

Visitors of Parque Florestal Quedas do Rio Bonito, Lavras (Mg), Brazil: A Management Planning Based on Profile, Perceptions, Needs and Motivations

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Abstract: The research was carried out in the Parque Florestal Quedas do Rio Bonito, located in Lavras city (Minas Gerais – Brazil) and participatory research methods were used in an integrated and iterative way. Results of the specific visitors study has shown that most of people visit the area with a special interest on leisure opportunities. Enjoyment of natural environment, peace and quiet are also important motivations. In a variety of activities, the visitors appreciate relaxing and enjoying the nature, swimming in the waterfall and walking on the trails. Most of visitors exhibited a high level of interest in conservation. In conclusion, this study represents one of the first efforts for providing the local foundation for a comprehensive framework for outdoor recreation management from the perspective of visitors. More generally, the visitor approach taken in this study contributes to a greater understanding of the visitor experience for tourism management in the natural environments.

Introduction

Traditionally, tourism has been described as a complex phenomenon, involving the integration of many actors and multiple functions. These actors are engaged in a symbiotic relationship revolving around of the idea of the tourism as a means of economic development and promoting conservation of natural resources. Brohman (1996) emphasize that it has been the subject of much debate about environmental credentials and its management seeking to integrate and balance several potentially conflicting objectives: protection of natural and cultural resources, provision of recreation opportunities and generation of economic benefits. Socially, residents perceive that if developed appropriately, the tourism improves the quality of life in host communities through the provision of a variety of recreational facilities, cultural activities, commercial facilities and services (Buttler 1991). Nevertheless, places that allow tourism development without the benefit of planning often suffer from environmental and social problems, increased costs of conflict resolution, and from declining competitiveness as destinations.

Therefore, this situation leads us to an important question: how to promote tourism and recreation in natural areas providing experiences and pleasure for the tourists and at the same time finding everyday conservation? Destination managers may adopt certain principles and strategies to assist the visitors in providing appropriate environmental protection (Kelly & Nankervis 2001). A general rule is that

zones designated for recreation and tourism development require management plans. Planning can offer methods for alleviating past mistakes, for preventing present mistakes, and for reducing future errors to some probabilistic minimum. More specifically, Dowling (1993) affirm that visitor and community participation in the development of these plans is essential. For Getz (1987), this procedure is widely viewed as a way of maximizing the benefits of tourism to an area and mitigating problems that might occur as result of development.

The planning of new developments strategically in national parks requires a wide variety of information about the area and the visitor (Arnberger & Brandenburg 2002). Explicitly, accurate information requirements include: the local resources that are available for recreation; the constraining factors that may limit the use of areas for recreation; the profiles of visitors, the number of visitors, the distribution of visitors, the size of group, length of stay, the activities carried out by visitors, the resources that attract the visitors and the attitudes of visitors (Keirle 2002, Henderson 1999, Morin et al. 1997, Obua & Harding 1996, Buckley & Pannel 1990). In this way, visitors are the centre of tourism management and represent a valuable resource for gaining information about the presence of impacts, the acceptability of environmental change, and the consequences of management actions for their experience (Chin et al. 2000).

The research was carried out in the Parque Florestal Quedas do Rio Bonito (PFQRB), located in

Lavras city (Minas Gerais – Brazil) with emphasis in its visitors. The study has the main intention of gather information that will contribute for to provide data to future planning of the area's activities and potential management actions in a way to conciliate the educational and recreational needs of the visitors with the conservation of the natural resources. Specifically, the aims of this study were to identify geographic and sociodemographic characteristics, to analyse psychographic characteristics and to clarify the behavioural attributes of the visitors.

Study Area

The PFQRB is situated in a gradient from 13 km south of the city of Lavras (Minas Gerais, Brazil). It covers a total area of approximately 210 hectares and there is only one access point by road to the Park. The area is characterized by high rates of biodiversity, comprises several levels of vegetation and shows some degrees of human interference for to open spaces for wood extraction, etc. The mountains topography hosts ecosystems ranging from humid in the river valleys to dry at higher elevations. The woodland covering the Park has large habitat diversity on a variety of soil.

