

A study of beach use and perceptions of people towards better Management in Oman

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This study aimed to evaluate the quality of beaches in the Al-Suwaiq Wilayat (administrative zone) of Al-Batinah North in Sultanate of Oman to identify beach user's priorities, concerns and preferences with regard to their beach use and visit in the area. Questionnaire survey was undertaken across 109 households using random sampling method in the Wilayat. Number of questions asked to respondents about beach use, concerns as well as perceptions of environmental quality. In general, results of survey indicated that beach users seem to satisfy with their recreational experience but there is a dissatisfaction with regard to provision of services and public would like to see improvement of beaches in the area. Besides this, there is an indication of disturbances caused to beach environment by stray animals, litter pollution and coastal erosion in some parts along the coast of Al-Suwaiq Wilayat. Therefore, actions towards beach management needs to be considered to improve the quality and increase beach users' satisfaction. Users are concerned with environmental degradation and natural values of beaches.

[Keywords: Environment, Quality of beaches, Sociological aspects, Pollution effects, Perceptions, Management, Oman]

Introduction

Over the recent times, beaches around the world represent attractive places for holiday tourism and recreational activities among many people¹. For most people, the presence and good quality of the beach is one of the attractive factor for choosing the holiday or spending quality time with families². On the other hand, use of beaches and related tourism is promising activity for local economies in turn started to show signs of degrading the local environment that can affect ecological status and the recreational experience of people using beaches³. With large population located on the coasts, it is evident that negative influence on the beaches is caused by anthropogenic activity^{4, 5, 6}. In fact, beaches represent valuable and productive ecosystems, providing favorable outdoor opportunities, at the same beaches are natural environments that are sensitive to anthropogenic loads⁷.

In order to improve beach quality and providing better facilities, beach management are needed considering beach user's preferences and priorities because it allows development of more specific recommendations and guarantee satisfaction among users. One of the broad goal of perception studies is to understand interactions between people and physical environments⁸. Perception can provide valuable information related to group of people who use

natural resources within the ecosystem^{9, 10}. Therefore, the understanding of users' perception is important for the management of natural resources^{7, 11, 12} and may be used to design beach environments according to users' needs and desires⁸. According to many researchers, opinions and perceptions of public need as well as preferences with regard to environmental quality should be added to studies in order to produce a better informed and context based process^{13, 14}. For example, in the case of tourist beaches, a detailed information is required about beach users and their opinion on the quality of beaches and services provided. Coastal managers and concerned authorities can use such information to plan environmental management towards development of sustainable tourism. According to Galloway¹⁵, perceptions of people can be influenced by their socio-demographic factors along with number of psychological variables, which can clubbed into personal values, needs and personality.

This paper is part of a larger project on coastal ecosystem management in Oman aimed at developing an integrated approach to sustainable management of resources in the coastal area of Al-Batinah North region in view of increased anthropogenic activities. The present study collected beach users' perceptions and preferences in the Al-Suwaiq Wilayat that would contribute a subjective vision of

importance to tourism planners and administrative authorities involved in the coastal zone management.

Materials and Methods

The Al-Batinah region situated towards the North of Oman and roughly stretches northwest of capital city Muscat for about 300 km to the west shore of Sea of Oman. This region has witnessed dynamic development including agriculture in recent years^{5, 10}. Al-Batinah Region contains the largest number of Wilayats (administrative zones), numbering twelve. Present study focuses on Al-Suwaiq Wilayat (Fig. 1) which is located in the Al-Batinah North. Al-Suwaiq Wilayat has many beaches in the stretch of 30 to 35 kilometers along the coast and some of the beaches are very famous such as Al-Raddah, Al-Khadhra, Al-Mena and many other beaches being used by the locals in the area for recreational activities. Long-term annual average air temperature is 28.5°C in coastal area and mean average precipitation up to 50 mm per year.

The local residents and their concerns towards beach environment was collected by means of a quantitative survey and participatory rural appraisal since these methods employ sampling in a logical attempt to assess the perceptions^{10,16}. A questionnaire was developed and interviewed among residents following the random sampling method in the Al-Suwaiq Wilayat. A total of 109 completed questionnaires were collected in the beginning of year 2015, the respondents in this sample are representative of the total population of beach users and the questionnaire included the following parts;

Part I. Demographic profile of Beach users. This part incorporated variables on socio-economic and demographic profiles such as age, gender, occupation, place of residence, length of stay, preferred beaches in the area and frequency of their visits.

