

**Mendel University in Brno  
Czech Society of Landscape Engineers – ČSSI, z.s.**

**Public recreation and landscape protection  
– with environment hand in hand?**



**Proceedings of the 14th Conference**

**Editor: Jitka Fialová**

**9th–11th May 2023, Křtiny**

**MENDEL UNIVERSITY IN BRNO**

**Czech Society of Landscape Engineers – ČSSI, z. s.,**



**and**

**Department of Landscape Management  
Faculty of Forestry and Wood Technology  
Mendel University in Brno**



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Under the auspices  
of prof. Dr. Ing. Jan Mareš, the Rector of Mendel University in Brno,  
of prof. Dr. Ing. Libor Jankovský, the Dean of the Faculty of Forestry and Wood Technology,  
Mendel University in Brno,  
of doc. Ing. Tomáš Vrška, Dr., the Director of Training Forest Enterprise Masaryk Forest  
Křtiny, Mendel University in Brno,  
of Ing. Dalibor Šafařík, Ph.D., the Chief Executive Office, Forests of the Czech Republic,



of JUDr. Markéta Vaňková, the Mayor of the City of Brno,



and of Mgr. Jan Grolich, the Governor of South Moravia,

## south moravian region

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## ERGONOMIC APPROACH IN TOURISM FOR VISITORS WITH SPECIAL NEEDS

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### Abstract

The number of people with disabilities has been increasing as a result of ageing population, chronic health diseases and environmental factors such as accidents, natural disasters or conflicts. Disabled people make valuable part of community and their integration into society reflects the level of human development and public awareness.

Social responsibility and human rights legislations support the improvement of tourism conditions for visitors with special needs resulting in hotel industry in accessible tourism policies including transport, accommodation, destinations and attractions appropriately meeting their needs. Ergonomic design should be preventive design. Sustainability is assured by ergonomic premises which are safe, pollution free, hygienic and nonhazardous. In ergonomics applications, functional efficiency prevails and individuals are able to live in environment which is safe, convenient and healthy. The cooperation of builders, architects and ergonomics designers is essential.

This paper presents results of research in hotel sector in Kusadasi, Turkey. The aim was to determine if the hotel facilities are provided to the disabled people, the perceptions of general guests about the disability and their accommodation in disabled rooms. Semi-structured interviews with hotel's department managers were conducted in 9 hotels ranked as 4 and 5 star.

**Key words:** Ergonomy of space, environment, disabled clients, accessible tourism, hotel sector

### Introduction

According to World Health Organization, around 1.3 billion people have disability which is about 15% of total world population (WHO, 2022). Majority of these people are living in developing countries and the number is increasing due to ageing population, chronic health diseases and environmental factors (accidents, natural disasters, conflicts or war). This includes also the quality of holiday destinations among which the most popular are seaside resorts or areas with healthy nature – natural parks, forests etc. Forest ecosystems are also suffering by climate change which is motivating many researchers to develop new tools how to deal with current situations (Souček et al., 2016).

Disabled people should be integrated into normal life conditions and social exclusion should be avoided. Governments, social state and businesses are responsible for accessible environments (Wazzan, 2015). In the tourism context, human rights legislations support the improving the conditions of tourism for disabled people as most of the developed countries settled their legislations for the disabled people to join tourism movements. Accessible tourism policies are introduced which includes transport, accommodation, destinations and attractions appropriately meeting the needs of disabled people. (Buhalis and Darcy, 2011). There are many practical and social issues that prevent the full participation in life of people with disabilities and those traveling with them (Yau et al., 2004). Many changes are made in hotel rooms to provide comfort to disabled individuals, but these rooms, which are sometimes sold to non-disabled people, are having negative reactions. Disabled people and those with limited accessibility tend to come back to accommodation designed for the disabled. In addition, people who are obliged to travel with disabled individuals positively affect their repurchase attitude. (Pehlivanoğlu, 2012).

Room ergonomics for disabled people can provide them with special need for living environment which is safe, convenient and healthy. The basic condition is to make the space according to fixture and fittings. In general, ergonomic improvements should be done before the equipment of space. The construction phase is critical to designing structure of living space, both inside and outside. For this reason, the cooperation of builders, architects and ergonomics designers is essential. They can evaluate and plan all factors related to safe, healthy and hygienic environment. It was stated many times that with ergonomically furnished home we can achieve maximum benefit. Having clients with special needs, we need to analyse their individual needs and know individual characteristics such as anthropometric dimension or clients' choices and preferences.

Ergonomic improvements can help people with restricted mobility and communication in performing their daily living activities. The basic principle of an ergonomic space for people with disabilities is a barrier-free living environment, a sustainable construction, adaptable and comfortable. People with limited mobility and communication can live comfortably in an ergonomic house or flat. One of the most important concerns is the promotion of health, hygiene and safety (Haigh, 1993; Smith, 1990). For functional requirements and clients' satisfaction, it is recommended to maintain ergonomics checklists and special guidelines (International Labour Organisation, 1996). The role of specific facilities is promoted by Ahasan et al.(2000) to match the home environment or perform general household activities (Czaja and Nair, 1992). For instance, the loss of balance and its circumstances are under focus. Ergonomic configuration and dimension can be useful with focus on basic requirements of the user (Kumar, 1992).

