



Quality assessment in the Italian mountain huts

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Received: 28/03/2013 Accepted: 25/01/2014

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Abstract

Because of its intangibility, the evaluation of the quality in the lodging services is extremely complicated. In the last 30 years several studies have focused on the measurement of the quality in the tourist organisations, in order to define a methodology able to evaluate their performances. The paper contribution to the debate is focused on the quality of service in a specific kind of accommodation, the mountain hut, which operates in a fragile habitat. The study presents the results of an empirical analysis on the perception of quality in the mountain huts conducted by interviewing 372 guests in the Piedmont Region in the north-western Italian Alps. The analysis highlights the importance, on the one hand, of a correct communication of the activities conducted by managers of the mountain huts and, on the other hand, the substance of avoiding a short-contact experience between guest and structure. Finally, the paper underlines how this experience was also useful in order to reason about the definition of a quality label specifically thought for mountain huts.

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Keywords: quality; service; perception; mountain hut; label.

Citation: Duglio, C., R. Beltramo (2014). Quality assessment in the Italian mountain huts. *European Journal of Tourism Research* 8, pp. 115-142

Introduction

Although the concept of quality in the manufacturing sector started in the 1920s, its translation to the service sector is more recent and research in this field only began at the beginning of the 1970s. Quality can be defined as the “Degree to which a set of inherent characteristics fulfil requirements” in accordance with the International Standardisation for Organisation (ISO, 2005). According to this definition, quality is strictly connected with the concepts of continual

improvement and customer satisfaction (Kapiki, 2012). Nonetheless, moving from the definition to the suitable methods and indicators to measure quality, it is possible to affirm that if this measure is already difficult in the manufacturing sector, it can become much more complicated in the “lodging services”, because hospitality is an intangible good and it cannot normally be tried before it is purchased (Fernández-Barcala, González-Díaz & Prieto Rodriguez, 2009). Secondly, throughout the years the concept of quality has been less and

less related only to the level of the characteristics of a product or a service, because the customer has started to evaluate other dimensions, the environmental compatibility and the ethic issue, according to the modern definition of sustainability (Iraldo & Melis, 2012). In fact, with the development of environmental studies and the increase in public awareness, business organisations have to assume responsibility for their interactions with the surrounding environment, approaching the concepts of sustainability (Beltramo, Duglio & Bianco, 2012). The concept of sustainable development, which has been widely debated since the end of the 1980s (WCED, 1987; IUCN, UNEP & WWF, 1991), was formally extended to the tourist sector only in the mid-'90s with the drafting of the Charter of Lanzarote. As a consequence, this extension has encouraged the definition of specific environmental standards and eco-labelling, such as the European Ecolabel, or the application of the well-known international Management System (MS) standards, which were initially thought for the industrial activities.

In this general context, this study presents the methodology and the results of its application to a specific kind of tourist accommodation, the mountain hut (in Italy there are about 1,000 mountain huts in the Alps and Apennines). This research was carried out thanks to the participation to the Italo -Swiss Transfrontier cooperation project 2007-2013 V.E.T.T.A. – Valorisation of Experiences and Transfrontier Tourism products at medium and high Altitude, commissioned by the Regione Piemonte. The general objective of the V.E.T.T.A. project includes improvement, promotion and valorisation of the tourist offer of the tourism in the Verbano-Cusio-Ossola mountain valleys (Piedmont Region - Italy), on the border with Switzerland, by improving mountain huts facilities for trekking activities.

This study focuses on a specific kind of accommodation, operating in a particular context (mountain environment) and normally frequented by a specific tourist target (climbers and hikers) because of its accessibility (a mountain hut is normally reachable on foot). Definitely, the mountain hut guest is part of a niche of the mountain tourism phenomenon,

and two different categories are normally recognizable: mountain climbers and hikers. These tourist typologies look at a mountain hut as a “base camp”, useful to climb mountains or to continue their trekking. They normally stay one night (with dinner and breakfast), know what a mountain hut can offer and the critical situation in which many structures operate, in terms of the use of water, energy production, supply of raw materials and similar issues. Many climbers or hikers join the Italian Alpine Club or other Mountain associations. On the all, the mountain hut guest has a pragmatic vision of this kind of accommodation with no particular expectations.

In the last few years the mountain huts have witnessed a new category of guests that may be likened to the classical tourist (with different expectations and perceptions), the original semantic meaning of refuge, shelter that pays attention to environment, should be considered together with the economic vision by managers and the Italian Alpine Club. Starting from these considerations, the aims of the research is to give a contribution to the debate on strategies and tools for quality in tourism, even though in a niche sector in which the enterprises are small and the number of the accommodation is limited.

This work is organised as follows. Section 2 provides a literature review concentrated on quality of hospitality, divided into two patterns: the methods to measure quality and the tools useful to manage and assure it with a focus on the main Italian label for the hotel industry. Section 3 concentrates its attention on the methodological approach adopted in the V.E.T.T.A. Project in order to analyse the tourists' perception of the quality expressed by the Verbano-Cusio-Ossola mountain huts. Section 4 focuses on the main results deriving by the application of the methodology. Finally, the conclusions present the strong points and the limitations of the researches in order to make suggestions for the further researches.

Literature review

The studies that develop methods to measure quality in industry and in the services can be divided into two patterns. On the one hand, quality can be “considered” from the customer's

point of view. On the other hand, quality can be “assured” thanks to the adherence to local, national or international labels or certification systems. In the latter case, this adherence can be communicated by means of specific tools, and some indicators are normally defined in order to measure and convey quality.

The measurement of quality in the hotel industry

Starting from the customer’s point of view and focusing on the service sector, it is possible to recognise two schools: the U.S.A. and the European. The U.S.A. School studies the gap between the perceptions and expectations of the service (Parasuraman, Zeithaml & Berry, 1985); this vision has defined the quality of service as:

Service Quality = Performance – Expectations

To define Service Quality, Parasuraman, Berry & Zeithaml developed SERVQUAL in the 1991. The SERVQUAL tool is a model that started identifying ten determinants of the quality of service. These have been reduced to five: tangibles, reliability, responsiveness, assurance and empathy. Various authors have applied SERVQUAL to accommodation (Lee & Hing, 1995; Armstrong, Mok & Go, 1997; Ekinci, Prokopaki & Cobanoglu, 2003; Akbaba, 2006; Briggs, Sutherland & Drummond, 2007; Albacete-Sáez, Fuentes-Fuentes & Lloréns Montes, 2007). Starting from SERVQUAL, Knutson & al. (1990) applied a dedicated tool for the hotel industry, called LODGSERV.

In accordance with Kang & James (2004), although several authors applied SERVQUAL, other schools refused its structure and its conceptualization. Kang & James (2004) noted that even though the developers of SERVQUAL suggested two dimensions in the quality of service, the functional (process) and the technical (outcome), SERVQUAL does not include any measure of the last one. In the U.S.A, for example, Cronin & Taylor (1992), using a different method in order to measure quality of service, observed that consumer satisfaction has more effect on the customer’s purchase intentions than service quality.

In Europe, a different approach was developed

by researchers and, in accordance with this

vision, the quality of service perceived by guests contained two dimensions: the functional (“how”) and the technical (“what”) (Grönroos, 1982; Lehtinen & Lehtinen, 1991). In addition, the corporate image is also highlighted: the Grönroos’s perceived quality service model takes into consideration the importance of corporate image, the influence of the word-of-mouth advertising and the guests’ needs.

Management systems as a tool for the quality of services in the hotel industry

It is our opinion that, according to the modern concept of sustainability, a holistic approach to quality in hospitality is necessary. Thus, in the field of the quality tools for the hotel industry, the attention to the environmental and ethic concepts is becoming more and more unquestionable.

For example, from an environmental point of view, the hospitality activity normally needs large amounts of water and produces a lot of waste, above all plastic, organic and glass. In conclusion, although the processes of the hotel industry cannot be compared with other economic sectors (automotive, chemical, etc.), the size of this phenomenon should not be underestimated. In Italy, for example, there are more than 25,000 hotels (ISTAT, 2007) with, consequently, several troubles for the Municipalities in managing important amount of environmental impacts produced in short-time periods.

The hotel industry has witnessed to the implementation of the MS in accordance with international standards issued by ISO to adopt a useful instrument, on the one hand, to check the organisation’s variables (specifically quality and environment) and, on the other hand, as a strategic tool to communicate this attention to stakeholders. ISO Standards are based on the concept of the Deming cycle, divided into four phases (Plan-Do-Check-Act) in order to guarantee the continual improvement of the organisation performances.

More precisely, these organisational models have especially concentrated on the Quality Management System – QMS - (ISO 9001:2008)

Management System – EMS (ISO 14001:2004). For the first one, Casadesus, Marimon & Alonso (2010) analyzed the success of the diffusion of the different QMSs in the Spanish hotel industries, also thanks to a qualitative study on three tourism organisations that have implemented a quality management system (a large, a medium-size and a small tourist enterprise). In their conclusions, the authors affirmed that the QMS would increase in coming years.

Hence, an overwhelming attention in literature has been also paid to the environmental dimension and several authors investigated (and are investigating) the relationship between tourism, hospitality and sustainable management systems (Bohdanowicz & Zientara, 2008; Chan & Hawkins, 2012; Rodríguez-Antón et al., 2012; Pereira-Molimer et al., 2012). Chan & Wong (2006) showed two salient factors that determine the motivation for implementing ISO 14001 in hotels, the corporate governance and the creation of procedure to identify and provide access to legislation.

Marimon, Llach & Bernardo (2011) showed that the environmental certifications in the European Accreditation code (EAC) number 30 – Hotels and restaurants – passed from 105 in 1998 to 1,078 in 2008 in Europe. Only in Italy there are actually 1,889 ISO 9001:2008 accreditations and 474 ISO 14001:2004 accreditations in this specific sector (ACCREDIA, 2013). These data seem to show an increasing interest in the adoption of both the two tools as a way to communicate the attention on quality and environment to costumers.