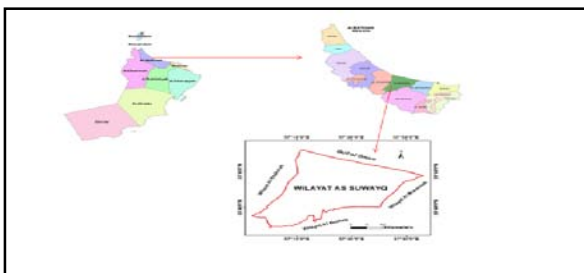


Fig. 1- Location map of Al-Suwaiq Wilayat, Al-Batinah, Oman

Part II. Beach quality evaluation. In this part, questions were included on visual appearance of beaches, most disliked things on beaches, issues related to water quality and accumulation of litter etc.

Part III. Coastal Erosion. This section included questions to ascertain knowledge on coastal erosion, its problems and beach protection towards the importance of addressing coastal erosion.

Part IV. Beach management preferences, motivations and suggestions. This section included questions on allowing dogs and animals on beaches, type of facilities required for visitors, kind of payment to protect beaches and adequacy of public awareness towards protection of beaches.

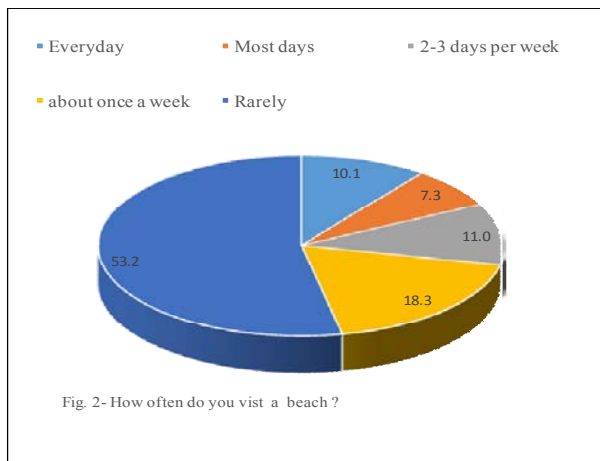
Finally, collected information from questionnaires was coded and entered into a database system in Microsoft Excel for analysis using Statistical Package for Social Science (SPSS version 23.0) to produce descriptive statistics. A number of analytical procedures were undertaken, namely; extraction of statistical frequencies and percentages, linking the variables in the questionnaires and extracting statistical correlations.

Results

The basic information on the beach users collected through the survey provided in Table 1. About 57% of interviewed respondents were male and 42% were female. Occupation of respondents can be classified as 2% belong to business sector, 47% government jobs, 16% of them were students, 6.5% unemployed, 7.5% of housewife and equal number of respondents working in private companies. Regarding age, about 25% of respondents below 25 years of age, 46% of them were age between 26 to 40 years, 22% of them between 41 to 60 years and 6% of them were above 60 years of age. It can be noted that the highest percentage of respondents in the Wilayat was formed by the group of middle age (26-40 years old), reflecting a greater interest of this age group in seaside recreational activities and tourism¹⁷.

Table 1. Demographic information on respondents in the Al-Suwaiq Wilayat, Al-Batinah North, Oman

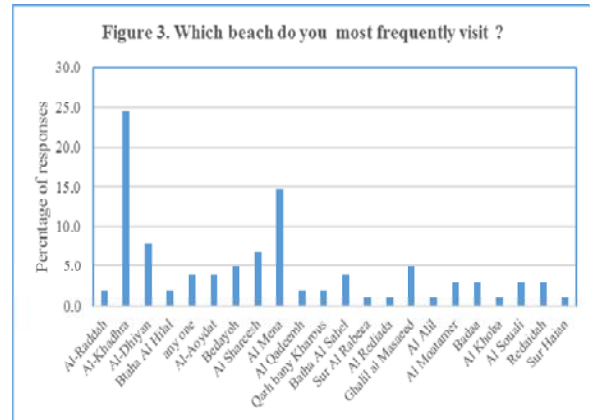
Age group of respondents	No. of Samples	Percentage of respondents
<25	27	25.5
26-40	50	47.2
41-60	23	21.7
>60	6	5.7
Gender	No. of Samples	Percentage of respondents
Male	62	57.4
Female	47	41.7
Occupation	No. of Samples	Percentage of respondents
Business	2	2.1
Government jobs	52	55.3
Student	17	18.1
Housewife	8	8.5
Private job	8	8.5
Unemployed	7	7.4



