

Environmental Assessment for Health Tourism in Baños de Agua Santa, Ecuador

Gutiérrez L. Ruiz¹, Cespedes D. García², Ramirez R. Covarrubias³

¹Universidad Internacional del Ecuador, Quito, Ecuador

²Universidad Técnica Luis Vargas Torres, Esmeraldas, Ecuador

³Universidad de Colima, Colima, México

Email: lruiz@uide.edu.ec

How to cite this paper: Ruiz, G.L., García, C.D. and Covarrubias, R.R. (2017) Environmental Assessment for Health Tourism in Baños de Agua Santa, Ecuador. *Journal of Environmental Protection*, 8, 799-809. <https://doi.org/10.4236/jep.2017.87050>

Received: June 2, 2017

Accepted: June 26, 2017

Published: June 29, 2017

Copyright © 2017 by authors and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

The aim of this study is to apply the methodology for assessment of environmental impact of the heritage town with health tourism interest that is assessed. Health tourism is based on the appropriate employment of natural resources, landscapes and the natural and cultural heritage of a place. In order to carry out the study, a set of both theoretical and empirical methods were used to analyze the case of Baños de Agua Santa. The theoretical methods include the analysis and synthesis employed throughout the research process, as well as in the bibliographic study and the evaluation of the information obtained. In addition, the inductive-deductive method was employed to analyze, process, and treat the information and data that were used frequently in this work. As for the empirical methods, the researchers employed participatory techniques with community stakeholders, in order to gather information through interviews. Also, researchers conducted direct observation of community activities. The automated method software is used which requires a baseline study of the environment assessment in Tungurahua, Ecuador, to be prepared. In addition, the analysis of the social perception on tourism of the local people from the course work of students at the UIDE shall be applied. The conclusions of the case studies undertaken allow for strategic proposals and recommendations to be prepared so that they can be incorporated into the management plans for health tourism in the town with natural heritage value.

Keywords

Environmental, Assessment, Health Tourism

1. Introduction

Health-care tourism has become a major industry in the past decade. Following

the increasing activity in health-care tourism, the decision-making process of consumers in choosing an international health-care facility has become increasingly important to the related parties [1]. People need to go on holiday to relax both mentally and physically. For this, people take vacation on many purposes such as to satisfy their intangible psychological or inner desire, to escape from boredom, to realize their adventure needs, to discover new things, to be healthy, to socialize or even to gain prestige [2].

Health care tourism can be looked at from two angles: the medical angle and the tourism angle. In the former, tourists seek out health care in medical centers such as clinics and hospitals where they undergo medical and/or surgical procedures. From the latter perspective, tourists are seeking to enhance their health in tourist destinations such as baths and spas [3].

Health tourism can also be focused on a group of people who travel because they are interested in enjoying places where they can find healthy, educational, and recreational activities while improving their health at the same time. The social goal of this type of tourism is to provide the traveler with these services, with a commitment to guaranteeing quality care but at prices far lower than found in their home countries, and thus to establish an effective strategy that promotes both tourism and medical services aimed at the national and international consumers of both [3]. This is how tourism products begin to emerge which, while not known by that name in the modern era, “began as mountain or health tourism, as people went to where the famous European sanatoriums or private clinics were being built” [4].

Authors like Pyke, Hartwell, Blake and Hemingway (2016) [5] propose that the potential of the fields of public health and tourism is enhanced even more by incorporating a philosophy of well-being into the strategies of tourist destinations. Hagerty’s theory is considered to be a useful tool for helping to integrate and make connections between the concepts associated with “quality of life” in order to demonstrate the synergies between public health and tourism, and also to reveal the well-being value of tourism. Existing studies have focused on identifying push and pull factors across different types of treatment, for example cosmetic or bariatric surgery, or on groups, such as diaspora patients returning ‘home’ for treatment [6].

