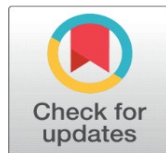


IMPACT OF COVID-19 ON PERCEPTION OF CULTURAL ECOSYSTEM SERVICES IN BALATHIRUTHI ISLAND IN KERALA

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ABSTRACT

Maadaath Thiruthi island (CP Thiruthi) in Balathiruthi is near Kadalundi estuary in Malappuram district. It is rich in its biodiversity with estuary, mangroves, and naturally picturesque inland. The place is a treasure of all categories of cultural ecosystem services. Perception of cultural ecosystem services in homeland is bliss for its local people. But people of this area cannot perceive it much due to many problems. One of the major problems is the issue of their livelihood options. This started after the termination of traditional industry of coir retting from the region. This became more severe due to COVID-19. These problems have affected its natives badly.

This study attempts to measure the impact of COVID-19 on the perception of local people in accessing cultural ecosystem services in the study area. The study is based on primary survey of them using random sampling. The data were focused on Cultural Ecosystem Services, impact of COVID-19 and livelihood problems.

Keywords: Cultural Ecosystem Services, COVID-19, Balathiruthi, Kadalundi Estuary

1. INTRODUCTION

Cultural ecosystem services are the ignored category of ecosystem services due to its intangibility and inability of monetary measurement [James \(2015\)](#) [Daniel et al. \(2012\)](#) [Kaltenborn et al. \(2020\)](#) Major categories of cultural ecosystem services are recreation, aesthetics, spiritual value, knowledge service, educational value, inspiration, cultural diversity, social relations, and cultural heritage [MA \(2005\)](#).

Economists and social scientists ignored its importance due to incapability of monetary and tangent valuation. Nevertheless, significance of cultural ecosystem service is pertinent due to its high implication in policy level by which triple bottom line approach can be articulated with social, environmental, and economic benefits [Barnes \(2004\)](#)

Kadalundi estuarine ecosystem is rich with various flora and fauna. It is characterised by estuary, mangroves, bird sanctuary, inland of both islands and offshores [Pavithran et al. \(2014\)](#) Cultural ecosystem services with its categories are abundant in the area. It can be accessed from water and inland.

The local dwellers in the region are blessed to enjoy a variety of cultural ecosystem services. But their perception of cultural ecosystem services has been adversely affected by the repercussion of the termination of traditional industry of coir retting in the region in the past. It affected their livelihood and income sources which still reverberates heavily. The region lost its prosperity and is expected to continue until an alternative for the lost traditional industry happens. People without gender difference were prosperous due to their involvement in the industry. There was a minimum one member from every household in the region. The female workers were more than the male workers. This was the sign of the development of the region and its people. Though majority of them are from middle or lower class, their living style is to live comfortably with the daily wage. When earning revenue stops, it will affect them badly. It is the normal case of lower- and middle-class people of India. The same phenomenon happened in the region when the traditional industry was terminated by the authority. Such problems affected badly their perception of cultural ecosystem services though in homeland. In addition, people face difficulties with mangroves near human settlement. As there is both near human settlement and far away from human settlement, the latter should be promoted. The former needs to be treated in anthropocentric way. It is the case everywhere as the mangroves are a good ecosystem for various flora and fauna [Badola et al. \(2012\)](#)

COVID-19 aggravated the repercussion of termination of the traditional industry. COVID-19's effect on the aggravation of livelihood problems has positive effect on the decrease in the perception of cultural ecosystem services. This was vivid from the responses of local people as they were unable to imagine the pre-COVID-19 conditions. The literature in cultural ecosystem services is more in science disciplines rather than social and economic sciences. It is due to the connection with scientific measurements and valuation which non-monetary [Chan et al. \(2012\)](#)

2. OBJECTIVES

To analyse the impact of COVID-19 on the local people's perception of cultural ecosystem services in Balathiruthi

3. DATA AND METHODS

Primary data has been collected for analysis of this study from 80 people from Balathiruthi in which gender selection was equalized. Island of CP Thiruthi (Maadaatt Thiruthi) has been chosen in Balathiruthi islands in Kadalundi estuary. This place is situated in Malappuram district which shares border with Kozhikkode district. In addition, the place shares the boundary between Kadalundi estuary and Kadalundi river though it is highly connected with the former. The samples were selected from people, not from households using random sampling. It is meant to

include all strata of people in the region including working and non-working people, similar count of both genders, various social class, and category.

Five-point Likert scale questionnaire was used to assess the perception of Cultural Ecosystem Services of its local people. Open ended questions were also queried. In addition, focus group discussion and expert interviews were conducted to get the background of the area. Four variables have been used for assessing cultural ecosystem services. They are recreation, aesthetics, spiritual value, and knowledge service. Perception of local people has been used for the assessment as it helps the true picture of the research problem.

COVID-19 impact on cultural ecosystem services has been measured using proxy variables as their current perception on life satisfaction, job satisfaction and income satisfaction. This is also based on five-point Likert scale.

Mean analysis has been done for analysis of cultural ecosystem services and COVID-19 separately following a descriptive analysis connecting them.

4. ANALYSIS AND RESULTS

Following two tables shows the means values of perception of cultural ecosystem services and impact of COVID-19 respectively.

Table 1

Table 1				
Statistics				
N=81	Recreation Service	Aesthetics	Spiritual Value	Knowledge
Mean	4.1086	4.4558	3.409	3.8166
Median	4.2	4.7692	4	4
Std. Deviation	0.46909	0.51699	0.72538	0.8658
Variance	0.22	0.267	0.526	0.75
Skewness	-0.098	-1.069	-0.625	-0.788
Std. Error of Skewness	0.267	0.267	0.267	0.267
Minimum	3.2	2.77	2	1.14
Maximum	5	5	4	5

The mean value of all the four variables is above 3. As the midpoint of 5-point Likert scale is 3, all the values above give a positive response. Hence, 4.1, 4.5, 3.4 and 3.8 are the mean values of recreation, aesthetics, spiritual value, and knowledge service respectively. All the respondents perceive all the recreation very positively. Their perception level is higher though they are affected by impacts of COVID-19.

Table 2

Table 2	
Statistics	
Mean	2.271
Median	2
Std. Deviation	1.016
Variance	1.032
Skewness	0.775
Std. Error of Skewness	0.267
N	81

The impact of COVID-19 has affected them badly. The above table shows the composite mean of job satisfaction and income satisfaction after COVID-19. The mean value of the composite variable is less than 3 which indicates less satisfaction on their jobs and income. The impact of livelihood options can be mitigated by introducing various environmentally friendly small industries. If any alternative to their lost traditional industry happens, it will make the area prosperous. All are employable without any gender disparity as the glorious past witnessed more women workers than their counterpart. Green microfinance is also a better option with microfinancing for aquatic farming and manufacturing of other suitable environmentally friendly products after giving them proper training [Fazal \(2018\)](#) [Jabbar and Fazal \(2021\)](#) It will benefit all the households in the area including housewives, students, and unemployed workers [Warth and Koparanova \(2012\)](#)

5. CONCLUSION

People in Balathiruthi have the satisfied level of perception of cultural ecosystem services though they have been much affected by the impacts of COVID-19. This result validates the opinion of local people who aired during the field survey. It gestures that they have the access and desire to enjoy cultural ecosystem services in their homeland. But they cannot enjoy it at fullest due to the income and livelihood problems which aggravated due to COVID-19.

CONFLICT OF INTERESTS

None.

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