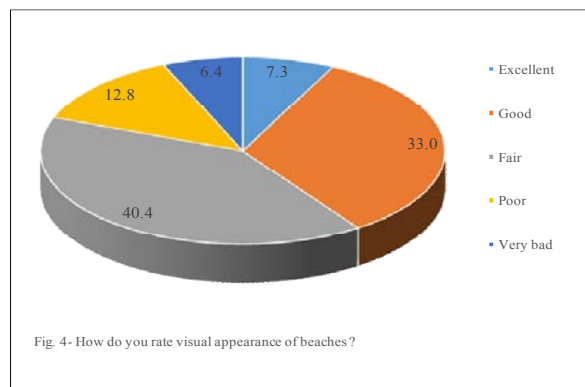
The survey explored the frequency and purpose of local people visiting the beaches in the area since the frequency of visits and the purpose plays an important role towards determining the quality and improvement in facilities required. The responses on the frequency of visits shown in Figure 2. It can be noticed from the responses that 53.2 % are rarely visiting, 18.3 % visiting once a week, 10% every day and 7.3 % of them visiting two or three days in a week. Regarding the purpose of visit, 54.4 % of them indicated to enjoy views along the coast and breathe fresh air while 29% of them responded their visit is associated with walking along the coast. Besides this, a small percentage of visiting is associated with children play, swimming and water sport.

Regarding the question on most frequently visited beaches, the responses shown in Figure

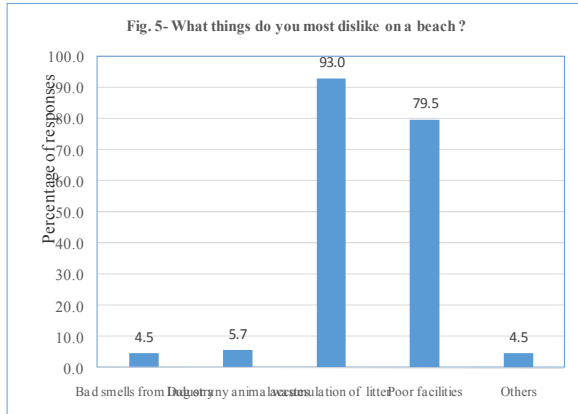
3. Results indicate that residents in the area visiting most of the beaches have access, interestingly Al-Khadra, Al-Meena and Al-Dhiyan beaches are highly preferred by visitors in the Al-Suwaiq Wilayat. Overall, it indicates that people in the Wilayat are visiting beaches depending upon their available time to spend a quality time and beaches in the area appears important for the local people.



Visual appearance and cleanliness of beaches being considered very important among users. Respondents in the study area were asked to evaluate the visual appearance of the beaches choosing between “excellent to very bad”. Results of responses shown in Figure 4. About 40.4 % of respondents stated beaches in the area are fair while 33% of them stated beaches are poor in appearance and very few of them rated as excellent.

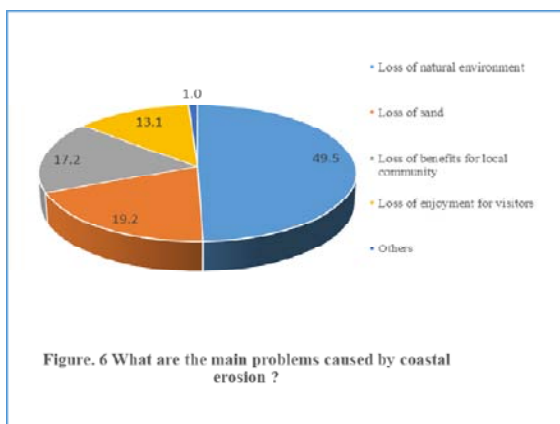


Further, a question was asked to specify the most disliked things on the beaches and to report about the presence or absence, the responses shown in Figure 5. It can be seen from the responses that 79.5 % of them opined there are poor facilities on the beaches in terms of drinking water, change rooms, restaurants, playing areas etc.

