



Wasteful tourism in developing economy? A present situation and sustainable scenarios



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ABSTRACT

Tourism is one of the fastest growing industries in the world. However, the expansion of the service sector does not necessarily lower the material intensity of the economy without proper environmental management. This study presents a case of tourism waste generation on the Thai side of the Golden Triangle. Based on 207 observations at hotels and guesthouses, tourist attractions and transit stations, it highlights the unsatisfactory aspects of the present situation in terms of the quantity and the composition of tourism waste. There is also a concern over the expansion of tourism activities in the area that would result in more waste being generated. Nevertheless, a multivariate model shows that a greener scenario leading to 60–70% of waste diversion would also be possible. The utilization of organic waste from accommodations and the promotion of source separation at public spots would hold key for resource conservation. It is further suggested that the local governments can drive the development of sustainable tourism by adjusting their policy instruments such as employing unit-based pricing in waste charging to make the system fairer.

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1. Introduction

Tourism is one of the fastest growing industries in the world. According to the World Tourism Organization (UNWTO, 2015), in 2014 the exports from over one billion international tourist arrivals reached USD 1.5 trillion for the first time. In Southeast Asia, the number of tourist arrivals in the region had increased almost 50% from 66 to 98 million between 2009 and 2013 (ASEAN Tourism Database, 2014). However, an expansion of the service sector does not necessarily lead to dematerialization. On the contrary, tourism can drive a high throughout economy. Trung and Kumar (2005) found that an overnight stay at luxurious hotels in Vietnam could result in as much as 2.5–7.2 kg of solid waste per guest. In fact, the concept of wastefulness in tourism has long been discussed (Leiper, 1997). Russo (2001) put a caution against the vicious circle of tourism development and environmental degradation. Several studies have documented the impacts of tourist waste on the fragile ecosystems that often characterize tourist destinations (Kariminia et al., 2012; Araújo and Costa, 2007; Kuniyal et al., 2003; Parnwell, 1992). Unlike in developed countries (Mateu-Sbert et al., 2013), Li

and Yang (2007) found that in a developing country tourists might leave a significantly larger ecological footprint than local people who still lived with subsistence conditions.

With a careful planning and good practices, tourism can contribute to sustainable development. A growing body of literature has documented efforts made by tourism enterprises to reduce pollution and improve the sustainability of their businesses including some best practices of zero waste initiatives (Hsiao et al., 2014; Sealey and Smith, 2014; Kallbekken and Sælen, 2013; Wyngaard and de Lange, 2013; Yusof and Jamaludin, 2013; Alonso-Almeida, 2012; Erdogan and Baris, 2007; Hamele and Eckardt, 2006; Alexander, 2002). In Thailand, waste management is one of the key aspects for awarding Green Leaf Certificate, an environmental initiative of the tourism industry (Green Leaf Foundation, 2009). Piippo et al. (2014) suggest a scenario where resources from waste management can help solving ecological problems at a tourist destination. Similarly, Shi et al. (2013) estimate the potential of energy production from biodegradable waste from tourist destinations in Yangtze River Delta in China.

This study investigates the present situation and the future prospect of tourism waste on the Thai side of the Golden Triangle especially in terms of waste diversion potentials. It was part of a broader multidisciplinary research program to develop a healthy tourism development strategy for the border towns in Chiang Rai. The Golden Triangle is a noted example of a once politically sensitive area ridden with drug trafficking transforming into a major

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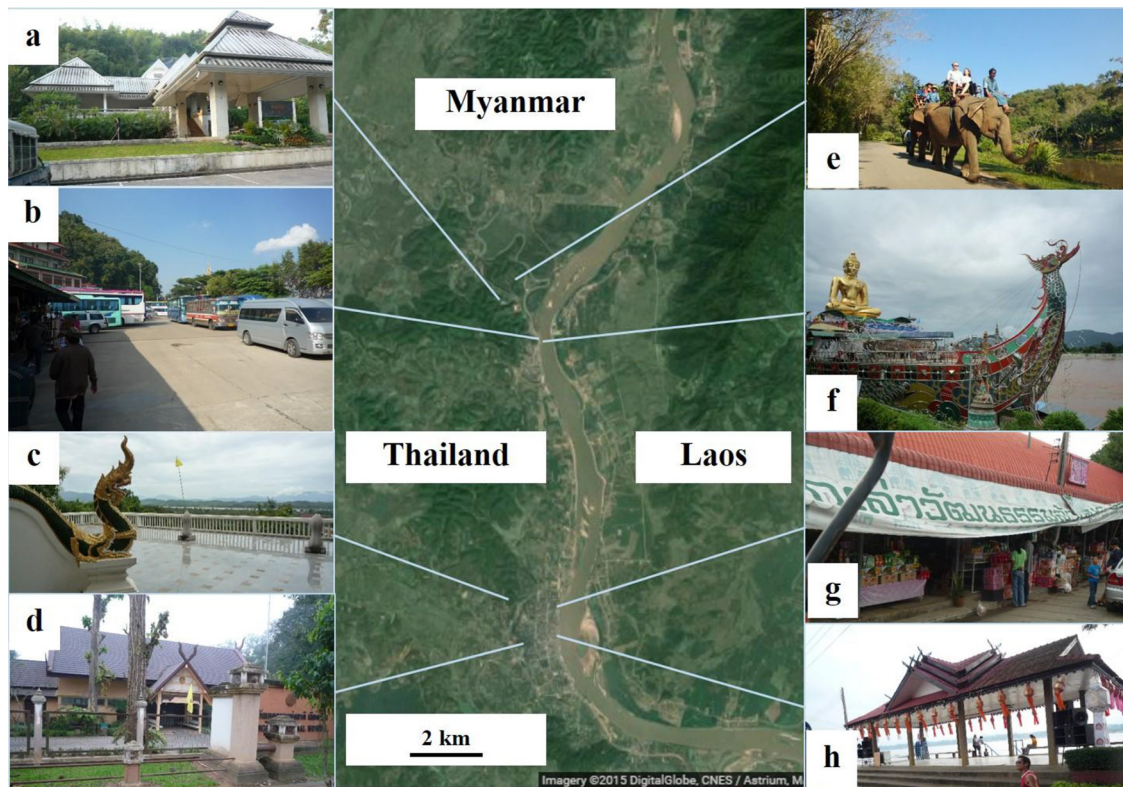