The many natural features of the area (waterfall, bush, landscape) provide the resources for visitation and are suitable for walking, research, environmental activities, etc. The area offers opportunities to day visitors and those wishing to take short breaks. Infrastructure within the Park is consisting of only essential visitor facilities, including walking trails, artificial lake, and scenic overlook.

Methods and Data Collection

This research concentrated especially on the important information for planning and management of recreation development at the PFQRB. The research methodology adopted a strategy constituted of three main phases:

First phase: it consisted in surveys in the place with emphasis on subjects related to the natural resources, infrastructure and visitation systems in way to get clearer picture of site, the actual position in the management structure and other analyses and interpretations providing the basis for planning and management of the recreation. Therefore, important information to the development of tourist activities was gotten, such as aspects of the physical environment (climate, geology, geomorphology, relief, soils and hydrology); aspects of the biological environment (vegetation and wildlife); carrying capacity and zoning. Secondary sources of information were extracted from previous publications, project reports, official records, management plan and other literature about the research site.

Second phase: condition at leisure or recreation sites vary enormously, depending on the season, the day of the week and the time of day (Veal 1997). Thus, the sampling strategy was stratified random sample, in the period from January to December 1999 and the questionnaire surveys was be used as an ideal mean of providing the information. Users of the area were interviewed in selected places of high recreational frequentation, and no more than one person per group was chosen, in order to avoid duplications (Atauri et al. 2000). Responses were obtained from a total of 9549 individuals.

Third phase: during the research period with visitors in the area, was be used to collect data other technique in addition to questionnaires survey such as participant observation, which involve gathering information about people's behaviour without their knowledge. Details of visitors characteristics obtained from observation were used in this research as a way of check visitor's behaviour, activities developed and attitudes. For this, was be chosen sites which provide suitable conditions for observation of behaviour of the visitors. Such detail was used also as a way of check the accuracy of the questionnaire and to 'weight' the results of questionnaire survey.

Results and Discussion

Geographic characteristics

The survey found that 87.4% of the visitors come from Minas Gerais State and the rest are from São Paulo, Rio de Janeiro and another States. A total of 63.6% of the visitors from Minas Gerais originate from town of Lavras, indicating a more intense visitor frequency among the inhabitants. Probably, the main reason is the relative position of the Park to the agglomeration of Lavras (70.000 inhabitants). Visitors studies conducted by Arnberger and Brandenburg (2002), detected that the visitors are also from the nearby to The Danube Foodplain National Park (Austria). Also, Wagar (1963) found that the respondents living closet to the Monongabela National Forest (Virginia) and Allegheny National Forest (Pennsylvania) visited the areas most frequently. Local residents can be harshest critics of local attractions and can act as tour to friend and relatives who visit the area (Moscardo 1999). Nevertheless, the benefits of tourism should be diffused through many communities, not concentrated on a narrow coastal strip or scenic valley (Lane 1991).

Sociodemographic characteristics

Some researchers have examined sociodemographic characteristics to increase understanding of ecotourists and to improve marketing and management efforts. Thus, in an effort to provide more detail to the profile of the visitors, the survey sought information on age, educational level, gender, occupation and income from respondents (Table 1). The largest

group of visitors are predominantly aged between 21 and 30 years old (25.9%), followed by less than 10 years old (25.3%) and fewer visitors aged 50 years old or over. Based on the results, suppose that the PFQRB is visited by young people (maybe couples) in company of their children, who are people having create their family and come to the area for enjoying the outdoor recreation. Nevertheless, this finding does not agree with Seeley's observation (1990) that more single people tend to participate in outdoor recreation than married ones. According to Chin et al. (2000) in studies conducted in Bako National Park (Borneo), wilderness visitors also tended to be young. Nevertheless, these results contrast with surveys conducted by Hvenegaard and Dearden (1998) and Roovers et al. (2002). Their results showed that the average age from ecotourists was around of 40 years.

More than half (59.4%) of the visitors are male. It is recognized from the other research in natural areas that males are slightly more representative of the group (Fennell 1999).

