

## Song Saa's Mission to Clean Up Local Villages: A Case Study – The Changing Face of Prek Svay (Koh Rong), Cambodia

### INTRODUCTION

Human activities create waste, and it is the way this waste is handled, stored, collected, and disposed, can pose risks to the environment and human health. Where intense human activities concentrate, such as in urban centers, appropriate and safe solid waste management (SWM) are of utmost importance to allow healthy living conditions for the people<sup>1</sup>. This fact has been acknowledged by the Cambodian government, however lack of financial resources and infrastructure limits SWM systems to only the larger cities such as Phnom Penh and Preah Sihanouk municipality. The more remote areas that include off-shore islands, where infrastructure is an important issue such as the Koh Rong Archipelago, are still forgotten worlds.

The Koh Rong Archipelago is a collection of 5 remote islands in the Gulf of Thailand, at a distance of approximately 30 kilometers from the Sihanoukville coast, Cambodia. Among these are the two small adjacent islands Koh Ouen and Koh Bong – also known as ‘Song Saa’ Islands – and the larger Koh Rong Island. Its relatively isolated location and undiscovered pristine environment with a high biodiversity of fauna and flora make the Archipelago very attractive to tourism. Other characteristics of the Archipelago are the settlements of fishermen villages and the Song Saa Island Resort that is being developed. The island Koh Rong has three main

villages namely Prek Svay, Daem Thkov, and Koh Touch village. The increasing population growth, poverty, and lack of education in these villages manifests in poorly constructed houses without adequate sanitation and solid waste disposal. Also fishermen who frequent visit the area discard their waste in the ocean that washes up on shore or settles at the sea bottom inflicting stress among the various marine life. This unfortunate behavior results in an aesthetic intrusion of the surrounding environment and without a proper SWM system degradation of this environment and risks for human health are inevitable.

In conjunction with Song Saa Island Resort and relevant stakeholders, local residents will take a forward thinking approach to the growing problem of waste management.

### PROJECT DESCRIPTION

Prek Svay is by far the most populated village and lies at the Northeastern tip of Koh Rong Island. The village is home to 148 families with an estimated population of 900 people. Besides a few shop owners, a boat wharf and carpenters, the majority of the people are depending on fisheries.

Like many other villages in Cambodia, the reasonable large population and increased consumption of goods have contributed to a major

↓ On a short distance from the ‘Song Saa’ Islands lays Prek Svay fishermen village



waste disposal problem in Prek Svay. The relative isolation of the island, the lack of waste disposal system, and poverty makes for obvious waste transport difficulties. As a result waste has traditionally been burnt, littered, or dumped in surrounding areas such as beaches, playgrounds, and sea posing health risks for people and wildlife.

This widely spread rubbish has not only become an environmental issue, but it is also hindering the community's plans to gain income through ecotourism which has been creating great concern among residents.

### *Song Saa*

Owned by two native families the island Koh Ouen had been home to a fishing village for nearly 20 years. About 60 people were living in over-water houses without ample sanitation and solid waste disposal. In 2006 these families sold their land to Brocon Investment Co., LTD who plans to develop the first island resort in Cambodia, Song Saa Private Island. The majority of the small community decided to move to a nearby coastal area. Without any environmental perception they left behind an area of thick sludge and waste posing a severe threat to the marine ecosystem. With great support from 4 families who remained living on Koh Ouen, and Prek Svay village from Koh Rong, the company started cleaning up the island and surrounding waters for over 18 months in order to retrieve its original status.

The Song Saa Private Island will be the first luxury island resort in Cambodia and is located on the two small adjacent islands Koh Ouen and Koh Bong. The Resort comprises 17 bungalows and 8 villas in a pristine setting of jungle, beaches, and ocean. Song Saa is committed to offer an exclusive luxury retreat and spa. Compared to similar resort destinations in this region, Song Saa will not only create a unique destination for tourism but will be developed to the highest environmental standards, with a strong emphasis on social and environmental responsibility.

The vision is to establish a unique responsible development effort that serves as a role model for coastal development and conservation in Cambodia and the wider region of South East Asia. The holistic approach ensures sustainable benefits on different levels such as environmental research and education; increase livelihoods; and protection of ecosystems with high biodiversity value. The development of the Song Saa Private Island involves environmental conservation initiatives and responsibilities that have been independently developed in light of the limited environmental regulations enforced in Cambodia.

The project is seen by a variety of wildlife conservation and sustainable development organizations as a best practice pilot project for ecotourism developments that are proposed for this and the surrounding islands in the region.

Song Saa is committed to reducing the environmental and social impacts of their activities and is specifically concerned about protecting the environment and benefiting the local communities in the Koh Rong Archipelago.

