

CHAPTER 3: THE TRAIL ENVIRONMENT

In Chapter two the conceptual links between ecotourism and environmental education, that form the empirical domain of the three-tiered ontology of this research, were identified and seven planning principles postulated. In the process the concept "environment" featured continuously. Due to this, and the fact that ecotourism trails form the specific environment and real domain event within which the research is conducted, it is firstly important to survey what the concept environment, and then specifically trail environment, means in the context of the research. The importance of such an analysis lies therein that the concept, environment can mean different things to different people and is used and interpreted in diverse ways by researchers and authors (Shongwe, 1996:13). According to Robertson (1994:29) the reason for the lack of conceptualising the environment lies in the fact that little research literature exists on how different people understand the term environment.

To avoid any misunderstanding on how the term environment is understood and applied in the research, the researcher will firstly survey the dictionary and geographic understanding of the concept environment. Thereafter the term environment, as used in ecotourism and environmental education, will be analysed. This conceptual analysis will form the framework that will be used to specifically analyse the trail environment. Hugo (n.d.:6) emphasises that to plan ecotourism trails the planner should not only understand the need of the trail user but also the environment in which the trail is located and the integrated and dynamic people-environment system associated with its location.

At the end of the chapter the seven planning principles from Chapter two will be reviewed, specifically in the context of the trail environment. Principles applicable to an ecotourism trail environment, that will facilitate environmental education are then proposed.

3.1 The concept of 'environment'

The dictionary definitions of Sykes (1976:347), Landau (1983:213) and Medlik (1993:55) of the term environment summarise the environment as the external surrounding conditions, influences, objects, region, circumstances of life of persons or society. According to these authors, environment can refer to physical, e.g. natural or built, or other conditions or influences e.g. economic, social, cultural or political, that affect the existence and development of an individual organism or group.

The built environment according to Hinch (1998:186) can include people-made aspects like architecture, history, sports and cultural centres, restaurants, entertainment and industrial areas. The natural environment can include fauna and flora, geology, climate and scenic views while the cultural environment brings people together and allows them to experience each other's art, history, literature, traditions, crafts and folklore. The cultural environment provides a social dimension to the environment which helps to improve interpersonal relationships (Hugo et al, 1995:4). The political environment can include aspects related to government such as elections, peace and war. Economic aspects of the environment can include issues such as jobs, material wealth, economic structures, economic practices and the standard of living of people.

The above clarification of the environment illustrates the expansion of initial definitions of the environment to include the social element which again leads to the notion of public involvement becoming a critical element in the process (Huggins & Barendse, 1994:1-2). Such an understanding of the environment recognises the environment in its totality and holistically with many interrelationships and interdependencies and calls for human responsibility and acceptable attitudes in the way people use the environment to satisfy their needs and wants (Fien, 1995:22). Inherent to such an understanding of the environment are three elements namely the individual, the society (people) and the ecosystem

(Fourie et al, 1990:100). Individuals and people are seen as part of an intricate web of life and not something separate.

3.1.1 *Geography and the term 'environment'*

The fact that the research lies in the field of Geography requires that the understanding of the environment by geographers be investigated.

Similar to the description in the dictionary of the term environment, geographers also perceive the environment as the sum total of conditions that literally surround humans at any one point on the earth's surface (Haggett, 1975:11-12). Humans are perceived as being in a relationship with the environment. In Geography this relationship is explained as a two-way system because humans can be affected by the environment and humans also have the capacity to modify the environment.

McKeown-Ice (1994:40-41) expands on this understanding and points out that geographers tend to study the natural environment, namely the biotic and abiotic elements, how human behaviour affects and alters the environment, how the environment influences human behaviour and how populations perceive their surrounding environments, how people use and change this environment at local, regional and global scale.

The four aspects that McKeown-Ice (1994) lists as being part of the environment focus strongly on the behavioural environment and can include forms of action aimed at bringing about organisation for the purpose of survival and achieving the maximum benefits for the society (Fourie et al, 1990:103). This is an added dimension to the environment that Sykes (1976) and Funk and Wagnalls (1983) do not mention.

From the dictionary and geographic interpretation of the concept environment, it can be summarised that the environment consists of six dimensions, namely; the

physical (natural and built), economic, social, cultural, behavioural and political. Taking this understanding of the environment as reference point it is possible to surmise that the environment in which this study takes place includes the natural and people-made environment as well as the behavioural environment (educational). The reason for this deduction is that the study concerns itself with the interactions among different groups of agents. These agents are part of the planning process of a trail that facilitates environmental education (behavioural environment). The trail is thus situated in a specific physical, social, political and economic environment. To contextualise the environment only within Geography would be simplistic because the research, that forms the empirical domain of the research, also lies within the two approaches environmental education and ecotourism.

3.1.2 Environmental education and the term 'environment'

The term "environment" continues to take on an ever-changing meaning in environmental education (Cooper & Smith, 1989:75). Boesler (1994:7) points out that in the early 1900s the environment was seen as the supplier of resources and the waste deposit for the social system. The environment was seen as a free commodity. This perception has changed and environmental education programmes are seen as a way in which to sensitise people to their interconnectedness with the environment (Boesler, 1994:9) and to motivate them to utilise natural resources without depleting them.

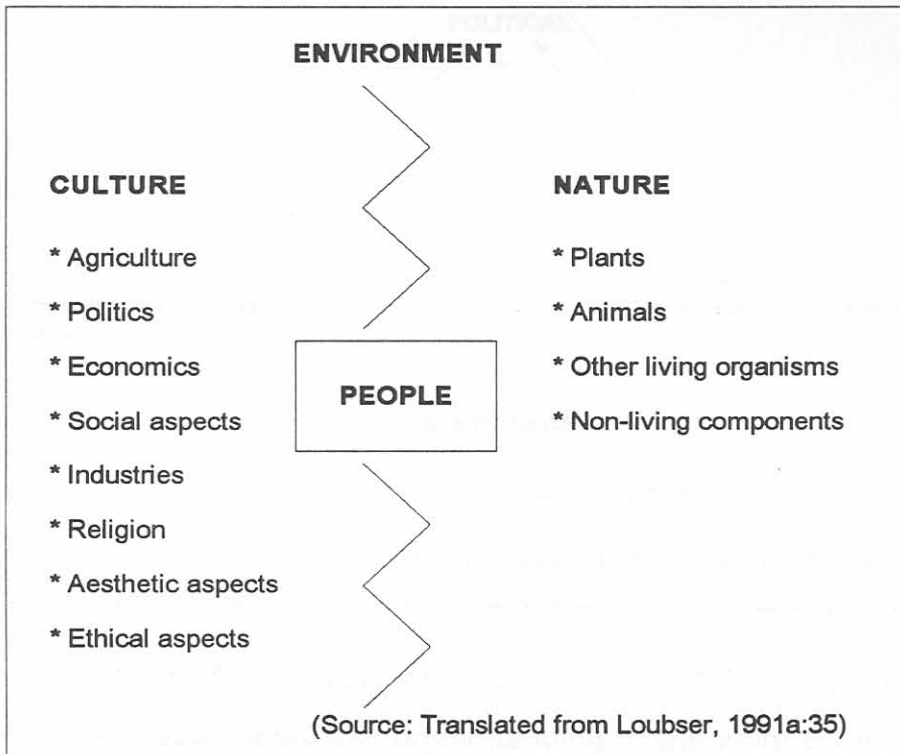
In 1991 Clacherty (1992:26) deduced from research done with final year education students that they perceive the term "environment" commonly as "nature". Clacherty did, however, point out that in environmental education the concept environment should take on a broader meaning than this. Environment should be understood as the conceptual interactions between bio-physical surroundings and the social, economic and political forces that organise people in the context of these surroundings. Blignaut in 1990 found considerable support

for including the bio-physical, social, economic and political aspects of the environment in environmental education. Di Chiro in 1987 had already postulated this understanding of the term environment (Robertson, 1994:25).

