Rovaniemi, Finland • 16th–18th April 2012

RISKS, DANGER AND SAFETY -
SPRING SYMPOSIUM ON TOURISM SAFETY AND SECURITY

Lapland University Consortium
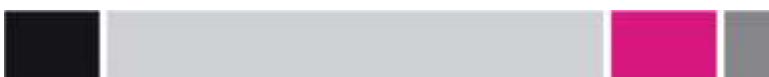
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BOOK OF ABTRACTS

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Raimo Väyrynen - *Keynote: Safety and Security - Definitions and Content*

The concept of security has been greatly expanded in the last couple of decades. The old narrow concept of security focused on external or internal threats to the independence and coherence of the nation. In this context the security risks in tourism were manifested mostly in war zones. The foreign ministries issued, and they still do, warnings to travelers on what risky places should be avoided. The present comprehensive definitions of security are expanded to cover a much greater variety of risks including environmental and humanitarian security problems.   As a result, tourism becomes mixed up with a wide variety of societal issues. For instance, as immigration is considered in many countries a challenge to national identity, it might become mixed with tourism, especially in the case of "unusual" travelers to which border authorities may react to. In general, when borders have today multiple physical, political, and cultural meanings, tourism has become a border-crossing phenomenon in a new sense. One result has been the new concern with the respect of indigenous cultural values in the tourism industry. The comprehensive definition of security has also called for a two-way street between tourism and environment. In the earlier days, a tourist went to an "environment" – a milieu and landscape – as a part of the "grand tour". Today, s/he is also expected to contribute to the environment by using it in a sustainable manner. In a word, sustainable existence and development are a common denominator between modern concepts of security and tourism.

Johan R. Edelheim - *Safety, security and risk education in the Australian and Finnish Tourism and Hospitality syllabi – a Multidimensional Perspective*

The tourism and hospitality (T&H) industries are based on providing people services attending to their leisure needs, as well as needs created in an environment away from people's homes. These environments are by definitions alien to the consumers and thus contain a certain amount of risk. The risk is at time minor, such as eating a meal at a restaurant, but can at other times be major, even to the extent that the danger of the activity makes up one of the key motivations for it to take place, such as white-water rafting down a level five rapid. However, these risks are in all cases risks that the consumer take, and the impact of these risks could be on their own bodies. Other risks are related to employees in the industries or to operators and managers of the businesses – these can be such diverse matters as work-related injuries, damaged and broken equipment, or loss of good-will and reputation. The matter to note here is that risk is always happening TO something, i.e. by focusing on *who* or *what* is at risk, it is possible to prepare appropriately for those mishaps.

In order to get a holistic overview of risks in the T&H industries four core dimensions of risks are proposed: A) Risks to living assets; B) Risks to physical assets; C) Risks to financial assets; and, D) Risks to non-physical assets. Additionally, the first dimension – risks to living assets – can be further divided into more specified categories: I) Risks to customers; II) Risks to employees; III) Risks to other human stakeholders; and, IV) Risks to animals. An overall statement of all these risk categories is that they happen to 'assets' of the T&H entity – i.e. whatever casualty happens it will have an impact on the profitability of the business entity, directly or indirectly. With these dimensions of risk, which should be kept in mind for all decision making in the T&H industries, it is of interest to examine how future professionals in the industries are educated to be appropriately prepared to work in that environment.

This paper examines the syllabi of educational institutions in Australia and Finland offering vocational education and training (VET) and/or higher education (HE) in the T&H industries to determine the focus that is placed on safety, security and risks in the total programs based on the multidimensional risk analysis framework presented above. It is to be noted that the two nations' educational systems differ from one another on a range of dimensions, but are comparable in terms of offering similar qualifications as their outcome, and serve industries that are comparable albeit on geographical extremes from one another. The key findings paint a worrying picture for the industries when such an important aspect of the industries receives such a negligible position in the overall education offer.

Pekka Iivari - *Systems Approach to Tourism Safety and Security*

Tourism is a dynamic process involving a wide scope of stakeholders with different sizes and operational capacities. Tourism operators, service producers and other stakeholders interact with the adjacent society forming a business value chain that is simultaneously a value chain of safety. The weakest loop of the chain determines the real value of the service experienced by a customer. According to the traditional safety approach, infinite upgrading of organization's safety is the solution for proper management of safety. The approach can be regarded as linear instead of a systemic one. Upgrading the safety management in one organization is a limited solution from the vantage point of service value chain. Thus, the traditional approach is insufficient.

