

**SEASONALITY, SUSTAINABILITY AND POVERTY TRAP – A
TOURISTS’ PERSPECTIVE OF TONLE SAP LAKE, CAMBODIA**

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INTRODUCTION

The activity of tourism is universally recognized as the most suitable activity for sustainable economic development of the poor regions. It not only causes a rise in income levels and improvement in infrastructure, but also minimizes the environmental impact. Developing tourism, thus, is the most viable economic activity for the underdeveloped nations.

Cambodia is a poor South-East Asian country, which has gone through very unstable political conditions and ethnic violence in the late twentieth century. Though there has been a considerable economic development in the country in the last decade, Cambodia still remains one of the poor nations with a per capita income of just \$1510 (World Bank data). Tourism sector flourished in Cambodia after 2000, when the Angkor Wat Temples became popular in the western world. At present, tourism is the third largest sector in the economy, contributing about 32% of the GDP of the nation (Tourism Statistics, Cambodia)

Apart from the world-famous temple complex of Angkor, Cambodia also has another tourist attraction, Tonle Sap, the largest freshwater lake in South East Asia. Tonle Sap is a giant lake, with a maximum area of about 16000 sq. km, maximum length of 250 km and maximum width of about 100 km. The vast expanse of water and rich biodiversity of this lake makes it an ideal tourist destination. It is just 15 km away from Siam Reap, Cambodia’s most visited city which has the Angkor Wat complex. Proximity of Siam Reap is also a favourable factor that brings international tourists to Tonle Sap lake. In spite of various positive factors, tourism at Tonle Sap lake is being adversely affected in the recent years. The image of Tonle Sap as a tourist destination has also been eroded. The present paper attempts to analyse the factors that are posing a threat to tourism in Tonle Sap. The authors, on the basis of their personal observations and interactions during their visit and analysis of international tourists’

reviews, have tried to understand the interrelationship between the seasonality, sustainability and poverty, which may jeopardize the tourism activity at Tonle Sap lake.

TONLE SAP; A UNIQUE GEOGRAPHICAL AND CULTURAL EXPERIENCE

Lake Tonle Sap is the largest and most significant geographical feature in Cambodia. It is a vast, elongated waterbody, extending in North-West to South-East direction. Though Tonle Sap has some inland discharge flowing into it, its major source of water is river Tonle Sap. This river is a tributary of the mighty Mekong, having a length of about 120 km. This river, indirectly may be called as the life line of Cambodia, due to its unique geographical characteristics. River Tonle Sap connects the Tonle Sap lake to Mekong.

In the dry season, Tonle Sap river flows in North-West to South-East direction, joining Mekong near Phnom Penh. The lake water drains into Tonle Sap and the size of the lake shrinks to about 2700 Sq. km.

During the rainy season however, the picture changes completely. The south-west monsoon season, which is the rainy season, lasts from May to November. The annual average rainfall in this region is about 1400mm, wherein the maximum rainfall occurs between July to September. As a result of very high rainfall in its middle and lower course, Mekong water level swells to such an extent that water is pushed back into Tonle Sap river. Tonle sap thus, reverses its direction and flows South-East to North-West, i.e. towards Tonle Sap lake. Huge amount of water discharged into the lake causes it to swell up to an area of about 16000 sq. km. (Fig. 1 a and 1b) This is almost five times the size in dry season. River Tonle Sap is the only river in the world which completely reverses its direction twice a year.



FIG. 1. Locaton of tonle sap river and lake

The flowing in and flowing out of river water from the lake causes the unique “Flood Pulse” that seasonally inflates and deflates the lake (Kummu et.al. 2006) and is commonly referred to as Cambodia’s “Beating Heart”. Annual inflow of river water brings fresh sediments to the lake, which is used for paddy cultivation all along the margins of the lake. Moreover, mixing of terrestrial and aquatic habitats causes a churning of nutrients like phosphorus, nitrogen and carbon, which makes Tonle Sap an incredibly fertile and rich in biodiversity (Pulitzer Center, 2014), where the species have wonderfully adapted to the rythem of wet and dry spells. Apart from various mangrove species, the lake is hosts about 280 species of fish, 42-46 reptile species, 225 bird species and 15 mammal species (Campbell et.al. 2006). The lake supplies up to 400,000 tonnes of fish annually, (Van Zalinge et.al. 2003) which accounts for 60% of the country’s total inland fish catch.