Quality and availability of care are key influences on medical tourism behaviour, alongside economic and cultural factors. More analysis is needed of the rationale for travel, the behaviour of medical tourists, the economic and social impact of medical tourism, the role of intermediaries, the place of medical tourism within tourism (linkages with hotels, airlines, travel agents), ethical concerns and global health restructuring [7] [8] states that if a destination wants to survive, it must adopt a management approach informed by social marketing, characterized by: (1) a systematic monitoring of the levels of satisfaction of the tourists and that this be a part of the evaluation criteria, beyond the growth in the number of visitors; (2) continuously analyzing how local residents are reacting to tourists, since the tourist-resident interaction is an important component

of the tourist experience; and (3) understanding that the infrastructure that is developed at the destination has implications in terms of attracting tourists, local environmental resources and the resident population, and conditions the well-being of tourists and residents over the long term.

Medical tourism raises numerous ethical and development issues, many of which are centred in source countries or are linked to particular unusual forms of “tourism” such as stem cell and transplant surgery, and including refugee movements across borders, where conventional notions of “tourism” are steeped in irony [7].

The very complexity of the tourism phenomenon, where issues of a sectoral nature (the tourism product) are mixed with the territorial (supporting production and consumption), makes it necessary to contextualize the (physical-geographic) space in accordance with the process that occur within it, which generate a specific social, economic and environmental imprint. It is from the interpretation and application of this complex reality that territorial research on tourism is now emerging, and as a more recent result of this research, there are various studies on the destinations and their implications for developing tourism from a spatial point of view [8].

Health tourism is based on the appropriate employment of natural resources, landscapes and the natural and cultural heritage of a place. It is precisely the use of cultural identity as a way to highlight local potential (competitive advantages and heritage) which has contributed to the successful equation of “tourism plus heritage equals development” [9] which is referred to as a harmonic simulation of social dynamics, expressed in an idealization that is intended to meet the consumption needs of a growing tourism phenomenon, based on a quest for the past; the fantasy of yesteryear; from the perspective of a neo-colonialist subjectivity which approaches this different reality from its own prejudices, the representation of which is expressed and recreated in its own image to satisfy that yearning for something different [9].

Tourism management must pay special attention to the attractions that inspire visitors, without forgetting that these form an image of the destination being visited based on a global experience which includes the perception of the basic goods and services, tourism resources, infrastructure and equipment, as well as public services available. In attending to these conditions, tourist destinations have to not only make investments in lodging to attract visitors. In addition to investments in facilities, and occasionally before them, it is essential to improve public services, especially: safety, traffic and crowd control, medical services, sanitation and street cleaning [8].

Korstanje (2014) [10] suggests as a critique that tourism research is centered around five primary topics: culture, heritage, territory, sustainability and risk, but a deeper exploration of the topic suggests that tourism lacks a comprehensive method, and a clear epistemology to help researchers understand what they are trying to study. In whatever geographic space where tourism activities are carried out, there are temporary changes in density, but infrastructure elements

are also built which can create territorial conflicts [11] These ideas suggest that studying the sustainability of health tourism in a given territory constitutes a premise on which to base appropriate environmental strategies for that territory.

According to Han, Dieck, and Jung, (2017), [12] and Dragouni, Fouseki, (2017) [13], the role of heritage values, tourism and community perceptions held by destination hosts as drivers to willingness to participate in heritage tourism development and the user experience is formed by the correlation of product features and the perceptions and experiences of tourists. Detailed host resident viewpoints and the large scale of the survey can help local residents be informed about tourism development and better involved in the policy formation process [14].

The World Health Organization (WHO), in 1948, proposed that “health is not merely the absence of disease, but rather a state of well-being”, and well-being has become a difficult concept to define), [15] Nevertheless, well-being has been described in many ways, such as an individual having an optimistic outlook on their life, including happiness, positive emotions, commitment and purpose [5]. It is also said that the principles of sustainable tourism have been used to provide additional evidence for how to integrate the principles of public health into the management of tourist destinations, local policy, activities and capital in order to achieve positive results [5].

The Constitution of the Republic of Ecuador (2008) establishes provisions related to state Policy; within this legal framework, the National Secretariat for Planning and Development (SENPLADES) is leading the process of the 2013-2017 National Plan for Good Living, which is the first planning instrument that incorporates the Strategic Plan for the Development of Sustainable Tourism for Ecuador (PLANDETUR 2020), the goal of which is to guide a process that coordinates public, provide and community efforts to develop sustainable tourism, grounded in local territories and informed by the principles of poverty alleviation, equity, sustainability competitiveness and decentralized management, making full use of the comparative advantages and unique elements that the country has to offer.

