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# ACTOR-NETWORK THEORY, TOURISM ORGANIZATIONS AND THE DEVELOPMENT OF SUSTAINABLE COMMUNITY LIVELIHOODS

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University of Plymouth

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**ACTOR-NETWORK THEORY, TOURISM ORGANIZATIONS AND THE  
DEVELOPMENT OF SUSTAINABLE COMMUNITY LIVELIHOODS**

by

**AHMED MOHAMED ELBAZ MOHAMED**

A thesis submitted to the Plymouth University

in partial fulfilment for the degree of

**DOCTOR OF PHILOSOPHY**

School of Tourism and Hospitality

Faculty of Plymouth Business School

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# **Actor-Network Theory, Tourism Organizations and the Development of Sustainable Community Livelihoods**

**Ahmed Mohamed Elbaz Mohamed**

## **Abstract**

Research on existing actor-networks has focused traditionally on outcomes, achievements and success at the expense of a detailed consideration of their formation and ability to function. In recognition of this lacuna, this study examined the formation and functioning of tourism-related actor-networks involved in environmental protection and the management of tourism in the coastal city of Hurghada, Egypt. More specifically, it applied the actor-network theory (ANT). In particular, the study applied its four moments of translation – problematization, interessement, enrolment and mobilization – and used Structural Equation Modelling (SEM) to analyse the influencing factors, whether positively or negatively, and the degree to which the creation and operations of such collaborations were successful.

This study employed a sequential, explanatory mixed-methods design, integrating both quantitative and qualitative data. A questionnaire was used to collect data from 510 employees of tourism-related organizations involved in managing tourism's environmental impacts on Hurghada. Also, the researcher conducted fourteen semi-structured interviews with the managers and assistant managers of tourism-related organizations involved in environmental protection and the management of tourism. The SEM's findings revealed the existence of a number of tourism-related actor-networks which were attempting to safeguard local community livelihoods through environmental protection, and of four key factors – trust, coordination, commitment, and communication – which were damaging their formation, functioning and outcomes.

This study contributed to theory since it enhanced our knowledge and understanding of the relationships between four previously unconnected bodies of literature. These were, namely, ANT, tourism-related organizations, environmental governance, collaboration, and environmental protection. The study highlighted, also, the factors, both positive and negative, which influenced the formation and functioning of tourism actor-networks involved in managing tourism's environmental impacts on Hurghada.

In practical terms, this study analysed the role of tourism-related organizations in order to identify their main strengths and weaknesses. In addition, the researcher considered how partnership networks could consolidate the strengths and overcome the weaknesses of the tourism-related organizations involved in environmental protection and the management of tourism in Hurghada. Also, this study will help these tourism-related organizations, through such networks, to adopt suitable activities, policies, strategies and laws for protecting the assets relating to the local community's livelihoods. Therefore, knowing the key success factors of collaborative networks and good governance will help these networks of tourism-related organizations to improve their performance in terms of assisting Hurghada's local community and the poor people in particular.

## **DEDICATION**

*To the soul of my father, my great mother,  
To my wonderful wife, my children, my family, and friends  
A special dedication to my supervisors,  
Sheela Agarwal and Derek Shepherd*

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## List of Abbreviations

<b>Abbreviation</b>	<b>Full term</b>
SCLs	Sustainable Community Livelihoods
ANT	Actor-Network Theory
SLA	Sustainable Livelihoods Approach
NGOs	Non-Governmental Organizations
EESA	Egyptian Environment Sector Assessment
NBE	Nature-Based Ecotourism
CBE	Community-Based Ecotourism
NBT	Nature-Based Tourism
ODI	Overseas Development Institute
IIED	International Institute for Environment and Development
ICRT	International Centre for Responsible Tourism
UNWTO	United Nation World Tourism Organization
DFID	United Kingdom's Government Department for International Development
RSG	Red Sea Governorate
TDA	Tourism Development Authority
EEAA	Egyptian Environmental Affairs Agency
SPA	Egyptian Public Authority for Shore Protection
MOT	Egyptian Ministry Of Tourism
HEPCA	Hurghada Environmental Protection and Conservation Association
ASS	Abu Salama Society
CDWS	Chamber of Diving and Water Sports
USAID	United States Agency for International Development
UNEP	United Nations Environment Program
GEF	Global Environment Facility
OPP	Obligatory Passage Point
SLF	Sustainable Livelihoods Framework
HC/NC/FC/PC/SC	Human/Natural/Financial/Physical/Social Capital
PIPs	Policies, Institutions and Processes
WCED	World Commission on Environment and Development
NRM	Natural Resources Management
US	United States
COMMIT/TRUST	Commitment/Trust
COMMU/COORD	Communication/Coordination

COLLA	Collaboration
ER	Environmental Role
NER	Non-Environmental Role
PERFM	Tourism-related organizations Satisfaction with their Overall
CHALL	Performance
Quan/Qual	Challenges
SEM	Quantitative/Qualitative
PLS	Structural Equation Modelling
AVE	Partial Least Squares
CB-SEM	Average Variance Extracted
PLS-SEM	Covariance Based-Structural Equation Modelling
MVE	Variance Based-Structural Equation Modelling
EEPP	Monitoring, Verification, and Evaluation
PIU	Egyptian Environmental Policy Program
EIA	Policy Implementation Unit
MWRI	Environmental Implementation Assessment
LRS	Egyptian Ministry of Water Resources and Irrigation
RSSTI	LIFE Red Sea Project
IBRD	Red Sea Sustainable Tourism Initiative
GoF	International Bank for Reconstruction and Development
CFA	Global Goodness of Fit
VIFs	Confirmatory Factor Analysis
ARS	Variance Inflation Factors
APC	Average R-squared
	Average Path Coefficient

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## **Author's Declaration**

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award.

This study was fully financed by the Egyptian Government. Relevant scientific seminars and conferences were regularly attended at which work was often presented.

The following activities were undertaken in connection with the programme of study:

- Attendance on a number of courses in data analysis, in particular courses on 'Quantitative Analysis: Bivariate and Multivariate Analysis' in addition to post-graduate courses.
- Participating in the International Conference on Business Tourism and Applied Sciences: ICBTS, from 8-10 August 2013, at the University of London, London, UK, and the presentation of a paper entitled "Actor-network theory, tourism-related organizations and the development of sustainable community livelihoods".
- Participating in the Royal Geographical Society's RGS-IBG Annual International Conference, from 28-30 August 2013, at Imperial College London, London, UK, where the author presented a paper entitled "Actor-network theory, environmental protection and the development of sustainable community livelihoods".

**Papers in Progress:**

- 1- Agarwal, S., Elbaz, A. Actor-Network Theory, Environmental Protection and the Development of Sustainable Community Livelihoods.
- 2- Elbaz, A. Agarwal, S. The Mediating Effect of the Environmental Capital on the Development of Sustainable Community Livelihoods.

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## **Chapter 1: Introduction**

### **1.1 Introduction**

In developing countries, poverty is often blamed for environmental degradation, due to weak legislative frameworks, a lack of resources available for environmental protection (Kurvey, 2003), and a quest for societal progress resulting in an over-riding focus on development for economic gain. Tourism, particularly in coastal areas, has been responsible for much over-development and ensuing negative environmental and social impacts in many such countries (Bauer, 1999; Fayissa et al., 2008; Goodwin, 2007, 2008; Sullivan et al., 1995) and the consequences are often far-reaching. As well as detrimentally affecting the quantity and quality of resources upon which tourism depends, in an increasingly quality-conscious society, tourists may be discouraged from visiting these locations and, in turn, the economic returns and livelihoods of local communities may be diminished (Ibrahim, 2009).

Although the priorities of the developing world are often aimed at economic growth rather than environmental protection due to low standards of living (Uhlig, 1992; Mowforth and Munt, 2008), since the 1980s, greater emphasis has been placed on environmental management and protection (Bowonder, 1987). This is particularly the case in developing countries which lack alternative economic options other than tourism, and/or where tourism offers a less damaging form of industry than might already exist (Hunter, 1997). Often academic consideration of environmental protection in developing countries focuses on the role of the government since it is critical in establishing and maintaining basic standards that protect both the environment and the people

within it. Despite efforts to control environmental degradation through legislation and enforcement however, inadequate resources at the disposal of developing countries and undeveloped institutional capacity, combined with the low priority attached to this activity, often results in a failure to implement environment protection policies (Bowonder, 1987; Puppim de Oliveria, 2008; Uhlig, 1992). In recognition of these difficulties, collaboration has become important between different types of governmental, non-governmental, local, regional, national, international and supra-national organizations (Pechlaner et al., 2009; Uhlig, 1992). This is because it can produce better returns in protecting and conserving the environment than can be achieved by businesses and organizations acting in isolation.

But, working collaboratively in developing countries is itself challenging, as many developing countries traditionally lack participatory approaches to tourism development (Goodwin, 2007). As a result, there is a lack of understanding and experience of the conditions required, and of the factors necessary for such collaborations to form and function effectively. It is in this context that the actor-network theory (ANT) becomes relevant, since it provides an analytical tool and the theoretical and methodological underpinnings for the study of dynamic relationships between different actors (Cordella and Shaikh, 2006). Thus, it enables examinations to be undertaken of how and why collaborations come together, how such links and associations between interested parties are maintained, and how they overlap with other separate groupings of businesses, institutions and organizations (Rodger et al., 2009). Developed by Callon, Latour and Law in the early 1980s in an effort to recognize processes of innovation and knowledge formation in both science and technology, its

application within the field of tourism is relatively recent, with such studies focusing primarily on assessing the outcomes, achievements and success of existing actor-networks (Brito and Correia, 2004; Ibrahim, 2009; McBride, 2003; Paget et al., 2008; Rhodes, 2009; Rodger, 2007; Rodger et al., 2009; Ruming, 2008; Van Der Dium et al., 2005, 2006). Such a focus though is undertaken at the expense of the wider consideration of how such networks are formed and how they function.

In light of this paucity of knowledge and understanding, this study adopts ANT in order to examine the roles of, and the relationships between, government and non-governmental related organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism in Hurghada, an Egyptian coastal resort. In particular, it focuses upon ANT's four moments of translation (problematization, interessement, enrolment and mobilization) and applies structural equation modelling to analyse the factors that influence, whether positively or negatively, the origins, development and functioning of tourism-related actor-networks committed to environmental protection. This study assesses the formation of actor-networks between government and non-governmental organizations directly and indirectly associated with tourism which are involved in environmental protection, and determines the nature, role and extent of their involvement. Moreover, it demonstrates the value and applicability of ANT in general, and specifically through its four moments of translation, for understanding such collaborative activity.

The main purpose of this introductory chapter is to provide an overview of the study's purpose. The chapter is divided into four main parts. It begins with the study's context, discussing the relationship between tourism and the natural environment in developing countries, outlining the negative and positive impacts of tourism on the natural environment in the context of the developing world and it considers the environmental degradation-poverty nexus. The second part of the chapter considers the issue of governance and managing tourism's environmental impacts in developing countries, while in the third part, multi-governance, collaboration and managing tourism's environmental impacts in developing countries are considered. In the fourth part of this chapter, existing research shortcomings are highlighted and the rationale behind adopting ANT is detailed. Next, the study's aims and objectives are introduced and the likely theoretical and practical contributions are outlined. Then an introduction to the case study of Hurghada, an Egyptian coastal resort experiencing environmental degradation is provided. Finally the overall structure of the thesis is outlined.

## **1.2 Study Context**

### **1.2.1 The Tourism-Environment Relationship in Developing Countries**

The relationship between tourism and the environment in developing countries is characterized by fragility (Farajirad and Aghajani, 2010; Lemos, 2012), is often built around sensitive ecosystems, and is promoted mainly on the basis of the appeal of unique natural environments and landscapes. Natural environmental problems related to the development of tourism include the degradation of ecosystems (involving flora and fauna) in forests, national parks, conservation areas and wetlands (Sasidharan et al., 2002).

The relationship between tourism and the environment is complex (Sharpley, 2009; Sunlu, 2003). Jovicic and Dragin (2008) argue that the inability of tourism destinations to absorb an increasing number of tourists is one of the most important reasons for the relationship between tourism and environmental fragility. According to Ramkissoon and Durbarry (2009), if tourism products are not renewable, recessions will occur in tourism regions and there will be an over-consumption of tourism products beyond the carrying capacity of the tourism destination (with adverse effects on the environment). Thus, changes in the environmental quality of tourism destinations can result in a decline in the tourism industry (Butler, 1980). As a high quality natural resource dependent industry, the future for the sector relies heavily on the continued access to high-quality natural resources. Environment facets of direct tangible relevance to the resource base of tourism might include the immediate landscape and visual amenities, and attributes of the local ecosystem.

However, despite this fundamental dependency, the tourism industry also has the propensity to influence this natural resource base in a negative manner (Burke, 2005; Neto, 2002). This is perhaps because, in general terms, tourism is characterized by short-term development – the boom-bust syndrome – which more often than not damages those very assets it seeks to exploit and, having wreaked havoc, simply moves elsewhere. This process is becoming heightened in an era when globalization is increasingly pushing the frontiers of tourism back, and developing countries and communities are increasingly being drawn into tourism. For a number, tourism is big business since it is not just capital and commodities that can easily be transported across the world, but tourists too (Mowforth and Munt, 2008).

Hunter (1997) indicates the importance of the relationship between tourism and natural environments. He explains that protecting the natural environment is essential so as to sustain tourism for future generations, as well as to safeguard the livelihoods of the local community, who fundamentally depend on the tourism industry. Many studies have explained the relationship between tourism and the environment, and the negative impacts of this relationship in terms of destroying the tourism industry in many regions, in both developed and developing countries (Hunter, 1997, 2002; Neto, 2002, 2003; Aggrey et al., 2010).

One such example occurs at Hikkaduwa, Sri Lanka. It is the country's most developed beach resort and the site of a national marine sanctuary that houses extensive fringing reefs and sandy beaches. These features helped to make Hikkaduwa a popular destination for international tourism (Sullivan et al., 1995). Unfortunately because of its international reputation (and increased number of tourists) combined with the fragility of these natural features, Hikkaduwa has been deteriorating as a result of tourism development and related activities (Sullivan et al., 1995). Another illustration is Thailand's seaside resort of Pattaya which grew from a fishing village with only one hotel to a popular tourist destination with 266 hotels. However, as a result of water pollution and the pressures of tourist activities on its natural environment, the tourism industry and the reputation of the destination have declined (Kontogeorgopoulos, 1998). The state of Kerala in India, a small fishing village provides another example. Because of the over-exploitation of non-renewable natural resources for tourism purposes, its tourist sector collapsed after only two decades of rapid growth,

mainly due to insufficient disposal of solid waste and problems with the natural environment (Neto, 2003).

The relationship between tourism and the environment is made especially fragile by eight characteristics of the tourist industry that pre-dispose it to negative impacts, though not all may be inevitable (McKercher, 1993, 2003): (i) tourism consumes resources, creates waste by-products and requires specific infrastructure and superstructure; (2) tourism has the ability to over-consume resources; (3) as a resource dependent industry, tourism competes for scarce resources over its competitors to ensure its survival; (4) it is a private sector dominated industry with investment decisions being based predominantly on profit maximisation; (5) tourism is a multi-faceted and fragmented industry and as such is difficult to control; (6) tourists are consumers; (7) it is a form of entertainment; and, (8) tourism generates incomes by exporting its clients to consume the product in situ. Additionally, given that tourism represents a low cost development option, it is often viewed by developing countries as a means to address the impacts of poverty on the environment (Puppim de Oliveria, 2008).

### **1.2.2 The Environmental Degradation-Poverty Nexus**

There is a general consensus that poverty is a major cause of environmental problems and degradation (UNDP, 1990; World Commission on Environment and Development, 1987; Duraiappah, 1998; Forsyth and Leach, 1998; Ravnborg, 2003). The Brundtland Commission argues that poverty is a major cause of environmental degradation (World Commission on Environment and Development, 1987) while, the UNDP (1990) states that poverty is one of the

greatest threats to the natural environment. Moreover, Aggrey et al. (2010) comment that rapid population growth, environmental problems, and stagnant populations in many developing countries are closely linked to the rapid spread of extreme poverty. Providing an example of one such issue, the World Bank (1992) described how poor families who have to meet short-term needs exploit the natural environment through the excessive logging of trees for firewood and fail to restore soil nutrients.

However, Somanathan (1991, cited in Aggrey et al., 2010) argues that the poor do not have the resources or the means to cause degradation to the environment. This lack of consensus on the relationship between poverty and environmental degradation refers to a complex web of factors, involving economic policies, resource prices, local organizations and institutions, property rights, natural resource entitlements, gender relations, greed, power and wealth, all of which contribute to environmental degradation and problems in many poor countries (Duraiappah, 1998; Ravnborg, 2003; Aggrey et al., 2010).