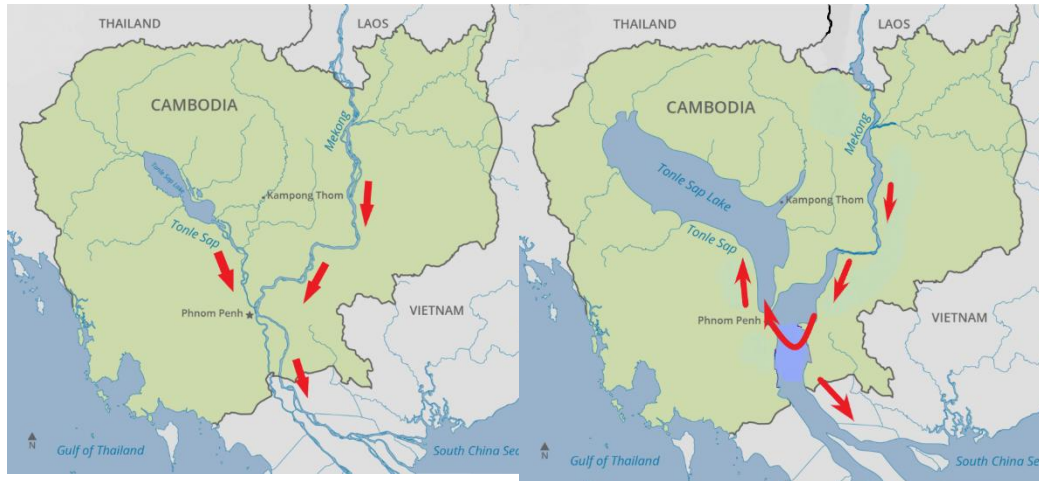


FIG. 2 a. Tonle Sap in dry season b. Tonle Sap reversed flow in rainy season

FLOATING VILLAGES OF TONLE SAP

Another aspect that makes Tonle Sap unique, is the presence of floating villages on the lake and on its margin. There are about 170 floating villages built on wooden platforms, inhabited by almost 80,000 residents. Most of the residents are of Vietnamese origin who stayed in Cambodia before 1970s. During the political unrest of 1970-75, these people got deported out of Cambodia. After the insurgency was over, many of these tried to return to Cambodia. However, they were considered illegal immigrants as they did not have any documents to prove Cambodian identity or citizenship. As a result, they could not buy any land in Cambodia. However, since there were no clear rules about staying on water, they occupied the lake, making floating villages on the lake. These people, who are neither residents nor foreigners in Cambodia, are considered as immigrants and are denied basic rights of citizens. They can not purchase land, or have bank accounts or get a job in Cambodia. As a result, the only means of livelihood for these people is fishing on the Tonle Sap and the money earned through the tourists (Indian Express report, 2020).

The geographical uniqueness as well as the presence of floating villages on the lake is a perfect recipe for developing a flourishing tourism. Nearness to the most visited city Siam Reap is an added advantage for international tourists. All tourists visiting Cambodia invariably visit the world-famous Angkor Wat temples. As Siam Reap has abundance of temples, this natural lake with rich biodiversity and scenic floating villages would provide the much needed change to the international tourists.

In the present study, the authors attempted to analyze the tourists' perspective of Tonle Sap, and associate the same with the natural seasonality of the lake, and socio-economic conditions of the inhabitants of the floating villages.

METHODOLOGY

The methodology adopted for this study comprised of two aspects. The information about impact of seasonality and socio-economic conditions of the residents of the floating village, was obtained through personal interaction with 43 residents of Chong Khnies village. The lake was visited in the peak flood season of November 2019.

In order to assess the international tourists' perception of the lake, online reviews of Tonle Sap were analysed on the online tourism site "Tripadvisor". A total of 2267 reviews of Tonle Sap reviews were found on the site. As all the reviews were by the foreign tourists, this analysis does not take into consideration the local tourists visiting this lake.