As far as the educational status is concerned, most of them (39.2%) has secondary education level and 38.6% has a high level of formal education possessing university undergraduate degree. It shows that the respondents who visit the site have high educational level (also suggested by Roovers et al. 2002). Probably, this result is due to the city of Lavras to possess a large number of schools and universities. Also, these kind of people need more relation in quite surroundings and make larger demand for recreation in natural places (Roovers et al. 2002). Research carried out by Fenneell (1990) published by Page and Dowling (2002) also found that Canadian ecotourists who had visited destinations as Kenya and Costa Rica showed that they have high levels of education.

Concerning the occupation, the respondents are professionals in different areas. For instance, 20.9% are in administrative or business positions and 21.3% in service work. 16.9% are student, 7.7% are teachers, 3.7% are in industrial areas, 2.9% are in armed forces. 2.9% are housewife and 1.9% are retired. In a smaller proportion (0.1%) are in clerical work. In the present case, the survey found that 35.5% of visitors have monthly earnings between 1 to 3 minimal salary (1 minimal salary – s.m.– is equivalent to R\$ 243.00 and the coin is Brazilian Real), 24.5% have a income from 3 to 6 s.m., 18.3% have a income from 7 to 10 s.m. and, finally, 21.7% have a income more than 10 s.m.

Psychographic characteristics

Activities participation and preferences

All recreation visitors were asked to answer multiple choice questions about preferred activities. Roovers et al. (2002) consider that in modern society there is a tendency to more active recreation. Nevertheless, in a variety of activities, is remarkable that 46.7% of all visitors explicitly appreciate relaxing and enjoying the nature. They consider that outdoor activity associated

Table 1. Sociodemographic characteristics of visitors surveyed at PFQRB.

Sociodemographic characteristics	% Visitors
<i>Age</i>	
Less than 10 years	25.9
11 to 20 years	14.8
21 to 30 years	25.3
31 to 40 years	20.2
41 to 50 years	9.7
More than 51 years	4.0
<i>Educational level</i>	
Illiterate	1.6
Primary school	20.6
Secondary school	39.2
University	38.6
<i>Gender</i>	
Male	59.4
Female	40.6
<i>Occupation</i>	
Administrative/business/management	20.9
Service	21.3
Student	16.9
Teacher	7.7
Industrial area	3.7
Armed forces	2.9
Housewife	2.9
Retired	1.9
Clerical work	0.1
<i>Income: Minimal salary (m.s.): R\$ 243.00</i>	
1 to 3 m.s.	35.5
3 to 6 m.s.	24.5
7 to 10 m.s.	18.3
Over 10 m.s.	21.7

with the natural environment is considered very important for their health. This kind of activity is highly dependent on the quality of the natural environment providing visitors a rewarding and enjoyable time (Kuo 2002). According to Murphy and Pearce (1995), several activities developed by backpackers in Australia are also based on the natural environment. Results supported by studies conducted by Jackson et al. (2002) in Chilkoote Trail National Historic Site (British Columbia) have found that appreciation and learning was the most important activities. As implied

by Dwyer and Edwards (2000), it has relevance because people who enjoy an experience associated with the natural environment will be more willing to pay fees or to make donations which can be used to manage and protected that environment.

The second most attractive in the area is the opportunity to swim in fresh water, which has a strong preference for 46.1% of the visitors. According to Fennell (1999), the water is the substance which play a critical rule in determining the type and level of outdoor recreational participation. The third activity is walking on the trails developed by 43.5% of the visitors, followed by walking on the area by 37.3%. Research reported by Barros (2003) also found walking to be the most common activity undertaken by visitors to Parque Nacional do Itatia, Brazil. These results also correspond to the findings of Roovers et al. (2002) on forest use in central Belgium. The other main pastimes can be observed in the Figure 1, which gives an idea of activities developed by respondents during their visit to the area. These results show that the activities developed in the area by the visitors are similar in others recent surveys in natural places (Obua and Harding 1996, Teixeira and Santos 1992).