According to Nwagbara et al. (2012), there are important links between the degradation of the natural environment and poverty. Many of the poor, especially in developing countries, rely directly on the natural environment for their livelihoods, and these people are very susceptible and vulnerable to any deterioration in this resource. Indeed, it is concluded that poverty is a major source of environmental problems in developing countries (Barbier, 2010). Roba and Mwasi (2006) explain that this is because in developing countries, over-exploitation of natural resources by the poor provides short-term survival but leads to environmental degradation and even fewer alternatives in the

future. There are also instances where environmental degradation leads to falling crop productivity or increasing levels of disease that, in turn, create more poverty. Ohlsson (2000), for example, argues that poverty is caused by the environmental degradation of arable land and water, leading to the loss of livelihoods.

Environmental degradation makes people poorer by limiting the availability of natural resources (e.g. water, air) (Chowdhury and Ahmed, 2010). Such environmental degradation may also have negative impacts on the livelihoods of people who depend on tourism (Scherr, 2000). Green (2005) indicates that environmental degradation and natural resource depletion negatively affect the economic benefits gained from tourism industry on which people depend mainly for their living. Biswas (2011), Green (2005) and Puppim de Oliveira (2003) all argue that continuous environmental degradation and natural resource depletion decrease the economic growth of a nation, hamper its social cohesion, destabilize its political structure and impact upon local community livelihoods in general. Hence, determining the level of environmental degradation of a natural resource is essential (Priskin, 2001). Thus, it is vital to plan and manage the negative environmental problems arising from tourism and other activities so as to preserve the quality of tourism destinations (Tosun, 2001; Kuo, 2002; Ravnborg, 2003).

#### **1.2.2.1 The Negative Impacts of Tourism on the Environment**

The negative environmental impacts of tourism can result from tourism development and from existing tourism activities. In developing countries, such impacts have occurred when the level of tourism is greater than the natural

environment's ability to deal with this amount of tourism (Faraji rad and Aghajani, 2010). Muhanna (2006: 14) further explains that environmental degradation "can result in water shortages, create great pressure on other local resources like energy, and food that already might be in short supply or destroy beautiful scenic landscapes. Solid waste and littering in nature despoils the natural environment". Moreover, Acharya (2005) claims that pollution caused by tourists has a negative impact on the natural environment. Other negative impacts of tourism on the environment include the deterioration and loss of wildlife habitats and of scenery, and the erosion of the local ecosystem as a result of land deforestation and the construction of tourism services and infrastructure (Muhanna, 2006).

One of the main perpetrators of these negative impacts in developing countries is the development of uncontrolled conventional mass tourism, which potentially places pressure on many destinations. It can pose a tremendous threat to whole regions and to local areas, and lead to soil erosion, increased pollution and discharges into the sea, the loss of natural habitats, increased pressure on endangered species and heightened vulnerability to forest fires (Faraji rad and Aghajani, 2010; Neto, 2003). In addition, human activities in tourism destinations in developing countries negatively affect coral reefs. For example, Tanrigama (1999) argues the main factor that causes the degradation of coral reefs is the use of glass-bottomed boats to allow tourists to view the coral and coral fish.

Natural environment degradation associated with tourist activities poses critical challenges to many tourism-rich destinations, particularly in developing

countries. This is because, as Neto (2003: 216) comments, “most tourists choose to maintain their relatively high patterns of consumption (and waste generation) when they reach their destinations, which can be a particularly serious problem for developing countries and regions without the appropriate means for protecting their natural resources and local ecosystems from the pressures of mass tourism”. Further urbanization often causes a decrease in the quality of the natural environment, as reflected in congested streets and coastal areas, environmental problems and destruction of habitats (Green, 2005).

Tisdell (2005) states that tourism may destroy itself in two ways: (1) mass tourism and overcrowding due to expanding numbers of tourists may reduce the total benefits received from tourism and deter some tourists from visiting an area; and, (2) tourists and the facilities built to cater for them may destroy the assets that attracted tourists in the first place and reduce the number of tourists visiting a place in the long term. The incremental influx of mass tourists from developed countries has further aggravated the scope, scale and intensity of problems related to tourism development in developing countries (Lankford and Howard, 1994; Sasidharan et al., 2002). Moreover, increased tourism infrastructures that result from tourism development can place further demands on these natural resources, resulting in resource degradation and a decline in tourism (Sullivan et al., 1995). These impacts are summarized in Table 1.1.

**Table 1.1 Negative Impacts of Tourism on the Natural Environment**

- Increased pollution (water, noise, air and aesthetic pollution)
- Degradation in architectural style
- Absence of natural landscape
- Devastation of flora and fauna
- Increased carrying capacity (congestion of tourist facilities and infrastructure development)
- Loss of habitat areas and forest land because of urban development
- Degradation of biodiversity in ecosystems and interspecies diversity due to habitat losses
- Increased coastline erosion owing to rising sea levels
- Increased amount of waste water
- Change in the character of the natural and built environment
- Infrastructure overload
- Loss of open space

Source: Ahmed, 2001; Kreag, 2001; Poser, 2009; Sunlu, 2003; Holden, 2008; Davies and Cahill, 2000; Leung et al, 2008; Burke, 2005; UNEP, 2002.

Grimble et al. (2002: 1) argue that “rural poverty and population growth together comprise the major cause of degradation: in some circumstances poor people have no alternative but to over-exploit the natural resources and environment on which they depend. Where landscapes are fragile, over-exploitation affects the land’s carrying capacity and reduces the number of people it can support – hence [leading to] a downward spiral”. Puppim de Oliveira (2005) explains that the same natural resources that attract visitors and tourism investment can also be devastated by tourism and, accordingly, the loss of quality in the natural environment can ultimately obliterate tourism itself. Neto (2003) claims that tourist destinations in developing countries are becoming over-developed up to the point where the damage due to environmental problems—and the ultimate loss of incomes caused by the collapse of tourist arrivals—is irreversible.

In Pakistan, a developing country, as Khan and Khan (2009: 2607) explain, the poor are vulnerable to environmental change and yet, the absence of basic subsistence makes them predators of the natural environment thereby further exacerbating their vulnerability. They argue that the relationship between

poverty and resource degradation reflects inescapable responses. Therefore, the lack of access to natural resources results in the loss of environmental entitlements/benefits, which are an imperative source of livelihood for poor communities. Thus, a decrease in environmental entitlements exacerbates rural poverty, further exacerbating natural environmental degradation (Mearns, 1995). However, the WWF (2003) states that tourism can also be a positive power for environmental protection and environmental management, and can offer unique opportunities to raise awareness and increase support for environmental protection, but only if tourism is undertaken responsibly.

#### **1.2.2.2 Positive Impacts of Tourism on the Natural Environment**

In developing countries, the development of tourism can play a vital role in changing poor people's access to assets and related livelihood opportunities. On the positive side, tourism can create funds to invest in health, education and other livelihood assets, provide infrastructure, stimulate the development of social capital, promote sustainable management for environmental natural resources, and generate a demand for improved assets (especially education) (Ashley et al., 2000; Ashley, 2002). Moreover, tourism can have positive effects on both natural and artificially constructed environments and on the communities in tourist destinations (Davies and Cahill, 2000). Table 1.2 illustrates these positive impacts of tourism on the natural environment. According to various authors (Leung et al., 2008; Lindberg et al., 2003; Amuquandoh, 2010), the tourism industry can contribute directly to the preservation of natural resources through the following means: (1) financial support allocated specifically to the conservation, management and maintenance of environmentally pristine and sensitive regions; (2) improved

environmental management and planning; (3) raising environmental awareness among the public; (4) protection and preservation, including the conservation and restoration of biodiversity, ecosystems and the sustainable use of natural resources; and (5) regulatory measures, which can help to mitigate negative impacts (e.g., managing the number of tourist activities and visitors in protected areas can control the effects on the ecosystem and help to preserve the integrity and vitality of the tourist destination) (UNEP, 2002).

**Table 1.2: Positive Impacts of Tourism on the Natural Environment**

- Conservation of particular natural resources or protection against further ecological decline
- Protection of historic and ancient buildings and monuments
- Enhancement of the appearance of the tourist destination (visual and aesthetic)
- Cleaner industry (e.g. free from smokestacks)
- Generation of revenues for the government to improve services and facilities for the host communities
- Restoration of derelict buildings
- New architecture styles
- Increasing awareness and appreciation of nature
- Facilitation of nature conservation
- Generation of political support for conservation
- Establishment of regulations and certification for the management of tourism and environment issues
- Use of Environmental Management Systems and similar environmental control tools to assess environmental effects.

Source: Ahmed, 2001; Kreag, 2001; Davies and Cahill, 2000; Leung et al., 2008; Lindberg et al., 2003; Amuquandoh, 2010; Burke, 2005.

According to Ahmed (2001), there is an urgent need to strike a balance between environmental preservation and development. As a result, it is essential to deal responsibly with tourism (WWF, 2003). Thus, in light of the essential need to sustain the balance between tourism development and the environment in developing countries, it is imperative that destinations are subject to appropriate management (Sasidharan et al., 2002). In particular, Sasidharan et al. (2002)

states that there is a need to: (1) restrain the negative impacts of tourism on the natural environmental base of tourist destinations by encouraging tourism projects to achieve high environmental standards; (2) educate tourists on the implications of tourism-related actions and decisions, thereby prompting them to support environmentally sound tourism enterprises through their purchasing decisions; and, (3) develop standards to promote environmentally friendly tourism products and services in developing countries.

### **1.2.3 Governance and Managing Tourism's Environmental Impacts in Developing Countries**

Thus, managing tourism's environmental impacts is crucial for preserving assets such as scenery, clean rivers, lakes and shorelines, biological diversity, cultural heritage and infrastructure, and is an indispensable activity for any tourism destination aiming to be competitive (Hawkins and Mann, 2007). It is claimed that in order to prevent and mitigate environmental degradation in developing countries, governments are required to intervene in tourism development because they are responsible for both tourism investment (i.e. infrastructure and promotion) and environmental protection (Puppim de Oliveira, 2005). Hence, government intervention in tourism development should minimize its negative environmental impacts through environmental management and planning, regulation and the provision of infrastructure and financing (Vaugeois, 2000; Puppim de Oliveira, 2003; Sharpley, 2008). Indeed, Koncul (2007) argues that a sustained active role by governments in environmental protection is argued to be vital for the future of tourism development.

Traditionally, in many developing countries, tourism development has been a highly centralised government activity, undertaken at a national level (Elliot, 1983; Tosun and Jenkins, 1998; Tosun, 2000). According to Bingham et al. (2005), Harrington et al. (2008) and Jordan et al. (2003) government refers to the formal, central and vertical exercising of power and authority, such as through regulation or market-based instruments. All too often though, it is fragmented with one authority or department concerned for development, while others are expected to manage the impacts of such developments (Jenkins, 1982). Moreover, Tosun (2000) notes that departments lack definitions of roles, have over-lapping responsibilities with other government departments and have little accountability. Consequently, co-ordination and co-operation within governments has been problematic, and is exacerbated by the nature of the tourism industry itself, being comprised of an amalgam of many different mutually dependent components that constitute a whole product. Thus, according to Tosun (2000: 620), 'lack of co-ordination and co-operation can be very damaging to not only the quality of the product but also to tourism development'.

From the late 1950s and early 1960s, globalisation has impacted on political administrations as most developing countries have pursued extensive development programmes through central government (Haque, 1997; Telfer and Sharpley, 2008). In doing so, such central governments have experienced increasing devolution of political and economic power, a shift more commonly known as governance (Tosun and Jenkins, 1998), and which is allegedly characterised by decentralisation, innovation, and flexibility (Haque, 1997; Puppim de Oliveira, 2008; Tosun and Jenkins, 1998). Governance relates to 'a

web of institutions and agencies that are central players in the political environment' (Mowforth and Munt, 1998: 252), and involves complex relationships, simultaneously vertical across different levels of government, and horizontal amongst different departments at the same level of government. The relationships between different levels of government that arise from decentralisation are characterized by mutual dependence, since it is impossible to have a complete separation of policy responsibilities and outcomes between levels of government (OECD, 2009a). In particular, according to Haque (1997:iii) 'the decentralisation of development policies and programmes to local institutions has been emphasised in developing countries due to the increasing recognition that expansive administrative responsibilities cannot be carried out by central government alone'. Thus, as the role of central governments has diminished in programmes such as poverty eradication, employment generation, education, public health and tourism development, local governance plays an increasingly essential role (Haque, 1997; Mowforth and Munt, 2008).

Despite the emergence of governance in many developing countries, according to Tosun (2000: 619), 'strong central governments have practised tutelage on local government precluding the emergence of responsive, effective and autonomous institutions at the local level'. For example, although increased decentralization often provides local government with the power to develop its own by-laws and policies at the local level, these must still comply with provincial, national and supra-national frameworks. Local governments therefore need to have a good understanding of such legal and regulatory frameworks to avoid contraventions and consequent penalties (Philip et al., 2008). Also, many centralised systems lack the political will to implement

decentralisation because of the low cost potential of tourism to achieve export-led industrialisation and development (Tosun 2000), combined with the implications for the re-distribution of power and resources away from ruling elites and those with vested interests (Desai, 1995). Thus, as a result of the pervasiveness of centralisation in many developing countries, tourism development and ensuing environmental degradation has been allowed to continue un-checked (Mowforth and Munt, 2008).

Indeed Todaro (1994:36-37) asserts in the context of developing countries:

'....it is often not the correctness of economic policies alone that determines the outcome of national approaches to critical development problems. The political structure and the vested interests and allegiances of ruling elites....will typically determine what strategies are possible and where the main road-blocks to effective economic and social change may lie'.

The political circumstances of developing countries are compounded by the fact that they are poor and lack the economic basis to cope with environmental degradation issues. Many simply cannot afford to undertake preventative measures to address environmental degradation or lack the institutional capacity which enables them to do so. Such weak capacity may be related to the level of education of municipal staff, weaknesses in project management and budgetary practices, difficulties in responding to local citizens' preferences and firms' needs, or the inability of sub-national governments to implement national policies and to define their own strategies for long-term development (Mowforth and Munt, 2008; OECD, 2009b). Thus, tackling the negative impacts

of tourism and protecting environments requires collaborations between a wide-range of different stakeholders (Cater, 1993; Vernon et al., 2005), a process heightened by a trend towards multi-level governance, characterised by the rise of governing structures which stretch across political boundaries (Telfer and Sharpley, 2008).

#### **1.2.4 Multi-Level Governance, Collaboration and Managing Tourism's Environmental Impacts in Developing countries**

Maximizing the benefits from tourism in developing countries requires a governmental inter-departmental approach as well as strong partnerships in both the destinations and the originating countries, between government, agencies and institutions, non-governmental organisations, communities and the private sector tourist industry operating at supra-national, national, regional and local scales (UNTWO, 2002). Indeed, McKercher (2003) argues that governments of developing countries must take the lead and work in partnership with these multi-governance arrangements in order to manage tourism development. Given the link between poverty and environmental degradation, supra-national organizations such as the United Nations, the World Bank and the International Monetary Fund are increasingly adopting goals aimed at reducing poverty; some measures are process-oriented measures to address the worst manifestations of poverty, while others have a more strategic orientation, and seek to create an enabling environment for the poor. Through actor-networks, these organizations work to achieve the following aims (OECD, 1999): (1) to meet the immediate requirements of livelihoods for the poor; (2) to enhance the available opportunities, so that the poor can assist themselves; (3) to create a pro-poor enabling environment.

Collaboration in environmental governance in particular is characterized by the dominance of NGOs. Gemmill and Bamidele-Izu (2002: 3) state that ‘NGOs involved in environmental governance are highly diverse, including local, national, regional, and international groups with various missions dedicated to environmental protection, sustainable development, poverty alleviation, animal welfare, and other issues’. This means that environmental management governance comprises heterogeneous actors, regulations, policy documents, agreements and components of the natural environment interacting in different places. These heterogeneous actors include various forms of individual or collective agency, defined by their ability to influence environmental challenges through the exercising of authority, power and impact (Harrington et al., 2008).

Simpson (2008) notes that NGOs provide numerous advantages for developing countries, including investment in tourism and equity holdings, capacity building, advocacy, campaigning, consultancy, and full-spectrum alliances (i.e. increasing collaborative networking, resource sharing and deep involvement). However, because supra-national organisations operate in a global sphere of activity and are not subject to the laws of national governments, they are able to influence and in some instances determine the economic and political activities of national governments (Mowforth and Munt, 1998). Consequently, failures of development are all too often blamed on governments of developing countries and ignore problems within international economic relations which have perpetuated old patterns of relationships between weak and strong nations.