Nevertheless, the EMS showed some difficulties in the small industries. According to Hillary (2004), the dis-benefits can be grouped into three categories: resources, lack of rewards and “EMS surprised”. The author indicated some internal and external barriers, categorised in eight dimensions (four internal and four external) such as resources and company culture (internal) and economics and institutional weakness (external). Chan (2008) listed six barriers for the specifically application

of the EMS in the hotel industry. These are: implementation and maintenance costs, lack of professional advice and lack of knowledge and skills, lack of resources, certifiers/verifiers and uncertainty of outcome. Finally, the author also affirmed that 80% of the respondents were four and five star hotels and that the identified barriers might not be applied to the small enterprises.

If the attention is concentrated on the application of these tools in the mountain context, it is possible to affirm that not so much literature and studies have focused on mountain huts. In the last ten years, in fact, several studies have been concentrated on the relationships between climate change, mountain environment and tourism (Scott, Jones & Konopek, 2007; Müller & Weber, 2008; Clarimont & Vlès, 2009; Richard, George-Marcelpoil & Boudieres, 2010; Steiger, 2011; Abbeg, 2011; Veith, 2011) and only in some cases the attention has been specifically focused on mountain facilities, especially on the ski resorts (Smerecnik & Andersen, 2011; Varley & Medway, 2011).

At the beginning, in Italy the studies took into consideration the application of the EMS in accordance with ISO 14001:2004 for mountain huts (Beltramo & Cuzzolin, 2001; Beltramo, Giovanazzo & Duglio, 2006). After 10 years since the first applications (that involved 12 facilities), only the Regina Margherita Hut - 4,554 m asl – has kept the environmental certification (Guidetti, 2010), confirming the difficulties in the accreditation of EMS in the small enterprises, expressed by several authors (Hillary, 2004; Chan, 2008), and some other more specific barriers for the mountain context. These particularly concern the restricted opening period (June-September), which is not linked with the bureaucratic procedures set up by the accreditation bodies, and a general difficulty in managing a mountain hut in severe environmental conditions (Beltramo, Pandolfi & Duglio, 2005). Because of this, as opposed to Casadesus's conclusions (2010) an extension of the MS in this specific kind of tourist accommodation seems to be extremely difficult in the next years.

Table 1. The main Italian labels for the hotel industry

Label	Application	Sustainability	Geographical extension
Ecolabel	All kinds of accommodation	Environment	European
Q Italian Hospitality	All kinds of accommodation Specific guideline for	Environment Social Economy	National
Bed & Breakfast	Bed & Breakfast	None	National
Legambiente turismo	("Built environment") Environment	National	All kinds of Mountain huts
EcoWorldHotel		Environment National	Turismabile All kinds of
Casa Clima	accommodation (no mountain huts actually involved) Hotel Bed & Breakfast Agritourism Hostel All kinds of accommodation	Environment (only Energy)	Environment Social Economy National Regional (Aosta Valley)
		Saveurs of Aosta Valley All kinds of accommodation	Regional (Aosta Valley)
		Quality charter for mountain	accommodation Social Regional (Piedmont)
Südtirol Privat	Bed & Breakfast	None	Local (Bolzano Province)
Marchio Ombrello Alto Adige	accommodation (no mountain huts actually)	All kinds of involved None	Local (Bolzano Province)
Piccoli Alberghi Tipici Alpini	Hotel	None	Local (Verbano-Cusio-Ossola Province)
Yes label	All kinds of accommodation	Environment Social Economy	Local (Turin Province)
Quality label of the Gran Paradiso National Park	All kinds of accommodation	Bellunesi label accommodation Environment Social Economy	Paradiso National Park area Local (Enterprises sited in the Prealpi Giulie Natural Park area)
Quality Label of the Prealpi Giulie Natural Park	All kinds of accommodation	Environment Social Economy	Local (Enterprises sited in the Prealpi Giulie Natural Park area)
National Park of Dolomiti	All kinds of accommodation	Local (Enterprises sited in the Gran	

Source: Adapted from Beltramo & Pandolfi (2013)

Sustainable labelling for the hotel industry Also

for the barriers indicated in the last paragraph, particular attention has paid to the development of other tools, especially the labels. According to Font (2002), in the last 1990s there were

more than 100 ecolabels for tourism, hospitality and ecotourism.

Beside the classic and recognisable hotel classification in star categories, which remains

one of the most important factors (alongside price) determining tourist's expectations in the hotel industry (Danziger, Israeli & Bekerman, 2006), hotels and other kinds of accommodation have witnessed the

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proliferation of many different “eco-friendly”, “quality” or “sustainable” labels. Only the Internet portal Destinet, administrated by Ecotrans (an independent not-profit European network of experts and organisations) contains more than 100 ecolabels for sustainable tourism all over the world. Ecotrans selected 20 labels that were compared in terms of Sustainability Areas, Transparency and Credibility (Plüss & Zotz, 2012). However, these myriad of instruments, with different scopes and criteria, has historically caused confusion to guests. In fact, some sustainable labels are the only expression of a specific geographical area, such as a Region, Municipality or, sometimes, a national or regional park. In other cases, the latter are only focused on one of the three concepts of sustainability. This is the case of the European Ecolabel, by officially extending to accommodation and camping in 2001, which considers the only environmental dimension of sustainability.

This general context has also interested the

mountain “environment”. The Italian facilities, for example, have assisted to a proliferation of a label for the hotel industry, and many of these tools can be also applied to mountain huts. Table 1 reports the main labels applied to hotels and others types of accommodation (Beltramo & Pandolfi, 2013) with those available for mountain huts, reported in bold.

In this general context, starting from the previous mentioned Italian experience, the principal aim of this research – the improvement of quality for the Italian mountain huts - was reached thanks to a methodology able to create a procedural guideline, which has lately become a national label. This considers the logic of the MS in term of holistic and integrated approach in the management of a mountain hut.

The methodology has been tested in the Verbano-Cusio-Ossola mountain huts.

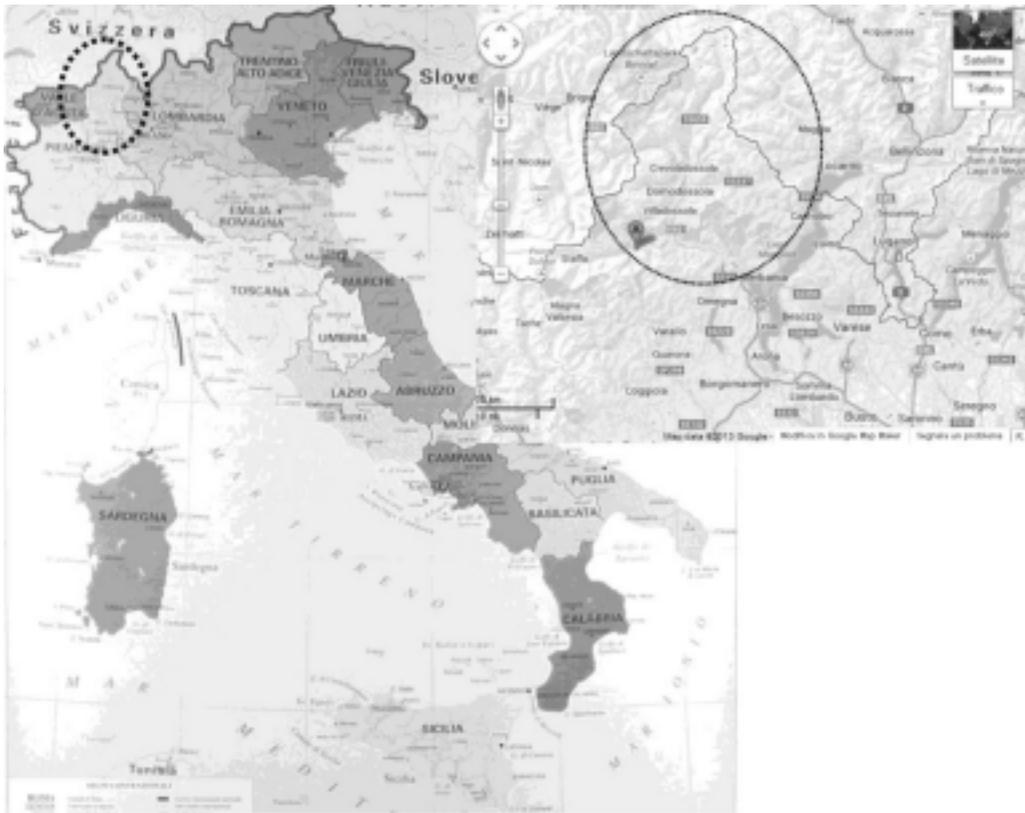


Figure 1. *The Verbano-Cusio-Ossola*

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Verbano-Cusio-Ossola Province is a region located in the North-West of the Italian Alps. This region is on the border with Lombardy Region and Canton Ticino (Switzerland) as showed in the figure, elaborated from Google maps.

The Verbano-Cusio-Ossola Province is divided into 2 different sub regions, the Lake District and the mountain valleys. These are 8: Antigorio, Antrona, Anzasca, Bognanco, Divedro, Formazza, Val Grande and Vigizzo. The main mountain urban centre is Domodossola with about 19000 inhabitants, located in the valley floor. In this Province, there is a polarization of the tourism in the Lake District. The first 5 Verbano-Cusio-Ossola tourist destinations are Verbania (846257 overnights), Stresa (494435), Baveno (479422), Cannobio (293368) and Cannero Riviera (135605), all of them located near the lake (Distretto Turistico dei Laghi, 2013).