2. The Case of Baños de Agua Santa, in Ecuador

Baños de Agua Santa, because of its location on the eastern edge of the Andean mountain range, offers a number of natural resources and unique visual beauty, featuring the continuous activity of the Tungurahua volcano, and the Sangay and Llanganates National Parks, whose plateaus feed the Pastaza River, and the presence of several hot water springs which gave the heritage town its name Baths of Holy Water.

Sangay National Parks has been listed as a UNESCO World Heritage Site since 1983. The park contains two active volcanoes (Tungurahua and Sangay), one extinct volcano (Kapak Urku), and ecosystems ranging from tropical rainforest to glaciers. It is an important refuge for rare species of the Andes like mountain tapirs and spectacled bears.

Llanganates National Parks, is a protected area in Ecuador located within the park is Cerro Hermoso which means “beautiful mountain”. The visitors find a rich diversity of plants and animals among the twisted forests of the upper Amazon. The area is 20 miles from Baños de Agua Santa but the trek takes around eight hours through swampy and mountainous jungle.

Baños de Agua Santa is one of nine cantons of the province of Tungurahua, which is located in the central Andean region of Ecuador, and is the smallest and most densely populated province in the country. Thanks to its strategic location, its linkages to the commercial dynamics of the two main economic poles of the country and the enterprising spirit of its people, as well as a number of local participatory management initiatives, it has become an “atypical” example of development in the country’s central region [16].

For years, the offerings of ecological, religious and health-related tourism in Baños de Agua Santa were the primary areas of interest for visitors to the city, however toward the end of the 20th century, the town began moving toward nature and ecotourism, health tourism, and cultural tourism. In recent years an additional element of adventure tourism has been added to the mix. Nevertheless, there is still a great deal of untapped potential in health tourism and ecotourism, because no national nor local strategies have been developed for these purposes, nor have more attractive medical services been incorporated in the canton.

According to Fonseca J.F. Font M. (2015), [17] over the past forty years, the failure to implement socio-economic development strategies in Baños de Agua Santa, Tungurahua Province, Ecuador, has led to a depletion of tourism resources and territorial disorder, the result of a dominant capitalist system which guides competition in an indiscriminate manner. That opinion contrasts with the research done by authors Herrera and Rodriguez (2016) [18], which affirm that a study of the town of Baños reveals a population with a dynamic capacity for learning, adaptation and self-organization which has allowed it to maintain its essential functions despite the ecological, social and economic impact of the eruption of the Tungurahua volcano, in response to which the townspeople were forced to develop new products and services and to improve existing ones as part of their primary economic activity, tourism. The shift from tourism based on religious pilgrimages and hot springs toward adventure and ecotourism is clear evidence of this capacity to adapt [18].

Ocaña (2013) [19] puts forth the theory that in order to classify tourists into segments, one should use the criteria of the average amount of money spent and their place of origin; thus for the low-end segment, we have students and family groups who spend less than US\$ 20 per day per person, who come largely from Ambato, Riobamba, Quito, and Guayaquil; the first two cities in this list are close to Baños and so it is common for those visitors not to spend the night, making them more “day-trippers” rather than tourists; therefore these visitors tend to visit during weekends, holidays and during the months of school vacations in the Andean and coastal regions. The second or middle segment is com-

prised of families, young couples, young professionals and university students, who spend on average less than US\$ 40 per day and who come mainly from Quito, Guayaquil and Cuenca, and to a lesser extent from Manta, Santo Domingo de losTsáchilas and other cities; the seasonality of their visits is similar to that of the low-end segment.

Finally we have the high-end segment, comprised of families, older adults (retired-pensioners), adult professionals and some students, who spend on average up to US\$ 80 per day, and who come from Quito, Guayaquil and Cuenca primarily, as well as some other Ecuadoran cities; these maintain the same seasonal patterns as the other groups but are more likely to visit on weekends throughout the years [19].