Fig. 3. Tonle Sap in the Peak flood in November



Fig. 4. Floating School



Fig. 5. Local Transport



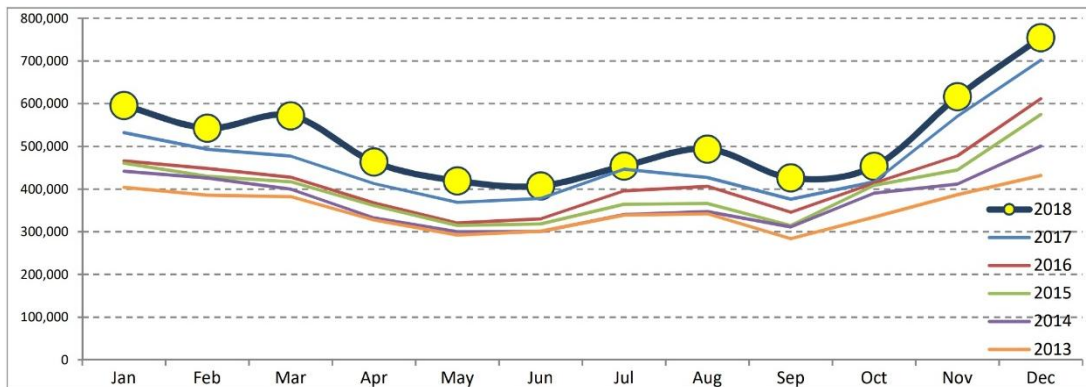
Fig. 6. Chong Khnies Village



Fig. 6. Crocodile farm

OBSERVATIONS

1. Tonle Sap's unique "Flood Pulse" phenomenon causes a distinct flood and dry period. July to November, the lake levels rise and the lake area expands about 600%. The locals at the floating villages expressed that most international tourists visit the lake between October to December. The dry spell, ranging from March to June has lesser number of tourists. The Ministry of Tourism in Cambodia statistics show that there is a clear seasonal pattern in the number of tourists visiting Cambodia. The number of tourists starts falling steadily after March and continues till June. The difference between the lowest number of visitors in May-June and the Peak Season in Nov-Dec is almost 50%. These numbers are for Cambodia and not for Tonle Sap. However, given the fact that almost 30% tourists visiting Siam Reap, also tend to visit Tonle Sap (Dowley 2007). Out of 43 villagers who interacted with the authors, 36 reported that there is a sharp decrease in the number of tourists at Tonle Sap after March.



Source: Tourism Statistics Department, MOT

Fig. 7. Seasonality pattern in tourists visiting Cambodia. (Source : Tourism Statistics Report, Year 2018, Ministry of Tourism, Cambodia)

2. Main occupation of the villagers residing on Tonle Sap is fishing and related activities, and crocodile rearing. As they are not allowed to buy or rent land for cultivation, the villagers trade fish and other products like dry fish or fish paste with rice from the local farmers. This is mostly a barter exchange. The fishing season on Tonle Sap is from October to May, when the water starts receding. As the water levels start falling drastically from November, it is very easy to catch fish which get carried away in receding waters. By putting cone shaped nets in the water, about 2 tonnes of fish can be caught within minutes. At this rate, about 10 thousand tonnes of fish is caught in a week's time (eater.com).

Upto last two decades, the harvest was so plentiful that the people from their floating homes, would just dip a bowl in the water and come up with enough food for dinner (eater.com). However, this abundance of fish is rapidly decreasing. Overfishing, illegal fishing during the spawning period of fish (Coronor 2019), climate change and alteration of Mekong discharge due to hydro-electric power generation in its upper catchment (Lovgren 2018) has severely threatened the Tonle Sap ecosystem. Mangroves, the nursery for the young fish, are being cut for firewood (Pulitzer Report). As a consequence, residents of floating villages are struggling to get enough fish during the fishing season, which shall last for the rest of the year. With no other option for fishing, these people are the worst hit by unsustainable fishing and ecosystem damage. Of the 43 villagers who interacted with the authors, 19 were

above the age of 40. All of these agreed that the catch of fish has declined drastically as compared to their childhood days.