Cooper & Smith (1989:76) attribute an even broader understanding to the term environment. They describe the environment as a total entity that together with the natural, built, social, economic, cultural and political dimensions, includes four aspects such as technological, moral, historical and aesthetic value. The researcher would choose to place these last four aspects into the descriptions and understandings of the term environment up to this point. The moral and aesthetic aspects can be placed within the behavioural environment, the historical within the cultural domain and the technological aspects within the social domain of the environment.

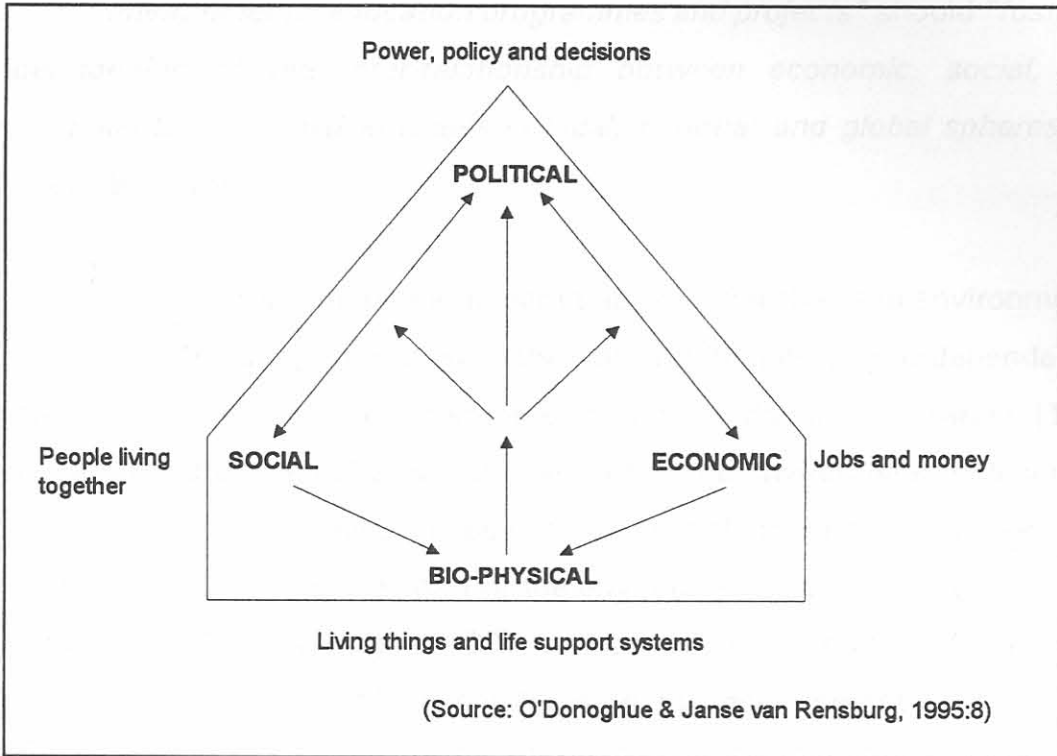
On the other hand Loubser (1991a:35) conceptualises environment as the relationship between only two broad domains of the environment, namely; the natural and cultural environment. Figure 3.1 illustrates Loubser's understanding of the complex relationships of the components of the environment when people stand at the centre. Loubser uses a zigzag line to show the continuous symbiosis that exists between the cultural and natural components and their sub-divisions. He chooses to group the political, economic, social, aesthetic and ethical domains of the environment identified by other authors like Cooper & Smith (1989) under the cultural domain of his understanding of the term environment. This is an illustration of the argument that different people interpret and apply the concept environment differently (Shongwe, 1996:13).

FIGURE 3.1 RELATIONSHIP BETWEEN THE COMPONENTS OF THE ENVIRONMENT



The Environmental Education Policy (EEPI) (1993:18), like Cooper & Smith (1989), Clacherty (1992) and Loubser (1991a) supports the wider understanding of the term environment, namely, that the environment includes not just plants, animals and the biophysical world but also people and social structures. O'Donoghue & Janse van Rensburg (1995:8) take this broader perspective of the environment and present it in Figure 3.2 as four interrelated and interdependent domains, namely; the bio-physical, economic, social and political rather than only the two domains nature and culture that Loubser (1991a:35) presents in Figure 3.1. Lisowski & Williams (1993:72) like McKeown-Ice (1994) adds a further domain to these four, namely the behavioural which they understand as the environment that emphasises people's stewardship of the earth.

FIGURE 3.2 A BROAD PERSPECTIVE ON THE ENVIRONMENT



In 1998 the White Paper on the Environmental Management Policy for South Africa expresses a broader understanding of the word environment than in Figure 3.2, by explaining environment as referring to the biosphere in which people and other organisms live. According to this understanding the environment consists of:

- *"renewable and non-renewable natural resources such as air, water (fresh and marine), land and all forms of life,*
- *natural ecosystems and habitats, and*
- *ecosystems, habitats and spatial surroundings modified or constructed by people, including urbanised areas, agricultural and rural landscapes, places of cultural significance and the qualities that contribute to their value"* (South Africa, 1998:9).

The same document further emphasises the interrelatedness of the different domains of the environment in the context of environmental education by stating that "... *environmental education programmes and projects*" should "*foster a clear understanding of the inter-relationship between economic, social, cultural, environmental and political issues in local, national and global spheres*" (South Africa, 1998:36).

What transpires from the previous paragraphs is that the term environment has a broad meaning and emphasises the interrelatedness, interdependence and interconnectedness of the different environment domains. Marker (1977), in Henning (1979:61), emphasises this aspect of the environment in describing the environment in an ecological sense like Fourie et al (1990:100). Marker, Henning and Fourie include people as part of the environmental community which forms a functioning system as Hagget (1975) mentioned in the geographic understanding of the term environment. In emphasising the environment as a system, the implication is that no action can be taken without affecting the people and causing a subsequent reaction by the people. As an illustration of this, Robertson (1994:29) states that an activity such as individual learning does not occur in a social, political or historical vacuum. Likewise, all the domains of the environment are linked, and economic and social decisions have a direct impact on the natural environment and the quality of people's lives. The environment is as much a matter of economic policy and social processes as it is a matter of natural systems and resources (EEPI, 1994:1). Therefore, any action taken by people in the system of the environment should be undertaken with responsibility.

3.1.3 *Tourism and ecotourism and the term 'environment'*

Fien (1995:22) notes that there is an increasing awareness of the link between human developments like tourism and ecotourism and the environment. Tourism has a strong interest in the environment as a resource for leisure and an economic commodity (Hughes, 1995:52-53). According to Hohnholz (1994:42) the result

is that tourism, like any industry, uses the natural and cultural environment to sell its product. According to Fouche and Esterhuysen (1987:3), tourism has the ability to create both opportunities and problems for societies. For Fouche and Esterhuysen, the ability of a society to derive optimum benefits from tourism lies in the fact that planners and developers understand and carefully analyse the impact tourism would have on the economic, socio-cultural, biophysical and political dimensions of the environment.

In conceptualising the term ecotourism in 2.1.1 it becomes noticeable that, similar to environmental education, different authors include different domains of the term environment in their definitions depending on their personal understanding and application of the term environment. Table 3.1 summarises the different environment domains to which each definition refers. In this summary the researcher uses the analyses of the term environment, as proposed in previous sections in this chapter, as the framework for identification.

TABLE 3.1 ENVIRONMENT DOMAINS REFERRED TO IN EACH ECOTOURISM DEFINITION

DEFINITION	ENVIRONMENT DOMAINS
Ceballos-Lascurain (1983)	Natural, cultural and educational
Wight (1993:3)	Natural, cultural, social, economic, educational
Robinson (1993:7)	Natural, social, cultural
Cowling (1993:3)	Natural, economic
Evans-Pritchard and Salazar (n.d.)	Natural, cultural, economic, social
Centre for Ecotourism (1996)	Educational, natural, cultural, economic
Compiled by EMJC Schaller/2000	

From Table 3.1 it is clear that the interpretation of the term environment in

ecotourism has moved from seeing the environment only as a natural and cultural resource to include other domains such as educational, social and economic domains.