Ergonomic design in the ideal case should be preventive design rather remedial one. Sustainability is assured by ergonomic premises which are safe, pollution free, hygienic and nonhazardous. In ergonomics applications, functional efficiency prevails and individuals are able to live safely for example with arthritis (Philippen, 1994). Engineering approach with ergonomic approaches (Ahasan and Tanya,1999) can benefit also elderly reflecting bending posture and postural pain when reaching up for objects. High or low shelves may contribute to a loss of balance or fall injuries (Tinetti et al. 1988). Ergonomics application must be maintained in constructions with special regulations that fit all types of disabilities and ageing as well as outskirts, gardens, courtyards, car parking, or recreational parks. Free and easy access should be provided to community areas, corridors, traffic paths or stairs for disabled or elderly people. An ergonomic space is reflecting the actual needs of disabled or older people in all the circumstances (Ahasan R, Campbell D, Salmoni A, Lewko J., 2001).

Empirical evidence shows that the hotel managers don't want hotel rooms to look "medicalized" because it puts non-disabled people off. In addition, hotel managers have been seen to excuse the high costs of converting rooms into disabled rooms. English experience showed after the paralympic London Olympic games in 2012 which have been promoted as the most accessible and inclusive Olympics ever, that hotel industry revealed an unwanted conclusion about disabled rooms which could not be sold to non-disabled people because these rooms are too ugly and medicalized and people did not want them to book. (Design for Independence, Baruch, 2017).

Another case from Australia reveals that disabled rooms may be allocated by non-disabled guest often as a result of a shortage of the rooms and happen on a "last minute" basis. Managers reported that this can cause problems as the last minute sold disabled rooms have an image of inferior standards from the point of view of non-disabled guests. Many disabled room bathrooms are seen by non-disabled people as unpleasant because of their rudimentary and "clinical" design. Managers reported that there is an unexplained fear or aversion when proposed disabled room to non-disabled people. This attitude is explained by the stigma and aversion of people who want to avoid contact with others of difference. The word of disabled is still carrying a negative connotation. (Darcy and Pegg,2011).

### **Material and methods**

This study determines the hotel facilities provided to the disabled people and the experience of non-disabled people. Semi-structured interviews with hotel's department managers (front office managers) have been conducted. Combination of descriptive and perceptual questions have been used. The research was done at the seaside location Kuşadası in Turkey which offers 9 five stars' and 23 four stars' hotels. The sample consists of 9 hotels which participated in the research, data collection, analysis and interpretation by content analysis. The main research question of the research was: Is there any negative reactions to stay in disabled room of non-disabled people?

### **Results**

Hotel operators in Turkey are obliged to have 1% of the number of total rooms for the disabled and these are supervised by the Ministry of Culture and Tourism. According to the statements of the respondents, the hotel enterprises had disabled rooms due to legal requirements in proportion to the number of rooms and they designed their enterprises according to the general disability regulation of the hotel operators.

All respondents had enough information about the features of the disabled rooms. Accordingly, the managers of hotel enterprises stated that in the disabled rooms, there are details such as the width of the door entrances, large areas for the maneuvering of the disabled chair, furniture with rounded corners, bathroom in the form of a shower without a bathtub, sliding door for the shower, handles in the shower and toilets or doors without thresholds. Only one of the interviewed hotel establishments (H5) stated that they had standard land and sea view rooms for the disabled rooms, while the disabled room type in the other hotels was standard and land view. (See Table 1)

It was seen that the number of disabled guests hosted by hotel enterprises was quite low except for a hotel and the occupancy rates generally varied between 2% and 3%. It was observed that the occupancy rate of a hotel business was 0.8% since it was in the holiday village concept and was not suitable for disabled guests, and a hotel reached to 52% occupancy rate due to its small size and sold to non-disabled guests. Some of the other hotels did not declare the disabled rooms occupancy and sales rates. All hotel managers have stated that they have opened their disabled rooms to non-disabled people for sale due to the need for additional rooms in high season and that they have observed that most of the non-disabled guests in general do not want to stay in disabled rooms and are feeling uncomfortable with this situation.

It was stated that in the hotel businesses, as additional services for the disabled, services such as in-hotel shuttle service, wheelchair service and special area on the beach and disabled ramp and holder for sea access, private area in the restaurant or free room services are provided. Two hotel businesses have declared that they do not provide any additional services. None of the hotel businesses stated that they applied any additional and different price policy. It was seen that all the managers interviewed were empathetic and stated that disabled guests also have the right to vacation and that it is necessary to provide better service to this disadvantaged group.

