

AFRREV STECH
An International Journal of Science and Technology
Bahir Dar, Ethiopia

Vol.1 (3) August-December, 2012:1-16

ISSN 2225-8612 (Print)

ISSN 2227-5444 (Online)

**Community Participation and Sustainable Development of
Ecotourism: The Case of the Wechiau Hippo Sanctuary
Project in the Wa West District**

Okrah, Maxwell

Dept. of Planning and Management
University for Development Studies, Tamale, Ghana
Email: okmax2011@yahoo.com
Cell phone #: +233261360888

&

Gyimah, Charles

Dept. of Planning and Management
University for Development Studies, Tamale, Ghana
Email: cgyimah@yahoo.com

Abstract

In the past few decades, “ecotourism” has emerged as a much talked about topic that is frequently linked with “sustainable development”. This was identified as a strategy for enhancing the local people’s involvement in the management of such projects for their own benefits. This paper explores the

link between community participation and sustainable use of the nature-based tourism resources of Wechiau. Critically, the study examines the environmental impacts of community participation in the sanctuary, ecotourism related conservation and development and the link between sustainable development, education and the distribution of benefits. To do effective analysis of the variables, qualitative and quantitative data was collected from the destination communities and stakeholder institutions by using Chi-Square and regression. The survey revealed that community participation has a positive correlation with biodiversity conservation and sustainable ecotourism but exhibit a negative relationship between sustainable ecotourism and benefit distribution. It was consequently concluded that sustainable development of the Wechiau Hippo Sanctuary will be a reality through the adoption of “eco-development” approach and practices. These approach and practices enhance and promotes sustainable ecotourism, business tourism and modification of incentive structures of the Wechiau Hippo tourism industry.

Key Words: Community Participation, Ecotourism, Community-Based Ecotourism, Conservation, Sustainable Development

Introduction

Many developing countries have supported the use of environmentally-sound tourism or ecotourism as a means of achieving development as well as environmental protection at the community level. Ecotourism is tourism that incorporates conservation responsibilities of the tourist, and/or linkages to sustainable development of local peoples (Campbell, 1999). People-centred and a community-based approach to ecotourism focus on promoting the quality of life as well as increasing the awareness of ecotourists and local citizens of conservation (Scheyvens, 1999; WTO, 2008). Despite the universal acknowledgement of the establishment of sustainability criterion around economic and socio-cultural dimensions, Weaver (2008) notes that sustainable tourism is premised on economic benefits receive by host communities. To counter the stress on biodiversity by conventional tourism, Drumm and Moore (2005) opine that ecotourism and its appropriate strategies provide a sustainable transition into the zone of minimum negative impacts. More than just tourism to natural areas, ecotourism has increasingly become an aspect of resource conservation as well as local development.

An integral part of ecotourism that underpins the sustainable development paradigm is community participation. Indeed, there is now a growing body of

evidence to suggest that top-down approaches to planning and management of ecotourism have failed to attain sustainable results. Some of the optimists and advocates of local participation in the domain of planning and managing ecotourism resources are Brandon (1993) and Western and Wright (1994). Adding to the 'participation-ecotourism' debate, Scheyvens (1999) observes two perspectives: local participation in the decision-making process; and local involvement in the benefits of ecotourism development. To be able to shift that category of community activities that pose a threat to biodiversity conservation to that of opportunities and sustainable development, necessitate the participation of all stakeholders, especially local citizens (Drumm and Moore, 2005). The effects of the people at the grass root level, has become necessary in the promotion of ecotourism the world over. Consequently, community participation has become an important strategy to building an empowered community to enhance tourism at the destinations where the tourism resources are located.

Despite ecotourism's increased acceptance as a development tool, the decision to undertake such projects must still be carefully weighed. In some cases, the economic and social costs of ecotourism initiatives have been greater than the benefits derived by the local populations (Lindberg et al., 1998). Arguably, the operation of ecotourism facilities without any associated negative impacts is an ideal imagination. The reality however, has been that a variety of socio-economic and environmental problems have arisen in most cases (Boo 1990, cited in Stone, 2002). It is therefore argued by Buchsbaum (2004) that ecotourism is faced with the task of balancing the damage caused by tourists and the preservation of ecosystem for posterity. This study therefore seeks to explore how local participation affects sustainable development and benefit thereof, from the Wechiau Hippo Sanctuary by examining the following objectives: Sustainable ecotourism and conservation, local participation and conservational impact on the sanctuary; and the link between and among sustainable ecotourism and education, participation and the distribution of benefits.