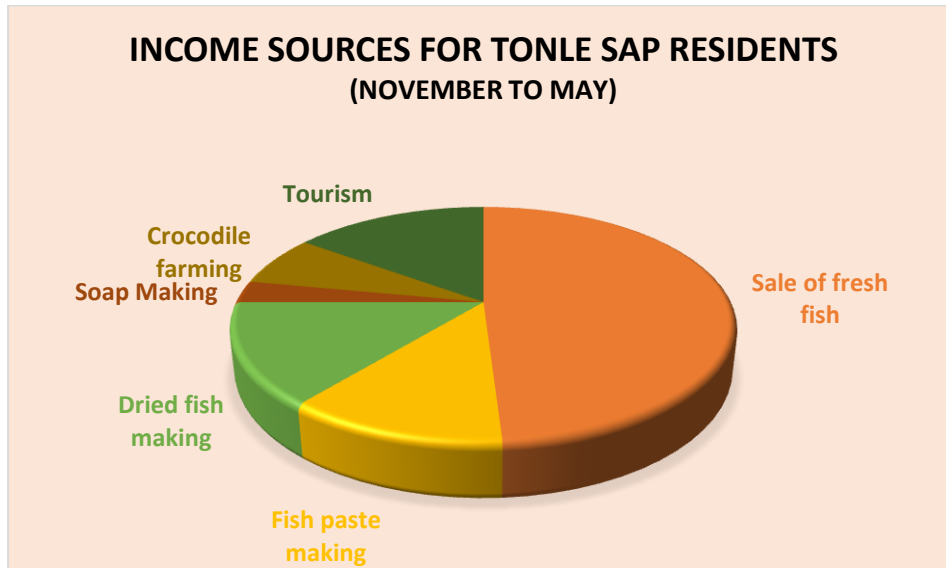


Fig. 8. (Data Source : Personal Interaction)

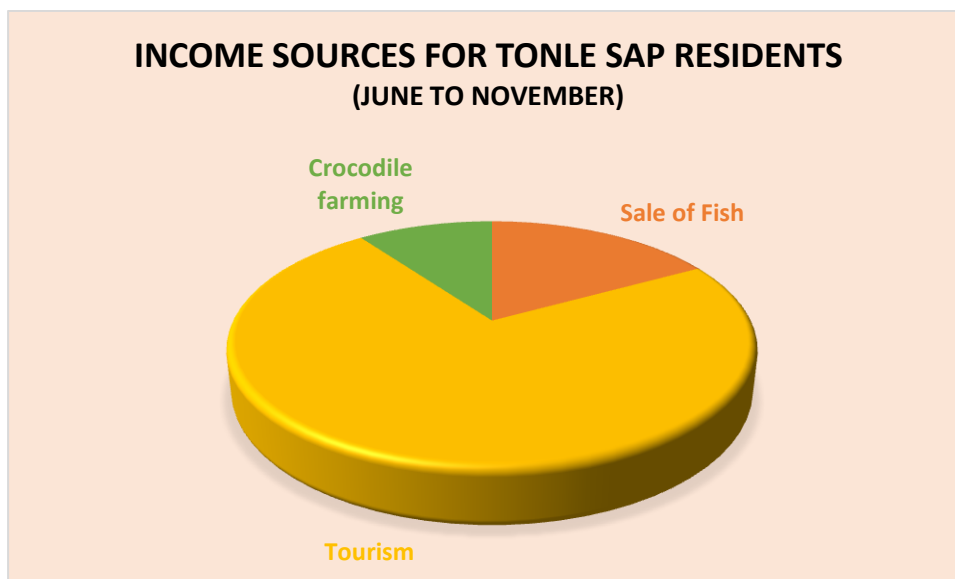


Fig. 9. (Data Source : Personal Interaction)