### **SOLID WASTE MANAGEMENT**

In 2006, Song Saa educated the few people who remained living on Koh Ouen Island the basic understanding of the impact of waste on the ecosystems and human health if not properly disposed. This also involved waste collection and segregation, that resulted in a small-scale solid waste management approach. Several people remove washed up solid waste from the beaches on a daily basis, and garden rubbish, such as dead 'palm tree' leaves and coconut fibers, are collected throughout the island. Waste generated from cooking is separated from solid household waste. Solid household waste is frequently transported to the mainland and disposed by CINTRI Ltd. Cambodia – the company who is also responsible for garbage collection services in the capital Phnom Penh and Preah Sihanouk town. Organic waste is used for composting.

### *A bigger picture*

To achieve sustainability in waste management, it is important to look at the roles, interests, and power structures in waste management and community. Unless and until the whole community does not involve in SWM, the management will not be successful. Furthermore in this study, the private sector will play an important role in SWM as initiator and by reducing local pressure on financial and human resources.

After the experience with a small group of local people, Song Saa decided to support alleviating the solid waste problem that the community of Prek Svay has been struggling with for over decennia. It is obvious there is an urgent need to prepare and implement an effective Solid Waste Management (SWM) system.

In February 2010, Song Saa approached Live & Learn Environmental Education (L&L), an organization who has extensive experience in establishing similar systems in the Maldives, to undertake the first step.

### Identifying the problem

The first activities of the SWM project, in close collaboration with L&L, were a survey/workshop, and pilot cleanup events in April and June 2010. This process was to understand the behavior of the community residents' regarding waste disposal and sustainable livelihoods. The other key criteria were to see the community's willingness to reduce the waste in Prek Svay village.

The initial discussions were held with the most fundamental groups of the community's cultural hierarchy being monks, chief of village, school principle, and the existing environmental committee – a forum of local people with the knowledge and desire to protect their own livelihoods through marine conservation and livelihood support. This was followed up by an open discussion with other village residents.

Problems that were identified during these sessions were lack of recycle bins, environmental perception, and financial constraints. The people, from the upper level of the 'hierarchy', had great environmental knowledge and identified the lack of financial resources as the major bottleneck for the waste management problem. However, the majority of the village's residents lack the awareness about the impacts and consequences of their actions on the environment and their health.

### Pilot Community-based clean up

In order to raise awareness and to reduce the amount of discarded waste in Prek Svay village, Song Saa had organized community-based cleanup events on 22 April and 5 June 2010 to celebrate *World Earth Day* and *World Environment Day*. Such events are a perfect tool to raise local awareness concerning the people's attitude on environment and waste management issues. The events happened in conjunction with a number of organizations and businesses including Project AWARE, Fauna & Flora International, Live & Learn Environmental Education, and EcoSea Dive. The majority of people cleaning the proposed areas were residents from Prek Svay village.

Over 150 people participated in cleaning up the beaches, mangroves, and village center of Prek Svay making these the largest island community-clean up events in Cambodia so far. At the same time also the marine life was taken care of by a large group of divers who made surrounding reefs clean from rubbish and discarded fishing gear. Overall, more than 350 bags were filled – either with glass, tin cans, or plastics – and over 4 large diving bags

contained old discarded fishing nets collected from the sea bottom. Subsequently the collected waste was transported to the mainland and disposed by CINTRI Ltd. Cambodia.



↑ Putting the hands together to clean the village.

These two community-based cleanup events were not only beneficial to the environment and human health, but serve as a great test case for communal participation and solidarity. Effective management of solid waste requires such cooperation of the general public.

### *Building the bridge to a clean environment*

Song Saa's overall goal of this initiative is to minimize environmental and health impacts from solid waste generation and disposal in the Koh Rong Archipelago. Together with local NGO's, Song Saa continues to support the local community and has initiated a program to establish a solid waste management system. To form the foundation of such system, a Participatory Rapid Assessment (PRA) is conducted. PRA aims to assess participant's perceptions on issues relating to sustainable development and then use these perceptions in shaping effective tools to change knowledge, attitude, and practices.

The Prek Svay SWM project is a small island solid waste management program that involves the following aspects:

- i. Raising awareness and celebrating world environmental days;
  - ii. Education and training;
  - iii. Daily door-to-door garbage collection;
  - iv. Waste segregation – reuse, reduce, recycle – and separate organic from inorganic waste;
  - v. Promoting and installing composting units;
  - vi. Transportation of waste to the mainland;
  - vii. Generating local employment.
- i.** Song Saa encourages and motivates people to keep their surroundings clean. Raising awareness encompasses participatory workshops and cleanups with local village residents and school visits with presentations, posters and booklets. These events teaches people the importance of waste management, 3R (reduce, reuse, recycle) programs, and allows them to directly experience how waste affects and pollutes the environment and their livelihoods in the long run. People are encouraged to separate waste that include options such as:
- a. Reusing – Encourage reuse of certain items to store drinks, food, liquids or other items. Or reuse for preparation of fish aggregation devices (e.g. palm tree leaves, jerry cans);

- b. Reducing – Encourage people to minimize the use of persistent material such as plastic bags;
- c. Recycling – Encourage people to segregate organic from inorganic waste including differentiation between cans, glass and plastic bottles;
- d. Composting – Propose householders to separate food scraps and garden rubbish from inorganic material.