Fig. 1. A map of the study area and key tourist spots: (a) Hall of Opium, (b) parkings at the Golden Triangle, (c) Wat Phra That Chom Kitt, (d) Chiang Saen National Museum, (e) elephant riding in a resort, (f) Phra Buddha Nawa Lan Tue, (g) fruit stands and (h) scenic pavilion. Map credit: Google (2015). Photo credit: P. Manomaivibool (2012).

tourist destination. A brief description of tourist activities together with an overview of municipal solid waste management systems in the area are presented in the second section. The third section explains the methods and materials of the study. The fourth section reports the key findings which will be discussed in relations to the municipal solid waste management systems in the following section. The last section concludes the study.

2. Case description

The Golden Triangle on the Thai side is a major tourist destination in Chiang Rai Province located in Wiang Sub-district, Chiang Saen District. Most tourists were on a one-day trip to the Golden Triangle from the city of Chiang Rai. A typical itinerary of guided bus tours would feature a stop at the 15-meter-tall statue of Buddha, Phra Buddha Nawa Lan Tue Buddha, and a boat ride to Don Sao, a Laos' island in the Mekong River that can be entered without a visa, or a scenic ride along the Mekong. Another tourist attraction nearby, the Hall of Opium, exhibiting a history and impacts of opium on the area could be added for an extended day trip. Alternatively tourists might go to the historical city of Chiang Saen, once the capital of the Lanna Kingdom, in Wiang Chiang Saen Municipality about 10 km from the Golden Triangle. For Thais, it was not uncommon to stop for imported fruits from China that were disembarked in the old port of Chiang Saen. Tourists traveling in smaller groups might visit other attractions in Chiang Saen such as Wat Phra That Chom Kitt, Wat Phra That Pha Ngow and Chiang Saen Lake. Backpackers could take local buses from Chiang Rai to the Golden Triangle or to Chiang Saen where accommodations were cheaper. An increase in the number of car caravans from China was a recent phenomenon benefiting accommodations in Chiang Saen. Fig. 1 displays a map of the area marking key tourist attractions.

The two municipalities in the area, Wiang Municipality and Wiang Chiang Saen Municipality provided basic waste removal

services as prescribed in the Public Health Act, B.E. 2535. The former collected solid waste from the nine villages in its service area of 54.34 km² using two 12-m³ trucks with a compactor and one 6-m³ side loader without a compactor. While each village was served two times a week, the municipality had a daily collection routine for tourist spots along the main road no. 1290. A smaller service area enabled Wiang Chiang Saen Municipality to collect solid waste every day from the 2.26 km² within the ancient wall using two side loaders. Public receptacles of various sizes were placed along the main streets and tourist attractions including the 240-L bins that are available in three colors: green for organic, yellow for recyclable and red for hazardous waste. However, contamination was usually high rendering the majority of materials in the bins unfit for composting or recycling. Collected waste was open dumped on a 16-hectare public land 4 km from the district center. After this study, Wiang Municipality had a demonstration project using mechanical biological treatment (MBT) to reduce the impacts of waste disposal.

The two municipalities, like most local governments in Thailand, did not measure the volume of waste but instead charged fixed monthly fees under the limits set by the Public Health Laws. A normal household in Wiang Municipality paid 20 THB per month while in Wiang Chiang Saen the service fees started at 40 THB.¹ Small guesthouses were often regarded as normal households and paid the entry-level fees. Other tourism-related businesses paid higher fees in a range of 100–2000 THB per month depending on the type and size of the businesses. However, the fees did not take into account the management at source that could have reduced the amount of waste sent for disposal. Therefore, this study can fill in the gap and give inputs for future fee setting.

¹ The exchange rate on 7 December 2012 was 30.80 THB for 1 USD.

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