3. As fish catch continue to dwindle during the November to May period, income levels of the villagers have been hit hard. People of the Tonle Sap floating villages are the poorest, even by Cambodian standards. Most families' earnings are near \$1000 per

year, which comes to just about \$3 a day (Pulitzer Report 2020). In a desperate attempt to make up for the losses, the locals try to extract maximum from the foreign tourists. During the tourist season from June to November, the local villagers ferry the tourists to the floating village and through mangrove swamps. The tourist boats and ferries are controlled and owned by the native Cambodians on the shore. In spite of high ticket fares of about \$35, most of the profits earned through the ferry tickets are conned by the locals. As reported by the villagers, they earn less than \$1 a day from the ferry operators. The only alternative for the villagers to earn some cash is to ask for tips from the tourists, demand extra money for taking them around into the swamps, try to hard sell cold drinks and handicrafts etc. Recently, the locals also have started to scam the tourists into getting donations for the floating schools. They persuade the tourists to donate 50kg rice to the school which will feed the children for one day, the price of the rice bag being \$50. It is also suspected that the rice actually never reaches the school, but is sent back to the stores to be re-sold to another tourist.

4. Online reviews of Tonle Sap on “Tripadvisor” show a divided opinion among the tourists. In all, 2267 reviews were found and analysed. Of these reviews, about 49% visitors have rated the lake as Excellent or Very Good. However, about 51% have rated it as average, poor or terrible.

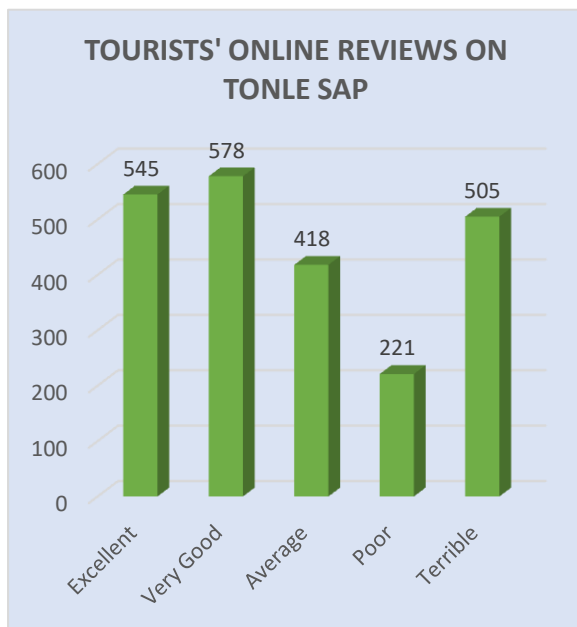
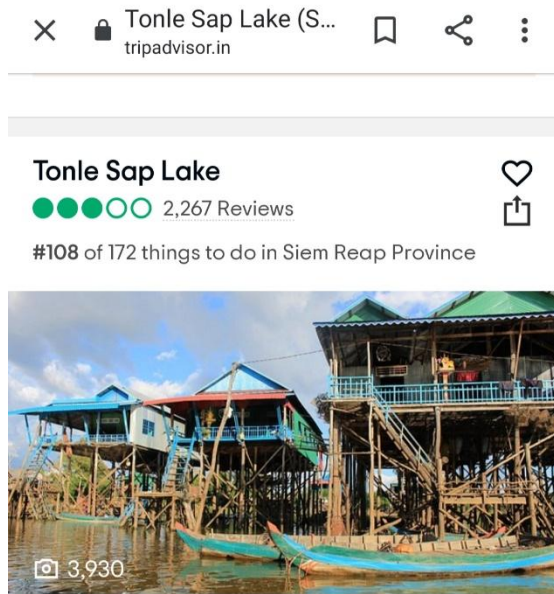


Fig. 10. Online Reviews of Tonle Sap lake

5. Such stark opposite opinions among the tourists about the same site is unusual. While subjectively analysing the reviews, it was observed that the reviews were affected to a great extent by the date of visit. The observed pattern is that most “Excellent” and “Very Good” views were dated between September to December. Similarly, those who have rated the lake as “Poor” or “Terrible” have visited during dry period. There is also a seasonal difference in the absolute number of tourists visiting Tonle Sap. This pattern is more or less parallel to the seasonal graph of tourist arrivals in

Cambodia (Fig. 7). It can be therefore said, that fewer tourists visited Tonle Sap in the dry season and most of them were not happy. On the contrary, larger number of tourists visited the lake during and Post monsoon and most of them were happy with the experience.