**ii.** People involved in the SWM system undergo special education and training that teaches them the knowledge and skills concerning point i. Training also equips them with the abilities necessary for the job such as handling the waste in a proper and hygienic manner, and sincere commitment to their work.

**iii.** To set up a system for SWM, Song Saa will establish a waste collection station. The station provides large containers for waste collection, and a daily door-to-door collection service. Households are encouraged to put their waste in front of their house every day.

**iv.** As waste is not all the same, households are encouraged to separate waste at source into organic and inorganic. Once collected waste is brought to the station where it is sorted into compostable waste, recycle waste and rejects. The main categories of solid waste in Prek Svay are generally identified as cans, fragments of plastics and glass, garden rubbish, and food scraps.

**v.** Composting has never been practiced in Prek Svay and food scraps and garden rubbish is generally seen as waste and either burnt together with other waste or thrown in the sea. However, this could be a valuable resource for supporting soil for agricultural or gardening purposes. In February 2010 Song Saa had set up the first composting test system on their Koh Rong farming land. Several local residents from Koh Ouen Island were trained to separate food scraps and garden rubbish from other solid waste and to dispose it in the composting system. Subsequently the compost is used for organic farming. In July-August 2010, more composting systems will be build for Prek Svay village.

**vi.** The inorganic solid waste that has been collected at the SWM center is transported to the mainland every three days. At the mainland it is handed over to CINTRI Cambodia who takes care of the waste disposal to local landfill sites.

### *The next steps*

Resulting from the two community-based cleanup test cases it is clear that the community from Prek Svay has the willingness to change their behavior and raise the profile of their village to gain ecotourism revenue. However without any catalyst such as Song Saa or any other stakeholder partnership, a Solid Waste Management system is still beyond reach. Currently the public participation does not demonstrate more than a basic satisfactory performance. Even though the Environmental Committee and the Chief of Village show increasing commitment to a cleaner environment it is important to reach the rest of the community in order to establish a successful SWM system. Awareness raising and education is essential.

For waste management projects to have a continuing impact, community attitude and participation is a precondition and this entails involving the community at different stages and degrees of intensity in the project cycle. For example, community members can participate in different ways, such as paying collection fees, offering waste at the appropriate time and separating recyclable materials. Furthermore, community members can be involved in awareness-raising activities, participate in meetings to influence the process of the project or be part of committees that manage waste services.

Also partnerships with relevant stakeholders such as CINTRI Cambodia and sustainable development orientated organizations need to be established. Once such stakeholders are committed waste can be properly disposed.

Furthermore Song Saa's goals include the integration of environmental education in the primary school curriculum to conserve this pristine environment of the Archipelago for the benefits of the future generations. On the longer-term Song Saa will also be focusing on improving the current sanitation and sewage conditions of the houses in Prek Svay.

Essentially such a program does not only positively affect the ecosystem but also improves local health conditions and disease outbreaks. It will reduce the risks to dengue fever and bacterial infections.

In areas adjacent to important ecosystems like the Koh Rong Archipelago, appropriate similar systems should be well established and maintained. Community-based waste management is a complex process and this project is addressing a range of waste management challenges, which face many small, remote, islands in this region with growing populations. However, it is critical to pollution prevention and management of terrestrial and marine environments.

### **Sources of further information**

- [1] Glawe, U., Visvanathan, C., Alamgir, M. *Solid waste management in least developed Asian countries – A comparative analysis.*
- [2] Agrawal, V.S. (2005) *Sustainable Waste Management; Case study of Nagpur, India.*
- [3] Case study; *Tongan Solid Waste Management Project*
- [4] Case study; *Waste management in Tuvalu*
- [5] Egret Communications/ARA Consulting (July 2001) *Galapagos Islands, Ecuador Tourism Growth Case Study.*
- [6] Mew, A. (2007) *Cleaning up Tonga.*
- [7] Social Development Direct (RETA Consultant) (2007) *Promoting ownership of and demand for effective waste management.* <http://www.adb.org>
- [8] Squires, C.O. (2006) *Public participation in solid waste management in small island developing states.*
- [9] Williams, M., Forbes, J., Dever, S., Egis. *Solid waste management challenges in Pacific Island countries.*

2010 © Song Saa Private Island  
Koh Ouen Island, Preah Sihanouk, Cambodia  
E-mail address: [bart@songsaa.com](mailto:bart@songsaa.com)  
Website: <http://www.songsaa.com>  
(photos by Song Saa Private Island)