In the Verbano-Cusio-Ossola mountain valleys

(without taking into account the municipalities located in the valley floor) there are only 212 accommodations for about 8105 beds (data elaborated from Regione Piemonte, 2012) and the great majority of tourists came from Italy, especially from the near Lombardy Region. In 2011, data show 179727 overnights (44831 arrivals) from Italy and only 40465 overnights (12144 arrivals) from other countries (elaboration from Regione Piemonte, 2012). The duration of stay in the facilities is 4 nights per visit.

In this general context, the Verbano-Cusio Ossola mountain huts play an interesting role in the valleys: in fact, they count 1193 beds (14.7% of the total) and in some areas, for example, the Formazza Valley, at the top of this Region, the 8 mountain huts count 330 beds and represent the 35% of the total supply.

Therefore, the general objectives of the V.E.T.T.A. project partners included improvement, promotion and valorisation of the mountain valleys in order to assure practises of

sustainable mountain tourism and to encourage the sustainable approach for tourism in the region by extending existing cross-border hiking circuits and improving mountain hut facilities for trekking activities, supported by the tourist service networks in the different valleys.

Methodology

In order to define a procedure guideline, the analysis on the quality of a mountain hut focused on two different levels (Figure 2):

1. A survey of the tourist’s perception.
2. An examination of 40 mountain huts in Verbano-Cusio-Ossola (the Piedmont pilot area in the North-West of Italy).

To guarantee these objectives and the general aim of the project, different tools were elaborated by the research team (Figure 2).

1. A questionnaire for understanding tourists’ perception (Appendix 1).
2. A check-list that was drafted starting from the previous Italian mentioned experiences (Beltramo & Duglio, 2012).

These two actions were useful to draft the “quality” criteria for mountain huts which have lately become a national label for hospitality (Appendix 2), set up by the Chambers of Commerce.

represents a niche of the mountain tourism phenomenon, with some specific peculiarities and behaviours. For these reasons, this research adopted both the afore-mentioned tools. On the one hand, we focused on the mountain huts in the pilot area thanks to the inspections of 40 facilities with a dedicated check-list. This action was elaborated in order to understand the interconnections between structural, technological and management aspects, the importance of the equipment and the supply of the services. In fact, in accordance with previous experiences concentrated on the implementation of the EMS in the Italian mountain huts, the relationship between these three interconnected patterns is a *conditio sine qua non* in order to offer the best possible service.

The main fields able to characterise a mountain hut were identified with General information, Technological facilities, Building type, Management of environmental variables and Supply of tourist activities.

On the other hand, a structured interview was carried out by asking guests to complete a

As mentioned, the mountain hut guest

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Specific accommodation : MOUNTAIN HUT

Guest typologies: Climbers, hikers, tourists

Application Communication

Inspection with specific check list

- Fields:*
1. General.
 2. Technological facilities.
 3. Building type.
- Analysis of mountain huts

Integrated approach

Evaluation of the gap between the

perception and the offer expressed by the Managers

1. Personal data 2. Evaluation of the mountain hut

Analysis of the tourist's perception
Survey of satisfaction (questionnaire)

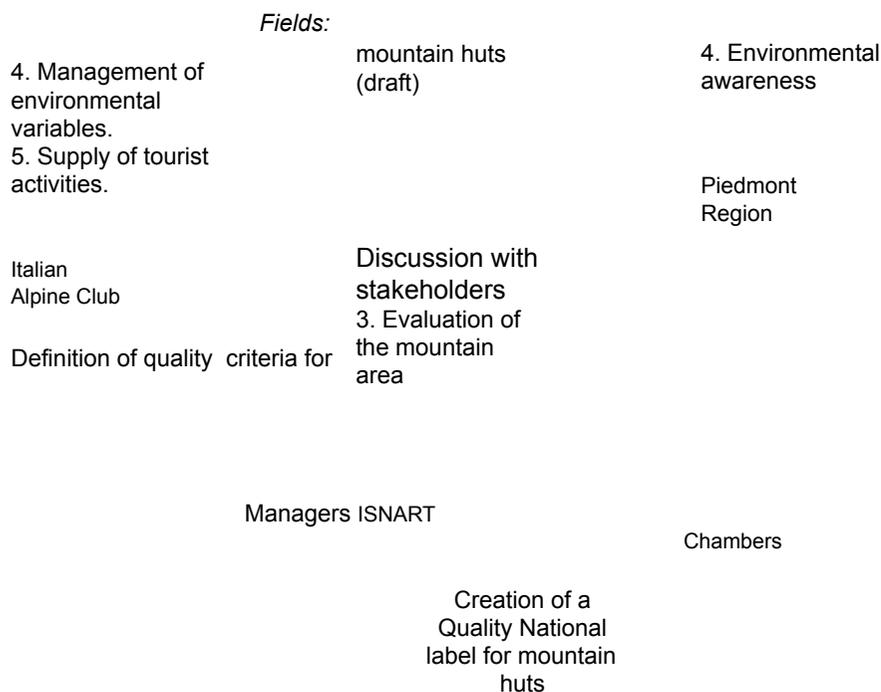


Figure 2. Methodology and tools in the V.E.T.T.A. Project

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Creation of a Quality National label for mountain huts

Sustainability - Levels

Society
So

S

Economy

Q-Italian Hospitality label for mountain huts

Contents

- 1. Information**
- 2. External area**
- 3. Check-in**
- 4. Common areas**
- 5. Rooms**
- 6. Bathrooms**
- 7. Breakfast**

Environment En
Ec

8. Bar and
restaurant 9. Other
services 10.

Eco-compatible
behavior

10. Eco-compatible behavior En

Italian Hospitality label and sustainability

1. Information Ec, S
2. External area En
3. Check-in Ec
4. Common areas S
5. Rooms Ec
6. Bathrooms Ec, En
7. Breakfast S
8. Bar and restaurant S
9. Other services S

questionnaire to understand their perceptions of the mountain huts in the Verbano-Cusio Ossola district. Following the considerations about the kind of tourist of mountain huts, as well as its particular management, the choice was oriented in order to create questionnaire for understanding tourists' perception, rather than porpoise again (even though with the necessary adaptations) tools or methodologies applied in past experiences.

The data collection method used in the

Figure 3. *The Quality National label for mountain huts - Contents*

Tourist's
perception Contributions

research project is represented by direct interviews with tourists during their presence in a mountain hut in the months of July and August 2010 and 2011.

Regarding the selection of the mountain hut, the choice considered two factors. On the one hand, the purpose of considering the different valleys of the pilot area was one of the criteria for choosing the huts, but, on the other hand, with a greater concentration in the more touristic zones, because of the necessity of achieving a useful number of questionnaires. The mountain huts and the number of interviews are listed in Table 2.

The study of tourists' perception is divided into four principal areas (Figure 2):

1. Personal data.
2. Evaluation of the mountain hut.
3. Evaluation of the mountain area.

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4. Environmental awareness, divided into:
 - a. Importance of environmental variables.
 - b. Interest to be involved in extra activities.

Appendix 1 contains the different field sections into which the questionnaire was divided. The questionnaire contains 38 question fields, for a total of more than 14,000 entries (372 interviews) that constitute the database. Regarding the section "Evaluation of the mountain hut", "Evaluation of the mountain area", and "Environmental awareness - Importance of environmental variables" four options were possible: "Good", "Adequate",

"Unsatisfactory" and "Not answered". For the section "Environmental awareness - Interest to be involved in extra-activities" the options were: "Yes", "No", "Not answered". Four additional questions concerned the use of the service (bar, restaurant, overnight-stay), the Italian Alpine Club membership, the "guest's idea" about the concept of a mountain hut and the knowledge of the principal environmental management tools (ISO 14001 or the Eco Management and Audit Scheme - EMAS - Regulation or the European Ecolabel). The fields were able to give some useful "tourists' point of view" information in order to elaborate the national quality label for mountain huts. Furthermore, reading across hut sections also

permitted comparative assessment of facilities on offer vis-à-vis what was perceived (or expected) by users.

Table 3 reports how the cross-references between the tourists' perception and the analysis of mountain huts have helped in the definition of some Q label topics.

The label is divided into two versions in accordance with the kinds of the Italian mountain hut: the Alpine Hut (reached only on foot) and the "Hiking" Hut (for the Piedmontese legislation, the "Hiking" hut is reachable by car or cable way).

Each version of the label is divided into nine

sections in order to join the economic, environmental and social dimensions of sustainability, and each section contains some criteria that it is necessary to respect for obtaining the label. For each criterion a score (from 0 to 3) is appointed to the hut. The maximum achievable level is 200 points and the minimum score in order to join the label is 150 points. The list of criteria is reported in Appendix 2.