Conceptual review

Community participation

Community participation has assumed an increasingly important role in development philosophy in recent time. Communities have both the right and responsibility to be involved in the planning, administration and management of their own projects or in the provision of services in their own community.

According to Stone (1989), community participation is not only more cost effective than alternative approaches that drain the state resources but also cultivate in local people, the habit of active involvement as well as being consistent with the principles of equity and self-reliance which dominates internal development policy in recent times.

In the assessment of participation by Brechin et al (1991), the realisation was that, those initiatives that evolve from the community and involve at least equal decision-making power are more likely to be successful because they encourage self-sufficiency. They added that the “bottom-up” strategy offers a great potential for integrating conservation and development and ensures cultural preservation. In supporting the potentials of participation, Western and Wright (1994) argued that the trend towards greater participation stems, in part, from the belief that local involvement could reduce hostility towards conservation efforts. A study by Brandon and Wells (1992, in Stem, 2001) claimed that power sharing, good community relations, and inter-institutional coordination all facilitate positive conservation outcomes.

Cohen and Uphoff (1980) in Stem (2001) argued that participation greatly impacts project success, and they outlined four types of participation: participation in decision-making, participation in implementation, participation in benefits, and participation in evaluation. They also highlighted the importance of considering who participates, as communities are large, heterogeneous groups with diverse interests. Authors like Scheyvens and Purdie (1999) and Buchsbaum (2004) promoted community-based model of ecotourism as a suitable management strategy towards achieving local sustainable development. Such an approach focuses on a livelihood perspective and addresses the importance of active participation of local people in the processes of planning, managing, and monitoring tourism development.

Evolution of ecotourism

Conceptually, the origins of ecotourism are not certain yet, Hetzer’s contribution, as reported by Blamey (2001) was one of the first sources that gave explanation to the ecotourism discourse. According to Hetzer (1965; cited in Blamey, 2001), four principles of responsible tourism encompassed minimising environmental impacts, respecting host cultures, maximising benefits to local people, and maximizing tourist satisfaction. The term ecotourism emerged and became more popular in the late 1980’s as a direct result of the world’s acknowledgement and reaction to sustainable practices

and global ecological practices (Diamantis, 1999). The hype given to ecotourism was linked to dissatisfaction with mass tourism as a result of overdevelopment, environmental pollution, and the invasion of culturally insensitive and economically disruptive foreigners (Orams, 1995). According to The Ecotourism Society (TES), ecotourism involves “responsible travel that conserves the environment and sustains the well being of local people” (Ecotourism Society in Orams, 1995).

As a starting point, ecotourism was widely perceived as a subset of Alternative Tourism (AT) which placed primary emphasis on the natural environment as the main motivation for travel (Carter, 1994). The coinage of the term is attributed to Ceballos-Lascurain who in the early 1980’s provided a definition that is still widely quoted. According to Ceballos-Lascurain (1987), ecotourism is defined as “travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestation both past and present found in these areas”. Ecotourism has also become popular among people interested in both environmental conservation and sustainable development. It has been seen as a way to save the rain forest and a “win-win development strategy for underdeveloped areas” (The Nature Conservancy, 2006).

Sustainable development

Since the first conceptual explanation of sustainable development by the Bruntland Commission in 1987, the concept has continued to gain popularity and has evolved to represent much more than its original definition. Basically, the Bruntland Commission’s definition of sustainable development centred on “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). Sustainable development highlights development along the path of human-welfare maximisation and reduction and/or elimination of negative externalities churned out by human activities on natural and environmental resources. Beyond this technical definition, the notion of sustainable development has gravitated into a political usage (OECD, 2001) and impose limit – not absolute limits but limitations imposed by the present state of technology and social organisation on environmental resources and by the ability of the biosphere to absorb the effects of man’s activity Kates et al (2005).