The obvious growth in tourist activity in the canton of Baños de Agua Santa has resulted in relatively healthy economic growth, with a resulting improvement in the quality of life of the local population. In addition, tourism does not contribute significantly to adverse environmental impacts, with respect to the consumption of available fresh water. Tourism establishments account for about 20% of the drinking water consumption in the canton, and it is evident that the tourism activities that take place in the canton do not have a detrimental effect on the availability of water for other uses by the local population [20].

The city of Baños does not practice the separation at source of solid wastes. Therefore, the vast majority of wastes produced are mixed together and dumped into the Juive landfill, which according to reports from the Municipal Department of Hygiene, Beautification and Agricultural Development, was close to the end of its useful life in December 2014 [21].

The tourist who visits Baños de Agua Santa prefers the wide variety of options offered by adventure tourism, which is the choice of mainly younger people. Other significant options are religious tourism and health tourism, which are preferred in turn by middle-aged and older adults [22] Meanwhile, it has been found that in another health tourism destination 49% of the visitors to Baños de San Vicente in Salinas, Ecuador; go there for health reasons; and 21% to rest and relax, 16% for recreation and only 14% for other reasons [21].

Research Methodology

In order to carry out the study, a set of both theoretical and empirical methods were used to analyze the case of Baños de Agua Santa. The theoretical methods include the analysis and synthesis employed throughout the research process, as well as in the bibliographic study and the evaluation of the information obtained. In addition, the inductive-deductive method was employed to analyze, process, and treat the information and data that were used frequently in this work. As for the empirical methods, the researchers employed participatory techniques with community stakeholders, in order to gather information through interviews. Also, researchers conducted direct observation of community activities.

The application of methods of environmental analysis in the field of tourism

allows the study and assessment of the actions created by the planning activity, with a view to determining, predicting, interpreting and communicating the negative impacts that these actions cause in the environment under current conditions, in order to reach a social model with approaches to sustainability in tourism. In this context, the local environmental impact of the towns involved in tourism could cause undesirable effects on the target environment within a particular area, and the aforementioned can also be called potential impacts, which ultimately are the most severe and fall under the scope of the study. The characteristics of the environmental impacts appear expressed in different environmental impact assessment methodologies with different attributes, such as: nature, connotation, magnitude, significance, synergy, scope and reversibility [23] [24].

The method of carrying out a baseline assessment of the environment was employed, which was done using the strategic environmental assessment tool known as Rapid Impact Assessment Matrix (RIAM), [25] The RIAM method is appropriate because it favors an investigation being undertaken by a team of multidisciplinary investigators, given that the data from different towns are assessed and can be analyzed thus providing a clear evaluation of the main impacts [26] The study also looked at the social perception that local residents have of tourism through semi-structured interviews with local subjects, in order to gauge their perceptions of tourism in their community [27] To do this, a total of four visits were made to the town of Baños by professors and students of the School of Tourism, Hospitality and the Environment of the Universidad Internacional del Ecuador (UIDE), which were scheduled during different periods to cover the seasonality of tourism activity in this destination, during which qualitative and semi-quantitative instruments were employed to gather and process information, such as document analysis, interviews [28] [29] assessments by direct observation and the strategic environmental assessment of the area of study

The mathematical criteria for assessment by the RIAM method [25] should be defined for the independent and dependent variables, which are based on the intervening variables that may be conditioned by the change in the location of the individual projects. The valuation of the environmental impacts comprises assigning a concrete (objective measurement) or abstract (subjective measurement) value to the environmental impacts as a basis for establishing evaluative, quantitative or qualitative judgments. It is based on the identification of variables and indicators, the measuring and establishing value judgments [26]. The range statistics values obtained can generally be expressed in negative change of relevance, priority or magnitude.

3. Results and Discussion

The semi-structured interviews and surveys indicate that the natural vocation of the area as a health tourism destination can be oriented toward other markets, such as adventure tourism for youth, since it leaves the tourism options to the creativity of local companies. Respondents also noted that people are taking

shorter vacations, such as day or weekend trips, which limits the earnings of tourism establishments, which are primarily small and medium-size enterprises.

The results of the 220 semi-structured interviewed conducted with local residents regarding their perception of and degree of satisfaction with tourism revealed the following findings in **Table 1**.