However, regardless of the final score, the first step to take is to demonstrate the conformity with the legal requirements. Hence, the respect

Table 2. Analysis of tourist's perception and Mountain huts involved

Mountain hut	Place	Altitude (m)	Accessibility	Beds	Interviews
Alpe Laghetto	Bognanco Valley	2.039	On foot	24 ²	Andolla Antrona Valley 2.061 On foot 59 ³²
Castiglioni Devero	Valley	1.640	On foot	24 ⁷⁴	Città di Arona Divedro Valley 1.750 On foot 68 ¹⁸ Città di
Novara Antrona	Valley	1.474	By car	24 ⁸	Crosta Divedro Valley 1.751 On foot 24 ⁹⁸ Il Dosso Bognanco
Valley		1.740	On foot	24 ²	Maria Luisa Formazza Valley 2.157 On foot 70 ⁸ Oberto-Maroli Anzasca
Valley		2.796	By cableway	24 ³³	Somma Lombardo Formazza Valley 2.561 On foot 26 ² Wengwald
Hutte Anzasca	Valley	1.827	By cableway	12 ¹⁰	<u>Zamboni-Zappa Anzasca Valley 2.070 On foot 36⁸⁵</u> ⁹
on foot					
Total/average 1,988		Source: Internal data processing		415 372	
2 by cableway 1 by car					

Table 3. Interconnections between the V.E.T.T.A. tools and the definition of the Q-Label areas

Check-list for the analysis of mountain huts	Q Label – Italian Hospitality	Questionnaire on the tourists' perception
Location and opening		Personal data
General General features Accessibility and environmental conditions	Website Booking Paths Brochure Information on prices, payment method	Evaluation of the mountain hut
		Evaluation of the mountain area

Technological facilities Management of water cycle Production of electricity and heat Equipment	Eco-compatible behaviour Presence of an equipped winter room Safety and environmental Legal requirements: permissions and authorisations	Evaluation of the mountain hut Environmental awareness Importance of environmental variables
Building type Description Impact on the landscape	Facade Conditions of the external area Common areas and rooms: respect of the "Esprit refuge" both in the construction material and in the decorative elements Legal requirements	Evaluation of the mountain hut
Management of environmental variables Transportation of materials Waste management	Eco-compatible behaviour Environmental Legal requirements	Environmental awareness Importance of environmental variables
Supply of tourist activities	Check-in and courtesy Knowledge of languages Free of charge equipment to rent Organisation of events Breakfast and dinner: kind of menu, local food and traditional dishes	Evaluation of the mountain hut Environmental awareness Interest to be involved in extra activities

Source: In-house compilation

of the Italian law represents a precondition to join the label. The legal requirements concern 6 areas:

1. general;
2. health and hygiene;
3. fire prevention and safety;
4. technological installations;
5. food hygiene and safety for catering;
6. environment (water, waste).

The list of legal requirements is reported in Appendix 3.

The Eco-compatible behaviours were evaluated thanks to a set of criteria which are the result of the adaption of the European Ecolabel for the tourist accommodation services (divided into energy management, use of water, waste management, information, general management). They do not contribute

to the final score, but it is necessary to achieve a determined number.

Findings and discussion

Table 4 shows the profile of the respondents. The highest proportion of tourists fell into the 41-65 year age group and the educational level is high with more than 31% of tourists with a degree. These first characteristics can be important in relation to the replies of the Section 3 of the questionnaire (Environmental awareness) especially for the knowledge of the environmental tools.

Hundred and eleven tourists (29.8%) join to the Italian Alpine Club. This is a second important aspect. In fact, the Italian Alpine Club is the oldest Italian mountaineering association and since its foundation it has been paid attention

Table 4. Profile of the respondents
(*n* = 372)

Variables Frequency (s) Percentage of total (%)

Gender Male 195 52.4 Female 177 47.6

Age < 25 47 12.6 26-40 100 26.9

41-65 183 49.2
> 65 42 11.3

Education Elementary school 12 3.2 Junior High school 70 18.8

Senior High school 174 46.8
Degree 116 31.2

Occupation Businessman/freelance 53 14.25 Manager 11 2.96

Worker 32 8.60

Employee 104 27.96

Retailer 10 2.69

Retired 58 15.59

Housewife 19 5.11

Students 44 11.83

Others 41 11.02

Mountain hut Alpe Laghetto 2 0.54 Andolla 32 8.60

Castiglioni 74 19.89

Città di Arona 18 4.84

Città di Novara 8 2.15

Crosta 98 26.34

Il Dosso 2 0.54

Maria Luisa 8 2.15

Oberto-Maroli 33 8.87

Somma Lombardo 2 0.54

Wengwald Hutte 10 2.69

Zamboni-Zappa⁸⁵ 22.85

Source: Internal data processing

to the natural preservation of the Italian Alps also by the dissemination of the alpine culture.

The majority of the guests came from Italy (91.7%) and, in particular, from 4 Provinces: Verbania (26.4%), Milan (16.9%), Varese (14.1%) and Novara (6.4%). What is necessary to highlight in this case is that the tourism in this area is strictly "of proximity". In fact, 63.8% of the tourists live within 130 kilometres. This factor is essential because it represents the principal cause of the low percentage of people that slept in the mountain huts and, consequently, were able to properly understand all the processes and their implications.

As earlier mentioned, only 38.2% of the respondents slept in one of the mountain huts where they were interviewed, but 79.5% of the tourists had dinner there. Considering that a half-board consists of dinner and bed and breakfast, it is possible to affirm that about 41.7% of tourists went to mountain huts only for eating. In addition, 20.5% only used the bar services of the facilities. The average length is one of the focal points of the research. In fact, there is the assumption that the figure of the "mountain tourist" is changing and it is becoming more and more "touch and go" and much more interested in having a good meal rather than a classical experience in a

mountain hut. This trend seems to be confirmed by the followed topic.

The highest proportion of tourists (55%) affirmed to consider the figure of a mountain hut as a "foothold" in which it is necessary to

guarantee an essential standard of comfort. This percentage increases by 6% taking into consideration the subgroup of the members of the Italian Alpine Club (reaching 61%). Furthermore, 40% underlined the necessity to guarantee a medium standard of comfort and only 15 tourists (4%) highlighted the importance

of a high standard. These results are partially different from previous experiences conducted in Trentino Alto Adige Region (North-East of Italy) in which the percentage of the tourists that consider the concept of a mountain hut as a “foothold” were 87% (Betta & Tomaselli, 2006). Only 11% of cases affirmed that the mountain hut should have a medium standard of comfort. In any case, this peculiar conception of a mountain hut expressed by the guest entails some consequences in terms of tourists’ perception about the quality of service.

Table 5 shows the most interesting responses for the Section 2 of the interview, concerning the evaluation of the accommodation.

The perception of quality is normally “Good” for quite all the fields in the analysis. What seems to be interesting is the percentage of “Not answered” associated to the different questions. The topics that imply a narrower contact between tourists and facilities (Environmental management policies; Typical food products) or a necessity of planning by guests (Booking) seem to be harder to answer. For “Internet site” there is also a highest proportion of “Not answered”, but the reason is different. In fact, Internet is a service which is not still present in all the mountain huts of this area. Sometimes the managers do not have the

opportunity to connect their personal computers, or the connection is not able to guarantee the continuity of this service. In order to avoid misunderstandings with guests, choosing not to offer this service can be necessary for several structures.

For the “Environmental management policies” adopted by the structures, in which the majority of the tourists were not able to compile the field, a lack of knowledge is highly probable. In fact, mountain huts must respect national and local environmental requirements and in the last years the managers and the owners have widely adopted structural and management improvements. In addition, in the last few years there has been a general tendency in the communication of the attention to environment of which managers are becoming more and more aware. In this case the high proportion of “Not answered” can be associated with the “touch and go” phenomenon that does not allow the transfer of knowledge from managers to tourists.

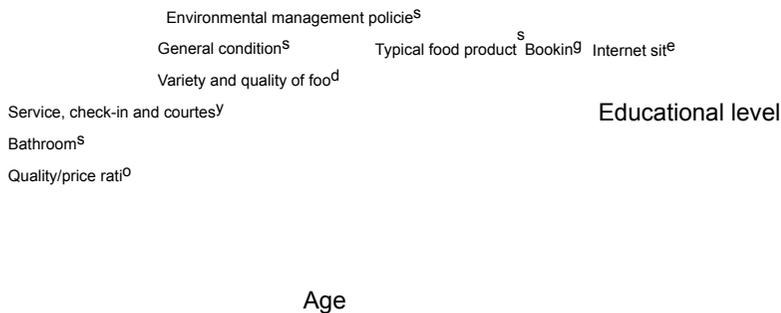
Starting from these data, the interest has been aroused in understanding the existence of correlations between the evaluation of the accommodation and the tourists’ profile in order to give information to managers for improving

Table 5. Evaluation of the accommodation (n = 372)

Aspects	Good	Adequate	Unsatisfactory	Not Answered	Number	%	Number	%
	Number	%	Number	%				
Service, check-in and courtesy	337	90.6	26	7.4	11	5.1	1.3	0.3
General Cleanliness	310	83.3	41	11.5	13	3.6	4.4	1.9
Bathrooms	265	71.2	47	12.6	17	4.6	4.3	1.9
Typical food products	188	50.5	62	16.7	21	5.6	10.1	27.2
Environmental management policies	132	35.5	36	9.7	15	4.1	18.9	50.8
Internet site	117	31.5	17	4.6	8	2.2	23.0	61.8
Variety and quality of food	274	73.7	29	7.8	17	4.6	5.2	14
Quality/price ratio	274	66.4	29	14.2	17	1.9	5.2	17.5
Booking	139	37.4	20	5.4	9	2.4	20.4	54.8

Quality assessment in the Italian mountain huts.

	0,4
1	0,3
0,9	0,2
0,8	0,1
0,7	0
0,6	General Cleanlines ^s
0,5	



Evaluation of mountain huts - Fields PHI Index

Age Educational level

Service, check-in and courtesy 0.363 0.460 General conditions **0.675** 0.489 General Cleanliness 0.080 0.591 Variety and quality of food 0.000 0.416 Bathrooms 0.005 0.013 Quality/price ratio 0.005 **0.746** Typical food products 0.011 0.197 Booking 0.317 0.550 Environmental management policies 0.100 0.260 Internet site 0.023 0.422 Average 0.158 0.414

Figure 4. PHI index Age/Evaluation and Educational level/Evaluation classes.

their offer. Figure 4 shows PHI indexes ($\phi^2 = x^2/n$ – or square contingency coefficient - is independent of the number of the observations. 0 indicates no relationship between the variables whereas 1 indicates complete relationship between the variables) between the evaluation of the accommodation questions and, on the one hand, the educational level of the tourists, and, on the other hand, their age

As reported in Figure 4, an interesting correlation (more than 0.6) between the educational level of the tourists and evaluation of the accommodation fields can only be observed for the Quality/price ratio ($\phi^2 = 0.746$) question. For all the other fields it seems possible to affirm that there is independence between the educational level and the perception of the services.

