



Sustainable Environment Protection Project (JICA-SEPP)

A program for sustainable tourism development in Panglao Island, Bohol



The project has ended, but the journey continues towards fulfilling the vision.

Vision

A sustained tourism development in Panglao, Bohol through efficient environmental management of negative tourism impacts.

Duration

From May 2013 to September 2015

Organizations

Provincial Government of Bohol, Municipality of Panglao, Municipality of Dauis, and JICA Expert Team

Project Structure

Overall Goal

A sustainable tourism development in Panglao is achieved after the completion of the New Bohol Airport (NBA).

Project Purpose

To protect the environment of Panglao Island from an anticipated increase of tourists arrivals after completion of the New Bohol Airport (NBA) and to improve effluent quality discharged from the on-site STFs.

Achievement of outputs

Coordination

Output 3: Eco-tourism which pursues sustainability is promoted all over Bohol Province.

Output 2: Adaptive Management with usage control of resources through carrying capacity limitation is deployed in Panglao Island.

Output 1: A framework for environmental management and sustainable tourism resource use in Panglao Island is established.

Development of sustainable tourism resource use

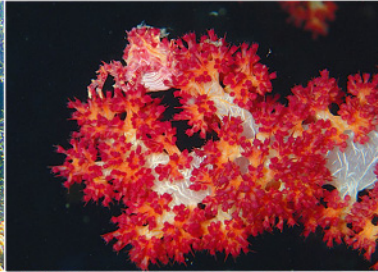
Output 7: Assist in the design of a septage treatment plant to treat sludge collected from on-site STFs and establish sustainable management system including financial planning.

Output 6: Possible septic tank designs are proposed with improved capacity.

Output 5: Effective and realistic management systems are established to control STFs in Panglao Island.

Output 4: Effective and realistic regulations are proposed for the construction and management of on-site STFs.

Improvement of on-site STFs



Development of Sustainable Tourism Resource Use (Output 1-3)

► Introductions

Panglao has rich tourism resources and many tourists visits and enjoy the island. However, increasing tourists can degrade these tourism resources particularly to coral reefs and beaches (see figure below). The aim of the tourism component (Output 1-3) is to reduce the negative impacts through a sustainable management system.



Output 1: A framework for environmental management and sustainable tourism resource use in Panglao Island was established.

The Panglao Island Executive Committee (PIEC) was launched as a framework to serve as a coordinating and advisory body for Environmental Protection and Conservation, and as an instrument for reaching consensus among the LGUs concerned, particularly the Provincial Government of Bohol, the Municipality of Panglao and the Municipality of Dausi.





► **Point of these activities:**

Discussions and consensus building among public and private sectors are most important for sustainable environmental management.

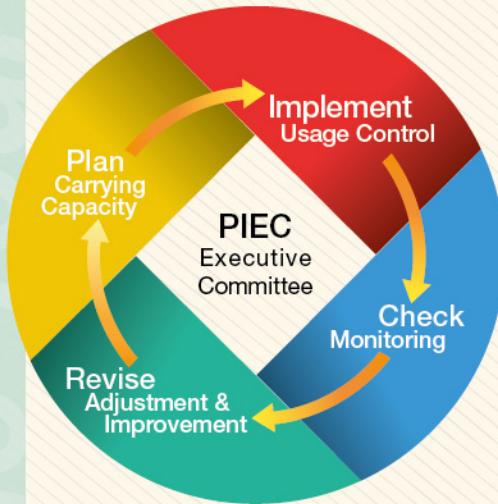
► **Way forward:**

Continuation of Panglao Island Executive Committee meetings.



Development of Sustainable Tourism Resource Use

Output 2: Usage control of resources through carrying capacity limitation is deployed in Panglao Island.



Tourism Resource Management Cycle

Objectives:

- To introduce scientific management system in conserving tourism resources.
- To build capability in implementing the management system.

Goal:

To realize sustainable tourism under the framework of tourism resource management system.