The findings obtained from the environmental assessment of the physical, socio-cultural and economic medium of the town of Baños incorporate abiotic, biotic, socio-cultural and economic components, which were evaluated using matrices based on the RIAM method, which produced the following results in **Table 2** and **Table 3**.

Table 1. Results of the semi-structured interviewed and perceptions.

% Local residents interviewed	General perceptions
88% Local residents interviewed	Most of the residents interviewed agree that more services are needed in order to increase tourism, and more investments are needed in the tourism infrastructure, such as information points, signage, public restrooms, and an expansion of the preventive medical system to cover health tourism establishments
73% Local residents interviewed	In the central area of Baños there is a need to control noise levels and air pollution caused by vehicular traffic, and one strategy to address this is to improve bicycle lanes and pedestrian traffic in urban areas. Also important is achieving adequate solid urban waste management and introducing a culture of waste reuse and recycling
69% Local residents interviewed	Local residents enjoy the many attractions within their own community and participate in local tourist activities within the town, and therefore more emphasis should be given to internal tourism, for instance by instituting discounts for Baños residents
47%. Local residents interviewed	A suggestion was made that prices should be regulated with clear policies and controls during holidays
41%. Local residents interviewed	The people interviewed do appreciate the concept of health and welfare tourism as a significant opportunity for economic growth with an added value for consumers and the community. They commented that more controls are needed on the part of the local government in terms of regulations and public health related to tourism operations
38%. Local residents interviewed	Interviewees proposed creating environmental education programs for tourism and too enhance customer experiences via formal and non-formal means

Table 2. Description of environment component.

Environmental Components	Description
Physical chemical component (abiotic)	The quantity and quality of the water and the soil are considered to be within the acceptable ranges of impacts; however unfavorable results were detected in the inadequate management of urban solid wastes, noise and air pollution on high traffic days are considered deficient, along with the latent natural risk of eruption of the Tungurahua volcano.
Biological ecological component (biotic)	The flora, fauna, ecosystems and landscapes were evaluated as satisfactory, except for the need to encourage the planting of endemic plant species in city parks.
Socio-cultural component	The sense of identity and perception of local residents was acceptable, but one negative finding was a recognition that the public health system is still insufficient to provide health tourism services in existing facilities; also detected was the importance of merging together public health and tourism and the benefits that this could bring to both tourists and residents.
Economic-operational component	Indicators related to the local economy, tourism activities and alternatives, and employment opportunities were also positive; with the exception of deficiencies in local tourism and environmental management shaped by territorial growth with limited strategic planning for the tourism sector. It was found that there is a certain degree of income inequality and little interchange between tourism companies, political representatives and the general public in the town of Baños.

Table 3. Result of RIAM method.

Range statistics value	Physical chemical component (abiotic)	Biological ecological component (biotic)	Socio-cultural component	Economic operational component
Major negative change/impact (-ET = -72 to -108)	0	0	0	0
Significant negative change/impact (-DT = -36 to 71)	0	0	0	0
Moderate negative change/impact (-CT = -19 to -35)	(-CT = -19 to -35)	0	0	0
Negative change/impact (-BT = -10 to -18)	0	(-BT = -10 to -18)	0	0
Slight negative change/impact (-AT = -1 to -9)	0	0	(-AT = -1 to -9)	0
No change/not applicable (0)	0	0	0	0

4. Conclusions

The conclusions point to strategic proposals and recommendations that can be incorporated into health tourism management plans for Baños in Provinces of Tungurahua, which would include:

- Developing a strategic territorial approach to increase health and natural and cultural heritage tourism, with appropriate regulations for tourist activities, in order to achieve more controlled and sustainable tourism linked to the health tourism sector that would bring with it an increase of medical services in the canton.
- Part of the health tourism initiatives could include health tourism programs targeted to the elderly with medical monitoring at the existing mineral-medicinal baths which can increase this market in Baños de Agua Santa.
- Increasing local environmental education programs and engaging more institutions, companies and the public, especially local and visiting youth around the concept of heritage tourism and well-being for health tourism which can be promoted as a healthy way of life and bring benefits for both tourists and residents in order to build a more sustainable community.