The duration of visit in the area influence the kind of activities, or vice versa (see Figures 2, 3 and 4). Visitors who stay in the area for a short periods (1 to 2 hours), spend the time relaxing (41.2%), walking

on the area (40.2%) or walking on the trails (33.6%). Nevertheless, activities as swimming tend to be more developed by visitors who stay in the area for larger periods (3 hours or more). Hence, the findings confirm that the management of visitor activities is equally important to the management of resources (Kuo 2002).

Attractions in the area

Natural tourist attractions offer visitors a range of desirable experiences. Nevertheless, sometimes it is difficult to distinguish between activities and attractions (Morgan & Lok 2000, Kelly & Nankervis 2001). The Table 2 demonstrates that the main activities is often the main attraction for visiting the area. Importantly, Swarbrooke (2002) recognizes that it is due to attractions to be a resource that provides the raw material on which the activity depends.

Over 35.0% of respondents indicated that swim in the waterfall is the main attraction in the area. Research reported by Ryan and Sterling (2001) also found that swimming is one of the factors that attract people to Litchfield National Park (Australia). Relaxing and enjoy nature together are also common attractive undertaken by visitors (15.9%) in the PFQRB. About 11.0% of the visitors have the walking on the trails as a pleasurable attraction, providing satisfaction to them. Finally, people who visit the

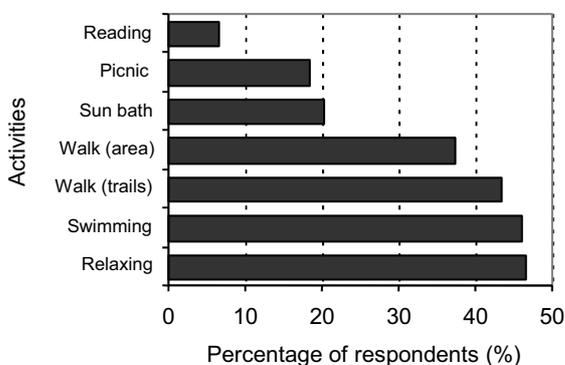


Figure 1. Distribution of the activities developed by visitors surveyed at the PFQRB.

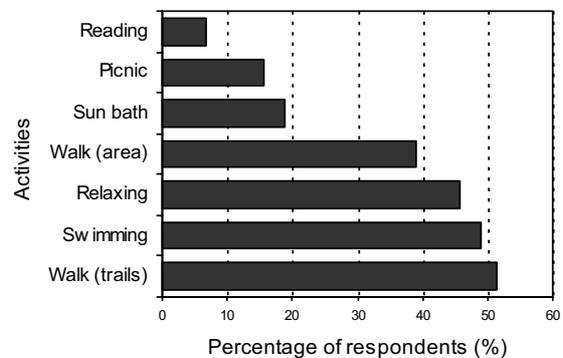


Figure 3. Distribution of the activities developed by visitors who stay at the PFQRB for 2 to 3 hours.

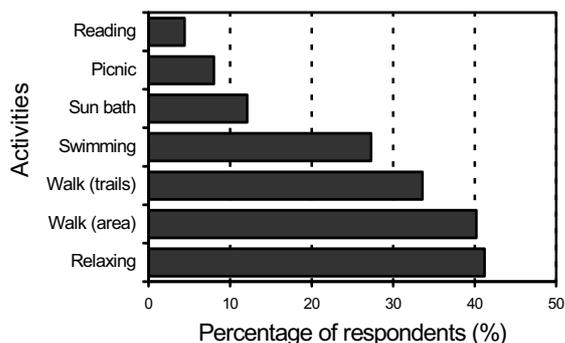


Figure 2. Distribution of the activities developed by visitors who stay at the PFQRB for 1 to 2 hours.

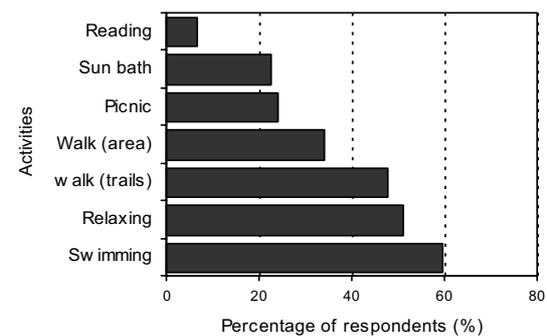


Figure 4. Distribution of the activities developed by visitors who stay at the PFQRB for 3 to 4 hours.