Main topics implemented in the Project

- ▶ Hinagdanan Cave Usage Control Management
- ▶ Diving Usage Control Management
- ▶ Snorkeling Usage Control Management

Other topics supported in the Project

- ▶ Beach Usage Control Management
- ▶ Boat Usage Control Management
- ▶ Fishing Usage Control Management

Next topics after the Project

- ▶ Building Construction Usage Control Management
- ▶ Dolphin & Whale Watching Usage Control Management

► Provided Trainings

Carrying Capacity Training (March 2014)

- Lecture and Field Survey



Tourism Resource Monitoring and Reef Monitoring Trainings (February 2014 and February 2015)

- Lecture
- Data Analysis and Database
- Field Survey
- Reporting



► Point of this activity:

Usage control must be revised accordingly to the results of monitoring. Therefore, discussions in the Scientific Council and consensus building in PIEC meetings is important.

► Way forward: To be implemented by Boholanos

1. Continuation of monitoring and revision of usage controls
2. Integrated Coastal Resource Management (ICRM)
3. Sand beach protection (study and action)

Development of Sustainable Tourism Resource Use

Output 3: Eco-tourism which pursues sustainability is promoted all over Bohol Province.

The “Eco-tourism Bohol” brand

► Objectives

1. To encourage a well-balanced development of Bohol tourism industry
2. To make a new Bohol tourism branding
3. To create more jobs and contribute to local economy
4. To attract more tourists by offering new tour destinations, packages and products

► Definitions

Eco-tour shall:

1. Design in harmony with nature, culture, and industries (e.g. agriculture, fishery, products)
2. Pay attention to “sustainability” and “eco-friendly” activities
3. Affect less negative impacts to environmental and social aspects
4. Serve different local foods, products, livelihoods with warm local hospitality



 **eco
tourism
bohol**

The luxury of simplicity
in nature and people

Join and enjoy day-trip tour packages
and other new exciting destinations

For inquiries please contact:

Bohol Tourism Office (038) 501-9186
inquire@boholtourismph.com

PROGRAM PARTNERS:



For more details, visit our new website:

www.boholtourismph.com

► Goal

- To develop 100 individual Eco-tour sites
(One town more than one eco-tour sites)
- To create 10 new day-trip tour packages
(Day-trip clustered eco-tours)

► Commitment

Eco-tourism Bohol Commitment

Making Eco-tourism Our Way of Life

We commit to:

- Value and preserve Bohol's nature, culture, food & livelihood
- Introduce local resources and way of life
- Empower local communities for sustainability
- Establish a sense of mutual responsibility with the tourist as caretakers of the community
- Enact policies conducive to holistic and balanced growth of Bohol

► Hints for Developing Eco-tour sites:

1. Utilizing existing resources, not only nature and culture but also local industries and delicacies
2. Telling story of the site with interesting pictures which can attract and entice tourists to visit the place

► Way forward: To be implemented by Boholanos

1. Sustain promotion and marketing of existing eco-tour sites
2. Develop more eco-tour sites and new tour packages
3. Welcome guests with sincere hospitality and big smile

Improvement of On-site STFs (Output 4-7)

► Introductions

Panglao is a beautiful island with rich natural resources. However, the increasing number of residents and tourists is causing serious water pollution problems due to improper management of sewage. To protect seawater environment and natural marine resources, proper sewage management is an urgent issue in the island.

Pollution sources include farmlands, livestock, households, nature, and business establishments that contaminate the water table and marine environment in the island. Main pollution sources in Panglao Island are assumed to be sewage discharged from households and business establishments. The aim of the Sewage Component therefore, is to manage the pollutants and preserve marine environment of Panglao Island by enhancing sewage management.



Improvement of On-site STF (Output 4-7)

► Goal

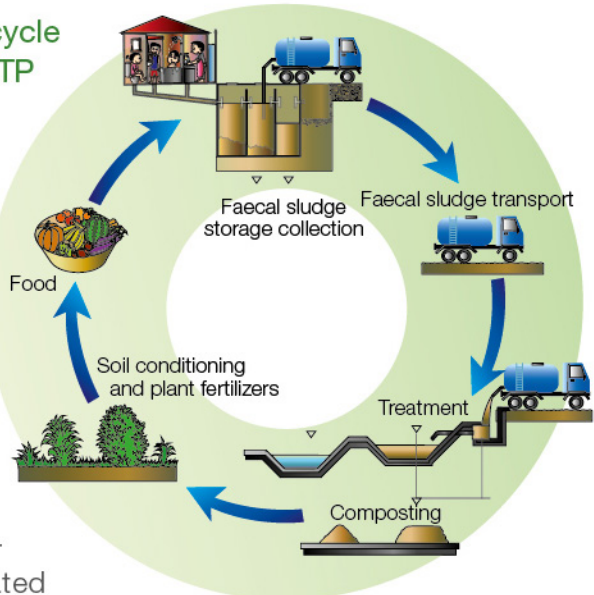
The overall goal of sewage component is to improve sewage effluent quality with individual Sewage Treatment Facilities*¹ (STFs) and Septage*² Treatment Plant (SpTP) as a short-term countermeasure.