According to Hall (1998:23) there has been a growing recognition of the cultural environment within the field of tourism together with the natural and economic environment. Hughes (1995:52) is of the opinion that this has created the cultural context in which the physical environment is embedded and has turned the environment into scenery. Hinch (1998:187) points out that like any environment the tourist attraction comprises a system of three elements, namely; the nucleus of the attraction that could be built (museum), natural (nature reserve) and socio-cultural (traditional village), the human element that would be the visitor, and the marker or informative element which provides the desired sense of place that is intended by the promotional bodies.

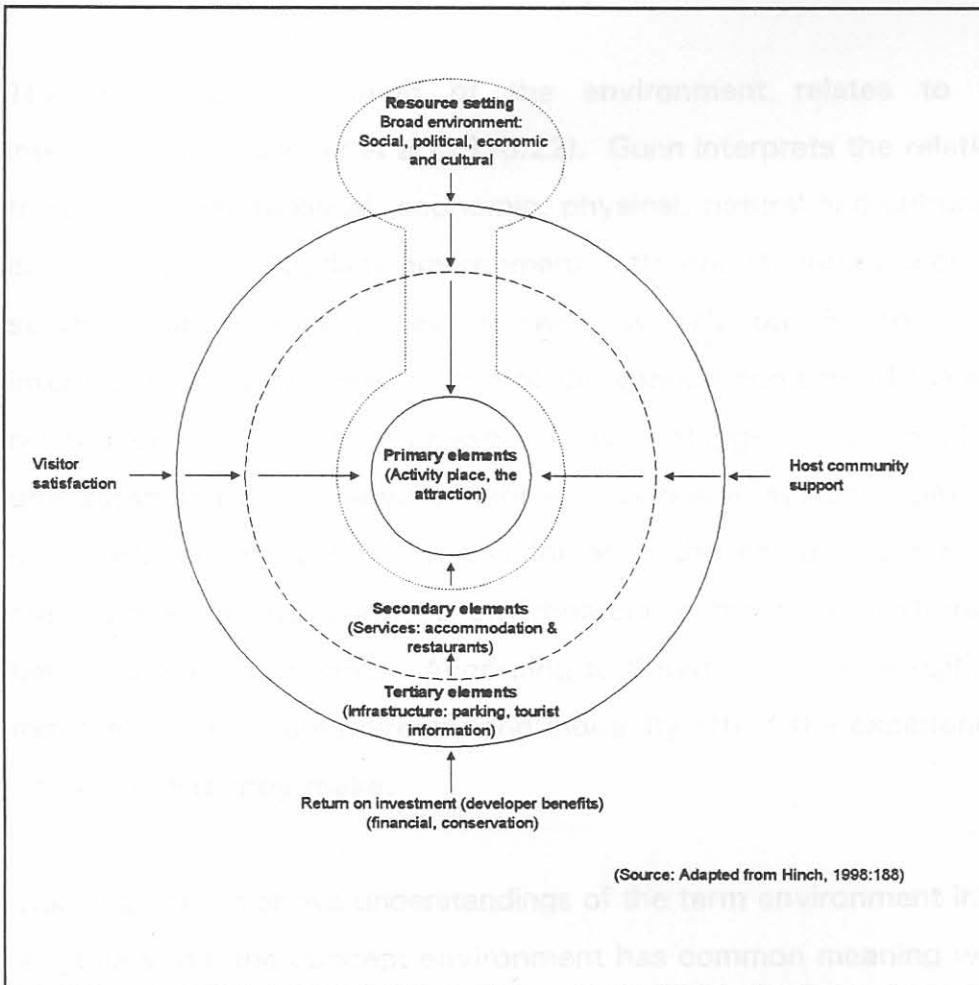
The cultural environment in tourism and ecotourism to which Hughes (1995), Hall (1998) and Hinch (1998) refer, can include political, social and economic aspects as well. The cultural patterns, traditions and lifestyles associated with a place can form an integral part of the attraction of a tourist destination. The danger of this dimension of the environment is that through the consumption of this cultural commodity by visitors the very essence of the attraction can be destroyed (Hinch, 1998:187). It is important to know what the attitudes of local communities towards visitors are. Visitors often seek interaction and this may or may not be welcomed by local communities. The zigzag line in Loubser's (1991a:35) illustration, Figure 3.1, illustrates that there should be no conflict between the cultural and natural domains of the environment, only harmony and interaction.

The economic domain of the environment in ecotourism can, according to Wight (1993:4), include aspects such as income, employment generation and infrastructure development. The political domain of the environment in ecotourism should complement government initiatives such as providing employment

opportunities, developing small and large scale businesses, skills development and marketing drives for the area. The political environment can also include aspects like crime and safety (Fouche & Esterhuysen, 1987:7).

The above interpretations of the term environment within tourism and ecotourism can be illustrated as follows in Figure 3.3.

FIGURE 3.3 FRAMEWORK FOR THE TOURISM AND ECOTOURISM ENVIRONMENT



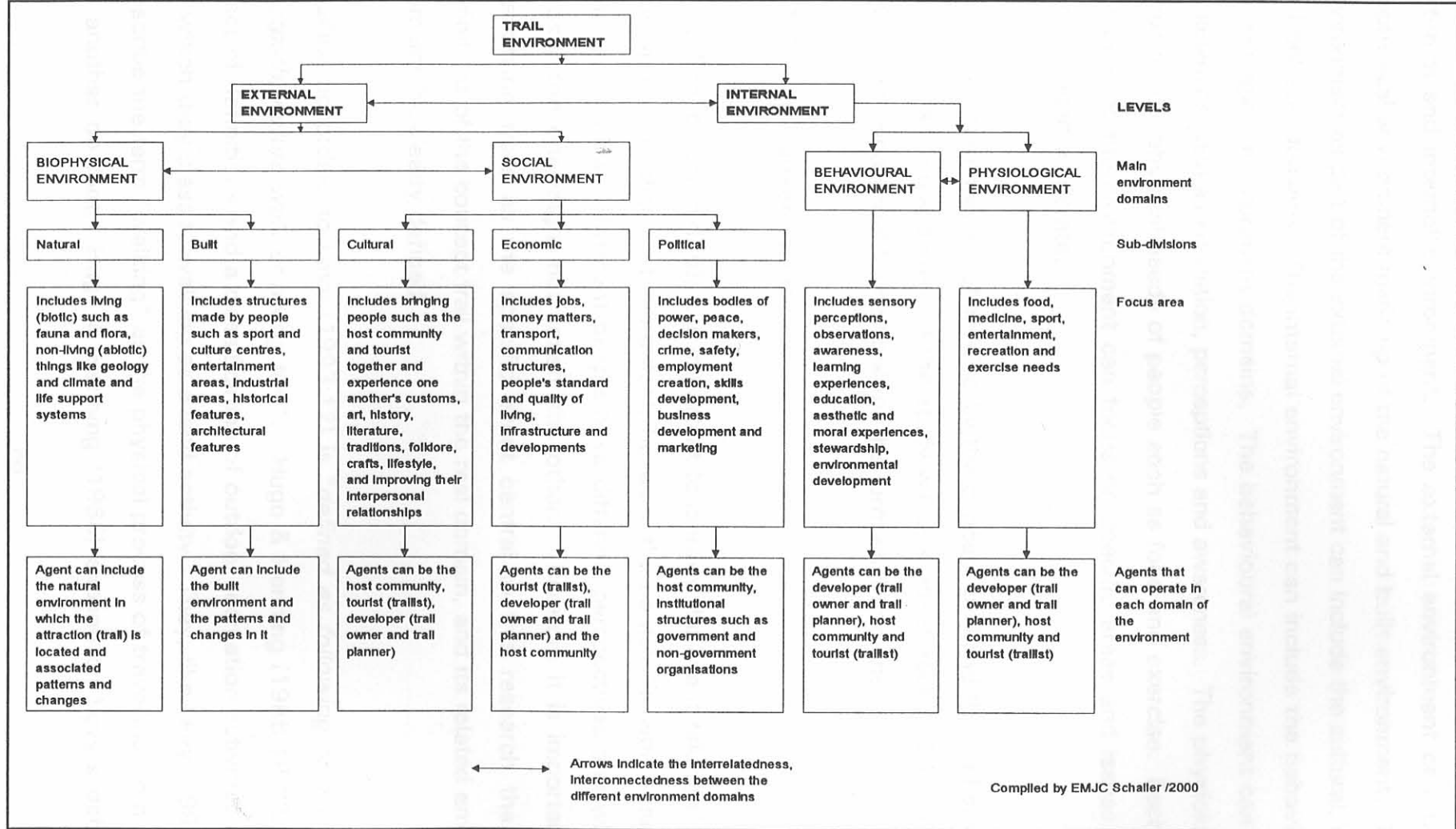
In Figure 3.3 the core of the environment is the place of activity that is the target of the visitor and developer's attention. The attraction could be located in any environment domain such as natural, built or cultural. The broken line surrounding the core attraction reflects the roots of the core attraction in the broader environment in which the primary attraction is set. The broader environment can