References

- [1] Gökhan, A. and Bilge, K. (2017) Factors Affecting Health Tourism and International Health-Care Facility Choice. *International Journal of Pharmaceutical and Healthcare Marketing*, **11**, 16-36.
- [2] Drylas, D. and Salamaga, M. (2016) Applying Destination Attribute Segmentation to Health Tourists: A Case Study of Polish Spa Resorts. *Journal of Travel & Tourism Marketing*. <http://www.tandfonline.com/doi/abs/10.1080/10548408.2016.1193102>
- [3] Karen, P. (2016) Turismo gerontológico de salud en Baños de San Vicente provincia de Santa Elena 2016. Trabajo de titulación, Facultad de Comunicación Social. Universidad de Guayaquil. <http://repositorio.ug.edu.ec/handle/redug/10204>
- [4] Guerrero, P. and Ramos, J. (2014) Introducción al turismo. Primera Edición E-Book. Grupo Editorial Patria, S.A. de C.V. México.

- <http://www.editorialpatria.com.mx/pdf/files/9786074384130.pdf>
- [5] Pyke, S., Hartwell, H., Blake, A. and Hemingway, A. (2016) Exploring Well-Being as a Tourism Product Resource. *Tourism Management Journal*, **55**, 94-105.
<https://doi.org/10.1016/j.tourman.2016.02.004>
- [6] Hanefeld, J., Lunt, N., Smith, R. and Horsfall, D. (2015) Why Do Medical Tourists Travel to Where They Do? The Role of Networks in Determining Medical Travel. *Social Science & Medicine*, **124**, 356-363.
<http://www.sciencedirect.com/science/article/pii/S0277953614003104>
<https://doi.org/10.1016/j.socscimed.2014.05.016>
- [7] Connell, J. (2013) Contemporary Medical Tourism: Conceptualization, Culture and Commodification. *Tourism Management*, **34**, 1-13.
<http://www.sciencedirect.com/science/article/pii/S0261517712000970>
<https://doi.org/10.1016/j.tourman.2012.05.009>
- [8] Ricardo, R. (2011) Destinos turísticos. *Realidad y concepto*. Revista Turydes, Vol. 4, N° 11. <http://www.eumed.net/rev/turydes/11/rf.pdf>
- [9] Mauricio, L. (2010) Ecoturismo comunitario-étnico: ¿Activación del patrimonio cultural identitario o parques temáticos étnicos? *Nómadas* N° 26; Revista crítica de Ciencias Sociales y Jurídicas.
- [10] Maximiliano, K. (2014) Teoría turística: Del choque cultural a la percepción del riesgo. Revista Turydes, Vol. 7, N° 16.
<http://www.eumed.net/rev/turydes/16/teoria-turistica.pdf>
- [11] Valdés, M. and Valarezo, C. (2016) ¿Turismo desde la geografía o geografía del turismo? *Revista Turydes: Turismo y Desarrollo*, No. 20.
<http://www.eumed.net/rev/turydes/20/geografia.html>
- [12] Han, D.-I., Dieck, M.C. and Jung, T. (2017) User Experience Model for Augmented Reality Applications in Urban Heritage Tourism. *Journal of Heritage Tourism*, 1-16.
<http://www.tandfonline.com/doi/full/10.1080/1743873X.2016.1251931>
<https://doi.org/10.1080/1743873X.2016.1251931>
- [13] Dragouni, M. and Fouseki, K. (2017) Drivers of Community Participation in Heritage Tourism Planning: An Empirical Investigation. *Journal of Heritage Tourism*, 1-20. <http://www.tandfonline.com/doi/full/10.1080/1743873X.2017.1310214>
<https://doi.org/10.1080/1743873X.2017.1310214>
- [14] Zhang, H.Q., Fan, D.X.F., Tse, T.S.M. and King, B. (2016) Creating a Scale for Assessing Socially Sustainable Tourism. *Journal of Sustainable Tourism*, **25**, 67-78.
<http://www.tandfonline.com/doi/full/10.1080/09669582.2016.1173044?scroll=top&needAccess=true>
- [15] La Placa, V. and Knight, A. (2014) Well-Being: Its Influence and Local Impact on Public Health. *Public Health*, **128**, 38-42.
<http://www.sciencedirect.com/science/article/pii/S0033350613003107>
<https://doi.org/10.1016/j.puhe.2013.09.017>
- [16] Ospina, P. (2011) El territorio de senderos que se bifurcan: Tungurahua; economía, sociedad y desarrollo. Universidad Andina Simón Bolívar, sede Ecuador. Quito. Corporación Editora Nacional.
- [17] Fonseca, J. and Font, M. (2015) Diagnostico estratégico para la gestión y sostenibilidad del destino turístico Baños de Agua Santa-Tungurahua-Ecuador. *Retos Turísticos*, **14**.
<http://retos.mes.edu.cu/index.php/retojs/article/viewFile/166/155>
- [18] Herrera, G. and Rodríguez, G. (2016) Resiliencia y Turismo. El caso de la ciudad de Baños de Agua Santa, Ecuador. HOLOS.