*1 Individual STFs include Septic Tank (ST), and other sewage treatment plant constructed on-site of pollution source. *2 Septage is a mixture of scum, sludge and liquid that accumulates in the septic tank.



Sewage management cycle of individual STF and SpTP

Part of the pollutants in sewage is retained in the individual STFs (septic tank). Sludge stored in the septic tank is desludged periodically to maintain its treatment capacity. Desludged septage material is properly treated at SpTP into treated water and composted soil.



- Currently there is no SpTP in Bohol

Improvement of On-site STFs (Output 4-7)

► Activities of SEPP Improvement of On-site STFs:

To achieve the improvement of on-site STFs, the following outputs and its activities have been carried out.

Output 4: Ordinances

Amendment of related Ordinances; Bohol Sanitation Code, Municipal Ordinances (ongoing)

Output 5: Organization

Created new offices; Municipal Septage and Sewage Management Office (MSSMO) in Daus Municipality and Panglao Municipality. Sewage Laboratory was created at Provincial Health Office (PHO) conducting water quality analysis of sewage samples.

Output 6: Individual STFs

Conducted pilot project of on-site STFs and made to a standard design of modified septic tank applied in Panglao Island

Output 7: SpTP

Conducted basic design and feasibility study of SpTP.

► Activities of MSSMOs in Daus and Panglao municipalities:

- Continuing IEC (Information, Education and Communication) campaign on the importance of having correct septic tank design.
- Inspecting and monitoring of all ongoing individual STFs at planning, construction and completion stage.
- Data gathering of the existing septic tanks.

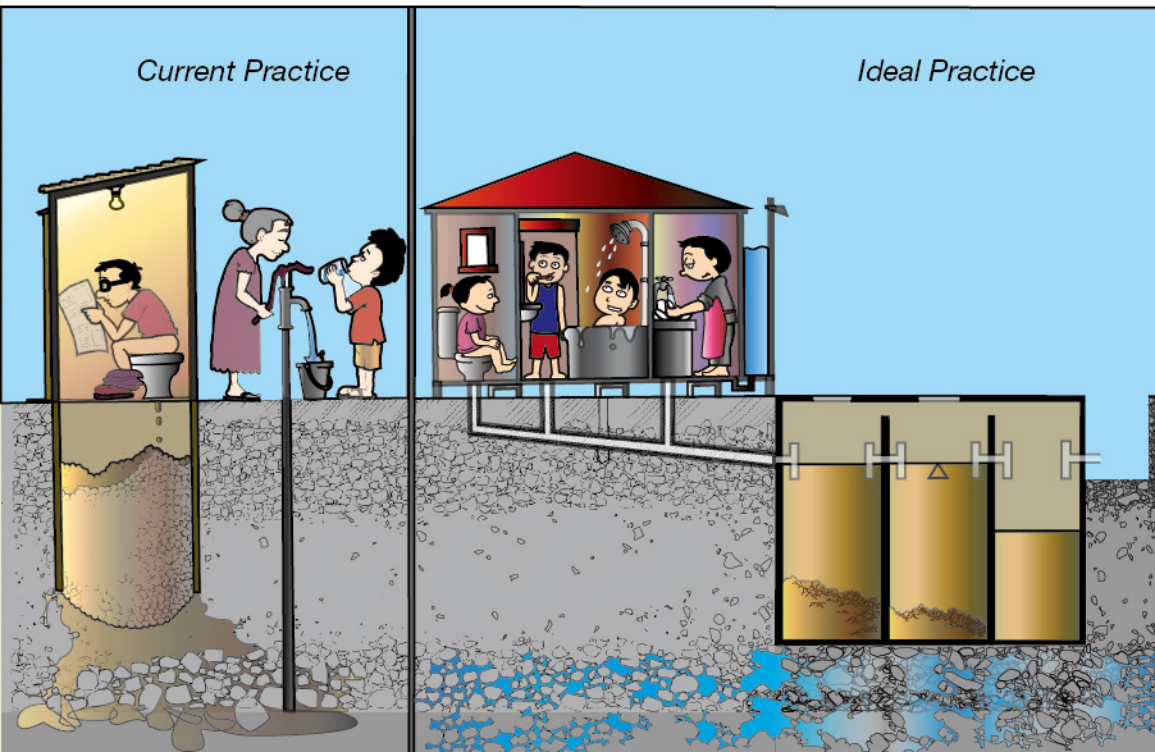


Improvement of On-site STFs (Output 4-7)