Sustainable development pays special attention to the interdependence of all systems and calls for maintaining the ecosystem equilibrium (Boff, 2003). It is reported that the strategies for sustainable development are of two perspectives: provision of conservation as a result of using a local resource base as direct incentive; and those that provide alternative income opportunities and are not directly linked to the local resource base. The latter option have high propensity of contributing positively to conservation on the premise that people will conserve their resources when other attractive economic alternatives to resource exploitation exist (Brandon and Wells 1992, Kremen et al. 1994).

The absence of a universally agreed interpretation of sustainable development has led to criticism based on ambiguity and inherent contradictions of the term (Sharpley, 2000). Aronsson (2000) maintained that sustainable development is a contradictory term because it is impossible for society to achieve environmental protection and economic development both at the same time. Boff (2003) echoed Aronsson's concern by insisting that the two terms used within sustainable development are mutually exclusive, due to the incompatible nature of economic and ecological parameters. As a result, this can lead to resource depletion and unequal and uneven distribution of goods and services. Meadows (1998) therefore argued that sustainability must go beyond environmental and growth indicators into the domain of efficiency, sufficiency, equity, and the general quality of life.

There are three presentations of "sustainable development" referred to most frequently in the development literature, namely, weak and strong sustainability, and the mainstream version (Burgess and Barbier, 2002). Weak discourse of sustainable development adopts an anthropocentric perspective on considering the relationship between humans and nature (Kallio et al., 2007; Williams and Millington, 2004). Such an interpretation sees natural and manufactured capital as interchangeable, and is optimistic towards future technology as providing answers to environmental problems, which, in turn, justifies continuing economic development and resource exploitation (Williams and Millington, 2004). Unlike this perspective, strong sustainable development considers preservation of other life forms as the principal aim of sustainability. It regards economic growth as inherently destructive, which implies sustainable development can only be achieved by adhering to the constant natural assets rule without economic growth (Burgess and Barbier, 2002).

The third version of sustainable development has evolved over time, which defines sustainable development as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” by the ‘Brundtland Report’ (WCED, 1987). This comes somewhere between the weak and strong sustainable positions. This has, however, been severely criticized as being fraught with contradictions, while lacking a clear solution. This is because such an approach does not imply absolute limits to growth, nor provide any feasible suggestions to balance the continued economic growth against the need of conserving natural resources in practice (Purvis and Grainger, 2004).

Methodology

Research design

A case study approach was used as the research strategy by the researchers. This study acknowledged the relevance of the constructionist paradigm based on the view that knowledge is socially constructed. This approach posits that there can be multiple perspectives on a single phenomenon hence truth is relative and that it is dependent on one’s perspective (Denzin & Lincoln, 1994; Yin, 2003). To be able to discover the relations and interactions among the variables in real-life and contemporary settings, the case study approach was appropriate in reflecting upon values, interests, experiences, beliefs and political commitments of local communities (Kerlinger & Lee, 2000). This approach therefore creates a collaborative atmosphere between the researcher and the participants and allows the participants to tell their stories. This confirmed the position of Patton (2002) of the involvement, and immersion of the researcher into the discussion of the real world situation. The researcher needs to be present during the process of eliciting the values and perspectives of the subjects and/or objects of investigation. It provides an opportunity to explore multiple sources of gathering data from the sample population.

Informed by the description offered by Denzin (1978) that triangulation is the combination of methodologies in the study of the same phenomenon, the current study put the triangulation strategy into action to ensure reliability and validity of the field data. To ensure that the research process and results represent local realities, data sources were triangulated through interviews, observation, the adoption of group discussions and key informant interviews.

The study communities and respondents were selected on the basis of probability and non-probability procedures. The seventeen (17) communities (catchment communities) in the Wechiau Sanctuary area were clustered into North, Centre and South zones for the collection of primary data. Six (6) communities were randomly selected from the zones with two communities from each zone. Thereafter, seventy-four (74) households were randomly selected in this order: thirteen (13) each from the four communities of the North and centre zones while eleven (11) each were selected from the two South zone communities. The attributes of the respondents on which data was collected were their understanding about sustainable development, education and participation as well their perception about participation and conservation and distribution of ecotourism benefits.