Improving relationships through good coordination and governance is therefore the key to the performance of collaborative activities and is likely to have a

profound impact on the synergies that are present (Lasker et al. 2001; OECD, 2009a). Governance influences the extent to which actors' perspectives, resources and skills can be claimed for achieving a common goal through procedures that identify which actor is involved in the partnership's decision-making and how the partnership makes its decisions and does its work. Ultimately, the effectiveness of collaborative networks and/or arrangements depends on whether the partners in the network are able to embrace and promote new processes that will initiate innovative ways of working, new structural arrangements and the integration of new actors, leading to the accomplishment of innovative solutions (Mandell and Keast, 2007; Robertson, 2011).

Erkuş-Öztürk and Eraydın (2010) argue that collaborations with external organizations may help an organization focus its efforts on improving productivity, increase profits and minimize negative environmental impacts. While collaborating with global organizations can help organizations to minimize global challenges, collaborating with governments can help them create and implement new and more sustainable economic and environmental policies. Kaiser (2011) explains that collaborative arrangements involve several different forms, such as collaborations, networks, partnerships, mergers, integration and coordination. These different types of collaborative arrangements may overlap with one another, or may exist in the same organizational structure (Kaiser, 2011).

According to Jamal and Stronza (2009: 196), 'definitions vary over the span of disciplinary efforts, and 'partnership' or 'collaboration' is commonly used as a

general descriptor for joint efforts'. Similarly, Crotts et al. (2000) express the belief that words such as strategic partnership, strategic alliance, joint venture and relationship all illustrate the coming together of organizations into a deliberate link that has synergetic strategic value. However, according to Jamal and Stronza (2009), the term collaboration has a much richer explanation in the inter-organizational relationships and business literature than the meaning ascribed to it in everyday use. It tends to be a synonym for cooperation and describes a flexible and dynamic process that evolves over time, enabling multiple stakeholders to jointly address common problems or issues.

Collaboration has been subject to a wealth of research particularly within tourism. Such studies have focused on alliances (Crotts et al., 2009; Telfer, 2001; Lin and Darnall, 2010), inter-organizational relationships (Jamal and Getz, 1995; Blomqvist and Levy, 2006; Erkuş-Öztürk and Eraydin, 2011), partnerships (Vernon et al., 2005; Erkuş-Öztürk and Eraydin, 2011; Selin and Chavez, 1994), stakeholder theory (Benn et al., 2009; Jamal and Stronza, 2009; Jamal, 2004), collaborative governance (Erkuş-Öztürk and Eraydin, 2010; Bingham et al., 2005; Robertson, 2011) and collaboration theory (Jamal and Getz, 1995; Parker, 1999; Humphries and Wilding, 2004; Robinson, 1999). Research has also been undertaken of tourism collaborative arrangements which seek to protect the environment (for example, AAS, 2005; Arnaboldi and Spiller, 2011; Bramwell and Sharman, 1999; Graci, 2012; Jamal and Stronza, 2009; Jamal and Getz, 1995; Klassen and Vachon, 2009; Parker, 1999; Selin and Chavez, 1994; Weiler et al., 2007; Laing et al., 2009; Erkuş-Öztürk and Eraydin, 2010, 2011; March and Wilkinson, 2009). In the main, these studies

focus on the outcomes and/or achievements of existing collaborative arrangements, and pay scant consideration to how they form or function.

#### **1.2.4.1 Existing Research Shortcomings**

Consequently, little is known about the factors that characterize the development and functioning of successful actor-networks in the developing world or of the barriers and challenges which may be encountered. ANT helps to address these shortcomings, specifically through its four moments of translation: (1) problematization; (2) interessement; (3) enrolment; and, (4) mobilization, which enable a detailed analysis to be undertaken of the formation and functioning of collaborative arrangements. The adoption of ANT to underpin this study has additional value since within tourism research there are virtually no studies which apply it to the pursuit of environmental protection. This is surprising given that the value of ANT for studying tourism development has been expounded (Rodgers et al., 2009; Van Der Duim, 2007).

Moreover, unlike other theories, such as inter-organizational behaviour and collaboration theory, which have been used to analyse the relationships between tourism actors in the context of tourism development (Bramwell and Sharman, 1999; Jamal, 2004; Jamal and Getz, 1995; Jamal and Stronza, 2009; Medeiros de Araujo and Bramwell, 2002), ANT focuses on examining the micro-level dynamics that arise through the construction and maintenance of collaborative networks (Arnaboldi and Spiller, 2011). It is this aspect that lies at the heart of ANT since every situation is the result of on-going associations between actors (Arnaboldi and Spiller, 2001), who spread (new) ideas and search for allies who are interested in and/or hold similar beliefs and desires.

Additionally, the use of ANT to study the consequences of tourism development is also innovative as it enables the examination of the interaction between human (e.g. tourism-related organizations) and non-human (e.g. the natural environment) actors (Rodger et al., 2009; Paget et al., 2010; Rhodes, 2009; Rodegre, 2007). In contrast, collaboration theories do ‘not show how to operationalize a system of governance that integrates the concerns of humans and non-humans as stakeholders’ (Benn et al., 2009: 1568).

#### **1.4 Aims and Objectives**

Given these short-comings, the main aims of this study are to explore the role of, and the relationships between government and non-governmental related organizations directly and indirectly involved in tourism which are involved in environmental protection and the management of tourism in Hurghada, an Egyptian coastal resort. More specifically it aims to examine the factors which influence the successful formation and functioning of actor-networks which seek to ameliorate the negative impacts of tourism. The study therefore adopts ANT, and in particular the processes of translation, which consist of four moments of translation: problematization, interessement, enrolment and mobilization to examine the micro-level dynamics that emerge and are present within existing actor-networks. However, in order to ascertain the factors that are influencing the origins, development and function of actor-networks involved with managing tourism’s environmental impacts, mutually compatible insights from studies pertaining to characteristics of developing and operating effective and/or successful collaborative networks (e.g. Blomqvist and Levy, 2006; Bramwell and Sharman, 1999; Erkus-Ozturk and Eraydin, 2010; Ibrahim, 2009; Jarvenpaa and Leinder, 1999; Thomson et al., 2009), partnerships (Casey,

2008; Selin and Chavez, 1994; Waddock, 1989), inter-organizational collaboration (e.g. Gray, 1985, 1989; Jamal, 1994; Jamal and Getz, 1995; Jamal and Stronza, 2009; Selin and Myers, 1995) and/or collaborative advantage (e.g. Huxham, 1996) inform this examination.

The main focus of this study is on tourism-related organizations, attached to which is a very specific definition. In this particular study, it is taken to mean government and non-governmental tourism-related organizations directly and indirectly associated with tourism, which are involved in managing tourism's environmental impacts in Hurghada, Egypt (see Sections 4.5.1.1 and 4.5.1.2).

By focusing adopting this focus, the questions this investigation attempts to answer include: how does the actor-network function? Which factors are most critical to the success or failure of actor-networks? What is the role of government and non-government related organizations directly and indirectly associated with tourism involved in managing tourism development? To what extent do the relationships between these organizations affect their roles? To what extent do the management outcomes achieved affect their satisfaction with the process? And finally, to what extent do any barriers and challenges that are encountered negatively influence satisfaction?

To fulfil the overall purpose of this study, three main aims and ten related objectives have been devised, as detailed below:

1. To examine the roles and responsibilities of government and non-governmental related organizations, directly and indirectly involved in

managing tourism's environmental impacts in the coastal city of Hurghada, Egypt.

- (i) To identify the focal actors involved in managing tourism's environmental impacts in Hurghada, Egypt; and,
  - (ii) To ascertain the role of organizations involved in managing tourism's environmental impacts in Hurghada, Egypt.
2. To explore the relationships between government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in the coastal city of Hurghada, Egypt.
- (iii) To examine the relationships between government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in the coastal city of Hurghada, Egypt;
  - (iv) To analyse the factors, both positive and negative, influencing the relationships amongst actor-networks involved in managing tourism's environmental impacts in Hurghada, Egypt;
  - (v) To assess the formation of actor-networks amongst government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada, Egypt;
  - (vi) To analyse the factors, both positive and negative, influencing the formation of actor-networks amongst government and non-governmental related organizations, directly and indirectly

involved in managing tourism's environmental impacts in Hurghada, Egypt; and,

- (vii) To identify any challenges encountered by government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada, Egypt.

3. To contribute to enhanced knowledge and understanding of the relationship between ANT, collaboration, and the management of tourism's environmental impacts.

- (viii) To analyse the applicability of ANT's four moments of translation to the formation and functioning of actor-networks which seek to manage tourism's environmental impacts;

- (ix) To demonstrate the value of ANT in highlighting factors which influence the success or failure of actor-networks;

- (x) To propose tentative policy recommendations to enhance the management of tourism's environmental impacts through actor-networks

By achieving these aims and objectives, this study will make several theoretical and practical contributions. In terms of the latter, this research attempts to enhance knowledge and understanding of the relationships between previously unconnected bodies of literature, namely, ANT, governance, collaboration and the management of tourism's environmental impacts. The study also attempts to analyse the factors, both positive and negative, influencing the formation and

functioning of actor-networks involved in managing tourism's environmental impacts. With respect to the latter, this study highlights factors associated with actor-networks which are perceived by their members, to be fundamental to their success or failure. The study will also help existing networks of government and non-governmental organizations, directly and indirectly involved with tourism in Hurghada and other developing countries, to adopt suitable activities, policies, strategies and laws to manage tourism's environmental impacts more effectively.

## **1.5 The Study Area**

This study is set within the coastal resort of Hurghada, Egypt, located within its Red Sea Governorate, a popular region for international tourism (for more a more detailed account of the case study, see Chapter 5, the case study). Indeed, in 2010, over 4.9 million tourists visited the Red Sea coast, amounting to almost one-third of all tourists who visited Egypt, estimated at nearly 12.5 million (Tourism in Figure, 2010). Tourism is a major economic activity in Hurghada, with an estimated 95% of the economy dependent on tourism, generating approximately 275,000 jobs (USAID, no date). Since the late 1980s when tourism began to be developed, its economy has undergone a complete transformation from being fisheries-based to one that is dive tourism-dependent (Serour, 2004). However, the idea of putting an integrated coastal management system in place was not investigated for another decade (Jameson et al., 2007). As a result, substantial stress has been put on the natural resources in the region, leading to significant amounts of damage.

Within Hurghada, Medio (1996) indicates that there has been unlimited reef use for tourism and fishing, as well as unrestricted coastline development. According to Cesar et al. (2003), the most important element of coastal tourism in Egypt is coral reef health. Overloading the carrying capacity of the diving sites leads to a gradual damaging of coral cover and reef quality in general. These authors add that the marine environment is influenced by many different factors. For instance, pollutants, such as sewage, may impact upon the marine environment in a way that is slow and almost imperceptible. Coral reefs are an incredibly valuable ecosystem due to their immense importance to nature, and to human-kind, supporting millions of people whose lives completely depend on these natural resources as a source of livelihood (Cesar, 2003). A global survey conducted in 1998 by the World Resources Institute estimated that 61 per cent of the coral reefs in Egypt were seriously at risk from human activities (Cesar et al., 2003).

During the past few decades, Hurghada's coral reefs have been undergoing continuous deterioration due to a combination of intensive diving and other water-based recreational activities (Serour, 2004). Eraqi (2007) explains how the coral reefs in Hurghada are exposed to both direct and indirect effects of tourism activities, such as damage caused by divers, anchors, reef walking, and coastal alterations. Despite the fact that tourism supports livelihoods through the use of the coral reefs, it also poses the most serious threat to the reefs in Hurghada (Cesar, 2003). In addition, the coral reefs in Hurghada are at risk from high siltation and sedimentation rates as a result of the poorly planned and implemented construction of hotels, resorts and facilities associated with the tourism industry. Although this seems to be a problem that is most associated

with past construction, its impacts are still being felt (Cesar, 2003). Additionally, Mansour (2007) identifies other factors that are contributing to environmental damage in Hurghada. For example, different types of development projects, land-filling and dredging in order to construct lagoons, boat channels, causeways and port facilities such as jetties, have all had a negative effect on the marine environment in Hurghada. Thus, these negative environmental impacts are reducing the quality of Hurghada's natural environment and, consequently, tourism revenues.

Collaborative networks have been established in Hurghada under the Life Red Sea Project that focus on the conservation of the natural environment and the management of tourism's environmental impacts, particularly through an environmental protection approach which encourages sustainable livelihoods (Ibrahim, 2005; USAID, 2007, 2008). It centres around poverty reduction and involves establishing an inextricable link between livelihoods and bio-diversity, thereby reflecting a growing recognition of the need to balance economic growth and well-being with conservation (Salafsky and Wollenberg, 2000). According to Walpole and Wilder (2008), bio-diversity underpins poverty reduction due to the importance of natural resources to the livelihoods and well-being of the poor. Moreover, Roe and Elliot (2004) and Fletcher (2009) claim that natural resource conservation provides options for improving the livelihoods of future generations, whereas ecosystem depletion and species extinction reduces their capacity to respond to future circumstances which may be adversely affecting their livelihoods. Linking human activities to natural resources should therefore enhance the value of bio-diversity to local people,

and encourage communities to respect, protect and conserve the environment (Salafsky and Wollenberg, 2000).

The existing networks within Hurghada are heterogeneous and include a range of governmental, non-governmental and international and supra-national organizations which are directly and indirectly involved with managing tourism's negative impacts and encouraging more sustainable livelihoods. Governmental organizations include the Egyptian Tourism Development Authority (TDA), The Egyptian Environmental Affairs Agency (EEAA), The Egyptian Red Sea Governorate (RSG), The Egyptian Public Authority for Shore Protection (SPA), The Egyptian Ministry Of Tourism (MOT), and the Egyptian Authority for Tourism Promotion (EATP). The NGOs operating in Hurghada include the Hurghada Environmental Protection and Conservation Association (HEPCA), the Abu Salama Society (ASS) and the Chamber of Diving and Water Sports (CDWS). Meanwhile, the international and supra-national organizations involved in these networks include the United States Agency for International Development (USAID), the United Nations Environment Program (UNEP) and the Global Environment Facility (GEF).

Like most developing countries however, collaboration is challenging in Egypt, given its system of government as it is highly centralized, hierarchical and bureaucratic, with some decentralized features (Tobbala, 2012). Although there is a system of local governance comprised of elected local municipal councils, these fulfil an administrative, executive and advisory function. Power and decision-making thus remains with central government which exercises complete control over policy-making and resources (Tobbala, 2012). As a

result, according to Gebril (2004), a lack of transparency and accountability exists, as does multiples of modes of corruption such as the misuse of public funds, bribes, tax fraud, misuse of power and authority, favouritism towards the privileged political clique, and ascription in selecting government leaders and in providing government services. Thus, centralization, combined with mis-governance, has arrested modernization and alienated many citizens outside of Cairo, and has restricted political and civil rights. Moreover it has contributed to the absence of effective coordination between the governmental authorities (Attia, 1999), resulting in a failure to effectively tackle the negative impacts of development including that caused by the tourism industry. In this context, collaboration between different types of governmental, non-governmental, local, national, international and supra-national organizations that are directly and indirectly associated with tourism and which are involved in environmental protection and management of tourism may present a better way forward to address the institutional deficiencies which are currently present in Egypt.

## **1.6 Study Methodology**

The application of a case study approach in this research enabled the researcher to get a holistic view of the importance of tourism to Hurghada, and of its impact on the resort's environmental resources (Noor, 2008). This study employs a sequential explanatory mixed-methods design which integrates quantitative and qualitative approaches. The mixed-methods design is based on the pragmatism paradigm, integrating both quantitative and qualitative findings to provide the best understanding of the research problem (Creswell et al., 2007). Employing the pragmatic approach helps researchers to focus on and emphasize the research problem and allows the use all available approaches

(i.e. both quantitative and qualitative) to fully understand it (Creswell, 2009). Therefore, pragmatism affords the possibility to construct a properly combined methodology for the Social Sciences, by acknowledging the importance of integrating both quantitative and qualitative approaches and the importance of the knowledge generated by such research for furthering understanding of society and the social world (Feilzer, 2009).