► Individual STFs current status and Ideal state

Currently, most households in Panglao Island have no proper individual STFs (septic tanks). Sewage is discharged directly underground without any treatment (see bottom left) causing possible contamination of ground water and eventually leaching to the sea.

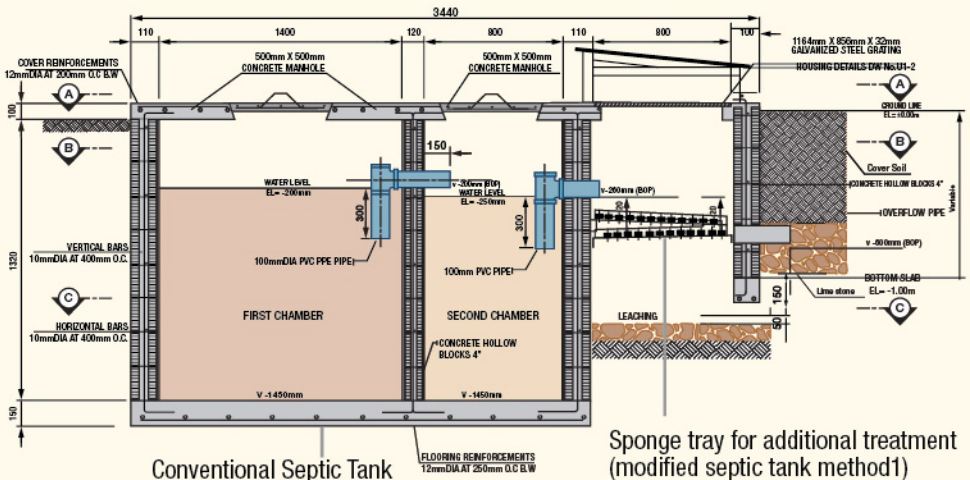
Septic tank is a typical individual STF for domestic households. All sewage generated from household (ex. toilet flushing, kitchen sewage, shower etc.) should be connected to the septic tank. Discharged sewage is treated and generated sludge is stored inside the septic tank (see bottom right).



► Conventional Septic Tank and Modified Septic Tank

Septic tank is composed of two chambers. First and second chamber should be sealed with concrete to prevent sedimentation and allow biological decomposition. The depth of leaching chamber varies depending on soil conditions. Manholes must be properly installed but should not be permanently sealed at each chamber for operation and maintenance purposes.

Three types of Modified Septic Tanks are proposed for further treatment of septic tank effluent, one sample is shown below. (ask MSSMO for more information).



► Activities of output 7 Pilot study of Individual STFs

Five pilot septic tanks were constructed in Panglao Island to study the effectiveness of the proposed standard septic tank. Monthly water quality monitoring had been carried out for evaluations.



Sewage sample collection



Measuring sludge depth

Improvement of On-site STFs (Output 4-7)

► Septage Treatment Plant (SpTP)

SpTP is composed of lagoons with wetlands for treatment of wastewater and sludge drying bed with composting facility for septage drying. Final product of SpTP is clean treated water and composted soil. The biggest issue is the existing improper septic tanks which have no access manhole for desludging. These septic tanks should be renewed or modified to meet the standard design.



► Way forward: To be implemented by Boholanos

1. Installation of modified septic tanks (STFs) at all hotels, restaurants and houses.
2. Construction of septage treatment plant (SpTP).



To learn more about Sustainable Environment Protection Project please contact:

For inquiries about Eco-tourism Bohol please contact:



LGU DAVAO

MPDO / MTO:
Thru mayor's office
Tel. No.: 502-3040



LGU PANGLAO

MTO – 502-8128
MPDO – Thru mayor's office
Tel. No.: 502-8080



BOHOL TOURISM OFFICE

Tel No.: (038) 501-9186
inquire@boholtourismph.com
www.boholtourismph.com