Semi-structured interview was employed to gather information from the seventy-four (74) household heads, focus group discussion was held with six (6) members of the community representatives of the Sanctuary Management Board while key informant interviews was conducted with traditional opinion leaders, officials of Ghana Tourism Authority at the Regional and District levels. The key informant interviews enabled the study to have access to specialized knowledge on the subject matter at stake. Government officials and members of Sanctuary Management Board (SMB) were also interviewed to fill the information gap and to gain a broader perspective of conservation and tourism in the Wechiau Hippo Sanctuary. Observation was also used to assess the conservational practices within the core zone (an area where farming, hunting and harvesting forest products is restricted) of the sanctuary. Non-participant observation was used to elicit as much information as possible on the community-sanctuary management board interactions under the circumstance of sharing benefits. Observation was considered essential for the research because the researchers were outsiders who knew relatively little about the subject under investigation (Silverman, 2006).

Data analysis design

To systematically search for meaning from the data (Hatch, 2002), the researchers employed both descriptive and inferential statistics in analysing both the secondary and primary data. The strength of the data collected, as noted by Miles and Huberman (1994) rest on the competence and accuracy with which the analysis is carried out. To assess the link between community participation and sustainable ecotourism of the Wechiau Hippo Sanctuary,

statistical procedures as well as quantitative analyses were employed. Quantitative analyses include chi-square tests, and linear regression to determine potential relationships between participation, benefits distribution, and conservation perspectives and practices. Descriptive statistics was also employed to organise and analyse the qualitative data by using tables. The analysis of primary data largely involved determining potential relationship, conservation perspectives, and the sustainability of the eco-resources and education, participation and sharing of benefits.

FINDINGS AND DISCUSSIONS

Ecotourism as an opportunity for conservation and development

An extremely important component of ecotourism is the conservation of the environmental and ecological resources. Conservation is not just a goal for

Table 1 Chi-Square Test of Sustainable Ecotourism and Conservation

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.807 ^a	1	.003		
Continuity Correction ^b	7.433	1	.006		
Likelihood Ratio	9.235	1	.002		
Fisher's Exact Test				.004	.003
Linear-by-Linear Association	8.688	1	.003		
N of Valid Cases ^b	74				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.15.

b. Computed only for a 2x2 table

ecotourism but perhaps more importantly a means for achieving sustainable ecotourism. Using a Chi-Square test, the relationship between sustainable ecotourism and conservation of Sanctuary was examined. While the economic and social aspects are critical, the most important ingredient for successful ecotourism is nature, which is the primary attraction input for tourists. The dichotomous classification gave the sample ratio of conservation to non-conservation as 45 to 29. Cross-tabulating the sustainability-conservation variables, the Chi-Square statistics and degree of freedom have been calculated (See Table 1).

The Pearson Chi-Square statistics of 8.807 (thus, $\chi^2 = 8.807$) on one (1) degree of freedom revealed that $p < .003$. From tables the critical χ^2 1, 5% = 3.84, χ^2 1, 1% = 6.63 are lesser than calculated value. Since the observed/calculated χ^2 of 8.807 exceeds critical χ^2 , there is evidence that sustainable ecotourism approach supports the conservation of the very resources around which the Wechiau Hippo Sanctuary project was established. Also, the Pearson Chi-Square test of dependence value of 8.807 is significant at $P < .003$ level, indicating that the sustainable use of eco-resources contributes to conservation of flora and fauna of the Sanctuary. The revelation is that ecotourism induces environmental stewardship which will build a conservation constituency for the provision of moral and financial support. This evidence supports the duality role of ecotourism (conservation and development) as expounded by Kates et al (2005) that sustainable development concept imposes a limitation on man's activity on the environmental resources and the biosphere.