include environment domains such as political, economic or cultural. The next two layers are the services and infrastructure elements of the secondary and tertiary elements of the environment that can be part of the economic and political domain of the environment. The broken line used indicates that the distinction is not absolute but indicates the interconnectedness. The community support as part of the cultural domain, visitor satisfaction as part of the behavioural and/or physiological environment, and return on investment as part of the economic environment are further introduced as part of the environment.

The above understanding of the environment relates to Gunn's (1988) interpretation in Cooper et al (1996:22). Gunn interprets the relationship between the environment (political, economic, physical, natural and cultural) and the other elements in the tourism environment (attractions, information, transportation, services and facilities) as a two-way relationship that emphasises the interdependency and importance of the various domains of the environment and related elements. This corresponds with Haggett's (1975:11-12) geographic understanding of the environment as a two-way system. Smyth's (1977:105) interpretation of people's interaction with the environment adds three further dimensions to the concept environment namely the external, internal and behavioural environments. According to Smyth (1977:103-108) the internal and external environments directly and indirectly affect the experiences people have and decisions they make.

Taking all of the above understandings of the term environment into consideration it appears that the concept environment has common meaning within ecotourism and environmental education. These commonalities are that both include the biophysical (natural and built), social (economic, cultural and political), physiological and behavioural domains of the environment. The researcher would summarise the broad conceptual understanding of the term environment as understood from the dictionary, geography, environmental education, tourism and ecotourism interpretations as follows in Figure 3.4.

FIGURE 3.4 THE TRAIL ENVIRONMENT



The summary in Figure 3.4 illustrates that the environment can be divided into the external and internal environment. The external environment can include the biophysical environment made up of the natural and built environment. The social environment as part of the external environment can include the cultural, economic and political domains. The internal environment can include the behavioural and physiological environment domains. The behavioural environment can focus on experiences such as education, perceptions and awareness. The physiological can focus on the physical needs of people such as food and exercise. Each of these domains of the environment can focus on specific areas and issues in which specific agents operate.

A more in-depth analysis of specifically the concept trail and the trail environment which forms the real domain of this study will be made in section 3.2, using Figure 3.4 as the conceptual framework for the term environment.

3.2 The trail environment

According to Pepi (n.d.:6), it is important to identify the event taking place in the environment explicitly at the outset, because the context in which the event is placed is critical. Different people have different perspectives and what might satisfy the one might not satisfy the other. Therefore it is important that in identifying trails as the specific event central to this research the different definitions of the concept trail within the real domain, and its related environment domains be clearly defined.

Trailing according to Levy (1993:12) is "*defined as following or walking on a footpath, nature walk or hiking trail*". Hugo & Henning (1986:18-19) compiled a set of definitions and a classification of outdoor recreation activities according to which they classify walking as a land activity. They, like Levy (1993) above, describe the term "walking" as the physical process of travelling from one place to another on foot. Hugo & Henning (1986) expand on Levy's definition by

identifying and defining various recreational activities that can flow from this physiological action of walking. Hugo & Henning (1986) include strolling, walking, rambling, hiking and fell walking/backpacking/free hiking under walking. Table 3.2 contains the definitions Hugo & Henning (1986) attribute to each of these terms.

TABLE 3.2 INTERPRETATIONS OF THE CONCEPT WALKING: HUGO AND HENNING (1986)

TERM	DEFINITION
Strolling	<i>"an unhurried form of walking in an urban environment with as chief purpose, the idea of being in the fresh air, outside."</i>
Walking	<i>"a purposeful form of walking in an urban environment in order to get exercise in the open air."</i>
Rambling	<i>"walking along a planned circular route in nature without including steep gradients - should be completed within a day or half a day."</i>
Hiking	<i>"walking along a planned and demarcated route in nature with overnight facilities. Carrying food, etc. in a rucksack or backpack is implied in this."</i>
Fell walking/ backpacking/ free hiking	<i>"the free movement in a natural area without a demarcated route being followed. Supplies have to be taken along, and these might include overnight equipment."</i>
Compiled from Hugo & Henning (1986:18-19)	

When the definitions in Table 3.2 are analysed, it is noticeable that Hugo & Henning (1986) link strolling and walking to the urban environment while rambling, hiking, fell walking, backpacking and free hiking are associated with the natural environment. The researcher would choose to argue that such a differentiation is very simplistic because it can be argued that strolling and walking could also take place in the natural environment. Hugo & Henning in their definitions refer to

environmental domains like the biophysical (urban and natural) and physiological (food and exercise).

Using Levy's (1993) definition and Hugo & Henning's interpretation of walking as reference points for the case studies of this study, it is apparent that the trails used as case studies focus on trailing by means of walking. Other types of trailing by means of mountain-biking, canoeing, cycling, horseback, camel, pony, underwater and trails for the handicapped are not part of the research topic and therefore not described in any detail. Before specific trail types are analysed the understanding of the term trail is considered in 3.2.1.

3.2.1 *The term trail*

According to Abbott (1979:43) the first meaning associated with the word trail in the modern recreational context was a backpacking trip of several days along a marked route usually in a mountainous terrain. But the word trail in its broadest sense means a path (Sykes, 1976:1230) or pathway for people (Hultsman et al, 1987:63) and can include any natural or people-made path (Abbott, 1979:43). A trail can also be a functional pathway to get people or goods from one point to another.

In the recreational context Abbott (1979:44) defines a trail as "... *a marked way created to encourage users to participate in a particular activity perhaps for a distinct purpose on a specific route*". This definition attributes certain characteristics to a trail, namely, that it is a specific marked route, developed for a distinct purpose and it provides a participatory experience for the trail user. The definition highlights a few aspects of the trail environment, namely, that there is a person or persons central in the trail environment, namely, the trailist and that the trailist interacts actively with the trail environment via activities when moving along the environment in which the trail is situated. Such an analysis corresponds with the interpretation of the concept environment that emphasises the

interconnectedness between the person in the environment and the surrounding domains of the environment.

Goodey (1974:1.2) expands on Abbott's (1979) active participation idea for trailists. He states that; "*The trail, ..., challenges the visitor to explore, demands a questioning approach, often provides formal links with printed or displayed interpretive material and, most important, invites the user to appraise the quality of what is observed and experienced*". Goodey's definition of a trail points out how the trailist can actively interact with the trail environment, namely, by using exploring, questioning and interpretive techniques as well as making use of interpretive material to assist the trailist in adding value to the trail experience.

Goodey's description of a trail corresponds with the notion that when people move around an environment they sense, interpret, compare and learn different things from different domains of the environment. The trailist hears sounds and sees things which he/she compares with memories and builds new objects and landscapes of meaning (Relph, 1989:283). These experiences are part of the behavioural domain of the environment as contained in Figure 3.4.