### **1.7 The Structure of the Thesis**

In order to achieve the research aims and objectives, this study comprises a further eight chapters:

**Chapter 2:** This chapter presents a literature review of governance in developing countries and outlines tensions which exist between centralization and decentralization which characterise many, the challenges of multi-level governance, and their implications for tourism planning and development. It details the difficulties which may be encountered by ‘failing’ states, most notably those experiencing political instability and discusses collaboration in this context. Next, ANT and the main ideas and principles behind it are examined, including this theory's process of translation, which comprises four moments: problematization, interessement, enrolment and mobilization. Following this, it discusses the relevance of ANT to tourism generally and to environmental protection specifically. Then, it presents a literature review of environmental protection and the development of sustainable community livelihoods.

**Chapter 3:** This chapter contains a discussion of the conceptual framework of the study. It begins with a discussion of the actor-networks and the roles of tourism-related organizations in managing tourism's environmental impacts, collaboration and the formation of actor-networks, factors influencing the formation and functioning of actor-networks and then presents the proposed the conceptual framework. Based on this conceptual framework, the research hypotheses are derived and discussed.

**Chapter 4:** This chapter presents the research methodology employed in this study and the reasons for its adoption, as well as the tools and techniques used to implement the research. It begins by briefly discussing the philosophy behind the chosen methodology. This research relies on triangulation, with an explanatory sequential mixed-methods research approach combining both quantitative and qualitative research methods. Thus, the two methodologies used are quantitative research, employing survey methods, and qualitative research, in the form of semi-structured interviews with government and non-governmental organizations directly and indirectly involved in managing tourism's environmental impacts. Specifically, this chapter discusses the research design. Then, it presents the different methods used to collect the quantitative data, including the structure of the questionnaire, its design and administration. The chapter describes the qualitative sample selection, data collection, data preparation, qualitative data analysis and the strategies used. Structural equation modelling is conducted to investigate the relationships between the ANT and the factors which influence its formation and functioning.

**Chapter 5:** This chapter focuses on providing background information on Hurghada, the case study for this research. This includes a description of Hurghada city, the tourist attractions in Hurghada, the importance of tourism to the local community Hurghada, and the negative impacts of tourism which the resort is experiencing. The chapter then provides an overview of tourism governance in Hurghada, and describes current and past tourism development policies and environmental strategies. Following this, the chapter presents the main government and non-governmental organizations involved in environmental protection in Hurghada.

**Chapter 6:** This chapter focuses on the quantitative analysis conducted for this research. The measurement of the dependent and independent variables is discussed in detail. Following that, the sampling issues are explained, focusing on the choice of the research population, the selection of the sampling unit and the sample size. The techniques used to check the internal validity (discriminate and convergent validity), and reliability (Cronbach's alpha and composite reliability) of the measurement model are discussed. The chapter starts with a discussion of the analytical approach used in this research and the techniques used to analyse the data, that is structural equation modelling, and the reasons for choosing them. The results of the structural equation modelling are then discussed.

**Chapter 7:** This chapter provides a discussion of the main results of the study and integrates the quantitative and qualitative results, alongside existing research.

**Chapter 8:** This chapter provides a summary of the main findings of the research and discusses its theoretical and practical implications. The limitations of the study and areas for future research are discussed.

### **1.8 Summary**

In this introductory chapter, the background to the study has been outlined, and the study's aims and objectives and the study area have been presented. This research has been justified on both theoretical and practical grounds. Finally, the structure of the remaining eight chapters of this thesis is presented.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

This study aims to examine the role of networks of tourism-related organizations involved in environmental protection and the management of tourism in Hurghada, and the extent to which the key aspects of these collaborative networks affect their relationships and the formation of the networks in the first place. With this in mind, the aim of this chapter is to critically review the literature that underpins this study, on actor-networks, actor-network theory (ANT), environmental protection in developing countries, and the management of tourism. The chapter begins by shedding light on governance in developing countries and outlines tensions which exist between centralisation and decentralisation which characterise many, the challenges of multi-level governance, and their implications for tourism planning and development. It details the difficulties which may be encountered by ‘failing’ states, most notably those experiencing political instability and discusses collaboration in this context. This chapter presents a literature review of ANT and the main ideas and principles behind it. It then presents a literature review of the theory’s process of translation, which can be divided into the following four moments: problematization, interessement, enrolment and mobilization.

Then, a literature review on the ANT and tourism is provided. Next, it discusses actor-networks, environmental protection and sustainable community livelihoods, in particular, reviewing the advantages and disadvantages of using ANT. This chapter also focuses on reviewing environmental protection and its relevance to sustainable community livelihoods. It discusses the linkages

between the development of sustainable livelihoods and the conservation of the natural environment.

## **2.2 Governance in Developing Countries**

In the developing world, the post-colonial era witnessed the emergence of a state-centric mode of governance. This was primarily because of the absence of private capital and the lack of advanced market forces (Haque, 2002). Under these conditions, the scope and role of the state expanded considerably as governments sought to grapple with nation-building and development. In this regard, in order to end external economic domination, many industries, which were abandoned or controlled still by the former colonial powers, were brought under state management through massive nationalisation schemes. There were also pressing public needs for essential services, such as housing, health, and education, which the government had to provide in order to maintain peace and safety. In fact, prior to the 1980s, such state-led plans for nation-building and development were supported financially often by the Bretton Woods institutions and the international aid agencies of rich, technocratic nations (Mowforth and Munt, 2009). However, since the early 1980s, the state-centric mode of governance, in developing countries, has come under assault, largely from the pressures of contemporary globalisation and the emergence of the so-called new political economy (Onis and Senses, 2005).

In essence, the process of globalisation – which implies the integration of national economies, political systems, cultures, and identities into the world capitalist system - requires the lifting of all restrictions which inhibit levels of interaction and exchange between the states and societies constituting the

world community (McGrew, 1992). Moreover, in order to facilitate such globalisation, various global forces and external non-state entities, such as transnational corporations, international agencies, and supra-national organisations, have advocated a new development model based on the primacy of individualism, market liberalism, outward-orientation, and state-contraction (Onis and Senses, 2005). In particular, the Bretton Woods institutions such as “the World Bank and the International Monetary Fund (IMF) have used both covert influence and overt pressure on the economically vulnerable developing world nations to adopt such policy reforms in favour of globalisation” (Haque, 2002: 103).

Similarly, the globalisation of environmental issues, stressing the way in which our lives are inextricably linked and impact upon one another, has resulted in the emergence of vociferous debates over the management of natural resources (Mowforth and Munt, 2009). Such debates, which suggest new institutions and polices, indicate significant changes in the formation of the state. Put simply, under conditions of contemporary globalisation reinforced by new political economy, “the strict territorial basis of state authority, power and legitimacy, which has been the basis for sovereign governance for most of the past 150 years, has become challenged”. (Hall, 2007: 247).

### **2.2.1What is Governance: Approaches to Defining Governance**

Nowadays, the term, governance, is now used widely and accepted across a variety of academic and policy circles. In essence, it ‘refers to the development of governing styles in which boundaries between and within public and private sectors have become blurred’ (Stoker, 1998: 17). Its emergence and increasing

use reflects a change in both the meaning and the content of government. As Rhodes (1996: 652) indicated, nowadays, the term, governance, is used to refer ‘to a new process of governing, or a change condition of ordered rule, or the new method by which society is governed’. Where government is associated with the formal institutions and structures of the state, the concept of governance is broader since it focuses attention on the ways in which state and non-state organisations work together in the production of policy outcomes. Also, it focuses on the ways in which political power and other resources are distributed both internal and external to the state.

Although primarily associated with the analysis of the state, governance is a generic term. It can be applied to all forms of human organisation including, but not limited to, economic, cultural, religious, judicial and military organizations. Consequently, governance is a term which has different meanings in different contexts. However, in relation to changes in the formation of the state, the term has two different broad uses.

The first use, employed by the World Bank, IMF, World Trade Organisation and many United Nations institutions, refers to the nature of political systems. Governance is defined as ‘the manner in which power is exercised in the management of a country’s economic and social development’ (World Bank 1994: vii, Sen, 1997). Here, as conceived by these supranational organisations, ‘governance’, emphasises leadership. In particular, it emphasises the manner in which (state) political leaders manage, use (or misuse) power – whether to promote social and economic development or to pursue agendas which underpin such goals. On the one hand, this approach – which is focused on

issues of power inequality within national political systems – is significant since an important difference exists between developed and underdeveloped countries. In the latter group, the power is concentrated in central government agencies (Lijphart, 2012). On the other hand, a danger, associated with focusing strictly on state-centric governance, is that the policies and institutions such as the welfare state model, the socialist model, and the developmental state model, which evolved under the earlier models of political economy, are used as a way of making scapegoats of the poor countries for their failures to develop. Indeed, the way, in which the aforementioned supranational organisations have defined governance, does not refer to the problems within international economic relations which have perpetuated old patterns of relationship between weak and strong nations (Sen, 1997).

The issue of (ineffective) leadership was made explicit in the World Bank's first application of the concept to Africa. The World Bank identified widespread and excessive state intervention as the major, if not sole cause, of Africa's underdevelopment (see World Bank, 1989: 60). The natural implication of this diagnosis is that states should adopt specific policies including privatisation, deregulation, trade liberalisation, corporatization, reduced public spending, joint ventures, and autonomous agencies etc. Through adopting such policies, the public sector is streamlined; the role of the state is diminished; and the domain of local and global market forces is expanded (Haque, 2002; Onis and Senses, 2005). The World Bank and others presented aggressive pro-market policies as the only tools to curb the excessive powers enjoyed by self-serving politicians and bureaucrats. Such a task was deemed to be essential for rapid and equitable economic growth, development and societal 'progress'. The central

tenet of such thinking, which is, of course, of a neoliberal ideological position, was the notion of a minimal state whose primary functions were to defend the nation's territory; maintain internal law and order; ensure macroeconomic stability; and provide the necessary physical infrastructure (Colclough and Manor, 2000). When governments fail in any of these tasks –leaving huge gaps in infrastructure or raising corruption to levels which impair economic activity or fail to promote human and civil rights – the economy is certain to fail. Indeed, in extreme instances, when governments are unable to perform their most basic functions, reference is made to state failures. These are characterised by wars, revolutions, coups and such like.

A second approach to defining governance focuses on the nature of the relationships between organisations. Here, governance refers to a particular form of coordination. In contrast to the traditional forms of top-down state-centred forms of decision-making, governance involves coordination through networks and partnerships. Such socio-political mechanisms of government are defined commonly as ‘forms in which public or private actors do not separately but in conjunction, engage in problem solving together, in combination, that is to say co-arrangements’ (Kooiman, 1993: 2). In this case, governance refers to the self-association of inter-organizational relationships (Rhodes, 1997). Rhodes attributed such an understanding to key characteristics such as interdependence between organisations, and autonomy and interactions between members due to the demands to exchange resources such interactions are based on mutual trust and consensual ground rules.

The shift in the nature of coordination in societies from government ('hierarchy') to governance points to changing power relationships and responsibilities for the provision of services. The governing of local space is no longer exclusively, or even predominantly, a local affair; instead, it is a complex, differential and multi-level process (Morales-Moreno, 2004). Therefore, as was the case in many previous instances, the governance of key development and environment issues are administered no longer by the nation-state, 'but rather by a network of flows of information, power and resources from the local to the regional and multilateral levels and the other way around' (Morales-Moreno, 2004: 108). However, since there is no common governance research or a common theory of governance (Rhodes, 1997), the analytical shifts and transformative processes (which are, by far, uneven in time, space and scale) and, in particular, their impacts and motivations, continue to be regarded as an open question. There is no guarantee of successful governance and, in particular, there are concerns over the coordination, accountability and legitimacy of governance structures (Hyden et al., 2004). Nevertheless, the new mechanisms of governance can be found in almost all capitalist, post-socialist, and developing countries.

Such a trend from government to governance was characterised often as a tendency toward a 'managerial' state or a 'hollow' state (Clarke and Newman, 1997: ix). This was due to the loss of central state functions to: (i) other spatial scales such as the supranational (e.g. global institutions, international organisations) and sub-national (e.g. semi-autonomous regions, local bodies); and (ii) non-state entities (e.g. private businesses and corporations, voluntary organisations) (Goodwin and Painter, 1996; O'Neil and Argent, 2005).

## **2.2.2 Challenges to Effective Governance in Developing Countries**

In the developing world, the new mode of governance represents a major assault on the traditional mono-centric model of governance under the so-called developmental state (Onis and Senses, 2005). To reiterate, ‘governance’ is a broader category than ‘government’, with government being only one component of governance amongst many. As an approach, ‘good governance’ embodies three basic principles: inclusiveness; lawfulness; and accountability (World Bank, 1994; Sen, 1997). These principles are discussed below. For many donor agencies, these organising principles determine areas of intervention. However, the lack of rigid blue-print approaches emphasises the need to be context specific – the degree and nature of good governance will depend most likely on a variety of a country’s economic, political, and social characteristics.

### **2.2.2.1 Inclusiveness**

Inclusiveness requires that governing structures, either formal or informal, be representative or offer more voice to a wide range of different interests, including those of the poor people (World Bank, 1994). It presupposes that poor people must participate in decision-making if their livelihood priorities are to be reflected in the way environmental and social issues are dealt with. As such, inclusiveness relates closely to the issues of empowerment and decentralisation.

#### **2.2.2.1.1 Empowerment**

Empowerment of poor people is desirable because it can be ‘an instrument to reduce poverty and, insofar as powerlessness is part of the meaning of poverty,

itself an aspect of poverty reduction' (Schaffer, 2008: 14). Put simply, empowerment refers to increasing the political capabilities of the poor people, especially 'personal political capabilities, self-confidence, capacity for community organisation, recognition of dignity, and the collective ideas available to support effective political action' (Moore and Putzel, 2001:8). The poor people's political capabilities determine whether and to what extent they make good the use of social capital – the shared networks, norms and values created through social interaction. Therefore, empowerment directs attention to the objective of building social and political capital through education and political organisation (Shaffer, 2008). Such processes of collective organization and mobilisation may serve a range of ends including access to credit; land or health care; protection of sacred sites, etc. (Sen, 1997). However, whether any poor people's organisation can influence public policy and affect a larger population is dependent on the character of the state and the policies which it pursues. The following are some of the main considerations that one has to bear in mind:

The macro-level – the characteristics of states:

- Does the national state have the authority and capacity to meet demands? If the national state has little authority, why bother to organise at the national level? Probably, it would be more sensible to concentrate limited political resources on exercising influence in different ways – negotiating with different community leaders; building relationships with non-governmental organisations; publicising government corruption;

exposing issues to international media; and providing a network of legal aid services to inform the community of their rights under the law etc.

The meso-level – the patterns of public policy:

- What are the ways in which public policy affects the mobilisation of the poor people? Does provocation stimulate the poor people to engage with the traditional institutions of government? Do the government's unfulfilled promises or exclusion stimulate the poor people to organise themselves?

The micro-level – the shape of government programmes:

- To what extent do government programmes contribute to mobilising the poor people? To what extent are particular programmes effective in encouraging sustained political organisation of the poor people?

#### **2.2.2.1.2Decentralisation**

Decentralization is about the transfer of power and resources from those who possess them to those who do not. In recent years, it has featured prominently as one of the means of promoting inclusiveness. Moreover, it is assumed widely that decentralization will serve to reduce poverty insofar as local governing structures are more knowledgeable about and, hence, more responsive to the needs of the people (Moore and Putzel, 1999). There are, at least, the following three different variants of decentralization which aim to achieve this objective:

- De-concentration – or the shifting of some decision-making authority from central to national departments' regional offices
- Delegation – or the transfer of responsibility for certain public functions to sub-national governments and entities which, in turn, are accountable to the central government
- Devolution – or the transfer of responsibility and authority over decision-making and accountability to legally-constituted sub-national governments

However, recent evidence suggests that decentralization does not result necessarily in pro-poor policies and outcomes. An evaluation of twelve cases of decentralization in Asia, Latin America and sub-Saharan Africa investigated the influence of decentralization on the poor people's participation in social and economic outcomes (Crook and Sverrisson, 1999). They found unambiguously that decentralization had only a positive impact in the Indian State of West Bengal. Six cases (Ghana, Cote d'Ivoire, Bangladesh, Kenya, Nigeria, and Mexico) were deemed unambiguous failures. On the basis of this analysis, the study suggested that three main variables determined performance in terms of both responsiveness and pro-poor people social and economic outcomes. Firstly, successful decentralization required an ideological commitment to pro-poor people's policies at both the central and the local level. Secondly, necessary inputs for successful decentralization included secure and adequate financing from central authorities; targeted central poverty reduction programs with built-in accountability; and administrative capacity to take on newly acquired responsibilities. Thirdly, decentralization required long-term support

since the benefits took time to materialise. The successful West Bengal example evolved over a twenty year period.