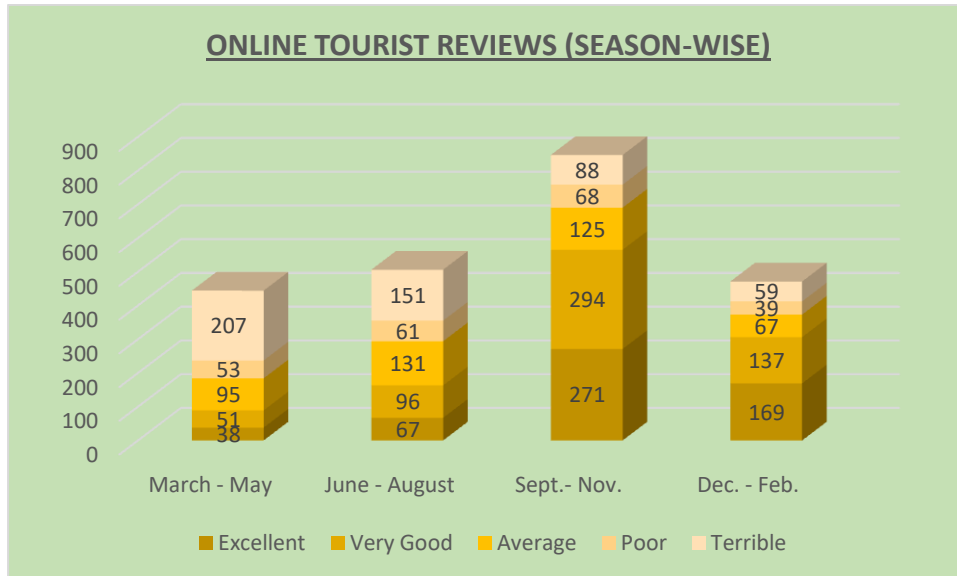


Fig. 11. Season-wise reviews of tourists

6. The most common reasons cited by the tourists for their negative reviews were-
 - a. Very high fares of boat rides was a commonly cited reason. 73% of the tourists who rated Tonle Sap as poor or terrible, believed that the charges of boats and ferries were very high. Foreign tourists were unhappy to pay per person boat charges ranging upto \$35.
 - b. Having paid the fare, the tourists were demanded money again by villagers for ferrying them into the swamps. Additional \$5 were demanded by the locals which was considered unprofessional by tourists.
 - c. Almost all negative reviewers felt that the villagers were trying to gain sympathy in order to cheat them into donating rice worth \$50 to the schools.
 - d. Tourists visiting in the dry seasons found the lake to be muddy and foul smelling.
 - e. During March to May, the temperatures are very high, reaching 40°C. Mosquitoes are common during dry season. This makes the lake trip very uncomfortable.
 - f. Due to low water levels, many times the boats get stuck in the mud.