Corporate safety and security literature overwhelmingly focuses on organizations as producers and reproducers of safety. This approach, however, doesn't provide us tools to understand the complexity of the tourism process in terms of safety value chain. Systemic and networked approach to safety and security management is crucial if we are to ensure the continuation of tourism globally. Systemic way of doing things means that we are not confined to the level of units, but we bring in the resources and responsibilities of networks. The systemic approach to tourism safety has been tested, with promising results, in ten sub-regions of Finnish Lapland in the course of three years. The methodology applied here is resource pooling and coordinated networking.

Keywords: Safety management, security, tourism, systems

Toni Hyytinen, Venla Räisänen - *Safety Management in Finnish Adventure Service Companies*

As a part of the European Union funded project "The Protection and Safety of Tourists and Tourism Workers", a questionnaire study for Finnish adventure service companies was executed. The object of the study was to get information about the present state of the safety management in Finnish adventure service companies and also compare the results to the international studies of the subject.

65 companies answered to the questionnaire (response rate being 23 %). Specific systems were not commonly exploited in safety management of the companies. Over 70% of the respondent companies had executed regular risk assessments and 85% had found out the legal requirements of their branch. Most of the companies had set safety objectives, but only a tenth had a written safety policy.

The most common safety indicators followed by the respondent companies were the customer and worker accidents, reclamations and hazard reports. Almost 75 % of the respondents collected information about customer accidents and hazards. Almost every company that followed accidents and hazards, also investigated the incidents.
Slips, trips and falls were the most typical accident types that had happened to customers in respondent companies. Changing weather conditions, the lack of professional skills of a guide, language problems and attitude problems of customers were described the most significant safety threats in adventure services.

Comparison of the results to the same kind of international studies showed that the situation is quite the same in Finland than in Australia, New Zealand and Scotland. For example the results in most typical accident types, most significant safety threats and accident investigating activity were very near of the results of Bentley et. al. (2010) and Page et. al. (2005).

The results of this study suggest that the most common safety management activities are exploited quite widely in the Finnish adventure service companies. On the other hand, with this questionnaire it was possible to only find out information about quantity, but not quality, of the activities. Low response rate may indicate that mainly companies, which have set safety as a high priority, responded to the questionnaire.

Keywords: Safety management, risk management, tourism safety, travel companies, adventure services, adventure tourism

Lori Pennington-Gray - *International Tourists Perceptions of Safety & Security: What Role Does Social Media Play?*

International travel is at an all-time high (UNWTO, 2012), putting tourism at an increased vulnerability to crises (Drabek, 2010; Faulkner, 2001; Murphy & Bayley, 1989). Further, there has been an increased occurrence and intensification of crises globally (Drabek, 2009). No destination is immune from crises, thus highlighting the importance of tourism crisis management (i.e. Ritchie, 2004; TCMI, 2010).

Social media has recently been added to crisis management plans and it may influence the dissemination of information during crises (Bracken, et al., 2005). The role of social media as an information source is becoming progressively more significant in tourism (Xiang & Gretzel, 2010). Social media is already part of the travel experience with nearly 3 in 4 social media users accessing their accounts daily during travel (Tripl, n.d.). However, research related to social media use during crises in tourism is sparse (Pennington-Gray, Kaplanidou, & Schroeder, 2011; Schroeder, 2012).

Extending this line of research, we examined international travelers' likelihood of using social media to seek information during a crisis. The data was part of a study which examined international travel by five countries to the United States. The sample size was 2,416.

For the overall sample, social media was the fifth most likely source that international travelers would turn to during a crisis out of fifteen sources. Different subpopulations of tourists had varying preferences for information sources during a crisis. For four of the five countries, tourists are more likely to turn to social media than a local DMO in the event of a crisis. Recommendations for the development and implementation of a comprehensive social media component of a crisis management plan will be presented, as it is imperative that tourism providers be prepared to communicate with tourists through the appropriate channels. A model incorporating social media into crisis management will also be presented.