It is important to note that the factors which sustain decentralization are different from the ones which bring it about. In this regard, three theoretical reasons to decentralise may be identified. The first reason is to improve economic performance and service delivery. Herewith, citizens migrate to communities where the local government best fits their optimal mix of service needs and tax preferences. Such a process increases competition and efficiency in the provision of goods and services. The second reason is based on the assumption that decentralization increases public participation and citizen involvement in policy plans and programs. Therefore, citizens have greater an ability to demand accountability, both upwards and downwards, from local government officials than they can from the central government. A third reason, as to why to decentralize, is for societal stability. Offering autonomy to sub-national units is important when there is a high and potentially disruptive risk of ethno-linguistic and/or religious diversity. New avenues of participation give citizens with opportunities to influence government; provide assurances to minorities; and reduce cause for rebellion.

#### **2.2.2.2 Lawfulness**

Lawfulness requires that governing structures abide by the rule of law and serve to act in the best interests of their constituents and wider society. It places deprivation and inequality in the dysfunctional operating manner of the legal system which fails to protect, or discriminates against, or remains inaccessible to vulnerable members of society. The relationship between lawlessness and

poverty was examined by Anderson (1999) who identified the following number of ways through which lawlessness and poverty reinforced each other:

1. Violence by police and public officials has a greater impact on the poor people who are less likely to have access to health care; this means that violence can lead to death, injury, disability or mental issues.
2. Corruption harms the poor people disproportionately because they are less able to afford the payments demanded for the provision of services.
3. Human rights abuses may affect the poor people disproportionately since they are less likely to have recourse to legal resolutions.
4. The poor people are at greatest risk of losing their property to public or private theft.

Interestingly, personal insecurity, due to lawlessness, is an element of deprivation which features in participatory poverty assessments. Recent reviews of such assessments, conducted by the World Bank (Narayan et al., 1999) and by academic researchers (Brock, 1999), emphasised lawlessness both as a component of deprivation and a cause of inability to escape poverty.

A short list of potential interventions to address issues of lawlessness may include but are by no means limited to: legal reform (e.g. eliminating anti-poor laws); improving access to legal information (e.g. support for legal advocacy NGOs); police reform (e.g. community policing); and human rights legislation or support.

### **2.2.2.3 Accountability**

Accountability requires that governing structures remain answerable for their actions and are open to sanctions if they violate the principles of inclusiveness and lawfulness. It grounds poverty in the culture of impunity which excludes the poor people from holding authority figures to account. Accountability relates closely to issues of corruption and mismanagement. Corruption is the abuse of public power for private gains. As the World Bank puts it, corruption ‘distorts the rule of law; weakens a nation’s institutional foundation, and severely affects the poor who are already the most disadvantaged members of our society’ (World Bank, 2009). Consequently, corruption is ‘among the greatest obstacles to economic and social development’ (World Bank, 2009).

There are numerous costs associated with corruption. Firstly, corruption undermines democracy since institutions lose legitimacy when they exploit the public for private advantage. Secondly, corrupt public officials often redistribute (scarce) public resources to lavish projects, which benefit the few, at the expense of less spectacular projects such as schools and hospitals which benefit the many. Thirdly, corruption hinders the development of fair market structures, distorts competition, and discourages foreign investors.

Overcoming the problem of corruption is not an easy task as it requires a systematic change in practice. Commitment to electoral and legal reform may be lukewarm amongst those who, actually, have to change how they operate. In the fight against corruption, there should be support for the media, non-governmental organisations and other social organisation which investigate and publicise corruption. An audit system whereby government accounts are

examined fairly and impartially (Jenkins and Goetz, 1999), and an independent justice system which brings criminals to account, are also important players in the fight against corruption and mismanagement.

### **2.2.3 State Failure and Collaboration**

According to Wyler (2008) the concept of a “failing state” (known, also, as a vulnerable state, failed state, fragile state and weak state) does not have one universal definition. However, Brinkerhoff and Johnson (2008) acknowledged that most conceptualizations of the “failing state” referred to a continuous state of failure that would fall into one extreme and which, in turn, might lead to a situation of being challenged openly between rebels and the incumbent regime (Conteh-Morgan, 2006). According to the OECD (2012), a fragile state is unable to develop constructive and effective relationships with society. Often, these are vulnerable to both internal and external threats such as economic crises or natural disasters.

Mvondo (2009) defined the failed state as a country’s inability to satisfy their inhabitants’ social responsibilities effectively and therefore, to ensure their safety and protect their properties. Often, these countries are characterised with weak, fragmented structures which are destroyed by incidents such as political instability, natural disasters or economic crises (Sachs, 2005; Wyler, 2008). Consequently, cases such as social disorders, corruption, injustice and non-respect of laws, may arise (Mvondo, 2009).

It is argued that most of the developing countries do suffer from Wyler’s (2008) failing state phenomenon. Consequently, these countries’ governments tend to

lose credibility and, hence become illegitimate (Rotberg, 2010). Amongst the reasons leading to a failed state, Rotberg (2010) cited the lack of control over the country's territories, weak political institutions, low GDP per capita, a low Human Development Index, and lack of transparency and accountability. It was advanced also that government centralization could be amongst the causes. In fact, a central state is often vulnerable and unstable. Lancaster (2006) in particular acknowledged this issue stating that in general the lack of good governance was the root cause behind a country's state failure.

#### **2.2.4 State Failure and Tourism Development**

It was reported that, particularly in developing countries, efforts to achieve sustainable tourism development were ineffective owing to the weak, fragile structures available in those countries (Tosun, 2001). Scheffran and Battaglini (2011) acknowledged that fragile states caused by weak governance structures, had poor management capacities and therefore could not ensure the main functions of the government. In this respect, Bramwell (2011) stressed that the main cause of the failure to attain sustainable tourism development was the lack of good governance aspects. These included the absence of an effective enforcement of law, the lack of relevant knowledge and resources, and the ineffective cooperation and coordination between the heterogeneous actors (noted also by Zhao and Ritchie, 2007).

Similarly, Kerimoğlu and Göçer (2008) reported that “sustainable development” was a political concept and, hence, achieving sustainable development relied considerably on the country's political system and therefore on the quality of its governance. In fact, Hwansuk and Sirakaya (2006) cited amongst the reasons

behind the weak development of tourism, factors such as poor regulation, lack of community leadership, and NGOs' limited participation. In addition, Mekinc et al. (2012: 235) stressed that 'sustainable development and sustainable tourism are not possible without the elimination of criminality and corruption in tourist destinations'. By criminality, the authors referred to the harm caused to the environment.

Moreover, at the local level, some believe that tourism planning cannot be effective unless the public system administration is decentralised (Tosun, 1998). Indeed Tosun (1998) acknowledged that although this has been on the agenda of various developing countries, little had been achieved so far. Tosun (1998) presented evidence from Turkey showing that the lack of sustainability in tourism development was mainly due to a lack of good governance caused by political instability, the absence of flexibility and decentralisation, weak integration within and between the public and private sectors, and the non-existence of co-ordination and cooperation between the different actors.

Thus, it is stressed that the reduction of factors which are affecting the ability of the state to function effectively and efficiently is vital to the world's equilibrium and to improving inhabitants' welfare (Rotberg, 2010). In this respect, Lancaster (2006) however, acknowledged that governments, especially those in developing countries are unable to overcome such failings on their own. Hence, collective action and multi-lateral approaches are required at both national and international levels. Such collaboration may include the intervention of supra-international organizations and NGOs with local authorities (Briassoulis, 2002; Erkus-Ozturk and Eraydin, 2010). These organizations act as a coordinating

body for the activities which aim to overcome state failure (Lancaster, 2006). It was stated, also, that developing formal and informal venues for collaboration and cooperation would reinforce accountability and in turn, would improve the countries' governance (Chesterman et al., 2005). As an example, international diplomacy can constitute a solution in order to resolve state failure. Indeed, working in collaboration with international actors and organizations was revealed to be amongst the solutions to overcome issues related to the fragile state (Wyler, 2008). In general, it can be argued that the promotion of good governance through collaboration can be the solution to prevent state failure (Gruffydd Jones, 2013). According to Tosun (2001), achieving sustainable tourism development, in developing countries, could be an enormous challenge without partnerships and international collaborations between local stakeholders and world organisations. Similarly, Sharpley (2010: 13) recognised that 'national and international co-operation should exist to facilitate the adaption of sustainable tourism development policies.'

The reliance on collaboration, as a solution to promoting good governance and resolving state failure is supported clearly and strongly by the actor-network theory (ANT). In fact, according to the ANT, collaboration between heterogeneous actors, who have a common goal of addressing mutual issues, constitutes the core solution to achieving their goal and overcoming their issues (Paget et al., 2010; Rhodes, 2009; Rodegre, 2007; Van Der Duim, 2005). This is realised generally through the formation of actor-networks. Precisely, this approach applies the four moments of translation – problematization, inter-assessment, enrolment and mobilization - in justifying the construction of

alliances intended to solve existing issues (Rodger et al., 2009; Van Der Duim and Caalders, 2008).

### **2.3 Actor-Network Theory**

In the 1980s, the ANT approach emerged within the sociological research of science and technology, having its roots in French philosophy and semiotics. Since then, ANT has spread into various contexts of sociological inquiry (Jóhannesson, 2005; Rhodes, 2009). It is seen as a socio-philosophical approach that seeks to understand complex social circumstances by paying attention to relational factors referred to as associations (Alcadipani and Hassard, 2010; Arnaboldi and Spiller, 2011). Cohen and Cohen (2012: 8) argue that the “social is not the glue which holds society together; rather it is what is glued together by many other types of connectors. It is not a specific realm...but only...a very peculiar movement of re-association andreassembling...a trail of associations between heterogeneous elements”.

ANT enables the delineation of a set of actors (the network) that influence, shape or determine an action (Rhodes, 2009), which facilitates the identification of relationships within and between actors in the same or different networks. It comprises four main components, the first being the actor or the actant, who is not just seen as a “point object” but rather as an association of various factors, themselves forming an actor-network (Tatnall and Burgess, 2002). An actor or actant may be an individual, a group, an idea, a piece of software, a material object, a plant, natural capital or an animal that acts towards something. It may not inevitably be the source of an action but instead may modify and enhance the state of affairs by making a significant difference (Latour, 1996; cited in

Dolwick, 2009). The second component relates to the “links” or relationships that exist between the actors, and may include money transfers, verbal or written communication, publications sent to subscribers, friendships, or resource exchange, including information and overlapping memberships of networks (Timur and Getz, 2008). The third element is the “network”, which may be an individual, a group, an idea, a physical object, a plant or an animal. It could also be an interactive assembly of entities, or a group or “series of actions” including a number of potential mediators (Dolwick, 2009). The fourth component is the action itself (Dolwick, 2009), and relates to agency, or taking seriously what the actors (human or non-human) have to say.

According to Van Der Duim (2007), ANT seeks to examine the tools by which relationships emerge, and how the roles of subjects and objects, and intermediaries, human actors (i.e. people, organizations, and groups) and non-humans (the natural environment, software, and computers) are attributed and stabilized. The point of interest is how these and other categories come into existence via the processes involved in constituting a network. Paget et al. (2010) claim that these processes of association and reassembling are at the core of ANT. ANT supposes that collective action is made up of a series of human and non-human actors, and a translation carried out through a translator or an interpreter will create various relationships between these heterogeneous actors, which then become networked. The process of translation is a concatenation of successive stages, transformations, and redefinitions of the collective project, through which actors (human and non-human) are mobilized in various ways. Cohen and Cohen (2012: 8) argue that the network is “a chain of actions consolidated by mediators ... [in which] actors and non-humans are

associated with the same project". Ren (2011) states that action is seen as an association of actants rather than a property of humans.

The main idea behind ANT that of the *collectif*, needs to be distinguished from a *collective* or the idea of *collectivity* (Van Der Duim, 2007). It is not an assembly of people who have decided to join some form of common organization; rather, "a collectif is an emergent effect created by the interaction of the heterogeneous parts that make it up" (Callon and Law, 1995: 485). This means that it is the relationships and their divergence that are essential, and not the things themselves (Van Der Duim, 2007). Four important points should be noted about this definition: 1) Networks are always being gathered and re-gathered for specific projects; they are constantly in flux. 2) Networks are interim entities; their existence depends essentially on the action of ongoing relationships. 3) ANT, in contrast to other network theories, ascribes power to non-human actors in the network, such as the natural environment, objects, technologies, software, machines, implements and computers. 4) Contrary to mediators, translators are the dynamic element of networks, which effect the changes that lead towards the recognition of specific projects (Ren, 2011; Cohen and Cohen, 2012).

ANT deals with the social-technical divide in the world by rejecting the idea that either purely technical or purely social relations are possible. According to ANT, the world may be considered to be full of heterogeneous entities (including both human and non-human actors) (Tatnall and Burgess, 2002). In addition, according to Dolwick (2009: 36), the binary dualisms of social/natural, subject/object, individual/group, agency/structure, micro/macro, local/global,

inside/outside and particular/universal are “bypassed” in favour of treating everything, human and non-human alike, as relational effects. ANT moves beyond traditional structuralism, and spatially fixed and human-centred interpretations of networks, by recognizing the function of non-human elements in the formation of life. It also provides a topological view of the globe where human and non-human actors, rather than being on different levels, are more or less linked (Ruming, 2008). Under ANT, these diversified actors are attributed equal significance and are seen as part of active (and never ultimate) networks, in which the core of the realization of sociological phenomena lies in the relationships between them (Arnaboldi and Spiller, 2011). Thus, ANT deals with hybrid, heterogeneous configurations of objects and semantic relations (Cohen and Cohen, 2012).

ANT is based on three methodological principles (Tatnall and Gilding, 1999; Ritzer-Encyclopedia, 2004). The first principle is “agnosticism”, which is the requirement of impartiality regarding the actors involved in the network (Rodger, 2007). ANT compels dispassion and holds that all interpretations should be unbiased (Callon, 1986). The second ANT principle is generalized symmetry, which offers a counterbalance to the principle of agnosticism as it continues the idea of equivalence between human and non-human actors (McLean and Hassard, 2004). Symmetry refers to the idea of networks being formed where human and non-human actors have equally important roles (Callon, 1986). The conflicting viewpoints of these heterogeneous actors can be explained and interpreted through an abstract and impartial vocabulary that treats all actors fairly and in the same way, whether they are human or non-human-based (Tatnall and Lepa, 2003). This principle asserts that everything merits

explanation (Rodger, 2007). In other words, generalized symmetry implies using the same repertoire (or not changing the register) when describing both nature and society (or when moving between social and technological aspects) as both are mixed together as the ingredients of the controversies concerning them (Bylund, 2006). ANT ensures the full recognition of the power and effect of entities in nature and the physical globe, instead of remaining hidden or being rejected as they are in much contemporary social theory (Burgess et al., 2000).

The third principle, free association, argues that heterogeneous actors can be linked together through a number of conceptual divisions, such as national/international, cultural/natural, or social/natural (Burgess et al., 2000). Latour (1993) states that the world is composed of “hybrids” that contain complex relations of social, technological and natural features, and not of entities that are “purely social” or “purely natural” (cited in Burgess et al., 2000). Free association supports abandoning any privilege or peculiarity between social and technical phenomena. This means that there can be no assumed distinctions between human and non-human actors in coming to recognize the phenomenon under investigation (Callon, 1986). Thus, actor-networks are made up of hybrids via relations between heterogeneous entities as they are formed into a particular network (Rodger, 2007).

Cordella and Shaikh (2006) claim that ANT was first suggested as an analytical tool to provide a theoretical and methodological basis for the study of these active relationships amongst dissimilar actors. Thus, according to Luoma-aho and Paloviita (2010), ANT helps to map both the human and the non-human actors that impact on the success of the associations of the network. It

advocates that what matters are not the identities or the categories of actors for which they are suited, but rather their collaboration and the resources they hold, whether the effects are human or non-human.

Rodger (2007) argues that ANT looks at the transformation of heterogeneous networks into aligned networks, which can be composed of individuals, groups, organizations, technologies, animals and more. It examines how the networks emerge, who or what is involved, how the networks are maintained, and how networks of actors compete with other networks. Moreover, ANT investigates the mechanics of power through the networks' construction and maintenance (both human and non-human) (see Figure 2.1) (Rodger, 2007).