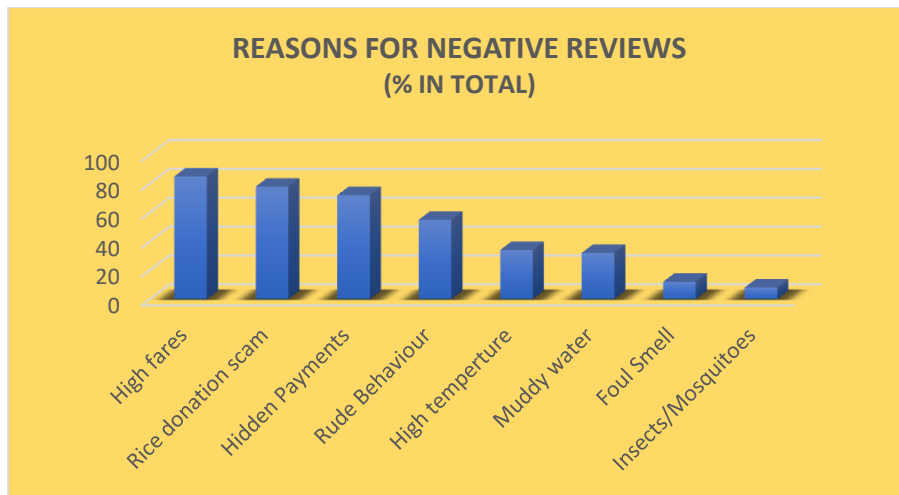


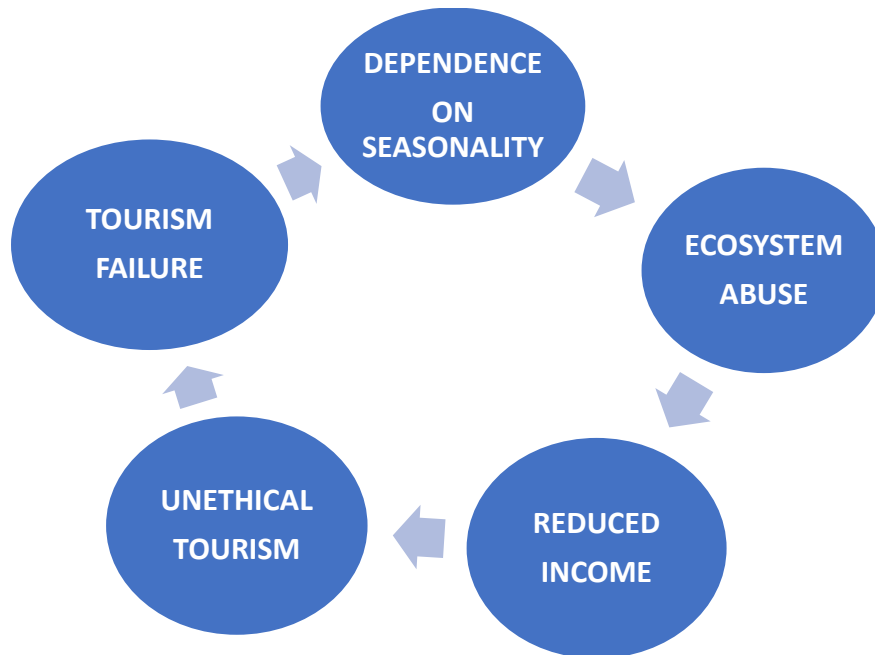
Fig. 12. Reasons for Negative reviews

CONCLUSIONS AND DISCUSSION

The analysis of online reviews and personal interaction with the locals bring out the following inter-relationships between seasonality, sustainability, poverty and tourism.

1. The peculiar geographical conditions of Tonle Sap gives rise to drastic seasonal changes in the lake. Ironically, this seasonal variation itself is responsible for the rich biodiversity.
2. Seasonality of the lake hampers the tourism in dry period. Lake levels are low and water is muddy. Visually, lake is not very impressive during this period. High temperature, mosquitoes, and smell of dried fish are other discouraging factors.
3. This loss of tourism income ought to be compensated by fishing in falling lake waters. Had the fishing activity been ecologically sustainable, fishing and tourism in dry and wet season, respectively, would make up for each other.
4. Due to unsustainable fishing and abuse of lake ecosystem, earning livelihood is becoming increasingly difficult for the lake dwellers.
5. Compulsion of earning maximum from the tourist season results in selling very costly tour tickets by the operators, hidden and exorbitant charges by villagers and even cheating and scams by gaining sympathy of tourists.
6. Unethical practices in tourism are inviting negative reviews and ruining the image of the lake. Several reviewers have “warned” tourists against visiting Tonle Sap. At present also, the tourists have a divided opinion about this lake. If this trend continues, the tourist earnings are likely to reduce in future.

7. Finally, poverty shall push the lake-dwellers for increased and reckless exploitation of the lake ecosystem, thus beginning a vicious cycle of seasonality, exploitation, tourism failure and poverty.



8. Intervention of the government may be helpful to salvage the situation by encouraging eco-tourism, protection of biodiversity, control on illegal fishing and tourism scams etc. Providing some alternative livelihood options to the floating lake dwellers may also prove effective.

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