Table 2. Comparative analysis of activities and attractions at the PFQRB.

Activities	Attraction
Swimming in fresh water	Relaxing and enjoy nature
Relaxing and enjoy nature	Swimming in fresh water
Walking on the trails	Walking on the trails

area are attracted by the chance to enjoy the scenery (8.7%), the peace and quiet (6.6%) and the cleaning of the area (4.2%). According to Kelly and Nankervis (2001), in Australia many tourists are attracted to by the opportunity to experience rainforest vegetation and observe animal inhabitants. Hvenegaard and Dearden (1998) working with wilderness use in Thai National Park (Thailand), found that the area has many natural and cultural attractions, including the summit, birds and other wildlife, waterfalls, walking trails, scenic overlooks, caves and cool climate. Therefore, attractions can be arranged according to their general environment characteristics and specific features (Shaw & Williams 1998).

Visit motivations

Tourists are not always all the same (Elands & Lengkeek 2000). Every tourist is different and there are the factors they are motivated by. Thus, motivation has been fundamental to tourism researchers interested in the “why” of tourist travel (Fennell 1999).

Examining the motivating factors, several factors emerged (Figure 5). Visitors gave various reasons for choosing to visit the area. Nevertheless, most of people (29.2%) visit the area with a special interest on leisure opportunities and the second major reason is enjoyment of natural environment (26.1%). The peace and quiet (12.4%) are of less significance in choosing to visit the PFQRB. The existing studies of Arnberger and Brandenburg (2002), also indicated that approximately one-third of the visitors to The

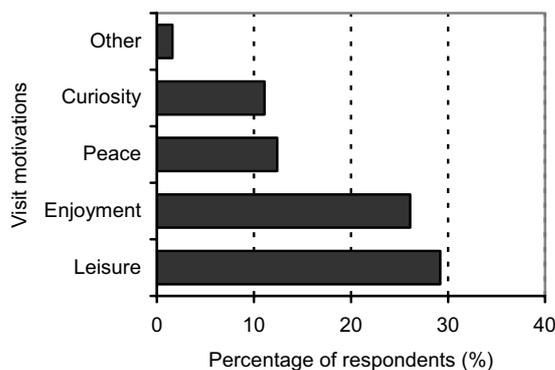


Figure 5. Visit motivations towards to visit at the PFQRB.

Danube Foodplain National Park (Austria) is really interested in the environment. Research quoted by Jackson et al. (2002), noted that specific motivations of skiers and snowmobilers in Chilkoot Trail National Historic Site (British Columbia) are natural environment, escapism and socialization. Parks and protected areas, according to Fennell (1999), have a certain mystique to travelers interested in some of the best representative natural regions or countries.

On an idea of protected area as an important reason for deciding to visit, about 38% said it was important. Besides, most of visitors (82.7%) exhibited a high level of interest in participating of environmental education and conservation program. Educational levels, income or age did not influence the interest of the visitors in participating of nature programs. The importance of education in general

has been recognized by many authors and organizations concerned with encouraging sustainable practices. According to Chin et al. (2000) and Moscardo (1999) this interest of visitors can signals an opportunity for the use of education as potential management tool achieving sustainability.

Provision of support facilities and infrastructure

Ecotourists' needs on infrastructure differ significantly from those of mass tourism (Saleh and Karwacki 1996). Nevertheless, there is growing community expectation of high quality facilities and interpretation at natural attractions (Dwyer & Edwards 2000). Therefore, within the scope of the research, visitors were also asked to give their opinions on the improvements to the area. According to Chin et al. (2000), these parameters can be examined to identify possible indicators for monitoring the area. When respondents were asked what they would like to see in the area about facilities and infrastructure, basic day facilities are demanded as snack bar and toilets replied by 77.6% and 72.0%, respectively.