Local participation and Environmental Impact

The environmental consequences of local people's involvement in decision making, management, and sharing of the benefits thereof of the Wechiau Hippo Sanctuary has an influence on the sustainable use of the eco-resources. Personal observations and affirmations from local residents revealed that the perceived benefits - as a result of participation - largely impacted on biodiversity conservation and ecological harmony (Table 2). Similar to the view of Western and Wright (1994), the study revealed that participation offers the greatest potential for integrating conservation and development.

Table 2 Local Participation and Conservational Impacts

The Benefits of Participation in The Sanctuary	Environmental impacts of local participation								
	Benefit	Percent	BC	NR	ER	EE	AP	EH	Total
	Direct Employment	Count	8	1	0	2	0	4	15
		% of total	10.8	1.4	0	2.7	0	5.4	20.2
	Indirect Income	Count	5	0	1	0	0	1	7
		% of total	6.8	0	1.4	0	0	1.4	9.5
	Training	Count	5	2	0	0	1	2	10
		% of total	6.8	2.7	0	0	1.4	2.7	13.5

Infrastructure Provision	Count	7	1	2	3	4	4	21
	% of total	9.5	1.4	2.7	4.1	5.4	5.4	28.4
Ideas Exchange	Count	5	1	0	2	4	4	16
	% of total	6.8	1.4	0	2.7	5.4	5.4	21.6
Stable Local Economy	Count	1	1	2	0	1	0	5
	% of total	1.4	1.4	2.7	0	1.4	0	6.8
Total	Count	31	6	5	7	10	15	74
	% of total	41.9	8.1	6.8	9.5	13.5	20.2	100

Source: Field Survey December, 2011

NB: *BC=Biodiversity Conservation, NR=Nature Regeneration, ER=Environmental Responsibility, EE=Environmental Education, AP=Appreciation of Protection, EH=Ecological Harmony*

As the study examines how participation in ecotourism and benefits distribution influences conservation perspectives and practices, it is important to establish community benefits and impacts from ecotourism, either perceived or real. The environmental perception of biodiversity conservation recorded 41.9% but about 28.4% of the respondents attributed infrastructure provision as a community development effort to active participation. About 6.8% of the respondents acknowledged the “trickle down” effect of the eco-resources on the local economy while the same percentage saw environmental responsibility as the dividend of ecotourism. The investigation revealed that the benefits of employment, indirect income, ideas exchange, infrastructure provision and training are undertaken under the banner of sustainable development which gave rise to 20.2% and 13.5% of environmental harmony and appreciation of environmental protection respectively. It was established from the study that maintaining the benefits of ecotourism is the sustainable utilization of its resource base.

Linking sustainability to education, participation and benefit distribution

To examine the determinants of sustainable use of eco-resources of the Wechiau Sanctuary, regression analysis was employed, using the level education, distribution of benefits and participation behaviour of the people. Regression results presented in Table 3 indicate the extent to which these three variables are significant to the overall predictors of the sustainable use

and development of the ecotourism resources. Under the model, the linear composite of education on participation behaviour is statistically significantly (P-value = .000) and predicts the dependent variable of sustainable ecotourism. However, the distribution of ecotourism benefits tend not to be associated with the dependent variable (sustainable ecotourism) hence the negatively sloped coefficient (-.050) for distribution of benefits. With three (3) predictors, Table 3 reveals that 91.3% of the variation in sustainable use of the ecological resources of the Sanctuary can be explained by the level of education and participation behaviour.

Table 3 Tests of between-Subject Effects on Sustainable Ecotourism

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.011	.130		.085	.932	-.249	.271
	Education	.841	.038	.933	22.026	.000	.765	.917
2	(Constant)	-.211	.119		-1.770	.081	-.448	.027
	Education	.504	.105	.560	4.810	.000	.295	.713
	Distribution of Benefits	-.052	.086	-.050	-.607	.546	-.223	.119
	Participation Behaviour	.527	.092	.465	5.720	.000	.344	.711