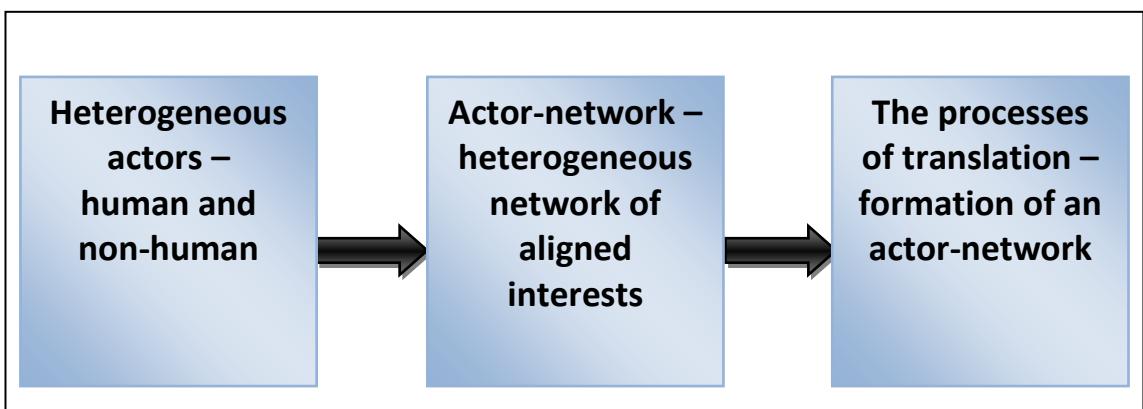


Figure 2.1 The three parts of ANT; Source: adopted from Rodger (2007).

ANT has also been called the process of translation or enrolment (Norbert and Schermer, 2003). Rodger (2007) claims that actors become involved in networks through the process of translation. Moreover, translation takes place as actors have encounters when trying to reach the goals of their specific networks, as the initial programme or script is changed through interaction.

According to Van Der Duim and Caalders (2008), the process of translation refers to negotiations, representation and displacement between actors, entities and places. It involves the redefinition of these phenomena so as to persuade the actors to act in accordance with the requirements of the network. These redefinitions are regularly inscribed in the hybrid actors that work to boost and maintain networks (Van der Duim and Van Marwijk, 2006). The point of interest in the present study lies in how the processes of translation are used by actors to gather other actors, who are sometimes radically diverse, and to convince them that they have a common interest that links and relates them to one another. Translation consists of defining roles and delineating a situation (Van Der Duim and Caalders, 2008).

Translation is the process of converting/transforming heterogeneous actors in order to make them similar (such that one actor may be replaced by another) or to simplify them (black-boxing or translating network factors into a single block) while retaining their differences (Rodger et al., 2009; Rodger, 2007). In ANT, a human or non-human actor is able to make its presence felt individually by the other actors. An actor can, in many ways, however, also be thought of as a “black box”, the contents of which we can choose not to worry about (Tatnall, 2002).

According to Nobert (2003), in order to achieve stable relations and goal-orientation, the actor has to set an obligatory passage point (OPP) to channel all interests in one direction. This will create a “black box” so that translation processes run automatically and no longer have to be renegotiated case by case. Martin (2000) claims that the OPP is a node that works as a mediator

between actors, networks or network components. The OPP is strong when it exercises control over actors' resources and is able to claim responsibility for the success of the network. According to Tatnall (2002), Cordella and Shaikh (2006), Nobert (2003) and Stanforth (2006), the processes of translation can be divided into the following four moments (see Figure 2.2).

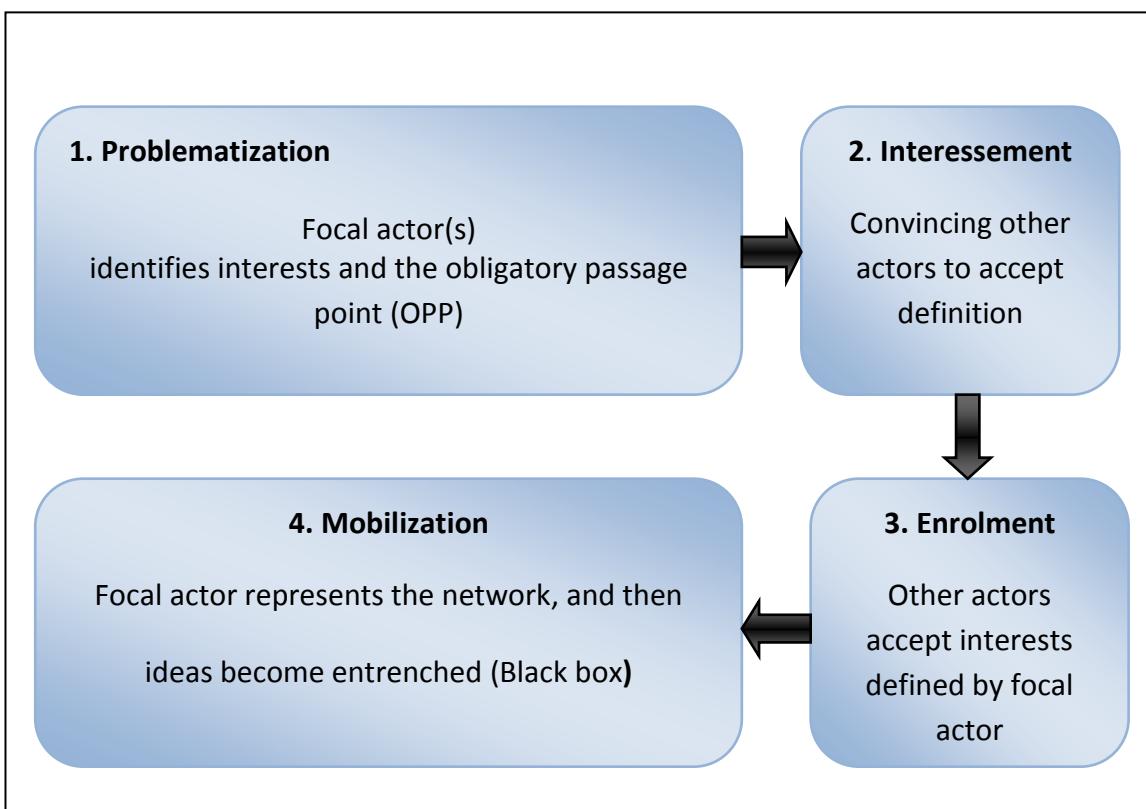


Figure 2.2: The phases of the process of translation, Source: Rodger et al. (2009).

## 2.4 The process of translation

The process of translation itself consists of a series of successive movements, transformations and redefinitions (Paget et al., 2008). It is employed to explain the methods through which power is ascribed and negotiated, and it also attempts to dissolve the classic dualism of technical and social, as the characteristics of all enrolled actors are derived from their relative value within an actor-network (Ruming, 2008). Thus, translation is seen as a verb, which

means transformation and the possibility of equivalence between human or non-human actors in a network. Actors that are strongly aligned through the process of translation each share an interest in the activities of the other actors and build durable interactions with them. The process of translation is successful when a network of aligned interests is created (Luoma-aho and Paloviita, 2010). In contrast, weakly aligned entities require frequent negotiation of their relations or else they may cease to cooperate. Problems with the alignment of interests between the actors in a network are called “trials by strength” (Martin, 2000). Such a situation therefore involves re-interpretation and re-representation as “it generates ordering effects such as devices, agents, institutions or organizations” (Law, 1992: 366). According to Tatnall and Burgess (2002), Cordella and Shaikh (2006) and Norbert (2003), the process of translation can be divided into four moments, which are described below.

#### **2.4.1 Problematization**

Problematization is the first step in the process of translation, in which an actor (the focal or principal actor) analyses a situation, defines the nature of the problem, proposes a solution and identifies the actors involved (human and non-human) who have similar aims and interests in forming a network to work together to resolve the identified problem (Huxford, 2010; Ibrahim, 2009). The act of convergence on a certain topic, purpose or question, along with the activities of the focal actor, forms the OPP. Actors, of course, may have different objectives in participating in a network; some organizations are interested in local community services, financial services, or environmental services, while others become involved because they have political or financial power (Lindle et al., 2003). Thus, the principal actor must define a problem in

such a way that the other entities accept this definition of the problem (Huxford, 2010). Often, entities will do so because they recognize the value of collaboration.

### **2.4.2 Interessement**

Interessement is the second moment of translation and relates to the involvement of other actors in resolving the identified problem (Brito and Correia, 2004). In other words, it refers to the actions and strategies taken by the principal actor to ensure that other actors accept the proposed solution to the problem, and the specific roles assigned to them (Huxford, 2010). It is therefore a critical phase in the creation of actor-networks as well being a competitive process. The focal actor may have to convince other actors to become involved by outlining the benefits of joining this network as opposed to others (Rodger et al., 2009). Therefore, achieving interessement requires the focal actor to make themselves, or a part of their plan, into an OPP through which shared understandings about a solution to an identified problem may be reached by actors (Huxford, 2010). Accordingly, the most important role is that of the principal actor, in creating collectives of actors interested in participating in solving a specific problem.

### **2.4.3 Enrolment**

Callon (1986) defined enrolment, the third moment of translation, as the series of mutual negotiations, trials of strength and tricks that accompany interessement and help networks of actors to succeed in achieving their goals. Enrolment is when actors become involved in a network, and will only occur if interessement has already been successful (Van Der Duim, 2005). As well as

enrolling themselves, actors also lock others into their definitions and networks, so that they are encouraged to behave in the desired direction by the enrolling actor. Therefore, according to Rodger et al. (2009), the focal actor/actors will work to direct their efforts towards the consolidation of the new network of interests. As a result, the focal actors are able to reinforce the alliances they have formed, which can in principle be achieved through negotiation (Rodger et al., 2009). Enrolment is a crucial moment in the process of translation because the success of actor-networks depends on factors that contribute to the formation of relationships within and between these networks.

#### **2.4.4 Mobilization**

Mobilization is the fourth moment of translation and, according to Tatnall and Davey (2005), it is the phase during which the proposed solution to an identified problem gains wider acceptance, resulting in the formation of an even larger network of absent actors, formed through some actors acting as spokespersons for others. Ibrahim (2009) states that, during this stage, the leader will line up a series of distinctive links to maintain the network. Huxford (2010) claims that the stage of mobilization might never be reached, and is by no means a stable or fixed position even if it is reached. In many cases, a change will force a return to one of the earlier stages of translation.

As the above explanation shows, ANT is complex and involves a large number of different concepts, including actors, networks, intermediaries and the elements of the process of translation (Rodger et al., 2009). Table 2.1 summarizes some of the concepts of ANT.

**Table 2.1 Actor-Network Theory's concepts**

Concept	Definition
<b>Actor</b>	Any element that bends space around itself, makes other elements that are based on it and translates their interests into its own language. Examples of actors are humans, collectives of humans, texts, software, computers, the natural environment and organizations. All actors have an interest in convincing other actors, through negotiation, of their own point of view, so as to align the other actors' interests with their own. When this persuasive process is effective, it leads to the formation of actor-networks.
<b>Actor-networks</b>	Hybrid networks of aligned interests, including people, organizations and standards.
<b>Translation</b>	The process of translation refers to the alignment of the interests of a varied group of actors with the interests of the principal actor. It also refers to the processes involved in the formation of a network of actors and consists of four major phases: problematization, interessement, enrolment and mobilization.
<b>Problematization</b>	This is the first stage of translation, in which a principal actor defines problems and solutions, identifies entities whose interests are consistent with its own, and establishes itself as indispensable to those entities.
<b>OPP</b>	The OPP broadly refers to a situation that must occur in order for all of the human actors to satisfy the interests that have been approved for them by the principal actors. The principal actors define the OPP through which the other actors have to pass, thus becoming indispensable.
<b>Interessement</b>	The second stage of translation, in which the principal actors negotiate and convince the other actors to accept them as the principal actors.
<b>Enrolment</b>	The third stage of translation, in which other actors in the network accept (or become aligned to) the interests approved for them by the principal actors.
<b>Mobilization</b>	The stage at which representation is enacted. If the entities are successfully enrolled, then mobilization is achieved. This involves all of the actors being displaced and then reassembled into a network so as to achieve the principal actors' desired outcome.

Source: Aykac et al., 2009; Atkinson, 2002; Rodger, 2007; Noe and Alrøe, 2006.

The key concepts related to ANT having been presented, the following section will address the relationships between ANT and tourism.

## 2.5 Actor-Network Theory and Tourism

Within the social sciences arena, the application of ANT has largely occurred within a business management context to map the stakeholders and non-

human actors that may impact on the success of corporations (Luoma-ah and Paloviita, 2010). More recently, though, there has been increasing recognition of the relevance of ANT to tourism, perhaps reflecting the fact that the tourism industry is comprised of different kinds of networks that are often intertwined through collaborative arrangements (Brito and Correia, 2004; Jóhannesson, 2005). In particular, the value of ANT to the study of tourism development has been expounded (Rodgers et al., 2009; Van Der Duim, 2007).

A number of previous studies have applied ANT to tourism research (e.g. Paget et al., 2010; Jóhannesson, 2005; Ren et al., 2010; Rodger et al., 2009; Van Der Duim, 2005, 2007; Van Der Duim and Caalders, 2008). These studies illustrate how ANT can be a valuable tool for exploring the processes and complex interactions that are at work in tourism. Brito and Correia (2004) argue that ANT is particularly relevant to tourism since the latter is a phenomenon that comprises a collection of producing and consuming moments. They stress that the tourism industry is made up of partner networks, often intertwined via cooperative arrangements.

According to Rodger et al. (2009) and Jóhannesson (2005), there is a strong relationship between tourism and ANT as the latter can be used as a theoretical and methodological lens through which to analyse tourism development. ANT has also been recognized as an important analytical framework for studying emerging tourism network projects (Rodger et al., 2009). Adapting the network perspective to the tourism industry recognizes a destination as a system consisting of relations that are likely to influence local poor people's opportunities, constraints, behaviours and values (Timur and Getz, 2008).

In particular, Van Der Duim (2005) introduces the new concept of “tourismscapes”. According to this author, tourism is a heterogeneous collective network of actors in continuous movement, and this network involves three key elements: actors, non-human entities and interactions. First of all, the actors include, on the one hand, the visitors/tourists who consume tourism services and products, and on the other hand, the producers who provide these services and products. The second group, the non-human entities, is very diverse, and includes objects (cars, hotels, restaurants, shops, etc.), natural environments (mountains, coral reefs, snow, etc.), means of communication (magazines, brochures, websites, newspapers, rail and flight tickets, etc.), technologies, services (e.g., sports activities, financial services), and others. Third, there would be no tourism, or no “tourismscapes”, without the interactions that connect these human and non-human entities. Accordingly, from the ANT perspective, Van Der Duim (2007: 967) reconceptualizes tourism through the idea of tourismscapes as “actor-networks connecting, within and across different societies and regions, transport-systems, accommodation and facilities, resources, environments, technologies, and people and organizations” (cited in Paget et al., 2010: 831).

According to Jóhannesson (2005), tourism may be seen as a practice in space, which includes various motilities and occurs in diverse types of networks. Thus, it is dependent on different types of spatialities. Particularly, Jóhannesson (2005: 147) states that “the general utility of ANT for tourist studies lies in its emphasis on relational materiality and general symmetry that together render it open to take non-human actors seriously into analysis. ANT creates space for appreciating the role nature, materials and technologies play in making tourism

happen and in developing tourism places". In addition, according to Rodger (2007), the importance of ANT is that it examines the construction of alliances and the mobilization of resources. Meanwhile, according to Luoma-aho and Paloviita (2010), the most important advantages of ANT can be recognized in the broader understanding it provides of networks and their formation, as it emphasizes, through a process of translation, the importance of perpetual negotiation and inscription, and acknowledges non-human actors as imperative parts of the corporate environment.

Jóhannesson focuses on two aspects of ANT that he considers of particular importance for tourism research. First, he discusses the concept of "tourism translations", to draw attention to the collective work undertaken within tourism networks and to trace the processes of translation in order to understand the tourism network effect. Second, he uses ANT to develop new understandings of the diverse spatialities of tourism. Paget et al. (2010) use ANT to empirically examine the innovations of a French tourism company. They argue that, "contrary to most current claims, it is the concatenation that can be novel, and not necessarily the actors or the non-human entities themselves". What is new, here, is a different way of creating associations (2010: 844). They use a case study to demonstrate how a set of translations results in new interactions between humans and non-humans, leading to a shift in the network that enables tourism innovation. The process of translation is involved in the building of tourism chains from entities. It is also involved in attaching prosperities to them and building more or less constant relationships between them (Jóhannesson, 2005). Van Der Duim and Caalders (2008) also follow the translation process as their method of analysis of a pro-poor tourism

development. The extant studies linking ANT and tourism show that “there is no single way of studying tourism – it is a complex interlocking performance of languages and narratives, places, technologies, institutions and mobilized actors from which tourism actor-networks emerge” (Huxford, 2010: 208).