Keywords: Social media; international tourism; tourism crisis management

Anna Pukander, Pipsa Korkolainen - *Modern Consumer Safety Surveillance - Focus on Safety of Leisure Services*

Safety of consumer services is regulated in Finland by the Act on consumer safety (the Finnish Statute Book 920/2011). The Act covers also the safety on consumer goods. This is rather unique since in most of the European countries the scope of the legislation on product safety covers only the safety goods (products). Therefore the Finnish authorities and economical operators have a leading role in developing the legislation and best practices also in Europe level.

The Act on consumer safety stipulates three fundamental obligations to operators:

- Firstly, the responsibility on safety lies on operators. The operators must pay attention on safety and have precautionary measures on ensuring the safety before services are being offered to consumers.
- Secondly, the operators must have safety management system that includes documentation on safety arrangements and record keeping on accidents. Information from accidents should be used in improving the safety. Also the operators should notify the local authorities on severe accidents.
- Thirdly, according to the Act the information that is necessary for ensuring the safety shall be given to the consumers prior performing the service. This information may include e.g. certain limitations on age or health conditions, use of personal protective equipment and other instructions and warnings. Information shall be given in in a clear and comprehensible manner.

The surveillance authorities have divided the tasks on surveillance between the municipal and regional administration, the local health inspectors and the central administration, the Finnish Safety and Chemicals Authority (Tukes). The local health inspectors are in charge of the surveillance on service as services are performed locally. Tukes will monitor the safety of goods and supervises the work of the local health inspectors. More information on Tukes website www.tukes.fi/consumersafety

Monica Tennberg - *Frontiers, borderlands or border zones: changing ideas of borders, mobility and security in the Barents region*

The paper discusses changing understandings of security, borders and mobility in the context of the Barents region. The Barents region covers the northern most counties of Sweden, Norway and Finland and regions in Northwest Russia. Borders are important for states for their efforts to secure their territories and maintain the control of resources. The governance of mobility across borders through various border practices by states and international organizations is an issue of govern mentality. Such practices produce borders as "frontiers", "border lands" or "border zones". These definitions are produced by various security concerns in the Barents region to reflect issues of abundance, scarcity and poverty in the region. The interactions across the borders in the Barents region were limited before 1990s. However, due to increasing mobility across borders in terms of economic activities and related needs borders are changing their meaning in the Barents region. For example, in the early 1990s only 3000 people crossed the Norwegian-Russian border, but nowadays the number is over 100 000. The mobility of goods, people and capital across the borders in the Barents region is expected to grow in the next few years du to increasing international trade, establishment of visa free zones, and foreign investments. As a result a completely new distribution of dangers, threats and risks take shape in the region as the region develops economically making border security an issue of risk tolerance.

Keywords: Barents region, borders, mobility, security, govern mentality, economic development

Jyri Rajamäki - *Optimized Power Consumption of GNSS Devices Enables Improved Safety and Security Response in Remote and Sparsely Populated Areas*

Satellite-based tracking system combines navigation and telecommunications technologies. Tracked devices are positioned by Global Navigation Satellite Systems (GNSS), and positioning data is delivered for post-processing via mobile networks. Smart phones are most common GNSS-receivers and their technology burgeons. Also, many companies are developing tracking sensors. However, majority of sensors consumes dreadful energy for long-lasting mobile use. Most sensors are "stupid" requiring command for almost all tasks. Some "smart" sensors exist for technical surveillance and information gathering targeted at law enforcement agencies. With artificial intelligence (AI), the tracking sensors are able to adjust according to a behavior of the target also making sensors more power efficient. A multi-talented, intelligent and smart tracking sensor can monitor the environment, e.g. light conditions, temperature, vibration, GNSS location and cell location. This information helps to visualize happening at location. Sensors' own AI-brain makes necessary decisions, generates alerts and facilitates help in tough situation.

SATERISK project has studied risks associated with GNSS-tracking, specifically whether the use of tracking generates additional risks. For example, GNSS-device battery may die in long-lasting hiking that leaves hikers with no way to navigate in the wilderness. Excessive trust in GNSS-technology could end in disaster. However, GNSS-tracking systems enable many possibilities for improved safety and security response in remote and sparsely populated areas, especially if their energy consumption is optimized. The end-user should be the development target for the whole efficiency chain, from the sensor to the information. It is essential as big part of the power consumption rely on how equipment behaves? Next step will be to look for energy harvesting; through other means which enables smart sensors for lasting performance.