For the Quality/price ratio question, the first assumption was that the correlation between the not answered and the increasing educational level was probably due to the relationship between high educational level and kind of occupation and, consequently, a major

willingness to pay. However, data shows how this relationship does not exist in the respondents: in fact the calculation of the PHI Index (as well as the Cramer's V) for these variables is 0.00. In other words, there is no correlation between kind of occupation and educational level.

For what that concerns the relationship between age and the evaluation of the accommodation, Figure 4 shows only one interesting correlation with the General Condition ($\phi^2= 0.675$) question. Even though there is a context in which the percentage of “Good” is high (85.2, as reported in Table 5), there is a moderate difference among the age classes, from 78.8% of Good in the < 25 age class to 92.9 in the > 65 age class (85.8% in the 41 < X ≤ 65 age class).

For all the other questions correlations between the variables are not remarkable. Nevertheless, this is an important consideration because it permits to affirm that the difficulties to give an answer for several questions are not due to a specific age class or a peculiar educational level. Hence, it is very probable that it depends on the personal perception deriving from the

Table 6. Evaluation of the accommodation tourist’s own knowledge and experiences.

Harking to the correlation between age classes and General Condition, the PHI Index value of 0.675 is partly due to the fact that there are a consistent percentage of 41-and-more years

old people joined the Italian alpine Club. In fact, the members of the Italian Alpine Club (77 over 111 respondents) are more than 41 years old.

In any case, the data generally show that the members of the Italian Alpine Club were much more able to give their own opinion. In general, this assertion is true for all the questions in the “Evaluation of the mountain hut” section, in which the responses show a better understanding of how to “read” the mountain hut context. On average, the “Not answered” of those who do not belong to the Club is 14.5% higher than those who do. By contrast, on average, the “Good” of those who belong to the Club is 15.7% higher than those who do not.

Table 6 shows the differences in the answers given by the Italian Alpine Club members and not members for the options “Good” and “Not answered”.

For instance, as far as the “Environmental management policies” section is concerned, which raise particular interest because of its cross-reference with Section 3 of the questionnaire, the percentage of “Not answered” is 27% (member of the Club)

(n = 372 total respondents) (n = 111 Italian Alpine Club Members; n = 261 not Italian Alpine Club Members)

Evaluation of the accommodation	Italian Alpine Club Members		Not Italian Alpine Club Members		Not answered (%)		Good (%)		
	Members	Club	Members	Club	Members	Club	Members	Club	
General conditions	2.7	1.5	91	82.8	Service, check-in and courtesy	0	1.9	98.2	87.4
General Cleanliness	0	6.1	95.5	78.2	Bathrooms	2.7	15.3	89.2	63.6
Variety and quality of food	6.3	17.2	85.6	68.6	Quality/price ratio	6.3	22.2	80.2	60.5
Typical food products	21.6	29.5	52.3	49.8	Internet site	42.3	70.1	46.8	24.9
Booking	28.8	65.9	55.9	29.5	Environmental management policies	27	60.9	48.6	29.9

against 60.9% of those who are not members of the Club (a decrease by more than 30 points) and the percentage of “Good” is 48.6% (member of the Club) against 29.9% of those who are not members of the Club.

These data show the importance of two different aspects in the perception of quality of mountain huts and, consequently, in the

adoptable tools in order to improve quality in this kind of facility. The first one is the necessity of improving a correct communication. In fact, as afore mentioned the data do not report a direct correlation between the different fields of the evaluation of the accommodation and educational level or age. Therefore, communication should be interest all the kinds of mountain hut tourists and not only a specific sub-group, which a consequently difficulties in

managing this operation in a relative short time. On the other hand, data also reported a great difference in the faculties of having an opinion by people join a mountain club relative to people that do not join a mountain club. In the latter case the “touch and go” phenomenon is higher: in fact, only 82 people on 261 (31.4%) among the not members of Club slept in the accommodation, compared to 60 people on 111 (54.1%) that join the Italian Alpine Club.

Consequently, in order to improve the tourist’s faculties to understand some typical aspects of mountain huts, a broad-spectrum

communication could be assured thanks to the adhesion to a specific label of quality.

The second aspect concerns the opportunity to reconsider the hut as a privileged agent for educational and knowledge dissemination that can facilitate at least one-day stay in the accommodation.

Section 3 focused on the environmental compatibility and the propensity to be involved in some extra-activities expressed by tourists. Table 7 and Table 9 show the environmental awareness in the two mentioned fields.

Table 7. Importance of environmental variables (n = 372)

Aspects	Very important		Important		Unimportant		Not answered	
	Number	%	Number	%	Number	%	Number	%
Tourist consciousness	267	71.8	76	20.4	16	4.3	13	3.5
Use of renewable energies	260	69.9	83	22.3	16	4.3	13	3.5
Waste reduction	250	67.2	87	23.4	17	4.6	18	4.8
Energy and water saving activities	244	65.6	100	26.9	10	2.7	18	4.8
Menu with local food	227	61	118	31.7	15	4	12	3.2

Table 8. Educational level and knowledge of the environmental tools (n = 372)

Educational Level	Knowledge of the environmental tools		Total
	Yes	No	
Elementary school	Frequency (s) 57	12 %	41.7% 58.3% 100.0%
Junior High school	Frequency (s) 19	51 %	27.1% 72.9% 100.0%
Senior High school	Frequency (s) 39	135 %	22.4% 77.6% 100.0%
Degree	Frequency (s) 56	60 %	48.3% 51.7% 100.0%
Total	Frequency (s) 119	253 %	32.0% 68.0% 100.0%

For this first group of questions, two considerations can be made:

1. Tourists believe that they have a clear vision of environmental problems, but also about the necessary actions. In fact, the “Not answered” percentage is never more than 5 points.
2. All the proposed actions are considered by tourist as “Important” or “Very important”.

Another interesting point to consider is the fact that tourists believe that they have the clear vision of environmental aspects. In fact, it is

interesting to note that among 189 people (50.8%) do not be able to give an opinion on the “Environmental management policies” question in the “Evaluation of the accommodation” section, 91.6% of these affirmed the importance of the “Energy and water saving activities” (64.4% signed “Very important”), 93.3% the importance of the “Use of renewable energies” (67.7 signed “Very important”) and 87.8% the importance of the “Waste reduction” (67.2 signed “Very important”).

However, they are often unaware of the tools implemented to manage such issues. In fact,

only 119 tourists (31.9%) stated to know about either the ISO 14001:2004 EMS, or EMAS EMS, or the European Ecolabel. Even if this percentage does not seem particularly significant, it shows a valuable increase in the knowledge of these specific tools. In a previous experience conducted in the Aosta Valley mountain huts (in 2001), the percentage was 18%. As showed in Table 8, there is a little evidence of a correlation between the educational level of the tourists and the knowledge about these tools.

In fact, the PHI index is 0.23 and this value shows independence between the two variables.

These data highlight two important aspects. The first is a growing consciousness of environmental issues. On the other hand, there are still some difficulties in the perception of the useful tools. Once more, this aspect shows a lack of knowledge of guests. From this point of view, it is interesting to underline the dichotomy between the question "Menu with local food", which 227 guests expressed as "Very

important" (60%) and other 30% as "Important", with comparison to the query of the perception about the "Typical food products".

According to data, 101 tourists (27%) were not able to give their own opinion about this specific aspect of the service quality even if they considered the local food as an important tool for an environmental-friendly management of the mountain hut. In effect, if the attention is paid to this subgroup, it is possible to notice that 55.4% (56 people) believes that offer "Menu with local food" is "Very important" and 30.7% considers this action as "Important".

Furthermore, in this case, a correct communication is essential, also because there is great interest in being involved in extra activities as showed in Table 9.

There may be a high potential participation for each field mentioned. In this case, a comparison between demand and supply is useful in order to verify the existence of a lack of offer. Taking one more time into account the

Table 9. Interest in being involved in extra-activities (n = 372)

Aspects	Yes No Not answered					
	Number	%	Number	%	Number	%
Mountain habitat	298	80.1	51	13.7	23	6.2
Environmental sustainability	272	73.1	59	15.9	41	11
Mountain safety	264	71	66	17.7	42	11.3
Cultural events	234	62.9	89	23.9	49	13.2

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189 people (50.8%) that were not able to give an opinion on the "Environmental management policies" question, it is possible to note that 64.6% is interested in being involved in extra activities concerning the "Mountain habitat" and 64.4% specifically oriented to the "Environmental sustainability" theme.

However, in the parallel study which concentrated on the Verbano-Cusio-Ossola mountain huts, only 15 huts (on 32, less than 50%) are planning and dispensing a sort of "training activity" oriented to environmental or geography areas and mountain safety for climbers and hikers (Beltramo & Duglio, 2012).

As the data show, in this field there is an interesting margin of improvement of the offer. Mountain huts can be seen as preferential places for education and training with the added opportunity to increase the tourists' duration of stay, conveying a better perception of the mountain huts activities.

Conclusions

Because of its intangibility, the evaluation of the quality of service in the lodging services could be complicate: in fact, services cannot normally be tried before their purchase. The work presented in this paper aims at giving a contribution to the debate, thanks to a methodological approach applied to a niche

tourism sector, represented by mountain huts, a sector in which an intense literature has not yet been produced.

The methodological approach consists of two different tools for evaluating the structural, technological and managerial dimensions of a mountain hut (tested on 40 facilities) and tourists' perception (with 372 interviews).