## **2.6 Advantages and Disadvantages of ANT**

### **2.6.1 Advantages of ANT**

ANT is a useful approach that can help the researcher to understand the complexity of reality (e.g. the complexity of organizations) and the collective and active role of non-human actors in this context. This can be useful for understanding how social (human actors) influences are created as a result of relationships between heterogeneous entities in a network. Of main importance in this regard is that ANT provides a lens through which to look at the role of natural (non-human) entities in the formation of social processes (Tatnall and Gilding, 1999; Martin, 2000; Steins, 2001; Elgali and Kalman, 2010; Cresswell et al., 2010).

ANT is also “useful in providing the ability to apply insights to storytelling and to empirical studies of technologies, power and actor-networks” (Corrigan and Mills, 2012: 262). Hence, ANT can be useful for thinking with regard to networks of associations, or more specifically, actor-networks (Williams-Jones and Graham, 2003). According to Cressman et al. (2010), ANT can be employed as a tool for sampling by focusing on relevant participants/informants that are associated with the technology in question. Despite these advantages, however, there are some limitations to the use of ANT, as explained next.

## **2.6.2 Disadvantages of ANT**

Cressman (2009: 10) states, “ANT is characterized by an exclusive emphasis on case studies and empirical observation, leading to situations where researchers simply report what they see and intangible elements like values and norms are not recognized”. The theory has also been criticized by Huxford (2010) and Doolin and Lowe (2002) for failing to provide any means of differentiating between human and non-human actors. However, the purpose of considering social (human) and natural (non-humans) entities as symmetrical is to help provide a comprehensive description of the actor-network, and does not mean or entail that all actors must be treated as equal for all objectives, nor that the different associations between entities be similar. In fact, part of the advantage of building a network will be tracing the types of associations between entities and defining the flow of power or power relations and control. In addition, since each network is influenced by other networks in an actor-network, it is quite difficult to completely explain the complexity of the network (Huxford, 2010).

Huxford (2010) describes ANT as overly descriptive, obscuring differences, and having a tendency to produce centred, managerialist studies that focus on the powerful. Meanwhile, Ginn (2005) identifies that it can be difficult to attribute agency within networks whilst maintaining the principle of symmetry. ANT has also been accused of lacking political and critical content (Johannessen, 2005); Huxford (2005) comments on the lack of awareness of political agendas within ANT studies. Typically, the choice of which actor to follow is left up to the researcher, who may make the wrong decision.

Furthermore, Cressman (2009) remarks that, in many works in the literature, the ANT terminology is confusing. For example, the processes of translation, the sociology of translation and enrolment are all used interchangeably to refer to ANT. Furthermore, ANT is criticized by Cresswell et al. (2010) for being very descriptive and failing to reach any detailed propositions of how actors should be viewed, and their collective actions analysed, explained and interpreted. Thus, it has been suggested that ANT can be best applied and employed in combination with other theoretical approaches, in particular with regard to analysis, explanation and interpretation (Greenhalgh et al., 2009).

## **2.7 Actor-Network Theory and Environmental Protection**

Gareau (2012) demonstrates the value of ANT for rural development by drawing on its ability to incorporate nature into the make-up of networks. ANT is useful for environmental management, planning and policy in that it allows the researcher to explore the relationships between the human (i.e. individuals, organizations) and non-human (i.e. the natural environment) worlds, and the ways these two worlds are linked through knowledge and action. Mahanty (2002: 1370) claims that ANT emphasizes the fact that the ability of facilitators to engage effectively in negotiation processes and establish strong networks with key actors is critical in mediating environmental conservation intervention outcomes: “The dissemination of new ideas and practice in conservation interventions may also rest on the establishment of a supportive network of actors, as suggested in actor-network theory”. Arnold et al. (2005) argue that there is a need for conservation network intervention to maintain supplies (people livelihoods). Additionally, ANT may help to identify actors with an interest in the conservation of environmental resources (Mahanty, 2002).

ANT can be seen as a powerful analytical tool for answering environmental questions, this because it enables non-human entities to be built into the analysis of human entities, and indeed treated as equal partners to them. In an environmental management context, ANT offers a valid approach, despite this context lying outside of the original context for which ANT was developed (Morris, 2004). For example, Davies (2002) adopts ANT to investigate a multi-sector environmental partnership and collaboration for sustainable communities. Rodger et al. (2009) adopt ANT to examine how a natural science programme aimed at wildlife tourism research and translated into management was achieved. In that study, the process of translation enabled the authors to identify the key actors and then describe their actions that led to the success of the wildlife tourism research programme.

The principle of generalized symmetry in ANT is crucial for the application of natural resources management (NRM) processes (Morris, 2004). Steins (2001: 23) states, “The ANT principle of symmetry tells us that everything in an NRM situation needs explaining and can help understand collective action process. This means that regardless of whether a (collective) NRM is successful or robust, in-depth analysis is required. Therefore, success itself cannot be used as a self-recognized principle, as is the case with the design principles that have been formulated on the basis of successful cases. Instead, success, too, requires to be detailed on a case-by-case basis”.

Overall, the existence of collective work should be examined and analyzed in the same technique as is its absence (Steins, 2001). ANT generally, and its four moments of translation specifically, provide detailed insights into the

formation and functioning of actor-networks. This knowledge is particularly valuable to developing countries that are seeking to environmental protection and the management of tourism, and ultimately safeguarding local community livelihood.

## **2.8 Conservation and the Development of Sustainable Community Livelihoods**

Tisdell (2005) states that, according to the World Commission on Environment and Development (WCED) report, *Our Common Future*, produced in 1987, global sustainable development is desirable and achievable, and conservation and economic growth can be compatible. Tourism development normally places an increased emphasis on the maintenance of a “good-quality” environment in a destination, if the intention is for tourism to play a long-term role in the local economy (Holden, 2008). Nzaid (2008) points out that many economic, social and cultural rights (such as the right to work, or have a suitable standard of living, lodgings, water, food, education and sanitation) can be negatively influenced by tourism due to financing constraints.

The clear relationship between the economic success of tourism and the quality of the environment is illustrated in Figure 2.3 (Holden, 2008). The figure illustrates that the environment is the most important factor in satisfying the needs and desires of tourists and establishing economically sustainable prosperity for tourism. It is therefore in the long-term interests of the host community to ensure that the natural environment is protected and that they provide stewardship of the environment (Holden, 2008).

Moreover, environmental conservation leads to economic growth, which generates employment and more income opportunities, which in turn help individuals to invest in their families' health care, education and other assets. Thus, conservation can assist with reducing vulnerability and empowering people, and can act as a source of pride for them (Nzaid, 2008).

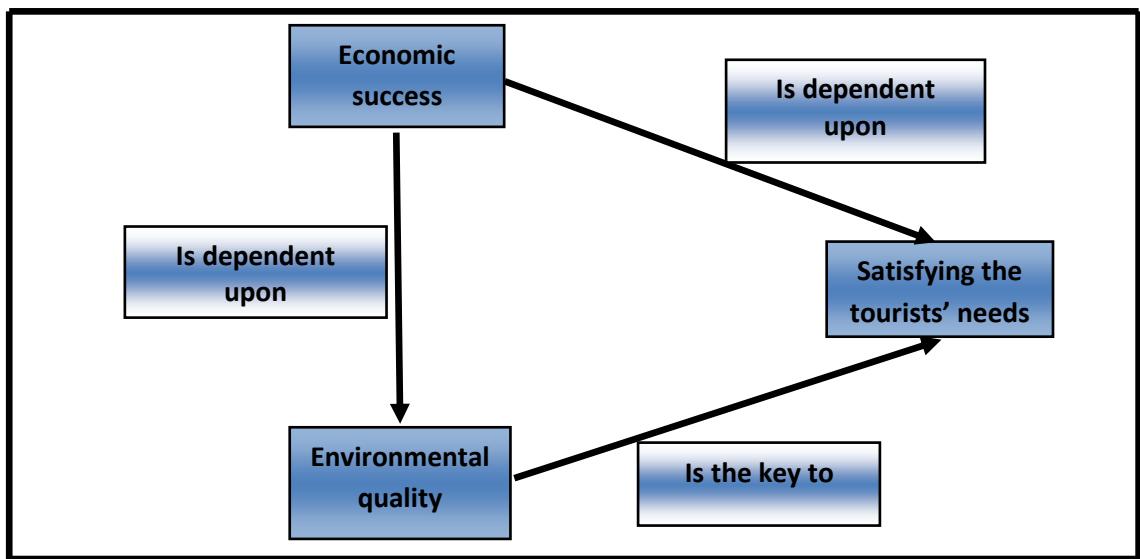


Figure 2.3 The relationship between tourism, environmental quality and economic success

Roe and Elliott (2004) claim that improving the sustainability of community livelihoods for future generations is entirely dependent on the conservation of natural resources, and that ecosystem depletion and species extinction will decrease our capacity to react to future pressures such as climate change. According to Salafsky and Wollenberg (2000), linking local people's activities to natural resources should enhance the value of biodiversity for them, thus encouraging them to take actions to mitigate both internal and external threats to it. In addition, by preserving the natural resources upon which local communities depend for their livelihoods, this action may fulfil the intra-generational equity aims of the development of SCLs (Hunter, 1997).

Roe and Elliott (2006) claim that there are important reasons to link the conservation of natural resources with poverty reduction: (1) Investment in the conservation of the natural environment can contribute towards eliminating poverty. (2) Addressing poverty concerns leads to increased support for conservation. (3) Poverty reduction is an international imperative. Roe and Elliott (2005) divide the linkages between conservation and poverty into the following three types:

- 1. The relationship between biodiversity and poor people** – how poor individuals and families influence, and are influenced by, the availability or deprivation of biodiversity.
- 2. The relationship between conservation and poor people** – the influence that natural environment conservation activities may have on poor people who live locally and the role that may be played in terms of supporting poor people or undermining conservation activities.
- 3. The relationship between biodiversity and poverty reduction** – the contribution that biological diversity can make to efforts at reducing poverty and the role that poverty-reducing activities can play in the conservation or alternatively the depletion of biological diversity.

Roe and Elliott (2005), the DFID (2002) and Turner et al. (2012) all state that the links between conservation and poverty can be positive or negative. The positive linkages include the following: income-earning opportunities, security nets for the poorest people who are not able to earn, enhanced access to natural resources, the maintenance of conventional rights and cultural values, natural resource services (fresh air and clean water, fertile soil) and sometimes

their trade, attracting donors for natural environment conservation, minimizing direct dependence on the natural environment for survival, urbanization relieving stresses on rural environmental resources, motivating and providing incentives to indigenous people to work towards the conservation of useful and endangered species such as medicinal plants and food crops, and generating an economic base for private sector investment in natural and environmental products and services, including conservation activities.

The negative relationships include the following: reduced access to natural resources, for example, coastal tourism can decrease a local community's access to the seashore or to common property assets near the beach (Shah and Gupta, 2005), a loss of cultural and traditional values (Roe and Urquhart, 2001; Roe et al., 2004; Roe and Elliott, 2005; Walpole and Wilder, 2008), their right to contribute in the decisions that directly influence their lives, are denied, projects and policies whose primary objective is biodiversity conservation cannot be expected to be transparent and equitable (Billé et al., 2012). According to Roe and Elliott (2006) and Barrett et al. (2013), pro-poor conservation relies on the fact that conservation is imperative for alleviating poverty and for preserving endangered species and critical habitats. Thus, it is important to illustrate the typology of pro-poor conservation, as shown in Table 2.2.

**Table 2.2: A Typology of Pro-Poor Conservation**

Approach	Description
Alleviating poverty as a tool for conservation	It is important to understand that the issues of poverty must be addressed in order to meet the objectives of conservation. Thus, poverty can be seen as a constraint on conservation.
Conservation that “does no harm” to poor people	Conservation donors recognize that conservation can negatively affect the poor, and seek to present full compensation where this occurs, and/or to alleviate negative effects.
Conservation that generates benefits for poor people	Conservation of natural resources is still seen as the overall objective but it is designed so that benefits are created for poor individuals and families.
Conservation that works towards alleviating poverty	Alleviating poverty and social justice issues are the overall objectives here. Conservation can be seen as a tool for achieving these objectives.

Source: adapted from Roe and Elliott (2006), Adams et al. (2006), and Vermeulen (2006).

The four categories shown in Table 2.2 present the key elements of the linkages between conservation and poverty reduction. This study attempts to add and explore a fifth category, namely that conservation activities can protect local communities' livelihood-related assets. In other words, protecting tourism-related natural resources can ensure the continued sustainability of community livelihoods.

### **2.8.1 Environmental Protection and Sustainable Community Livelihoods**

Guha and Ghosh (2007) state that the cohabitation of nature with poor people presents an opportunity for an approach based on SCLs. According to DFID (2002), the environment is a pillar of communities living in poverty and, often, poor communities' perceptions of well-being are strongly related to the natural environment with regard to their livelihoods, health, education, stresses, shocks, prosperity and empowerment. Tourism has contributed towards achieving the twin goals of poverty eradication and conservation through the development of new types of tourism. Examples include nature-based tourism, ecotourism and sustainable tourism, which have been promoted as environmentally secure

ways for local communities to create alternative income opportunities from natural resources (Kline, 2001; Guha and Ghosh, 2007).

The DFID (2002) argues that the relationship between the environment and poverty is active and context-specific. According to Heady (1998), there is a strong relationship between management that is scientifically based on natural resources, and poverty reduction. Salafsky and Wollenberg (2000) explain how, in the early 1990s, conservationists started to develop innovative approaches to meeting economic well-being and preservation requirements. These conservationists' approaches were based on the idea of making livelihood activities dependent on, and consequently directly linked to, biodiversity. According to Neto (2002), environmental degradation and the depilation of natural resources associated with tourism activities can be critical challenges in tourism-rich areas. Management of the natural environment so as to reverse this trend is therefore one of the most complicated problems facing governments at various levels. Pandey (2004: 163) gives an example of the type of problem faced:

*"The fact that most tourists choose to maintain their relatively high patterns of consumption and waste generation when they reach their destinations can be a particularly serious problem for developing countries and regions without the appropriate means for protecting their natural resources and local ecosystems from the pressures of mass tourism".*

To mitigate the negative influences and enhance the positive ones, Kreag (2001) advocates monitoring efforts aimed at identifying vulnerable regions, and

offering leaders an opportunity to hear community feedback and make timely changes before a crisis emerges. There is also an urgent need to balance environmental conservation with the continuing need for development (Ahmed, 2001). According to Roe and Elliott (2005), conservation can be defined as a path to land use, a policy objective, a values set, or a way to manage biodiversity. Muhanna (2007) defines conservation as the planned management of sites and places. The DFID (2002) claims that the environment represents the interaction between the living (biodiversity) and non-living aspects of the natural world, which together sustain life on earth. Fletcher (2009) states that development promotes conservation and that, rather than local people paying a price for conservation, they could benefit from it. Walpole and Wilder (2008) illustrate that conservationists are increasingly coming out in favour of the argument that biodiversity sustains the livelihoods of many of the poorest people on earth because of the prominence the natural environment has in their livelihoods and well-being.

## **2.8.2 The Impacts of Environmental Degradation on Local Community Livelihoods**

The status of many coastal destinations in developing countries can, at best, be described as fragile and vulnerable (Olawuyi and Rahji, 2012). The high dependence on the natural environment makes these destinations particularly vulnerable to degradation and changes in the condition of their resources (Pomeroy et al., 2006). In developing countries, the relationship between environmental degradation and poverty shows that the environment represents a real security threat. Biswasa (2011) argues that ecosystem integrity is crucial for the sustainability of the livelihoods of the population (Biswasa, 2011).

According to Wolmer (2003), the concept of ecosystem integrity has implications far beyond the ideas of biodiversity conservation and natural environment management. The concept is linked to regional debates on national sovereignty, land reform, poverty reduction, and the safeguarding of local community livelihoods (As was discussed earlier, in Section 2.5). Hence, enhancing the natural resource base can reduce poverty (Reardon and Vosti, 1995). Thus, as Biswasa (2011: 11) states, “certain environmental conditions—often resulting from environmental change—such as pollution depletion, or natural disasters—can pose an acute threat to security. Environmental degradations and climate change increase an individual’s vulnerability”.