Goodey (1979:287) also emphasises the education dimension, which is part of the behavioural domain of the trail environment, and sees trails as an interpretive tool. However, Goodey adds that the success of trails depends on local initiative and careful planning. This supports the primary aim of this research, to compile a trail planning framework that incorporates ecotourism and environmental education planning principles spanning all the domains of the trail environment and being inclusive of all the agents operating in the trail environment.

The general definitions of the term trail by Goodey (1974) and Abbott (1979) highlight the fact that the trail environment can encompass different environments. Abbott (1979:4) indicates though, that not only can a trail encompass different environments but different types of trails can be distinguished, each with its

associated planned purpose of which one such purpose could be education. According to Goodey (1974:2.2) a trail can have other purposes like enjoyment, conservation and economic benefits which are purposes located within the physiological, natural and social domains of the trail environment. It is however possible that an educational trail can be used for multiple purposes like enjoyment as well as the stimulation of interest in conservation that might bring economic benefit to the developer and host community even though the primary aim is education. What is important is that trails are developed according to their proposed purpose (Goodey, 1974:2.2) because each type of trail requires a different planning approach to function effectively and fulfil its purpose (Hultsman et al, 1987:63). Thus, the need for a trail planning framework for trails with an ecotourism and environmental education purpose, which is the premise of this study.

Hugo (n.d:7) refers to trails that apply the principles of ecotourism as "ecotrails". He describes these trails as being *"much more than ecologically and culturally sustainable trails. They also incorporate the experience of the trailist as well as the well-being of the host community as 'added value'. One can furthermore say that an ecotrail is a financially viable, community friendly, educationally enlightening, psychologically satisfying and environmentally sustainable tourist product."* In this description reference is made to domains of the environment such as the biophysical, social, behavioural, psychological and physiological. In the context of the working definitions of ecotourism and environmental education formulated for this study in Chapter two it is possible to adopt Hugo's (n.d) description of ecotrails as a working definition for ecotourism trails as understood in this study.

According to Hugo's (n.d.:7) definition of ecotrails and the principles of ecotourism, the trail environment should include the host community and its needs as part of the cultural dimension of the social environment. The trail development should also be beneficial and not detrimental to the host community and its way

of life. The trail environment should further relate to the economic environment because both the host community and the developer should benefit financially. In the context of the biophysical environment an ecotourism trail should protect the natural environment. It is therefore important, according to Ferreira (1995:64), that the term environment be understood holistically in the context of ecotourism trails to include the biophysical (natural and built) and social (historical, demographic, political, economic and cultural) sub-divisions of the environment.

The literature (Goodey, 1974; Trisler, 1980; Knapp & Goodman, 1983; Levy, 1983; Levy 1984; Roff, 1995) refers to a number of types of trails such as nature, urban/city/town, rural, interpretive, discovery, disabled and wilderness trails. Each of these trails has its own purpose, features and characteristics and operates within a certain environment together with a number of agents operating in an interrelated way. To identify which trail types can be ecotourism trails and which environments they encompass would mean that trail types and their associated environmental domains be surveyed in the context of the conceptual analysis above of trails and their associated environments.

3.2.2 Types of trails and their environments

Hugo & Bewsher (1995) use purpose, environment, format and mode of transport as the four basic principles for classifying trails. Under environment they distinguish between cultural, natural, rural, urban/town, water and air. From the discussion in section 3.1 and Figure 3.4 it is clear that such an interpretation of the environment is not complete because only the biophysical environment (natural and built) and the cultural dimension of the social environment are part of their classification. Hugo & Bewsher (1995) exclude the behavioural, physiological and other social domains like the political and economic. However, Hugo (n.d.:7) in his definition of ecotrails adds a further dimension to environment, namely; the psychological domain.

In section 3.2.1 it is concluded that when Figure 3.4 is taken as the proposed framework for the concept environment, together with the understanding of the term environment within environmental education (3.1.2) and ecotourism (3.1.3) it can be suggested that a true ecotourism trail, that facilitates environmental education, will operate in a broader environment than that referred to by Hugo & Bewsher (1995). It is within this broader environment that the needs of all the agents that are part of the trail environment should be facilitated.

The descriptions of trailing and walking in the literature surveyed (Goodey, 1974; Abbott, 1979; Levy, 1984; Levy, 1993; Hugo, n.d) make provision for four different types of trails that can be identified as ecotourism trails, namely; wilderness trails, hiking trails, urban trails and nature trails. These four trail types and the environments they encompass will be analysed and the planning principles in Chapter two reassessed and adapted for the ecotourism trail environment.

3.2.2.1 Wilderness trails

Levy (1983:17) describes these trails as a walk guided by a game ranger or conservation officer not fixed to a specific path but often following game movements. The guide explains the ecology and management of the environment through which the walk is guided. Conservation principles and ethics are emphasised and much time is devoted to observation and discussion. Wilderness trails can extend over several days but can also be shorter. Wilderness trails contain a strong educational element but the presence of a game ranger makes the use of the trail for general education expensive and only accessible to a small group. According to this understanding of wilderness trails these trails tend to focus on the natural (conservation), educational (behavioural), economic (management) and physiological (recreation) environments.

3.2.2.2 Hiking trails

The next trail type, namely, hiking trails is defined by Levy (1984:1) as, "*A continuous footpath through the natural environment on which the user carries his essential overnight gear and food in a specialised structure commonly referred to as a backpack or rucksack*". These trails cover long distances and overnight huts, shelters or pitched tents can be used for sleeping in (Roux, 1994:115). Hiking trails are usually self-guided and therefore detailed brochures and maps are available. Levy (1983:13) also refers to these trails as backpacking trails. It is not clear from Levy (1983) and Roux (1994) what the main purpose of a hiking trail is. However, from Hornby's (1977:9) description of a hiking trail as providing "... *an opportunity to discover the country-side by a direct association with the natural environment,*" it can be deduced that, the primary purpose of trails i.e. recreation, is expanded, to include the discovery experience as part of the behavioural environment and the people-nature association. Hiking trails can also have accompanying brochures and maps that provide information for those wanting to learn more about the environment in which the trail is situated. Hiking trails can also go through wilderness areas. From these understandings of hiking trails it can be deduced that hiking trails can include the natural, behavioural (discovery) and physiological (overnight facilities, food, exercise) environment.

3.2.2.3 Nature trails

Levy (1984:1) defines a nature trail as "*A route planned to link features of interest outdoors, along which some form of interpretation is provided to explain natural and cultural history, conservation and management principles of these features.*" This type of trail focuses on the outdoor environment and experiences (behavioural environment) as well as related other domains of the environment like culture, natural (conservation) and economic (development). This type of trail adopts the broad context of the concept environment which both ecotourism and environmental education propose, namely; the natural, cultural, economic and

behavioural (educational) domains. These trails are grouped by Levy (1993:12) under day walks.

Sharpe (1976:247) and Goodey (1974:1.7) support the interpretive value of nature trails that Levy (1984) mentions in her definition. Sharpe and Goodey are of the opinion that nature trails can be planned with a specific educational objective and accompanying brochures containing information on ecological or historical features on the route. Smith (1984:16) expands on the ideas of Levy (1984) and Sharpe (1976) by adding that nature trails can be an outdoor tool used for learning about the environment and helps users to focus on the environment. Such trails can help to develop respect for nature (Raze, 1993:26). The interpretive, knowledge expansion and environmental awareness experiences that nature trails can provide, according to these authors, form part of the aim of environmental education. Goodey (1974:1.7) as well as Levy (1984:1) further perceives nature trails as a tool to manage the use of natural areas by people.

Knapp & Goodman (1983:53-54) add to the education and management dimension of the nature trail another dimension, namely, community involvement in the planning of the trail. Instead of letting only the expert design and label the trail, the community can assist. They can share information and questions about features on the trail. In this way the host community and potential trail user can discover the environment along the trail together. An approach like this links with the host community involvement proposed by ecotourism.