Keywords: GNSS, Safety, Security, Power consumption, SATERISK, Tracking

Juha Knuuttila - *Automated Border Control Gates for Smoother Border Crossings*

In recent times, there is increasing trend in tourism and smooth border crossing caters progressive tourism activities. However, robust identification and verification systems are essential tools for law-enforcement agencies to eradicate illegal immigration and human trafficking. New Automated Border Control (ABC) systems will be developed using biometrics across the EU to allow smooth border crossing for EU citizens and legitimate visitors. Laurea University of Applied Sciences and the University of Arizona, leading the National Center for Border Security and Immigration (BORDERS) consortium in the USA, signed a Memorandum of Understanding (MoU) to facilitate cooperation, knowledge exchange, and creation of mutual research and development projects. The MoU covers key research areas including detection of humans and vehicles, sensor networks and communications, data fusion, risk management and assessment, and immigration enforcement. ABC4EU Project is building coherent approaches and interfaces to be added on existing ABC gates. Finland is using Europe´s most modern ABC gates on its Eastern border under perpetual development. Laurea will actively participate in research activities utilizing its affiliate memberships in the Center for Identification Technology Research (CITeR), National Science Foundation (NSF) and Industry/University Cooperative Research Center (I/UCRC). Advance identification technology's mission is strongly focused in the areas of biometric systems and credibility assessment. Laurea's strong affiliation and portfolio achieves said mission, realizing cross-cutting research of emerging enabling technologies, interdisciplinary training, and accommodating technology transfer to the private and government sectors [1]. The paper will cater and highlight those research initiatives and activities including achieved results.

Keywords: Automated border control, Identification technology, Justice, Home affairs, Civil liberties 1 CITeR | Home, http://www.citer.wvu.edu/ (accessed February 8, 2012).

Susanna Pääkkölä, Rintamäki Hannu, Rissanen Sirkka, Soppela Päivi, Särkkä Seppo
- Cold Winter Experiences

Acting in the cold environment is always challenging and expose for many risks. Effects of cold temperature should carefully be taken into consideration when developing safe winter tourist activities, especially when customers have limitations in performance. During outdoor activities in winter both the customer and the employees face many thermophysiological challenges. Skin, hand and feet cooling can cause discomfort, pain and even cold injuries. The body can defend against cold by physiological responses and normally maintains the ideal body temperature. Sometimes these regulatory mechanisms do not work in a proper manner.

Tourism business in the Finnish reindeer herding area is a vital and growing business. Many of the reindeer herders in Finland, and in the other parts of the Northern Barents area, have found new business opportunities by offering a variety of the touristic activities in their reindeer farms. The demand for the barrier-free tourism services will increase in the future in the North. There is a need for the evidence-based guidelines and good practices. Especially in some customer groups like elderly people or diabetics, the risk assessment should be done carefully. The safety of the services designed for these special groups can be increased by identifying the risks and by developing service processes and protective equipment in close co-operation with the end users and the service providers.

To determine the human thermal balance and the physiological risks related to the outdoor activities in winter, the human thermal responses were measured in nature conditions during a reindeer safari in Lapland, Rovaniemi (N 66° 30' E 25° 44'), Finland. The preliminary results show that the cooling of the extremities can occur during the outdoor activities even in mild weather conditions. These measurements will continue through out the winters of 2012-2013.

KEYWORDS: Winter tourism, cold risks, safety, reindeer herders, economical welfare

Kirsi Jussila, Helena Mäkinen *- Protection and Safety of Travellers and Tourism Workers*

Tourism is a progressive branch of industry in Northern areas, as it is worldwide. Thus, the number of small adventure service companies has increased during recent years. Specific safety management systems are not commonly used in these companies, and customer safety is often focused on more than occupational safety. The most common incidents among tourism workers in Finland are slips, trips and falls. Cold climate has also caused frostbite. In adventure services, occupational incidents are often related to animals, such as horses, reindeers and dogs, or to motor vehicles, such as snow mobiles or all terrain vehicles. Travellers want experiences and adventures through winter activities, and are often not familiar with winter conditions. Environmental aspects, such as snow, cold and darkness, are an attraction, but also cause challenges to safety and personal protection in different types of activities. Thus, more effective safety measures are needed for both travellers and tourism workers.