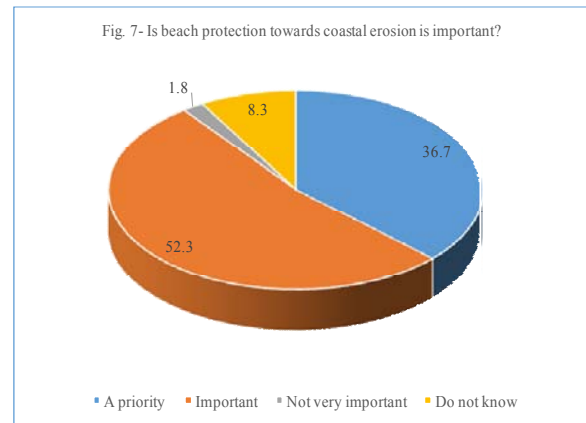


Besides perceived poor facilities, most disliked things by the people on beaches are bad smells, presence of dog or animal wastes. About 93% of them responded with the opinion that most of the beaches in the area accumulated with litter and plastic wastes. Therefore, it is important to consider from the responses, there is a need to develop beaches in the area in terms of cleaning and setting up improved facilities as part of beach management so that visitors can enjoy healthy and quality time during their visits.

Coastal erosion occurs when waves and currents remove sand from the beach environment; such loss of sand affects the beach to become narrower and lower in elevation. It is also important that beach erosion threaten coastal properties and infrastructure as well. For a question on coastal erosion in the area, about 35% of respondents' perceived coastal erosion and 65% of them stated there is no coastal erosion in the area. According to perceived responses (Figure 6), 50% of them believe that coastal erosion contribute to the loss of natural environment, followed by loss of sand that ultimately affects to local community and the enjoyment on beaches.



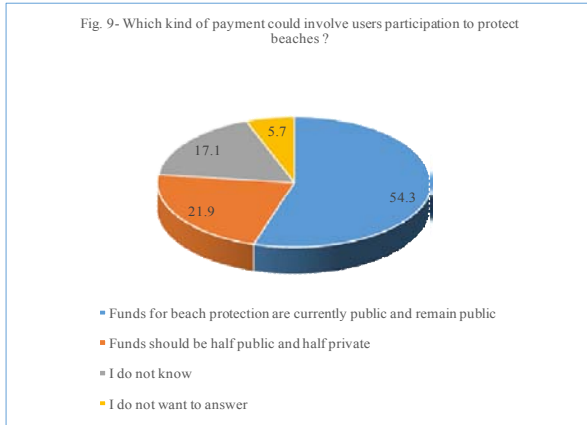
The responses of beach users towards the importance of beach protection in view of



coastal erosion shown in figure 7. It can be noticed that majority of respondents (52.3%) considers beach protection towards coastal erosion is very important and 36% of respondents opined that beach protection should be a priority in the area. There is a small percentage of response saying beach protection is not important, this response could be attributed to their lack of interest or knowledge on coastal erosion and management. From the responses of local people, it appears there is a coastal erosion in the area, residents have knowledge on possible impacts of this process, and feel that beaches in the area needs to be managed against such processes on priority.

Well-maintained beaches are particularly important because everyone will visit a beach during their pleasure time and beaches display the destination for enjoyment and recreation activities. Responses of survey regarding type of facilities required on the beaches of Wilayat represented in Figure 8. It can be seen from the results, majority of respondents stated to consider development of landscape for scenic views as priority, followed by clean sand and accessibility while selecting a beach for their visit. There are also perceptions to improve facilities for car parking, clean seawater and construction of toilets. Interestingly, half of total respondents (50 %) opined that stray dogs and animals should not be allowed on the beaches.