The data of the tourist's analysis show some remarkable strong points in the management of the mountain huts: in fact, the majority of the responses on the evaluation of the accommodation are "Good" for nearly every case. These responses inclined to affirm that the managers are following the right "path" in order to guarantee quality in their offer. Secondly, data show the tourist's interest to be involved in extra-activities with a specific attention to the relationship among environment, local culture and mountain huts.

On the other hand, for some specific aspects, a lack of knowledge is recognisable: in these cases (for example, Booking and Typical food products) the managers should pay more attention to the guest's needs and they could take advantage of the tourist's propensity to join the aforementioned extra-activities.

For these reasons, the tourist's analysis concentrated on the perception of quality in mountain huts and on the guests' environmental awareness was useful to stimulate some criteria, then discussed with the stakeholders and inserted in a disciplinary guide for mountain huts, later flows into a label

of quality of service, Q – Italian Hospitality. The adhesion to the Q label allows internalising some news activities and methods and communicating the quality of service to tourist.

Thanks to this action the first 9 Italian mountain huts in the Verbano-Cusio-Ossola district have joined the Q label and other 94 mountain huts in the neighbouring Lombardy Region are starting the procedures in order to obtain it.

As all research projects, this study has limitations. The principal could be observed in the interviewees' profile because it mainly consisted of Italian tourists (91.7%). This limit is due to the characteristic of tourism in the Verbano-Cusio-Ossola mountain valleys. This area is interested in a proximity tourism phenomenon and guests come from neighbour Provinces (especially from Lombardy Region – Milan, Varese and Como). However, according to some authors, such as Armstrong, Mok & Go (1997), different cultural groups which different cultural values may have diverse expectations.

Starting from these considerations, this methodological approach (and its results) represents, on the one hand, an interesting opportunity for the qualification of the Italian mountain huts (and for the improvement of practises in order to make tourism in the Alps more sustainable), but, on the other hand, a more international approach should be planned.

It is our opinion that based on the identified proposition and results of the study, this research could be the starting point for a more

international perspective of sustainable tourism in mountain areas. In conclusion, this methodology could be tested in other mountain areas, and not exclusively in the Alps, in order to discuss the results among different research groups, improve the methodology and reach to an international label for the guarantee of quality in mountain huts.

Acknowledgements

This work was written as part of the Italo-Swiss Transfrontier cooperation project 2007-2013 V.E.T.T.A. – *Valorisation of Experiences and Transfrontier Tourism products at medium and high Altitude*, commissioned by Piedmont

Region as project leader. The authors would like to thank to Dr. Paolo Caligaris and Dr. Stefano Verga of the Environmental Department of the Piedmont Region for their helpfulness and suggestions, the Italian Alpine Club and the Piedmont Managers Association of mountain huts. Heartfelt thanks are due to Andolla, Castiglioni, Città di Novara, Crosta and Zamboni-Zappa mountain huts.

References

Abbeg, B. (2011). *Turismo nel cambiamento climatico. Una relazione specifica della CIPRA*. Schaan: CIPRA International, URL: http://www.cipra.org/pdfs/964_it/at_download/file (Accessed on 12.12.2013).

- Accredia, Ente Italiano di Accreditamento (2013). *Banche dati sulle organizzazioni con sistema di gestione certificato*. URL: <http://www.accredia.it> (Accessed on 15.01.2013).
- Akbaba, A. (2006). Measuring service quality in the hotel industry: A study in business hotel in Turkey. *Journal of Hospitality Management*, 25, 170-192.
- Albacete-Sáez, C. A., Fuentes-Fuentes, M. M. & Lloréns-Montes, F. J. (2007). Service quality measurement in rural accommodation. *Annals of Tourism Research*, 34(1), 45-65.
- Armstrong, R. M., Mok, C. & Go, F. M. (1997). The importance of cross-cultural expectations in the measurement of service quality perceptions in the hotel industry. *International Journal of Hospitality Management*, 16(2), 181-190.
- Beltramo, R., Giovinazzo, A. & Duglio, S. (2006). Modelling of environmental and economic costs and benefits of the management of the mountain huts of the Aosta Valley – Italy. *Journal of Commodity Science, Technology and Quality*, 45(I-IV), 81-97.
- Beltramo, R. & Cuzzolin, B. (2001). *Manual for the implementation of an environmental management system for mountain Refuges*. Aosta: Edition l'Eubage.
- Beltramo, R. & Duglio, S. (2012). *I rifugi del Verbano-Cusio-Ossola verso un turismo sostenibile. Una lettura sistemica della ricettività in alta quota*. Milan: Edizioni Ambiente, URL: <http://freebook.edizioniambiente.it/> (Accessed on 21.11.2012).
- Beltramo, R., Duglio, S. & Bianco, A. (2012). Integrated Management System: the application of the Italian BEST4 Scheme. State of the art in Italy and proposal for its evolution. *Forum Ware International*, 1, 1-14.
- Beltramo, R. & Pandolfi, E. (2013). *Turismo, Qualità, Ambiente. Strumenti di valorizzazione dell'offerta turistico-ricettiva*. Università degli Studi di Torino, URL: <http://www.regione.piemonte.it/retescursionistica/cms/images/files/Strumentidivalorizzazione.pdf> (Accessed on 20.08.2013)
- Beltramo, R., Pandolfi, E. & Duglio, S. (2005). La creazione di un Sistema di Gestione Ambientale Multisito come promozione del turismo montano. *Ambiente*, 6, 591-597.
- Betta, G. & Tomaselli, L. (2006). *Gestori e frequentatori dei rifugi del Trentino*. Trento: Osservatorio Provinciale per il Turismo.
- Bohdanowicz, P. & Zientara, P. (2008). Corporate Social Responsibility in Hospitality: Issues and Implications. A Case Study of Scandic. *Scandinavian Journal of Hospitality and Tourism*, 8(4), 271-293.
- Briggs, S., Sutherland, J. & Drummond, S. (2007). Are hotels serving quality? An exploratory study of service quality in the Scottish hotel sector. *Tourism Management*, 28, 1006-1019.
- Casadesus, M., Marimon, F. & Alonso, M. (2010). The future of standardised quality management in tourism: evidence from the Spanish tourist sector. *The Service Industries Journal*, 30(14), 2457-2474.

- Chan, E. S. W. (2008). Barriers to EMS in the hotel industry. *International Journal of Hospitality Management*, 27, 187-196.
- Chan, E. S. W. & Hawkins, R. (2012). Application of EMSs in a hotel context: A case study. *International Journal of Hospitality Management*, 31, 405-418.
- Chan, E. S. W. & Wong, S. C. K. (2006). Motivations for ISO 14001 in the hotel industry. *Tourism Management*, 27, 481-492.
- Clarimont, S. & Vlès, V. (2009). Pyrenean tourism confronted with sustainable development: partial and hesitant integration. *Journal of Alpine Research*, 97(3), 2-12.
- Cronin, J. J. & Taylor, S. A. (1992). Measuring Service Quality: A Reexamination and Extension. *Journal of Marketing*, 56, 55-68.
- Danziger, S., Israeli, A. & Bekerman, M. (2006). The relative role of strategic assets in determining customer perceptions of hotel room price. *International Journal of Hospitality Management*, 25, 129-145.
- Distretto Turistico dei Laghi (2013). *Dati turistici 2012: + 3,32% nel Verbano Cusio Ossola, in controtendenza con il dato nazionale*. URL <http://www.distrettolaghi.it/notizie/dati-turistici-2012-332-nel-verbano-cusio>

- ossola-controtendenza-con-il-dato nazionale (Accessed on 15.12.2013).
- Ekinci, Y., Prokopaki, P. & Cobanoglu, C. (2003). Service quality in Cretan accommodations: marketing strategies for the UK holiday market. *International Journal of Hospitality management*, 22, 47- 66.
- Fernández-Barcala, M., González-Díaz, M. & Prieto-Rodríguez, J. (2009). Factor influencing guest's hotel quality appraisals. *European Journal of Tourism Research*, 2(1), 25-39.
- Font, X. (2002). Environmental certification in tourism and hospitality: progress, process and prospects. *Tourism Management*, 23, 197-205.
- Grönroos, C. (1982). *Strategic management and Marketing*. Lexington: Lexington Books.
- Guidetti, S. (2010). *Capanna Osservatorio Regina Margherita. Il Rifugio più alto d'Europa*. Club Alpino Italiano, URL: http://www.cai.it/fileadmin/documenti/Comunicati_Stampa_2010/Regina_Margherita/Articolo_Capanna_vers._170610.pdf (Accessed on 22.02.2013).
- Hillary, R. (2004). Environmental management systems and the smaller enterprise. *Journal of Cleaner Production*, 12, 561- 569.
- Iraldo, F. & Melis, M. (2012). *Green marketing. Come evitare il greenwashing comunicando al mercato il valore della sostenibilità*. Milan: IISole24Ore.
- ISO - International Standardization for Organization (2005). *ISO 9000:2005. Quality management systems -- Fundamentals and vocabulary*, Geneva: ISO.
- ISTAT – Italian Institute of Statistic (2007). *Capacità e movimento degli esercizi ricettivi*. Rome: ISTAT.
- IUCN, UNEP, WWF (1991). *Caring for the earth: a strategy for sustainable living*. London: Earthscan Publications.
- Kang, G. D. & James, J. (2004). Service quality dimensions: an examination of Grönroos's service quality model. *Managing Service Quality*, 14(4), 266-277.
- Kapiki, S. (2012). Quality management in Tourism and Hospitality: an Exploratory Study among Tourism Stakeholders. *International Journal of Economic Practices and Theories*, 2(2), 53-61.
- Knutson, B., Stevens, P., Wullaert, C., Patton, M. & Yokoyama, F. (1990). LODGSERV: a service quality index for the lodging industry. *Hospitality Research Journal*, 14(2), 277-284.
- Lee, Y. L. & Hing, N. (1995). Measuring quality in restaurant operations: an application of the SERVQUAL instrument. *International Journal of Hospitality Management*, 14(3-4), 293-310.
- Lehtinen, U. & Lehtinen, J. R. (1991). Two approaches to service quality dimensions. *The Service Industries Journal*, 11(3), 287-303.
- Marimon, F., Llach, J. & Bernardo, M. (2011). Comparative analysis of diffusion of the ISO 14001 standard by sector of activity. *Journal of Cleaner Production*, 19, 1734-1744.
- Müller, H. & Weber, F. (2008). Climate change and tourism – scenario analysis for the