Nature trails can take two forms. The one is a general station type where particular objects or themes in the environment are chosen and logically and sequentially linked to be observed and studied at intervals along the trail route (Wray, 1968:21). The objects chosen are not from one specific area of the environment but rather from a variety of areas like plants, animals, geology, history and culture (Knudson et al. 2000:3). This type of trail can have an interdisciplinary thematic approach which is suitable for environmental education.

The other form a nature trail can take, is a thematic format where different aspects of one specific theme like plants are studied in detail throughout the trail (Wray, 1968:21; Knudson et al., 2000:3). Such a trail can be used for specific subject studies.

Levy (1984:1) also refers to nature trails as interpretive trails that can be on land, on surface water (canoes) or underwater (snorkelling and diving) implying that such trails can pass through a variety of physical (natural and people-made) environments. Trisler's (1980:30) understanding of an interpretive trail as a trail that teaches about the environment, has a number of learning stations and has an activity booklet that contains information that corresponds with numbers on the trail, expands on Levy's (1984) understanding. According to Trisler (1980) the environment, through which the trail passes, forms a learning environment for the tourist. The definition Roff (1995:1) attributes to interpretive trails, namely, that they are "*... guided walks with the aim of helping people come to a greater understanding of their environment ...*", also emphasises the idea of providing a learning environment for the trailist.

Knudson et al (2000:1) describes an interpretive trail as something more than a path connecting two points. According to them it includes the pathway, the surrounding scenery, and the interpretive devices along the trail. For them the path becomes a guide to the forest or natural area, rather than a way through it. According to Cohen (1994:302) a trail that passes through the natural environment will create a place to reflect upon and preserve and cherish memories. Such a trail can create opportunities for aesthetic and spiritual experiences, while others reflect on informational or attitudinal perspectives. To experience nature itself is an important precursor to forming realistic and enduring images of the environment. The trailist can gain a sense of where people live in and around the trail area, how they work and play. Such a trail thus spans the natural and behavioural environment. Knudson et al (2000:1) are also of the opinion that an interpretive trail can fulfil needs in the behavioural and physiological environment

of people. In the behavioural domain it can provide a learning experience by providing ecological information and understanding. In the physiological domain it provides recreation and exercise. Both Knudson et al (2000) and Cohen's (1994) understanding of a nature trail as an interpretive trail points out that a nature trail can encompass a broad environment namely the social, biophysical, behavioural and physiological.

From the descriptions of Levy (1984), Roff (1995) and Knudson et al (2000) it can be concluded that a nature trail can also be called an interpretive trail and an educational trail because it facilitates a learning experience. However not all nature trails have to be educational and include the behavioural domain of the environment. According to Nichols (n.d. in Ferreira, 1995:64) interpretive trails can provide cognitive learning which is essential for conceptual understanding and will enable positive environmental action. An experience such as that is inherent to the objectives of ecotourism and environmental education.

Other features of nature trails are that they can be specialised and provide for disabled or blind persons, be guided or self-guided. Usually most nature trails last less than a day (Levy, 1983:13). Cohen (1994:303) points out that guided walks can renew excitement, reveal issues, allow for discovery experiences, develop protective attitudes and in this way become a community resource. Other trails that can be included under nature trails are "question trails" and "naming trails" (Knapp & Goodman, 1983:23).

A question trail does not give factual information at each station but rather one or more questions are asked at a station. Each question calls for some type of activity that results in a new awareness at that specific location. This enhances active participation and discovery by the trailist in the trail environment, a process striven for by ecotourism and environmental education. The initial questions can be compiled by a group of trailists themselves. This type of trail moves away from simply identifying features and utilises a variety of domains of the environment.

The trail promotes community participation, environmental awareness and cognitive experiences that is all part of the environmental education experience that should be inherent to ecotourism. Although this type of trail focuses on the natural environment it can be placed in a built environment as well.

Naming trails aim to make up names for plants and animals according to their characteristics. Trailists are not allowed to give common or botanical names. The idea is to stress awareness of characteristics and stimulate creativity in the trailist. It also allows the trailist to draw correlations between whether certain plants and animals are named according to their obvious physical characteristics (Knapp & Goodman, 1983:23). This is a self-discovery educational activity and by experiencing the relatedness between the physical features of objects and their names the trailist is exploring the environment through which the trail passes.

"Mini-trails" are also a type of nature trail. Raze (1993:27) identifies a few of these types of trails e.g. a 30 cm-trail, a smell trail and an ant-trail. The 30 cm-trail covers only 30 cm and the trailist focuses on usually unnoticed small detail. A smell-trail follows a path along which as many different fragrances as possible are situated. Sensory trails such as smell and touch trails are experiential trails that give the trailist an opportunity to "tune in" to the environment by stimulating a wide range of observations related to the sensed environment (Goodey, 1974: 1.15,1.16). Sensory experiences form part of environmental education. The trailist can describe the smells orally or in writing in the form of an essay or poem. The other mini-trail, an ant-trail lasts five to ten minutes. The trailist follows one specific ant for five to ten minutes. The distance the ant travels, the terrain it covers, the direction in which it travels and the speed at which it moves are some aspects that the trailist can calculate afterwards. These mini-trails allow the trailist to actively participate along the trail and incorporate many environmental education aims like developing the senses and skills like writing, observation, graphic skills and numeracy. Mini-trails as described, focus on the natural and behavioural (educational) environments.

3.2.2.4 Urban/Town trails

Goodey (1979:285) describes an urban trail as a planned, self-guided exploratory route through urban areas, examining a number of linked features and relationships in the total urban space that may be walked by anybody who is interested and stimulated to explore and question the surrounding urban environment. The trail is usually marked and/or accompanied by a brochure or leaflet. According to Ballantyne & Attwell (1985:80) and Abbott (1979:44) urban trails focus on aspects such as industries, harbours, historical sites, graveyards, the inner city, road safety, conservation areas, transport schemes, cultural sites, botanical gardens, photographs and architecture. Urban trails containing these aspects thus integrate the biophysical (built and natural), social (political, economic and cultural) and behavioural environments.

Environmental education embraces both the urban and rural areas and links learning with social aspects like pollution, consumer issues and food production. In urban areas there are educational possibilities imbedded in a diversity of neighbourhood features like planned developments, architecture and local government (Goodey, 1974:1.6). An urban trail can develop appreciation and promote awareness of these features in the immediate environment (Ferreira, 1995:64). It can assist the community to explore their urban environment (Coleman, 1991:28). Creating an urban awareness is a starting point but should lead to action related to local environmental issues if it is to fully embrace the principles of environmental education. Involving residents and workers in the area in the trail planning and programme, can bring the trail alive with their inputs and views (Fyson, 1975:29). This approach corresponds with ecotourism and environmental education's perception that local communities must be actively involved. Urban trails can, therefore, be developed as ecotourism trails to facilitate environmental education.

From the above analysis of types of trails relevant to the research it is clear that these trails include a number of environments. Table 3.3 summarises the environments each trail type can include. Key words from the explanations above are used to identify the relevant environments for each trail type.

TABLE 3.3 TRAILS AND THEIR ENVIRONMENTAL DOMAINS

TRAIL TYPE	BIOPHYSICAL		SOCIAL			BEHAVIOUR- RAL	PHYSIO- LOGICAL
	Natural	Built	Cultural	Economic	Political		
Wilderness	conservation			management		explain, observe, discover	walking, recreation
Hiking	natural environment, country side					discover	food, exercise, walking
Nature	conservation, natural, outdoors		cultural, historical	management		reflect, interpret, understand, explain, experience	walking, exercise
Urban/ Town	botanic garden, conservation	inner city, urban, industrial	architecture, historical, cultural, graveyard, photographic	transport, road, harbour, industrial	transport system, road safety	explore, examine	walking, exercise

Table 3.3 illustrates that some trails encompass more domains of the environment than others. Although nature and urban trails do not specifically indicate that they include exercise as part of the physiological domain the researcher deduced that this is the case because the fact that the trailist is walking along the trail implies a form of physical exercise. What is noticeable in Table 3.3 is that both the behavioural and natural environment are present in all four types of the trail types. All four types of trails can therefore be planned as ecotourism trails to facilitate environmental education.