Note: Model 1: $R^2 = .871$ (Adjusted $R^2 = .869$); Model 2: $R^2 = .913$ (Adjusted $R^2 = .910$)

a. Dependent variable: Sustainable Ecotourism

Controlling education and distribution of benefits (i.e. holding these variables constant), for every 1% increase in participation behaviour, there is an increase of 52.7% in the predicted value of sustainable ecotourism. As also observed by Scheyvens and Purdie (1999) and Buchsbaum (2004) the sustainability of ecotourism and sustainable development especially in the developing part of the world depend on the participation and support of host communities. This will serve as a guarantee for conservation, and equitable distribution of resources. Sustainable use of the Wechiau Sanctuary resources cannot however, be explained by the distribution of ecotourism-related benefits in the current study. Holding education and participation behaviour constant, as sustainable ecotourism increase, the distribution of the benefits

(such as solar lighting programme, boreholes, education scholarship programme, new roads and new schools) among the catchment communities decline. As Table 3 depict, for every 1% increase in sustainable ecotourism, the distribution of development projects decrease by 5.2%.

Conclusion

Ecotourism is a tourism activity of dual responsibility - protection of the natural environment, and safeguarding local people's living standards. It is the way to realise sustainable tourism (Boff, 2003). Wechiau Hippo Sanctuary offers many opportunities whose long term potentials are the reflection and the importance attach to sustainability, and the possibilities of implementing approaches which move in a new direction. A new correlation of social forces, a move towards broad-based participation in all aspects of the sanctuary that has direct financial benefit for conservation should be advocated. Within each community, diversification of the range of products and the need to initiate the management of the sanctuary in line with business and market principles as the best alternative land use should be pursued. It is justifiable in this regard for the Sanctuary Management Board (SMB) and other stakeholder institutions to set social, economic and environmental goals for ecotourism in consultation with the complete range of environment-based stakeholders: ecologists, farmers, community workers and ecotourism businesses in addition to the society as a whole. Therefore, a specialised financing and investment within the carrying capacity should be instituted as well as modification of the incentive structures.

References

- Aronsson, L. (2000). *The development of sustainable tourism*. London, Casell.
- Blamey, R. K. (2001). Principles of ecotourism. In David B. Weaver (Ed), *Encyclopedia of Ecotourism*. (5-22). New York: CABI Publishing.
- Boff, C. H. (2003). Sustainable development. Retrieved, 18th March 2006, from <http://www.nationalcatholicreporter.org/globalpers/gp043003.htm>.
- Brandon, K. (1993). Basic steps toward encouraging local participation in nature tourism projects, In K. Lindberg and D. E. Hawkins (eds), *Ecotourism: A guide for local planners*, pp.134-151, The Ecotourism Society: North Bennington.

- Brandon, K. E., and M. Wells. (1992). Planning for people and parks: Design dilemmas. *World Development*. 20 (4), 557–570.
- Brechin, S. R., West, P. C., Harmon, D., and Kutay, K. (1991). Resident peoples and protected areas: a framework for inquiry. In P. C. West and S. R. Brechin (eds.), *Resident peoples and national parks: social dilemmas and strategies in international conservation*, p. 5-28. University of Arizona, Tuscon.
- Buchsbaum, D. B. (2004). Ecotourism and sustainable development in Costa Rica. Retrieved, 7th June 2010, from <http://scholar.lib.vt.edu>.
- Burges, J. C. & Barbier, E. B. (2002). Sustainable development. *International Encyclopedia of the Social and Behavioural Sciences*, 15329-15335.
- Campbell, L.M. (1999). “Ecotourism in rural developing countries”. *Annals of Tourism Research*, 26(3): 553-554 London, Great Britain.
- Carter, E. (1994). Ecotourism in the third world: Problems and prospects for sustainability. In E. Carter and G. Lowman (eds), *Ecotourism: A sustainable option?* Chichester, John Wiley and Sons, p. 69-86.
- Ceballos-Lascurain, H. (1987). The future of ecotourism. *Mexico Journal (January)*, 13-14.
- Denzin, N. K. & Lincoln, Y. S. (1994). Entering the field of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage; p. 1-17.
- Denzin, N. K. (1978). The logic of naturalistic inquiry. In N.K. Denzin (ed). *Sociological methods: A sourcebook*. New York: McGraw-Hill.
- Diamantis, D. (1999). The importance of ecotourism auditing and environmental indicators in islands. *Eco-management and auditing Journal* 6 (2).
- Drumm, A. & Moore, A. (2005). *An introduction to ecotourism planning* [2nd ed]. The Nature Conservancy, Arlington.
- Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany: Suny Press.