- <https://docs.google.com/viewerng/viewer?url=http://www2.ifrn.edu.br/ojs/index.php/HOLOS/article/viewFile/4303/1496>
- [19] Ocaña, W.O. (2013) Turismo como alternativa de desarrollo territorial: Estudio de caso en Baños de Agua Santa, Provincia de Tungurahua. Tesis de Maestría en Ciencias Sociales con mención en Desarrollo Local y Territorial, FLACSO Sede Ecuador, Quito.
- [20] Pozo, P. (2014) Aplicación del indicador huella hídrica para el estudio de sustentabilidad del turismo en la localidad de Baños de Agua Santa, Tungurahua, Ecuador. Tesis para obtener el título de maestría en gestión integrada de recursos hídricos. Universidad Nacional del Litoral, Ecuador.
<file:///C:/Users/lruiz.INTERNACIONAL/Downloads/Tesis.pdf>
- [21] Lara, V. and Pérez Caicedo, F.I. (2015) Caracterización de los residuos sólidos de la ciudad de Baños y propuesta técnica de pre reciclaje de botellas, plásticos, cartón y papel. Proyecto de investigación. Facultad de Ingeniería. Universidad Nacional de Chimborazo. Ecuador. <http://dspace.unach.edu.ec/handle/51000/1382>
- [22] Ballesteros, J.A. (2016) Plan estratégico del centro de turismo comunitario del cantón Baños de Agua Santa. Tesis de grado previo a la obtención del título de Ingeniero en Administración de Empresas Turísticas y Hoteleras. Universidad Regional Autónoma de los Andes. Ecuador.
<http://dspace.uniandes.edu.ec/handle/123456789/2541>
- [23] Gutiérrez, L. (2015) Impact Assessment of Tourism Construction in Cuba. *Journal of Building Construction and Planning Research*, **3**.
- [24] Gutiérrez, L. (2015) The Environmental Effects of Tourism Architecture on Island Ecosystem in Cayo Guillermo, Cuba. *Journal of Environmental Protection*, **6**, 1057-1065. <https://doi.org/10.4236/jep.2015.69093>
- [25] Pastakia, C. (1998) The Rapid Impact Assessment Matrix (RIAM)—A New Tool for Environmental Impact Assessment. VKI, Agern Alle 11, DK-2970 Hørsholm, Denmark.
- [26] Ruiz, L. (2016) Strategic Environmental Assessment of Towns in Ecuador with Tourism Potential. *Journal of Building Construction and Planning Research*, **4**, 83-88. <https://doi.org/10.4236/jbcpr.2016.41005>
- [27] Covarrubias, R. and Conde, E. (2009) Percepción del nivel de satisfacción de los residentes con la actividad turística. Caso Comala, Colima, México. TURyDES. *Revista Turismo y Desarrollo Local Sostenible*, **2**.
<http://www.eumed.net/rev/turydes/index.html>
- [28] Velasco, G., *et al.* (2015) Estudio ambiental de Baños de Agua Santa. Trabajo de curso. UIDE, Quito. Inédito.
- [29] Mora, M., *et al.* (2017) Línea Base y estudio de impacto ambiental en el poblado de Baños de Agua Santa en Tungurahua. Trabajo de curso. UIDE, Quito. Inédito.