewater Charge System and Discharge Permits to be required from owners/operators of facilities discharging wastewaters
3. establish WQMA fund from fines, penalties, damages, permit fees, donations, endowments, and grants

To date, the Iloilo-Batiano River WQMA was launched sometime in the last quarter of 2008 and has achived the following milestone:

1. completed the organization of its governing board and its technical working groups
2. established its water quality objectives, strategies and 10 year WQMA Action Plan

Currently, the technical working group, in collaboration with the LGU's and other stakeholders is working on the water quality sampling of Iloilo River, in 22 identified sampling areas. The objective is to update the status of water quality of the estuary, as well as to train the different stakeholders in water quality testing.

Septage Management, a Near-Term Solution to Water Quality Problem

Recognizing the difficulty of building a sewerage infrastructure, there appears to be an increasing attention on septage management as a near-term solution to the water quality problem. World Bank study indicated that 81 % of the sewage in the Philippines is not treated, Further, LWUA found that 58% of the samples it took from groundwater intended for drinking contained fecal coliform.

The Implementing Rules and Regulations of the Clean Water Act state that for areas without sewerage, the concerned Local Government Units (LGU's) or Water Districts should adopt Septage Management and other sanitation alternatives. Septage Management(SM) refers to the periodic desludging of septic tank using vacuum trucks, and treatment and disposal of the septage. While septic tanks will continue to serve as basic sanitation tools to many residents of the city it has been observed that septic tanks are desludged (emptied) only when full. Moreover, in many instances these septic tanks are undersized and poorly constructed. Such haphazard practices contribute to the fecal contamination of the city's underground water supply and Iloilo River.

On June 23, 2009, in line with the celebration of the Iloilo River Week, the city organized a Septage Management Forum/Dialogue. The event provided a venue for a pre-planning dialogue between the city government of Iloilo City and the Metro Iloilo Water District. Joining this

forum are representatives from the Philippine Water Revolving Fund, representatives from water districts and LGUs of Bacolod City, Roxas City and Municipality of Kalibo.

By January 2010, a memorandum of agreement was signed by and between the Metro Iloilo Water District and the Philippine Water Revolving Fund (a support program organized by USAID and JICA) for technical assistance in the preparation of a feasibility study on the proposed septage management program for Metro Iloilo. Months later the other water districts followed.

The foregoing events marked the partial fulfillment of two LINAW program objectives :

a. city septage management
b. replication of the LINAW program to neighboring LGU's in the region.

As of the time this report is written, the feasibility study is already seventy percent completed.