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Duglio, C., R. Beltramo (2014) / *European Journal of Tourism Research* 8, pp. 115-142

- Bernese Oberland in 2030. *Tourism Review*, 66(3), 57-71.
- Parasuraman, A., Berry, L. L. & Zeithaml, V. A. (1991). Refinement and reassessment of the SERVQUAL scale. *Journal of retailing*, 67(4), 420-450.
- Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*, 49, 41-50.
- Plüss, C. & A. Zotz (2012). *Sustainability in tourism. A guide through the label jungle*. Vienna: Naturefriends International, URL:<http://destinet.eu/who-who/civil-societyngos/ecotrans/publications/guide-through-label-jungle-1> (Accessed on 22.02.2013).
- Regione Piemonte – Direzione Turismo (2012). *Dati turistici suddivisi per Comune*. Torino.
- Richard, D., George-Marcelpoil, E. & Boudieres, V. (2010). Climate change and the development of mountain areas: what do we need to know and for what types of action? *Journal of Alpine Research*, 98(4), 2-13.
- Rodríguez-Antón, J. M., del Mar Alonso Almeida, M., Celemín, M. S. & Rubio, L. (2012). Use of different sustainability management

- systems in the hospitality industry. The case of Spanish hotels. *Journal of Cleaner Production*, 22, 76-84. Scott, D., Jones, B. & Konopek, J. (2007). Implications of climate and environmental change for nature-based tourism in Canadian Rocky Mountains: A case study of Waterton Lakes National Park. *Tourism Management*, 28, 570-579.
- Smerecnik, K. R. & Andersen, P. A. (2011). The diffusion of environmental sustainability innovations in North American hotels and ski resorts. *Journal of Sustainable Tourism*, 19(2), 171-196.
- Steiger, R. (2011). The impact of snow scarcity on ski tourism: an analysis of the record warm season 2006/2007 in Tyrol (Austria). *Tourism Review*, 66(3), 4-13.
- Varley, P. & Medway, D. (2011). Ecosophy and tourism: Rethinking a mountain resort. *Tourism Management*, 32, 902-911.
- Veith, C. (2011). *Why invest in sustainable mountain development?*. Rome: FAO, URL: <http://www.fao.org/docrep/015/i2370e/i2370e.pdf> (Accessed on 22.02.2013).
- World Commission on Environmental and Development (1987), *Our Common Future*, Oxford: Oxford University Press.

Appendix 1 - Tourist's perception on quality of the Verbano-Cusio-Ossola Mountain huts

1) Personal data

<i>Gender</i>	M F
<i>Age</i>	< 25 26-40 41-65 >65
<i>Education</i>	Elementary school Junior High school Senior High school Degree
<i>Occupation</i>	Businessman/freelance Manager Worker

2) Evaluation of the Mountain hut

You have benefited of the:
Bar Restaurant Overnight stay

How do you consider the following aspects of the structure?

	Unsatisfactory	Adequate	Good	Not answered
Signage				
General condition of the mountain hut				
Service, check-in and courtesy				
General Cleanliness				
Bathrooms				
Variety and quality of food				
Quality/price ratio				
Supply of typical food products				
Information brochure on the area				
Internet site				
Booking				
Watch out for people with disabilities				
Presence of environmental management policies				
Paths				
Other services (supply of specific mountain equipment, etc.)				

How do you consider the services of the tourist area?

	Unsatisfactory	Adequate	Good	Not answered
Tourist information points (tourist offices, office park,)				
The public transport network				

Additional services (e.g. equipment rental shops, associations of tour operators, shops with local products, ...)				
Range of activities (cultural, sporting, ...)				

3) Environmental awareness

What can a structure do in order to reduce its impact on the environment?

	Unimportant	Important	Very important	Not answered
Energy and water saving activities				
Use of renewable energy				
Waste reduction				
Action for the improvement of tourist's consciousness				
Menu with local food				

Do you know the environmental management systems (ISO 14001, EMAS) and the eco-labels for products and services?

YES NO

We list some of the activities that could be organized in a mountain hut. Could you kindly express your appreciation?

	YES	NO	Not answered
Course on mountain safety			
Course concerning the mountain habitat			
Cultural events (meeting, films, etc)			
Course focused on environmental sustainability			

4) Other questions

Do you join the Italian alpine club?

YES NO

You consider a mountain hut as

A facility with a high standard service

A facility with a medium standard service

Foothold which essential standard service

Appendix 2 – Criteria of the “Q label – Italian hospitality” for mountain huts

1	Information
1.1	The mountain hut should have a website or should be supported by institutional websites, updated and available in multiple languages (at least two, Italian and English or the language of the main customers' origin)
1.2	The website should contain information about the accessibility to the mountain hut and the services offered
1.3	Booking by phone, fax or by email should be possible
1.4	An answering service should be available to customers; alternatively, a second telephone number, different from that of the mountain hut, where it is possible to contact the manager, should be clearly communicated
1.5	Brochures of the mountain hut should be provided with at least in two languages (Italian / English or the language of the main customers' origin)
1.6	At the beginning of the path an explanatory panel with the principal information of the area and the mountain hut (public utility numbers, opening time, ...) should be located
1.7	If there is a parking, it should be well marked and in good condition
1.8	The path should be in good condition, clean, adequately marked with horizontal and vertical signage. The paths should be made safe
	<i>Only for the “Hiking” Hut</i>
1.9	<i>In front of the structure, a reserved parking should be present. The path from the car park to the entrance should be free of architectural barriers. Then, the fund should be usable by customers in wheelchairs</i>
1.1	<i>In case of mountain hut accessible by cableway, a manual wheelchair that allows guests to have</i>

0	<i>access to the structure should be present</i>
2	External area
2.1	The outdoor signage should be in good condition, clearly visible and integrated with the surroundings
2.2	If the mountain hut is rich in water, the external water point should be well indicated
2.3	The structure should have been built with local materials and local construction techniques (wall structure in local stone, block bau, carpentry wooden roof and stone cover) <i>For the "Alpine" Hut The structure should have been built with local materials and local construction techniques (wall structure in local stone, block bau, carpentry wooden roof and stone cover - unless some exceptions according to the Italian Alpine Club classification - D and E)</i>
2.4	The facade should be in good conditions
2.5	The external area and the equipment for the bar and restaurant (benches, tables, ...) should be clean, tidy and maintained
2.6	The national flag and the emergency light (in case of fog or at night) should be present
2.7	The pitch for helicopters should be well arranged and easily visible
2.8	If a winter room exists, it should be well marked and equipped with the indispensable tools for the night, a telephone with the indication of the public utility numbers <i>For the "Alpine" Hut The winter room should be well marked and equipped with the indispensable tools for the night, a telephone and the indication of the public utility numbers</i>
3	Check-in
3.1	The reception area should be identified and well maintained. The staff should be courteous and easily recognizable. A "welcome service" (tea or other) should be offered
3.2	The manager and his/her staff should know at least one language in addition to Italian
3.3	The possibility of accepting animals should be clearly specified
3.4	Prices, payment methods (cash, credit card, check, ..) and timetable of the mountain hut activities should be clearly visible and legible
3.5	All the necessary information about accommodation in the room and/or dormitory and how to present

	any complaints should be provided to customer
3.6	If it is necessary, the manager should be able to replace the cook
3.7	The manager should have a good knowledge of the area (also through contacts with tour operators) and of the access paths to his/her and the neighbouring mountain hut. The manager should have health care ability in case of emergency. The manager should possess all the management expertises for the management a mountain hut (also thanks to the participation in training courses

	connected to the management and the legal requirements)
4	Commons area <i>Internal structure (in order to preserve the “esprit refuge” and guarantee guest expectations in terms of comfort, well-being and safety)</i>
4.1	Local traditions should be respected both in the construction materials and in the decorative elements
4.2	The internal environment should be clean and well maintained. The furnishings should be in good condition
4.3	Spaces should be organized in order to allow an easy use
4.4	The information on security conditions, the management of emergencies and the numbers of public utility should be present and well visible. The weather forecasts should be present, visible and updated
4.5	The mountain hut should be provided with adequate facilities and suitable containers for waste
5	Rooms
5.1	Rooms and/or dormitories should be clean and tidy and have all the equipment needed to ensure an adequate overnight (shelves, hangers, stools, ...)
5.2	The structure should provide each bed with at least a pillow with pillowcase, a mattress cover and 2 blankets. As an alternative bed duvet and sleeping bag (free or paid) or sheets could be provided
5.3	The room cleaning should be carried out daily
5.4	Mattress cover and blankets should be sanitized and disinfected at least once a month. The mattresses and pillows should be sanitized and disinfected at least once a year
5.5	The sheets, sacks-sheets and pillowcases (if not disposable) should be replaced when guest leaves the hut
6	Bathrooms
6.1	The toilets should be appropriately indicated outside and / or inside the structure
6.2	The number of toilets should be adequate. Toilets should be equipped with bathroom fixtures (sinks ..) in a number greater than or equal to the issues provided in the laws and/or regulations
6.3	The toilets should be equipped and furnished in order to guarantee the maximum comfort. Places should be cleaned and the bathroom fixtures should be well-maintained
6.4	The hot shower should be included in the half board price
	<i>Only for the “Hiking” Hut</i>
6.5	<i>The toilettes should be equipped in order to allow the use by customers with special needs</i>
7	Breakfast
7.1	Breakfast should be abundant and sufficient to achieve the caloric intake necessary for the guest’s activities