- Kallio, T. J., Nordberg, P. & Ahonen, A. (2007). "Rationalising sustainable development"- a critical treatise. *Sustainable Development*, 15, 41-51.
- Kates, R. W., Parris, T. M. and Leiserowitz, A. A. (2005). What is sustainable development? Goals, indicators, values, and practices. *Environment: Science and Policy for Sustainable Development*; 47(3) p. 8-21.
- Kerlinger, F. N. & Lee, H. B. (2000). *Foundations of behaviour research*. [Fourth Edition]. London: Wadsworth Thompson Learning.
- Kremen, C., Merenlender, A. M. & Murphy, D. D. (1994). Ecological monitoring: A vital need for integrated conservation and development programs in the tropics. *Conservation biology*. 8 (2): 388-397.
- Lindberg, K., Furze, B., Staff, M., & Black, R. (1998). *Ecotourism in the Asia-Pacific Region: Issues and outlook*. Bangkok: Forestry Policy and Planning Division, FAO.
- Meadows, D. (1998). *Indicators and information system for sustainable development*. Hartland, the Sustainability Institute.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.), Thousand Oaks, CA: Sage.
- OECD (2001). Sustainable development: critical issues; OECD policy brief. Retrieved on 20/03/12 from www.oecd.org/publications/pol_brief/
- Orams, M. B. (1995). Towards a more desirable form of ecotourism. *Tourism Management*. 16 (1), 3-8.
- Patton, M. Q. (2002). *Qualitative evaluation and research methods* [3rd ed.]. Thousand Oaks, CA: Sage Publications, Inc.
- Purvis, M. & Grainger, A. (2004). *Exploring sustainable development: Geographical perspective*. London: Earthscan.
- Scheyvens, R. & Purdie, N. (1999). Ecotourism. In J. Overton and R. Scheyvens, (eds.) *Strategies for sustainable development: Experience for the Pacific*. Sydney: University of New South Wales Press.
- Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. *Tourism Management* (20) 2, 245-249.

- Sharpley, R. (2000). Tourism and sustainable development: Exploring the theoretical divide. *Journal of Sustainable Tourism*, 8 (1) 1-19.
- Silverman, D. (2006). *Interpreting qualitative data: Methods for analyzing, talk, text and interaction*. London: Sage.
- Stem, C.J. (2001). The role of local development in protected area management: A comparative case study of ecotourism in Costa Rica. Unpublished PhD Thesis, Cornell University, Cornell.
- Stone, L. (1989). Cultural crossroads of community participation: A case from Nepal. *Human Organization* 48 (3), 206-213.
- Stone, M. J. (2002). Ecotourism and community development: Case studies from Hainan, China (unpublished). A thesis presented to the University of Waterloo, Ontario, Canada.
- The Nature Conservancy (2006). The Nature Conservancy, WWF and Stanford University Launch the natural capital project, Retrieved 20th October 2009, from <http://www.nature.org/pressroom/press/press2701.html>
- Weaver, D. (2008). *Ecotourism*. [2nd ed.], New York: John Wiley and Sons.
- Western, D. & Wright, M. A. (1994). The background to community based conservation. In: D. Western. & M. A. Wright (eds), *natural connections: Perspectives in community-based conservation*, Washington D.C, USA: Island Press p. 1-12.
- Williams, C. C. & Millington, A. C. (2004). The diverse and contested meaning of sustainable development. *The Geographical Journal*, 170 (2), 99-104.
- World Commission on Environment and Development (WCED) (1987). *Our common future*. New York: Oxford University Press.
- World Tourism Organization. (2008). *Why Tourism?* Accessed on 12/02/2012 at <http://www.unwto.org/aboutwto/why/en/why.php?op=1>.
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, California, Sage Publications.