Support facilities required by the visitors include yet, sport centre (46.4%), medical assistance (45.9%), camp grounds (36.0%), picnic sites (21.3%), interpretation facilities (15.4%) and walking tracks (13.8%). In contrast to these facilities required, only 13.4% of the visitors appreciate an interpretative/information centre. The satisfaction with facilities plays a large role in the ecotourist's intention to return. Nevertheless, there is no need to construct elaborate accommodation and facilities in the area. It is true especially when the visitors enjoy the wilderness environment, relax, swim and walk as favourite leisure activities (Saleh & Karwacki 1996).

Improvements and additional services

One of the main of the survey was to obtain suggestions about possible improvements and additional services in the area. When asked to indicate what they think about the possible developments in the area, respondents emphasized the desire by basic services.

The most respondents (49.1%) explicitly are demanding in regard to provision of information about nature and conservation. In fact, ecotourists place a high emphasis on learning about nature (Saleh & Karwacki 1996). This fact dictates the need of the visitors in gain an understanding of the area on its landscapes, and local people and culture (Lane 1991). Users (35.5%) also claim the provision of maps and signs in the area, a strategy which is also supported by Müller (1995) and Schneider (1996).

As expected, approximately 41.0% of the interviews suggest that information about the area as a tourist destination should be circulated more widely. In the present case, 40.2% of the visitors concern about safety issues which indicate that visitors see the possibility of some actions reducing the quality of their experience. Furthermore, about 33.8% are really interested in a regular transport, while a minimum of 19.1% of the other suggest guided walks as a additional services in the area. It is interesting to note that such perceptions are not based on previous experiences in natural sites, because 56.1% of the visitors have no past experience with recreational facilities in other natural places. This shows that the visitors are not expert travelers. Nevertheless, these results found are supported by surveys of visitors to natural areas as Bako National Park, Corneo (Chin et al. 2000) and Grasslands National Park, Canada (Saleh & Karwacki 1996).

Behavioural characteristics

It was asked to the visitors how they arrive at the PFQRB. About the transport, the car is the most popular and almost 90% said use private car for arriving to the Park. The rest said they come by bicycle (5.4%), motorcycle (3.6%), walking (1.3%) and a minor group by bus (0.6%). Findings from Arnberger and Brandenburg (2002) in The Danube Foodplain National Park (Austria), demonstrated that the visitors arrive on foot, by bicycle or by car. About the peak visit frequency, visitor arrivals is maximal in two periods. One peak occurs from 9:00 till 11:00 h and the other from 14:00 till 15:00h.

Information on visitor numbers is essential for a variety of strategic and operation planning tasks in park management (Cessford et al. 2002). Such broad support provides managers with a choice of direct and indirect strategies to address management concerns. Thus, analysis of information from the visitors' register indicates that it have been significant variations in the last years (see Figure 6).

The most intensely visited months are January, February and March. Generally, these months are hotter in the region and there are periods of holiday and Carnival. It is interesting to note that due to high precipitation in January (1997), October (1998) and in November (1998) the visit frequency was lower.

Ryan (1998), arguments that poor weather can be sources of dissatisfaction on holidays. The results on

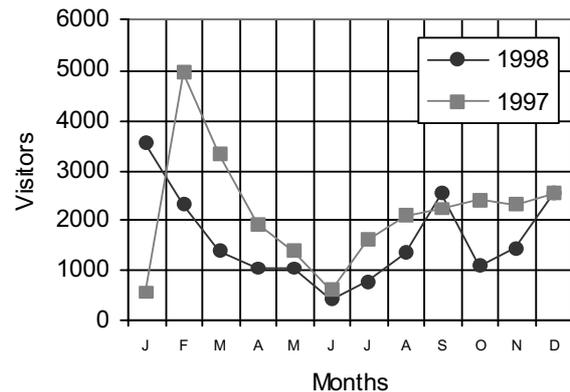


Figure 6. Visit frequency at the PFQRB.

frequency indicate that the recreation is most intensive in weekends (89.1%). High visitor flows can cause multiple negative effects on the ecosystems (Shapochkin and Kiseleva 2002, Netherlands development organization 2001). Thus, fundamentally, the carrying capacity of the tourism in the research area should not be exceeded at the weekends.