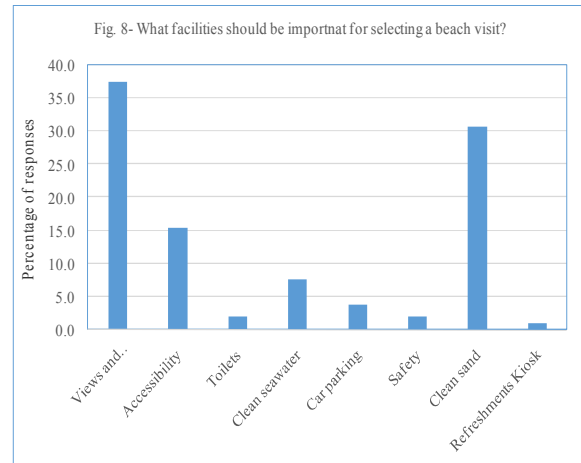
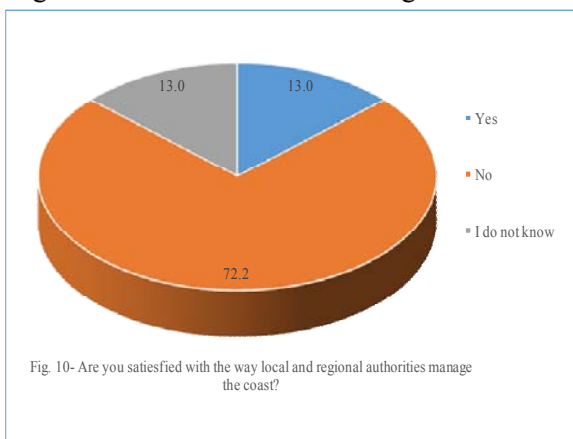
In recent times, a local community and service groups are being involved a particular beach management in some countries. Keeping such initiatives in mind, questions were asked on contribution of funds for beach management,



results of respondents shown in Figure 9. Majority of respondents feel that currently beach protection funds and management lies with public/government authorities, therefore beach management and protection should be continued from the resources of public and government.

Around 22% of respondents stated that the government authorities and private parties could share beach protection and management funds in the study area. Further, survey results (70%) shows that there is a lack of public education in the area towards awareness about beach protection and management. Residents in the Wilayat felt that there should be awareness programs on the importance including its ecosystem and use of beaches.

Regarding the satisfaction of respondents related to coastal areas management by the local and regional authorities shown in Figure 10. It can



be seen from results that 72 % of respondents are not satisfied with the initiatives and beach management activities performed by the local and regional authorities. A very small percentage of respondents are satisfied with the activities taken up by the respective agencies in the region. In addition, most of the respondents (98 %) viewed that they would like to see development of beaches in the area.

Discussion

Opinions and preferences of beach visitors through a survey is an exercise that could provide valuable information for coastal and beach management authorities¹⁸. The survey in this study was concentrated on understanding the preferences, concerns of beach users in relation to beaches in the study area in terms of recreation exploitation and conservation of natural environment since beach users' recreational activities are indirectly affects the quality of environment¹⁹. With regard to environmental quality, users have pointed out their preference for cleanliness related to litter pollution; dissatisfaction over presence of stray animals and facilities required in terms of parking, toilets indicates their strong demand for better management. It is important to consider that beach users prefer more efficient and frequent beach cleaning. Therefore, improved cleaning services should not be neglected which normally lies with the local authority towards management. Further, this study indicated that there is a differentiated beach user profile depending on area within the Wilayat and various perceptions are motivated by beach characteristics in terms of physical aspects, environmental status, available facilities including services and landscape. In addition, there seem to be a coastal erosion and majority

of respondents are not satisfied with coastal management by the local and regional authorities; coordination between the institutions responsible for coastal zones should be promoted. Therefore, a careful interpretation of beach users' preferences and perceptions is crucial to design a more adaptive management strategy to the local beaches.

Conclusions

This study was undertaken in the Al-Suwaiq Wilayat of Al-Batinah North, Sultanate of Oman since this area has witnessed increased anthropogenic pressures over the recent years. The main aim of studying beach users' perceptions is to provide inputs for improving their recreational experience but also to address their concerns and sensitivity towards enhancing ecological functions of beach systems. In general, beach users are satisfied with their recreational experience, but there is a high degree of dissatisfaction with the provision of services suggests that public would like to see improvement of beaches in the area. Besides this, there is an indication of disturbances caused to beach environment by stray animals, litter pollution and coastal erosion in some areas along the coast of Al-Suwaiq Wilayat.

It is important to consider management of beach environments in the area especially Al-Khadra, Al-Meena and Al-Dhiyan since more number of visitors in the area are using these beaches. Therefore, policy implications should focus on conservation strategies that would consider addressing management of beach environments along with public awareness. In addition, some initiatives of beach management can be considered on improving beach quality in order to increase satisfaction among users through development of landscape, parking area and construction of toilets. Further, cleaning of all beaches and frequency of collecting litter on daily basis would create improved scenic quality of the beaches in the area.

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