3.2.3 Value of trails for ecotourism and environmental education

Hugo & Bewsher (1995) use purpose as a classifying principle for types of trails which illustrates that trails can be used differently and therefore have a different value depending on the primary purpose of the trail. Trails have a diverse number of purposes and related values such as interpretation and environmental education but at the same time, trails can be used for acculturation (learning to know and accept each other), adventure/challenge, aesthetic appreciation, conservation, exercise/health, income (financial benefits) recreation, relief of stress, socio-economic upliftment, socialisation, solitude, spiritual growth and refreshment (Levy, 1993:11; Hugo, n.d.:6,16). However, the primary concern of this research is to plan ecotourism trails to facilitate environmental education. This concern will be the framework in which trail values are analysed.

The links between environmental education and ecotourism highlighted in section 2.3 make it clear that environmental education and ecotourism can include many of the values of trails listed above. These values are inherent to more than one environment. The reason is that trails, as summarised in Table 3.3, focus on an interrelated set of internal and external environment domains such as: behavioural, for example learning experience; social for example interpersonal relationships; cultural for example history; and physiological for example exercise.

3.2.3.1 Value of trails within the social environment

Goodey (1974:1.5,1.9) points out that many trails are developed so that trailists can share some of the environmental assets of the particular environment with knowledgeable locals. The host community in turn can be practically introduced to the local environment and can discover their relationship and connectedness with the environment for themselves. Involving the host community in this way and in decision-making allows them to accept responsibility for their local environment (Ferreira, 1995:65). The people in and around the trail as part of the social environment contribute to bringing the trail alive (Fyson, 1975:29).

Trails can also provide a socialising experience in that a trail can create an opportunity to bring visiting individuals (trailists) together with one another and with the host community, and interpersonal relationships and understanding can develop (Hugo & Bewsher, 1995:1-11).

When trails are planned with wildlife such as buck in mind, they can be effective management tools that help reduce the impact of people on wildlife (Macdonald et al, 1998:4). Planning decisions should also be based on community values, including the benefits the trail will offer the public (Macdonald et al, 1998:5). Offering environmental education to trail users can help to reduce environmental impacts because people more readily tend to protect what they understand and appreciate (Macdonald et al, 1998:23). The more informed trail users become, the more appreciative they become and the more willing to co-operate with the trail administrators (Abbott, 1979:44).

3.2.3.2 Value of trails within the behavioural environment

Fyson (1975:29) notes that nature trails have proved their value to all levels and structures of educational work by enlarging visual awareness of the environment as a whole. Trails are also a resource of relevant interpretation that can link and integrate features to make the trail experience more structured, and emphasise some process, relationship or pattern that would otherwise have passed unnoticed (Keene, 1991:18). Trails are an ideal way to explore a range of aspects related to the environment and gain first-hand investigation experience (Wade & Hughes, 1994:51). The focus can be on one theme or a general study on several themes can be undertaken such as buildings, walls, boundaries, birds, insects, trees, plants, roads and traffic (Wade & Hughes, 1994:54). Trails can be a classroom outside the school classroom that links the school curriculum with the environment and therefore, be a valuable resource of information for educators in the formal education sector (Ferreira, 1995:65; Keene, 1991:18). Trails provide opportunities for experiential work such as field work and experiments (Wade & Hughes,

1994:51). According to Spray (1975:209-213), trails can be used as an alternative to the traditional learning programme techniques such as field demonstration in biology. Trails can also, according to Spray (1975), be used as an assessment tool in learning programmes like Biology.

A large part of the educational value of trails lies in the learning methods that they can provide. According to Rheeder (1992:17) a trail is a user-centred methodology that encourages enquiry into real life situations and is, therefore, suited to teach about, from/in and for the environment (Ballantyne & Attwell, 1985:78). A trail can be an educational excursion that provides an opportunity for learning through experience rather than passive listening and memorisation (Rheeder, 1992:17). It provides a practical facility to facilitate environmental education because it creates a sensory experience where a person can smell, see, feel and taste the wonders of the earth as part of the behavioural environment (Roux, 1994:117).

According to Raze (1993:26), a trail can develop other experiences as part of the behavioural environment such as observation skills, awareness, understanding of cyclic processes and the ability to express experiences. Ferreira (1995:64), Wade & Hughes (1994:51) and Tracey (1991:20) are also of the opinion that trails can be utilised to develop skills over time. These include the skills of identification, observation, writing, reporting, vocabulary, graphic, data collection and recording. Gutierrez & Sanchez (1993:176,177) add skills such as critical thinking and mapwork. This corresponds with the objectives of environmental education.

The environmental educational value of trails is far-reaching in that it can be applied to different audiences such as children, students and adults (Wray, 1968:21). It can also cover many topics and include many activities. It is important to realise that if it is aimed at school children, everything should be organised in such a way that it links with the curriculum and that the function of the trail remains focused on the decided topic (Tracey, 1991:22).

Closely associated with the above is that the trail environment can also provide a restorative experience because it provides an opportunity for the trailist to get close to nature (Coetzee, 1995:6). It allows the trailist to escape the pressures of urban life (Hornby, 1977:9) and relax (Roux, 1994:114, Fiedeldey, n.d.:3). The trailist can be exposed to positive experiences, therapeutic experiences, emotional responses, desire to return to nature/the wild, escape from pressure, using different experiences, the untouched wilderness, sense of achievement, atmosphere of a specific trail, need-fulfilment, personal growth, appreciation and humour (Fiedeldey, n.d:5,6, Coetzee, 1995:6). Trails create an emotional experience because being in a natural environment on a trail can create a sense of solitude for the trailist which provides an opportunity to come into contact with nature (Hugo & Bewsher, 1995:1-11). Trails also have an aesthetic value because the beauty and scenic environment through which a trailist moves satisfy the perceptual and cognitive needs of the trailist (Hugo & Bewsher, 1995:1-11). All these experiences contribute to enhancing the quality of life of the trail user. People need to be in "nature" to satisfy their psychological and emotional well-being. In the process they may realise the importance of nature and be activated to conserve it, which is an aim of ecotourism and environmental education.

3.2.3.3 Value of trails within the physical environment

Linked to the behavioural environment and associated educational experiences is the physical environment and conservation. A key element of conservation is the interpretation of particular features for visitors, which in turn forms the basis for developing interpretive documents (Goodey, 1974:1.5). Interpreting features along a trail can reveal places to the tourist, encourage perception of features, add value to a place, and subsequently encourage the tourist to get the most from the area visited (Goodey, 1974:1.2). It creates an awareness for the environment (Ferreira, 1995:65). This relates indirectly with the goal of ecotourism and environmental education to create environmental awareness, provide environmental information and in the process contribute to conservation.

Hultsman et al (1987:64) support the idea that trail development considers resource protection and the provision of positive experiences for the users. In providing a pleasurable experience, learning can be improved and positive, caring and responsible attitudes reinforced, concepts which form part of the goal for environmental education (Gustke & Hodgson, 1980:53; Wade & Hughes, 1994:51). A trail provides an opportunity to come in contact with real processes of change such as vegetation that changes over time and geological changes that has taken place along the trail. By providing appropriate information to the trailist an understanding for these changes can be facilitated (Fyson, 1975:29). Along the trail the trailists can investigate these aspects in small groups or individually, at their own pace (Keene, 1991:18).

The ecosystemic connectedness value of a nature experience that Fiedeldey (n.d.:6,7) identifies can form part of the conservation value of trails and can include categories of experiences such as feeling close to nature, holistic responses, philosophical responses, awareness of order in nature, conservation-oriented responses, spiritual experiences and the historical context. The significance of these values is that they bring about structural coupling between the natural environment and the human observer (Fiedeldey, n.d.:7) that can enhance the desire to protect and conserve.