Tab: 1: Participant hotels

Hotel	Stars	Number of Rooms	Number of Disabled Rooms	Number of Disabled Rooms sold /per night (2022)	Occupancy rate (in disabled rooms)/yearly	Unsold nights
H1	5	650	6	18	0,008	2172
H2	4	338	5	45	0,025	1780
H3	5	87	1	191*	0,52	174
H4	5	333	3	36	0,03	1059
H5	5	263	3	23	0,021	1072
H6	5	436	4	52	0,035	1408
H7	5	443	6	NA	NA	NA
H8	5	272	5	NA	0,02	NA
H9	4	86	1	3	NA	362

\*Sold to nondisabled guest mostly (101 nights sold to disabled guests)

\*\* It is assumed that hotel businesses are open all year round and serving with full capacity

## Discussion

Collected data from respondents show that managers have adequate knowledge about the disabled people needs and minimum hotel facilities are provided by hotels which is regulated by law. All managers were very well informed about the legal regulations required for the disabled. Furthermore, hotel managers have a very positive perspective towards disabled guests as 3 hotel businesses had more rooms than the number of disabled rooms required by law, while the others met the legal requirements. They stated that in order to increase the room occupancy rates of hotel businesses, they opened to sell disabled rooms to non-disabled guests especially in high seasons.

In general, it has been determined that the room occupancy rate on the basis of disabled rooms except one hotel (which is in the city center, in operation all year and has less rooms than others) remains quite low. It has been observed that the annual occupancy rates of disabled rooms generally varies between 2% and 3% and they are used quite little compared to other rooms throughout the year. Therefore, according to the comments of the hotel managers, it is stated that these rooms remained relatively new compared to the other rooms because they are used less. While it is known that disabled rooms are generally on the ground floors and poorest vistas in hotel businesses (Darcy and Taylor, 2009), it is realized that they are located on different floors (except for the top floors) of the hotel businesses participating in the study and that they meet the accessibility with elevators.

Although the occupancy rates of the disabled rooms are very low, the hotel managers do not see these rooms as idle rooms and they describe them as rooms that hotel enterprises should have. In general, it was stated that the size of the disabled rooms was larger than the other rooms, while only two hotel managers stated that they were the same as the standard rooms.

Respondents stated that many hotel businesses provide additional services such as in-hotel shuttle service, wheelchair supply, ramps and stairs for sea access, disabled parking, special toilets and special areas on the beach, private areas in restaurants to facilitate the holiday of the disabled. Hotel managers also stated that they do not charge any additional accommodation fees to disabled guests and that they try to fulfill the requests of disabled guests staying in hotel businesses. When their attitudes towards disabled guests are examined, it is stated that holiday is the right of disabled guests as well as non-disabled guests, that every individual in the society is a candidate for disability and that hotel operators should offer more opportunities to facilitate the holidays of disabled guests

## Conclusion

The most crucial finding in this research is that, due to the full use of capacity in high season, unfortunately, many guests do not want to stay in disabled rooms within the scope of the sale of disabled rooms to non-disabled guests. According to the observations of the hotel managers, when disabled rooms were offered to the non-disabled guests, they did not want to stay mostly or that they wanted to stay temporarily for one or two days. It has been observed that some guests do not care much about this, but in general they feel uncomfortable staying in disabled rooms. That finding confirms the previous UK and the Australian cases mentioned above in Introduction.

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### **Souhrn**

Počet osob se zdravotním postižením se zvyšuje v důsledku stárnutí populace, chronických zdravotních onemocnění a environmentálních faktorů, jako jsou nehody, přírodní katastrofy nebo konflikty. Osoby se zdravotním postižením jsou cennou součástí společnosti a jejich integrace do společnosti odráží úroveň lidského rozvoje a povědomí veřejnosti.

Sociální odpovědnost a legislativa v oblasti lidských práv podporují zlepšování podmínek cestovního ruchu pro návštěvníky se zvláštními potřebami, což vede k tomu, že hotelový průmysl v rámci politik přístupného cestovního ruchu, včetně dopravy, ubytování, destinací a atrakcí, vhodně vyhovuje jejich potřebám. Ergonomický design by měl být preventivním designem. Udržitelnost zajišťují ergonomické prostory, které jsou bezpečné, neznečišťují životní prostředí, jsou hygienické a neohrožují zdraví. V ergonomických aplikacích se privatizuje funkční efektivita a jednotlivci mohou žít v prostředí, které je bezpečné, pohodlné a zdravé. Spolupráce stavitelů, architektů a ergonomických projektantů je nezbytná.

Tento článek představuje výsledky výzkumu v hotelovém sektoru v tureckém Kusadasi. Cílem bylo zjistit, zda je hotelové vybavení poskytováno osobám se zdravotním postižením, jak vnímají běžní hosté zdravotní postižení a jejich ubytování v bezbariérových pokojích. Polostrukturované rozhovory s manažery hotelových oddělení byly provedeny v 9 hotelech zařazených do kategorie 4 a 5 hvězdiček.

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