44.7% of the visitors said visit the site around 1 to 3 times in the last year and almost 32.0% never visited the site before. About the visit duration, 37.0% of all visitors spend around 1 to 2 hours with the visit. To enhance rural development, tourist might be encouraged to stay longer in the Park, purchase local products, and hire local guiding and transportation services. Nearly 8% of the visitors groups visit the area alone and most respondents (92%) come in the company of one to 5 persons, generally friends and relatives. As expected, similar patterns can be observed in Swarbrooke and Horner (2001) and Dias and Rocha (1996).

A significant proportion (79.3%) said they learn about the Park simply by word of mouth and 5.1% of the visitors learn about the area from advertisements. A similar finding was reported by Bontempo (1994) in a study of ecotourists in Brazil. He noted that the majority of people who visited natural parks heard about them casually from friends and relatives.

Conclusions and Recommendations

The main motive for this study was to provide information for the Park service about the geographic, sociodemographic and behavioural characteristics of the visitors and also to identify recreation preferences, desires, interests, motivations, perceptions and needs from the perspective of visitors on the area. Additionally, to provide data that can contribute the planning of the Park's visitor amenities without problems between tourism activity and resource protection. The existence of the recreation activities in the area enabled the collection of the detailed information and several conclusions can be made from the results presented in the article.

With regarding to demographic attributes the data indicated a more intense visitor frequency among the inhabitants from Lavras. Effective local community involvement could be actively developed at the tourism site providing quality experience for visitors, conservation and regional development (Inskeep, 1991). Nevertheless, it is important to select people who have the ability to socialize with all kinds of tourists and they must be able to communicate appropriately (Netherlands development organization 2001).

Page and Dowling's study (2002) with ecotourists from several parts of the world indicates that the ecotourists tend to be older than other tourists, with higher education and income levels. Nevertheless, the PFQRB is visited mainly by young people in company of their children. They have high educational level and are male.

Sometimes it is difficult to distinguish between activities and attractions (Morgan and Lok 2000, Kelly and Nankervis 2001). Given the findings of this paper, the main preferred activities (relaxing and enjoying the nature, swimming and walking) are also the main attraction in the area. Support facilities required by the visitors include basic day facilities as snack bar and toilets. Yet, sport centre, medical assistance, camp grounds, picnic sites, interpretation facilities and walking tracks are also demanded. However, the planning of infrastructure and facilities must support tourist activity and in this case there is no need to construct elaborated accommodation and leisure facilities (Saleh and Karwachi 1996).

Suggestions for improvements and additional services is related to safety. They explicitly demand information about nature and conservation and claim the provision of maps and signs in the area. An interpretative/information centre can be build to information and interpretation services. The circulation of information about the area as a tourist destination is paramount to the visitors.

Results of the specific visitors study has shown that many people visit the area because of the need for direct contact with nature indicating the importance of learning about nature as part of their experience. 82.7% of visitors are highly receptive to educational strategies and involvement in conservation. This study provides additional indicators of the importance of experiences in natural places to the tourists. Local educational institutions could be encouraged to participate of education programs in the area using interpretation and education to help visitors to gain a better understanding of the natural environment, thereby enhancing experience and protection of the area (Chin et al. 2000). As Lucas (1990) notes such approaches are ideal for conservation reserves because they do not directly alter the natural environment.

The car is the most popular transport used for arriving to the Park. The visitor arrivals is maximal in two periods (from 9:00 till 11:00 h and the other from 14:00 till 15:00h). The recreation is most inten-

sive in weekends and January, February and March are the months most intensely visited. The most of the visitors spend around 1 to 2 hours with the visit and come in the company of one to 5 persons, generally friends and relatives. A significant proportion learn about the Park simply by word of mouth.

The PFQRB represents a small Park within an urban context and this study provided some insights able to provide the Park service for a comprehensive framework for planning improvements in the area and managing the visitors. The suggestions given are based on the visitor profile, their behavior and perceptions in the present survey developed. Thus, possible weakness must be pointed out and finally the amenities planning can be elaborated on. Additionally, this kind of research must to be repeated over time in a way that changes could be monitored and visitor statistical database maintained.

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