3.2.3.4 Value of trails within the physiological environment

The experience provided by trails that receives the greatest focus is the recreational experience which can improve the quality of life of the trailist (Hultsman et al, 1987:64; Britton, 1981:3). However, even though this might not be a direct environmental education experience it does relate to the objective of ecotourism to improve the quality of people's lives. Improving the quality of people's lives means improving the quality of their living environments which includes the social, visual, natural and cultural dimensions (Department of Environmental Affairs and Tourism. 1996:14). Quality of life is a comparative

measure of life experiences in terms of subjective factors and priorities people have selected for themselves. It is not the same as standard of living which uses objective measures (Department of Environmental Affairs and Tourism, 1996:99). In ecotourism improving the quality of life means more than just improving the tourist's life experiences but it includes the host community's quality of life as well. Therefore, if an ecotourism trail is planned, it is necessary to keep in mind that not only the tourist, but the host community should benefit from the development. The community should be mobilised to utilise the trail. In return, for raising the involvement of the community and making it aware of the recreational value of the trail, the preservation of the trail environment can be promoted.

3.3 Revised ecotourism trail planning principles

In Table 3.4 the seven planning principles postulated in 2.3 are now placed in the context of the broad trail environment proposed in Figure 3.4. The principles are reviewed using the conceptual analysis of the term environment, types of trails and the value of trails to determine which principle encompasses which environment.

TABLE 3.4 ECOTOURISM PLANNING PRINCIPLES IN CONTEXT OF THE TRAIL ENVIRONMENT

PRINCIPLE	BIO-PHYSICAL		SOCIAL			BEHAVIOURAL	PHYSIOLOGICAL
	Natural	Built	Cultural	Economic	Political		
1	*	*	*	*	*	*	*
2	*	*	*	*	*	*	
3	*	*	*			*	
4	*	*	*	*		*	
5	*	*	*	*		*	
6				*			
7						*	

From Table 3.4 it is clear that the ecotourism planning principles postulated in 2.3 cover all the domains of the environment. However, it is apparent that most of the principles 1, 2, 3, 4 and 5 apply to the biophysical and cultural environment, principles 1, 2, 4, 5 and 6 to the economic environment and principles 1, 2, 3, 5, and 7 to the behavioural environment. The dominance of these four environments namely the biophysical, cultural, economic and behavioural, correlates with the focus of the ecotourism approach on these four environments as well as environmental education being implied by ecotourism. What is important to realise is the fact that the seven principles are interrelated and the four main environment domains are also interconnected. Thus, although it might appear as if the cultural, political and physiological environments are omitted they are indirectly addressed via the other three environmental domains and relevant principles.

The planning principles when contextualised for trails and formulated to include the broad environment proposed in Figure 3.4 read as follows:

Principle 1: The total trail environment namely the biophysical (natural and built), social (cultural, economic, and political), behavioural and physiological environment should be included in a holistic, interdisciplinary and balanced ecotourism trail

planning procedure.

The implication is that all four environmental domains in which ecotourism trails are planned should be studied beforehand. That means that, the anxieties, inputs, needs, functions as part of the cultural domain of the social environment of the host community and intended trailist, be addressed as part of the total trail environment. Furthermore, the natural environment (fauna, flora, geology, climate), the economic implications, and the social and political structures and processes surrounding the trail should also be addressed.

Principle 2: Ecotourism trail planning must be done **responsibly and sustainably** towards all agents that are role players in the planning process. These agents can include the trailist (tourist), trail owner (private and government), trail planner, authority, host community and total trail environment. Current and historical environmental aspects should also be considered in the planning to instil an ethical responsibility in the agents.

The principle implies that the different dimensions of the trail environment must be considered by the trail planner and cognisance must be taken of the environmental issues related to each domain such as the degradation and pollution of the biophysical environment by the trail development. By becoming aware of the different issues the trail planner can be moved to action to improve or at least avoid making environmental problems larger. In the economic environment, issues like poverty and starvation, in the social environment conflict, violence and war and in the political environment exploitation and repression should be recognised.

Principle 3: An **enlightening and educating experience** must be provided to all the agents that are part of the ecotourism trail planning process to increase an awareness and an understanding of the total trail environment. A diverse learning environment, broad array of educational approaches and critical thinking and problem-solving skills can be used as part of a continuous and lifelong learning

process.

The implication of the principle is that cognisance should be taken of the educational strategies suggested in section 3.2.3.2 and be incorporated into the trail planning process. Hultsman et al (1987:69) do warn though, that extensive interpretation along all types of trails should be resisted because it can cause irritation and interference to trail users. Hultsman & Hultsman (2000:4) recommend that different trail functions such as interpretation and hiking be kept separate because compared to hikers, interpretive trail users seek a slower pace, more conducive to learning and observation than vigorous exercise. The implication of this warning is that trails for educational purposes should be planned according to their purpose, the premise of this study namely, to propose a trail planning framework that will allow ecotourism trails to facilitate environmental education.

Principle 4: The total trail environment that is utilised as the resource must be **conserved and protected** by emphasising environmental sensitivity and the symptoms, causes and complexity of environmental problems during the ecotourism trail planning process by minimising negative impacts.

The implication of this principle for trails is that the total environment through which a trail passes, such as the host community in the social domain and the developer in the economic domain, should be conserved and protected, not only the natural environment. The principle aims to ensure that the goal of ecotourism and environmental education is achieved are to create environmental awareness and sensitivity, conservation and providing environmental information about environmental problems.

Principle 5: All the agents such as the trailist, trail owner, trail planner, host community, authority and the total environment should be part of the ecotourism trail planning process and benefit especially the **host community**. Local, national

and international inputs and contributions should be recognised.

The principle links with what Hultsman et al (1987:64) attribute as a value of trails is that they all have a common mission of improving the quality of life. This is an aspect generic to both ecotourism and environmental education.

Principle 6: Economic benefits must be provided to all the agents participating in the ecotourism trail planning process.

The principle is relevant and applicable to the aim of ecotourism namely to provide financial benefits to the trail owner and the host community of the trail. The principle requires the trail planner to apply sound management strategies that will give the necessary recognition and participation opportunities to the host community and trail owner. Furthermore, the trailist should receive value for money.

Principle 7: A participatory and interdisciplinary experience must be provided to all the agents participating in the ecotourism trail planning process to provide the agents with practical, first-hand experiences on the trail and provide them with opportunities to plan their learning experiences.

The principle implies that all the agents that are part of the ecotourism development should be involved actively in the trail planning process and not be isolated from the trail environment in which the ecotourism event is taking place. There are certain interactions and experiences that take place between the agents and the trail environment that contribute to the environmental education experience. The agents can become enfolded by certain sensations on the trail and reflect upon them at a later stage. When a different kind of environment is entered by the agents, predictability drops, the element of surprise comes into play and the information rate increases because the agents are stimulated by the environmental change (Gustke & Hodgson, 1980:56). Peter Keene (1991:17)

emphasises this interactive educational context of trails by attributing terms such as " ... *self-guided, self-paced, interactive, distance-learning packages* ..." to trails.

PLANNING

The revised principles and their relevant implications for the trail environment will now be contextualised in Chapter four for the different agents that can participate in the trail planning process.

Wright (1997) states that trail planning is a complex process that involves many different agents that form part of the trail environment. He argues that trail planning is a process that can be defined as "the process of developing a trail plan that is based on a thorough understanding of the trail environment and the needs of the trail users" (Wright, 1997: 71).

Wright (1997) further states that trail planning is a process that involves many different agents that form part of the trail environment. He argues that trail planning is a process that can be defined as "the process of developing a trail plan that is based on a thorough understanding of the trail environment and the needs of the trail users" (Wright, 1997: 71). Wright (1997) also states that trail planning is a process that involves many different agents that form part of the trail environment. He argues that trail planning is a process that can be defined as "the process of developing a trail plan that is based on a thorough understanding of the trail environment and the needs of the trail users" (Wright, 1997: 71). Wright (1997) also states that trail planning is a process that involves many different agents that form part of the trail environment. He argues that trail planning is a process that can be defined as "the process of developing a trail plan that is based on a thorough understanding of the trail environment and the needs of the trail users" (Wright, 1997: 71).

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