7.2	Breakfast should include tea / milk / coffee, biscuits, bread, butter, jam, cereal, etc.
7.3	Breakfasts should take into account guest's special dietary requirements (i.e., celiac disease)
7.4	In the breakfast service at least 2 local products should be present
8	Bar and restaurant
8.1	Menu should include local and traditional dishes and should be formulated taking into account the necessity of customers with special needs (allergies, etc. ..)
8.2	The selection of wines should be composed of wines of neighbouring zones (especially guarantee of origin)
8.3	An offer of local bitter / spirits should be present
8.4	In each meal at least 2 local and seasonal products should be present (favouring the logic of the "short food chain" and the "zero km"). The manufacturers should be reported in the brochures
8.5	Half board menu should include 2 kinds of main course (pasta or soup), 1 second course with side dish,

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	cheese or dessert or fruit
8.6	In case of supply of mineral water, the manager should prefer sources localized in the administrative area of the structure
9	Other services
9.1	The manager should provide the mountain hut with spaces for drying clothes and for storing personal effects (boots, poles, backpacks, ...)
9.2	The manager should provide the mountain hut with slippers
9.3	The manager should provide the mountain hut with "free of charge" equipment in order to be borrowed by guests (sticks, ...)
9.4	The manager should make available readings of various kinds, games and information (on places, flora and fauna, tradition, local products)
9.5	If it is possible, the manager should organise cultural events and courses focused on the knowledge of the area and its tradition
10	Eco-compatible behaviour
	<i>Energy</i>
10.1	At least 50 % of the electricity used for all purposes should come from renewable energy sources
10.2	The facility should be equipped with effective and efficient systems for heating and thermal insulation
10.3	The mountain hut should have appliances, light bulbs and office equipment with low consumption
10.4	Measures should be taken to prevent waste of energy (devices sleep time)

	<i>Water</i>
10.5	The taps of the mountain hut should have timers or mixer faucet
10.6	The flushing cisterns of toilets should have an adjustable flow
10.7	The mountain hut should guarantee a periodic maintenance of the installations in order to prevent water loss
10.8	Showers should be equipped with timers / proximity sensors for the automatic stop of water or other savings tools
10.9	Cleaning service should be carried out without the use of chemicals
	<i>Waste management</i>
10.10	Ad hoc containers for recycling according to the local government collection should be present in the structure
10.11	The structure should try to limit the consumption of packaging and disposable tableware
	<i>Consciousness</i>
10.12	The structure should sensitize its guest to environmental protection and sustainable management of natural resources
10.13	The structure should exhibit the material related to initiatives able to promote sustainable development or activities carried out for environment protection (codes of conduct, fire prevention, pollution prevention)
	<i>Information</i>
10.14	Staff should be accurately trained on energy saving, collection of waste, use of detergents and disinfectants and control of the installations
	<i>General management</i>
10.15	The mountain hut should have procedures for the detection of the consumption of energy, water and other energy sources
10.16	The mountain hut should have procedures for collecting and monitoring data about consumption of chemicals and quantity of waste

Appendix 3 – Legal Requirements applied to the Italian mountain huts

	GENERAL
LR.1	Possession of the building permit
LR.2	Possession of the certificate of use and occupancy
LR.3	In the case the hut is reachable by car, the legal requirements about accessibility for people with reduced or prevented motor skills are guarantee

	SANITARY REQUIREMENTS
LR.4	Possession of the municipal authorisation to the exercise
LR.5	Possession of the municipal authorisation
LR.6	Possession of the license for the supply of food and drink
LR.7	A local for the consumption of foods and drinks by passing people is available
LR.8	The rooms are comply with the national, regional and municipal health and sanitary requirements
LR.9	The manager guarantees the recognition of data on tourist movement according to the regional standards
LR.10	Features and price of the mountain hut are provided to guest according to the regional regulation
LR.11	The manager completes the card containing the indication of the guest's destination
LR.12	The Italian Alpine Club Regulation is present (only for the Italian Alpine Club huts)
	SAFETY
LR.13	The self-certification of the health and safety risk evaluation is present in the hut (only if less than 10 employees)
LR.14	The self-assessment of the risk of noise has been carried out by the manager
LR.15	The certificate of responsible for the service of prevention and protection hazards, fire prevention and evacuation is available in the hut
LR.16	The certificate of attendance of the emergency room is available in the hut
LR.17	The aid kit or a package containing the medicines is present
LR.18	The Fire Prevention Certificate is available (only for Category A, new or prior to 26 April 1994 or B, C, D, E existing at 25/04/1994 and carrying out activities subject to control by the Firefighters - for groups electricity production subsidiary with internal combustion engines of total power of 25 kW, gas supply, fuels, fixed tanks, installations for the production of heat using solid fuels, liquid and gas with power equal to 100,000 kcal / h, ie 116 kW, according to DM 02/16/1982). Further provisions, depending on categories, are provided for in the Ministerial Decree of 09/04/1994 and subsequent amendments (term adjustment, for structures with more than 25 beds read that they have presented the project to adapt Firefighters by 30/6/2005 and 29/8/2009, 31/12/2011).
LR.19	If the Fire Prevention Certificate is necessary and the hut has more than 10 employees, the Emergency Plan has been prepared
LR.20	If the Emergency Plan is present, the fire drill is planned at least annually
LR.21	The instructions and information relating to plans exhibited at the entrance and rooms are respected
LR.22	The signs indicating the way out are in accordance with the current regulation
LR.23	An emergency phone or radio is present and available
LR.24	The emergency bags (towel aluminized-shaped bag or a similar device able to provide at least the same thermal characteristics) are present and available (only if the hut is place over

	2,000 meters asl, or in any environment meteorological conditions related to this limit)
LR.25	The declaration of electric conformity or a declaration of verification signed by a qualified installer or planner is available
LR.26	The declaration of water, sanitation and gas system conformity or a declaration of verification signed by a qualified installer or planner is available
LR.27	There are fire extinguishers, at least one per floor or more in accordance with the legal requirements
LR.28	The data sheets for the fire-fighting equipment inspection and maintenance are present.
LR.29	Smoking is forbidden
LR.30	The data sheets for irritants and allergens products (issued by the seller) are accessible to employees
	FOOD SAFETY
LR.31	The certificate of attendance at training course in the field of food safety is available
LR.32	The certificates of attendance at training course for manager and employees are available
LR.33	The HACCP (Hazard Analysis and Critical Control Points) manual is available. It is kept up to date

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	ENVIRONMENT
	<i>Water supply and sewage</i>
LR.34	The hut has the right of derivation of water (in case of supply from springs or stream or aqueduct)
LR.35	The manager carries out the analysis of the drinking water (annually, in spring)
LR.36	A suitable system for water treatment (chlorination, UV treatment) is present, if the supply of drinking water cannot be guaranteed,
LR.37	In case of non-drinkable water, signs are displayed in 4 languages (Italian, French, English, German) also with dedicated symbolism
LR.38	The hut has the sewer connection authorisation
LR.39	If the sewer connection authorisation is not present, the hut has: - The demand for sewer the connection authorisation. - The payment of the fee.
LR.40	The hut has a processing system dedicated to sewage comply with the regional requirements
	<i>Energy</i>
LR.41	If there is a heating system, the power station book (if the power is greater than or equal to 35 kW) or the maintenance book (if the power is less than 35 kW) is available
LR.42	In case of power greater than or equal to 35 kW, the notification to the Province (by 29/4/2007) has been submitted
LR.43	In case of installation or modification of a heating system with power greater than or equal to 35

	kW, the installer has transmitted the notification to the Province (within 90 days)
LR.44	For installations of less than 35 kW and powered with LPG, the control of the energy efficiency is carried out: - Every two years, if the system is installed by more than eight years. - Every two years, for the heat generators with hot water and hearth fireplace installed in living areas. - Every four years, for all the other installations.
LR.45	For installations of less than 35 kW and powered with liquid / solid combustible, the control of the energy efficiency is carried out once a year
LR.46	For installations with power greater than or equal to 35 kW and less than 350 kW, the control of the energy efficiency is carried out once a year, at the beginning of the their lighting
LR.47	For installations with power greater than or equal to 350 kW, the control of the energy efficiency is carried out once a year, normally at the beginning of their lighting, plus an additional control in the middle of the period
LR.48	The maintainer has affixed the label with the code that uniquely identifies the heating system in the regional context (after 15/10/2009). The frequency is 4 years for power plants less than 35 kW and 2 years for power plants greater than or equal to 35 kW
LR.49	The maintainer is registered in the regional list of qualified firms
LR.50	If there is a generator for the production of electricity, it is subject to documented and periodical maintenance
LR.51	If there is a generator for the production of electricity, it is provided with silencer or is placed in a soundproof room
LR.52	In case of presence of GLP tanks, the fire prevention certificate is present and complies with the technical requirements laid down by law
	Waste
LR.53	The receipt for payment of the annual tax is available
LR.54	There is a selective waste collection in accordance with the regulation of the municipality
LR.55	The form for the identification of waste is available. - For the sludge from the wastewater installation. - For the fryer cooking oil.
LR.56	The carrier is enrolled to the conveyors register of waste. The registration is verifiable
LR.57	The hut has a contract with a maintenance organisation. In the contract the technician must collect the mineral exhausted oil and carry it to the areas indicated by the municipality
LR.58	Special containers for the collection of special and hazardous waste, with appropriate basin, are available in the hut (storage batteries, mineral oil exhausted, ...)