The project aims to develop the safety and protection of travellers and tourism workers in extreme conditions and activities in Finland. A national level multidisciplinary network has been built to increase awareness and safety, consisting of research institutes, universities, vocational schools, tourism companies, clothing manufacturers and occupational safety consultants. The project is partly funded by the EU (European Social Fund) and will continue until the end of November, 2012. Questionnaires, workshops with tourism companies and students, literature surveys, laboratory and field measurements, and training pilot courses have been organized during the project.

The project will produce risk management tools for adventure service companies, education material, recommendations regarding the use of protective clothing in different activities, and practical information material for winter travellers. The development of the safety and protection of travellers and tourism workers will improve the safety of tourism in general, thus enhancing the quality and image of tourism in Finland.

Key words: Tourism, risk management, safety, personal protection

Sirkka Rissanen, Hannu Rintamäki - *Fluid Infusion and Oxygen Administration in Cold Conditions*

In winter tourists and hikers trek in wilderness by snowmobile, dog sledge, skies or snowshoes. If accident happens in a remote place rescue and medical treatments (e.g. intravenous infusion and supplemental oxygen administration) have to take place on an accident site in the cold. Intravenous fluids are administered to trauma patients as treatment for hypovolemia, hypotension, shock, dehydration or hypothermia. Supplemental oxygen is of great benefit to a patient with severe trauma and/or hypothermia. Large volume of cold fluid or cold oxygen may result in lowering of body heat content and the risks should be recognized. The purpose of the study was to examine the effects of cold environment on 1) infusion fluid temperature when different infusion line protective covers are used and 2) upper respiratory track temperature when supplemental oxygen is administered.

Measurements were carried out in the ambient temperatures of -20, 0 and 20°C. Fluid bags were either preheated to 37°C or kept at room temperature. Three different infusion line covers were compared while infusion line without protection was a control measurement. Fluid temperature in the bag and in the tip of line was measured. Seven healthy volunteers participate in the oxygen administration study. They were exposed to exposure temperatures and air temperature in nasal cavity was measured in two depths as well as in the mask and the tube. Gas flow in the mask was set to 15 l/min and the subjects were instructed to breath through the nose. Duration of the measurements was 9 min.

Temperature of unwarmed fluid without protection decreased below 10°C. Temperature of pre-warmed intravenous fluid with infusion line covers decreased approximately to 30°C. Oxygen mask acts as a heat and moisture exchanger and therefore air temperature inside the mask was above 0°C even at -20°C. Air temperature in nasal cavity was stable being 25-30°C.

In conclusion, fluid with high heat capacity is a risk for trauma patient and line protection should be used in cold conditions. Gas has low heat capacity and therefore low temperature of oxygen is not a thermal risk for a patient.

Keywords: Pre-hospital, oxygen temperature, infusion fluid temperature, heat capacity

Kevin Kane - *Reducing Tourist Food Borne Illness Risk through Communication: The UK National Food Hygiene Rating System*

The incidence of food borne illness (FBI) is growing worldwide and affects both developed and developing countries. Everyone is at risk of FBI since everyone consumes food and water, but the impact of this type of illness is especially great on the very young, the very old and those whose immune systems are impaired due to illness or medication. Tourists, in particular, are at real risk of becoming ill from the food they eat as they are going to destinations that are new to them, and are consuming foods with which they unfamiliar, from food outlets of which they have no knowledge. Given that significant numbers of children and older people are travelling, the impact of FBI is perhaps more significant as well as being more likely to occur amongst tourists than amongst the general settled population.

This paper examines a new UK development which rates food businesses (including cafes, restaurants, hotels, public houses and retail outlets), on a six point scale and then registers the score on line. The businesses are also encouraged to display their score on the door of the establishment and, whilst at the moment this is discretionary, it is planned to make display mandatory over the coming year. The utility of this 'scores on the doors' system is examined from the tourist perspective and a case study of a set of restaurants in a tourist area of Manchester is explored.

Keywords: Food Borne Illness; Risk; National Food Hygiene Rating System