Environmental degradation is thought to reflect an increasing lack of synchronization between a community and its natural environment, and the implicit solution is to reconstitute community-based natural resource management organizations so as to restore harmonious relations between environment and community (Leach et al., 1999). In developing countries, according to Jahan (2008), environmental degradation makes people poorer by reducing the availability of the natural environment on which they rely for their livelihoods. Environmental degradation problems can be caused by the huge number of visitors/tourists, the resource implications resulting from the operation of tourism-related businesses (e.g. congestion and contamination due to transport, energy and water consumption, waste generation and purchasing strategies) and the potential negative influences on host destinations (Vernon et al., 2005). For example, coastal tourist areas in developing countries (e.g. Hikkaduwa, Sri Lanka’s beach resort, the state of Kerala in India and the Thailand’s seaside resort of Pattaya) have been subjected to major

environmental degradation, as a great majority of the population inhabits these areas (Hunter, 1997; Neto, 2002, 2003; Aggrey et al., 2010) (see Section 1.2.1). Some of the known, direct effects attributed to humans are overfishing, ocean dumping, the poisoning of marine organisms, the removal of wetlands, deforestation of the coast, coral reef destruction, hunting of endangered species, and habitat alteration through the construction of breakwaters (Finnoff and John, 2003; Thapa and Sasidharan, 2003; Wilkinson and Buddemeier, 1994).

Once the root causes of environmental degradation have been identified, interventions can be put in place to cope with them and to increase the flexibility of the host destinations to stresses, shocks, seasonal factors. Building flexibility signifies, in part, reducing the reliance on the natural environment for livelihoods, strengthening institutions, organizations and infrastructure in the destination, and diversifying people's livelihoods (Pomeroy et al., 2006). There is an urgent need for government and external intervention to protect vulnerable people against the negative effects of environmental degradation (Sunderlin et al., 2005). Thus, in order to build long-term livelihood opportunities for the community, natural environmental management is required (Scherr, 2000). Natural environmental management should lead to income-generating opportunities, should improve people's property and should encourage local people to take part in political decision making (UNDP, 2003).

Various natural environmental adaptation strategies have been built and applied collectively by a number of stakeholders in recent times. This includes governments, NGOs, the international donor countries, and experts from both

home and abroad. These individuals and organizations work together to create innovative strategies to ensure that the natural environment is protected and secured (Biswasa, 2011). For example, in the tourism context, there is an urgent need to preserve the environmental resource base for tourism from degradation, especially in developing countries that mainly depend on the natural environment to attract tourists. This should encompass natural, built and cultural elements, and could help to meet the requirements, desires and wants of the local host destination in terms of improved livelihood opportunities, at the same time as satisfying the demands of the tourists and the tourism industry, so as to continue to motivate and attract them (Tao and Wall, 2009). Selman and Wragg (1999) have proven that ANT can be a useful analytical framework for explaining the relationships and processes linked to environmental management. This is discussed in the next section.

## **2.9 Sustainable Livelihoods Approaches**

Sustainable livelihood approaches (SLAs) are based upon evolving our thinking about eliminating poverty (Ashley and Carney, 1999), the way poor people live their lives, and the significance of structural and institutional issues (Ashley and Carney, 1999; Adato and Meinzen-Dick, 2002). Livelihood, as a term, has been increasingly accepted in development thinking, as a way of conceptualizing the whole set of economic activities that poor people undertake (Scherr, 2000; Chambers and Conway, 1992; Scoones, 1998; Adato and Meinzen-Dick, 2002). Community livelihoods incorporate the methods and means that people use to satisfy their essential needs and desires, and how well these requirements, needs and desires are satisfied determines the well-being of the entire local community (Salvestrin, 2006).

The term livelihood has also been defined as encapsulating the capabilities, assets and activities that people require in order to live (Schuyt, 2005). A livelihood encompasses the assets which include material and social resources, capabilities and activities required for living (Carney, 1998; Ashley and Carney, 1999). Livelihoods are thus ways or methods of living and not just ways of *making* a living (Salvestrin, 2006). DFID (1999a, 2000) and Ashley et al. (2000, 2001) argue that a livelihood is sustainable when it can deal with and recover from pressures and shocks and sustain or boost its capabilities and capital, both in the present and the future, without damaging the natural environment base. Ashley and Carney (1999) claim that many view SLAs as approaches to development that includes several of the elements (e.g. vulnerability context, livelihood outcomes, policies, institutions and processes, livelihoods strategies and livelihood assets).. For example, the NGOs CARE and Oxfam employ sustainable livelihood frameworks and principles to guide their development programmes, with the aim of achieving approved goals in terms of improved livelihoods. The SLA is prominent in many of the current development programmes that are seeking to eliminate poverty and vulnerability in local communities in many developing countries (Allison and Horeman, 2006).

As development thinking has become more varied and complex, it has become essential to seek a more holistic approach to study the influence of donors' involvement (Lee, 2008). It has been argued that development could be used to promote conservation, and that, rather than local communities paying the costs of conservation, they could benefit from it. Hence, if tourism is to support both conservation and livelihoods, efforts to manage it must be made through appropriate frameworks (Fletcher, 2009). The SLA that this study adopts is one

of a number of analytical frameworks dealing with the dynamic dimensions of poverty and well-being through the establishment of a typology of assets that poor individuals, families and communities may deploy to sustain their well-being under varying circumstances (Salvestrin, 2006; Ashley and Hussein, 2000; DFID, 2002). The SLA supposes that, when a local community's livelihoods are secure, it will be less likely to resort to practices that are damaging to the environment (Fletcher, 2009). Ashley and Roe (2003) state that poverty is not only a matter of a lack of income. It is also viewed as involving a lack of individual capabilities, such as education or health, needed to accomplish a fundamental level of human well-being (Sharpley and Naidoo, 2010).

Consequently, the Millennium Development Goals set targets for some of the key dimensions of poverty, which include hunger, access to clean drinking water, daily income, maternal mortality, education levels and a range of other priorities (Goodwin, 2006). Krantz (2001) refers to broader dimensions of poverty, such as bad health, illiteracy, a lack of social services, natural and institutional capital, vulnerability to pressures or shocks, and feelings of hopelessness in general. Poverty can also be viewed as either absolute or relative, but significant, deprivation. Absolute poverty, according to Hulme et al. (2001: 8), is perceived as a subsistence level that is below the minimum requirements for physical well-being, generally based on a quantitative proxy indicator such as income or calories, but sometimes taking into account a broader package of goods and services. The relative poor, meanwhile, are those whose incomes or consumption levels are below a particular fraction of the national average. Relative poverty encourages an analytical focus on

income inequality trends. Meanwhile, overall poverty takes various forms, including the following: decreased income and a lack of the resources needed to guarantee a sustainable livelihood; hunger and malnutrition; poor health; a lack of involvement in decision making and in the civil, social and cultural life; limited, or a total lack of, education, training, skills and other basic services; increased morbidity and deaths from diseases; homelessness and poor housing; insecure environments; discrimination and social exclusion (Gordon, 2005).

Basically, poverty is a deprivation of choices and opportunities, a violation of the dignity of a human being (Gordon and Nandy, 2012). It signifies a lack of the fundamental capacity to contribute effectively to society. It signifies a lack of ability to feed and clothe one's family, the absence of schools or clinics, the land on which to grow food or a job to earn a living, and a lack of access to credit (Gordon, 2005). It signifies a lack of safety, powerlessness and the social exclusion of individuals, families and communities. It can indicate vulnerability to violence, and often involves living in marginal or fragile environments, with limited access to clean drinking water or sanitation (Pacione et al., 2012).

The SLA is a way of thinking about the objectives, scope and priorities of development, in order to contribute towards the elimination of poverty and the creation of sustainable livelihoods for local communities (Ashley and Carney, 1999). The key concepts behind the SLA to development are its aspirations to be people-centred, holistic, and dynamic and to fill lacunas between macro- and micro-development strategies. Most crucially, the SLA seeks to build on available assets or capital and to be sustainable (Ashley and Hussein, 2000).

The framework therefore emphasizes the importance to the poor of five kinds of assets: financial, physical, social, human and natural (Simpson, 2008).

### **2.9.1 Advantages of Using the Sustainable Livelihoods Approach**

The SLA plays an important role in helping us to understand the poor and their lives, especially in rural areas (Farrington et al., 1999). It is considered to focus on people and their participation, and to emphasize all aspects of sustainability (Cahn, 2002). Knutsson (2006) argues that there is one essential reason for the success of the SLA in gaining the attention of focal policy makers in donor organizations. It offers a new vision of a comprehensive and/or integrative approach, with the ability to analyse and recognize the complexity of development in rural areas. The SLA constructs a more comprehensive view of which resources, or which combinations of resources, are the most significant to poor individuals and families (Krantz, 2001).

Tao and Wall (2009) state that appropriate involvement in tourism is needed at different levels – macro, micro and meso – of the tourism organization network, in order to bring about changes in the use of, and value placed upon, resources and activities. They argue that the SLA is helpful as it recognizes that poor people in many communities earn their livelihoods through a variety of different activities rather than relying on a single, formal job. They also stress that it is important to start by focusing on people, the capital assets that they currently control, and the skills that they already have. Krantz (2001) claims that the SLA presents a more realistic framework for measuring the direct and indirect influences on the living conditions of a population compared, for instance, to one-dimensional productivity or income criteria.

According to Tao and Wall (2009), the importance of tourism comes from its linkages with other activities. This leads to the conclusion that the tourism industry should be considered a tool for community development and not an end in itself. Since developmental thinking has become more diverse and complex, it has become necessary to use a more holistic approach to examine the effect of development interventions (Lee, 2008). Hence, adopting the SLA facilitates a shift of focus onto a wider range of tangible and intangible costs and benefits (Ashley et al., 2000). Therefore, good policies and a careful understanding and acknowledgment of the needs of tourism and the ability of local communities to fulfil these needs are an important part of ensuring that tourism is pro-poor (Guha and Ghosh, 2007). A SLA to tourism is one that is embedded in a tourism context and can deal with shocks and stresses, and achieve livelihood outcomes that are economically, socially, environmentally and institutionally sustainable, without adversely affecting the livelihoods of later generations (Shen, 2009).

Moreover, the SLF and its components facilitate the analysis of the role of tourism because they recognize the complexity of situations, and particularly the circumstances of marginalized people who sustain themselves using multiple livelihood resources (Tao, 2006). Thus, various actions across different levels are required. The SLA is not just a way of supporting community tourism. It requires action at the micro, meso and macro levels, on different fronts, including product development, marketing, planning, policy and investment (Ashley and Roe, 2002). However, there are some disadvantages related to the use of the SLA, which are discussed in the following section.

### **2.9.2 Disadvantages of the Sustainable Livelihoods Approach**

Ashley and Carney (1999) and Krantz (2001) argue that the SLA does not properly cope with the issue of how to identify the poor people whom the researchers are seeking to assist. Farrington et al. (1999) adds the following challenges: the absence of any obvious organizational partner willing to participate in anti-poverty programmes; the widespread discrimination against the poor, making it probable that, lacking commitment from a high-level political decision maker, even initiatives in uncontested arenas will be challenged or controlled by the richer members of society; and possible conflicts with those people (e.g. politicians and some aid administrators) who have a preference for new, distinguished projects with a high public relations value.

The SLA does not deal sufficiently with historical and political elements; in addition, the SLF is not naturally adapted to providing a national analysis and, for that reason, is not very suitable for macro-level analysis (Lee, 2008; Adato and Meinzen-Dick, 2002). Moreover, Allisona and Horemans (2006) label it a fundamentally administrative and structural perception that is inadequate for analysing and processing power and power relations. They also argue that it offers limited ways of understanding the highly fluid, organic means by which the livelihoods of poor individuals and households form, and are formed by local organizational practices and stakeholder relationships. The next part will explain the relationship between sustainable community livelihoods and the conservation of the natural environment.

## **2.10 Summary**

This chapter has reviewed governance in developing countries and outlines tensions which exist between centralisation and decentralisation which characterise many, the challenges of multi-level governance, and their implications for tourism planning and development. It details the difficulties which may be encountered by ‘failing’ states, most notably those experiencing political instability and discusses collaboration in this context. Next, it has been illustrated in this chapter that ANT is crucial for achieving the objectives of this study of the formation of new networks to realize environmental protection and the management of tourism. This chapter has introduced ANT as a methodological tool for achieving the study’s objectives. It has reviewed some of the concepts and principles of ANT, as well as some related concepts. It has also addressed the processes of translations, namely, problematization, interessement, enrolment and mobilization. This chapter has also shed light on how ANT can be applied to the study of tourism. This chapter also discussed the linkages between the development of sustainable livelihoods and the conservation of the natural environment. Following that, the chapter discussed actor-networks and environmental protection. In particular, that section reviewed the advantages and disadvantages of using ANT to study environmental protection and the management of tourism. Finally, this chapter discussed the sustainable livelihoods approach and its linkage to environmental protection and the management of tourism.

## **Chapter 3: Conceptual Framework**

### **3.1 Introduction**

This chapter outlines the conceptual framework which underpins the present study. It begins by discussing the importance of collaboration and actor involvement, and outlines the benefits of adopting a collaborative approach generally, and more specifically to managing tourism's negative environmental impacts. The chapter then examines collaboration in the context of the formation and functioning of actor-networks, and discusses in detail the plethora of factors which influences their formation and functioning. This is followed by the presentation and consideration of the study's conceptual framework.

### **3.2 Collaboration and Actor Involvement**

It is important for any tourist destination that is mainly dependent on the natural environment to manage and control its tourism activities (McKercher, 1993; Nijkamp, 1998; Jovicic and Dragin, 2008; Sorupia, 2005; Simmons and Fairweather, 2000). In developing countries, some tourist destinations are facing the adverse effects of poor planning, poor management, coastal erosion, water pollution, waste management issues, energy crises and the destruction of coral reefs (Graci, 2012; see sections 1.2.2 and 1.2.3). To deal with these challenges, Medeiros de Araujo and Bramwell (2002) claim that there is a moral responsibility to engage all affected parties in discussions and decisions about potential developments (Ramayah et al., 2011). Thus, the establishment of collaborative relationships with other actors interested in the same goal is increasingly being regarded as a crucial factor for performance and survival (Medina-Muñoz and García-Falcón, 2000). Collaboration amongst multiple

stakeholders leads to a flexible and dynamic process that evolves over time, and better enables those involved to deal with common problems or issues (Jamal and Stronza, 2009). Graci (2012) argued that collaborative relationships among the actors involved in working towards a common goal in a tourist destination are essential in helping the tourism industry move towards sustainability.

Ramayah et al. (2011) explain that tourism-related organizations have relationships with partners such as suppliers, distributors, competitors, public and governmental organizations, non-governmental organizations, customers, hotels, transporters and other agencies and institutions engaged in complementary activities. These relationships include associations, partnerships, alliances, and general cooperation. Collaboration can be employed successfully to resolve conflicts or advance a shared vision when stakeholders recognize the potential benefits of working with each other (Jamal and Getz, 1995). Here, according to Gray (1989) and Lasker et al. (2001), collaboration can be defined as a process of joint decision-making between the key actors, through which those with different perspectives on an issue can examine their differences constructively and look for suitable solutions that go beyond their individual, limited visions of what is possible.

The UNWTO (2002) argues that maximizing the benefits of tourism in developing countries in particular requires a governmental inter-departmental approach, and the existence of strong partnerships between local, regional and national governments, communities and the private-sector tourism industry in both the originating and destination countries. This is because according to

Pechlaner et al. (2009), tourism-related organizations in a tourist destination may undertake many activities that seek to help the local community, but their activities are often governed by institutions. Shen (2009: 61) states that the term institution refers to “an enduring regularity of human action structured by rules, norms, or shared strategies and the realities of the physical and biological world”. An institutional arrangement/network is the structure of relationships between organizations engaged in some way in the same endeavour. An appropriate involvement in tourism, according to Tao and Wall (2009), through different levels of collaborative interventions (macro, meso and micro) by tourism-related organizational networks, will bring changes in the uses and value of resources and activities.

A collaborative network is viewed to have been established if synergy has occurred among the partners (Ramayah et al., 2011). Hence, working towards the desired outcomes of a collaborative network is more efficient and sustainable than working in isolation. Collaboration adds value by building on the store of knowledge, insights and capabilities of the stakeholders in the destination, and so offers advantages to both stakeholders and the destination (Bramwell and Sharman, 1999: 393). Collaboration among key actors can lead to the formation of a social network, and thus contribute to the development of new, sustainable types of tourism (Graci, 2012). Furthermore, policies, implementation and the enforcement of plans and regulations resulting from collaboration may be better accepted by the individuals and organizations involved in creating them (Medeiros de Araujo and Bramwell, 2002).

One advantage of collaborative networks is that they typically involve longer-term relations between non-anonymous parties who participate in solving a common issue and achieving shared goals through the pooling of complementary resources (Foss and Nielsen, 2010). Cao and Zhang (2011) explain that collaboration can expand the size of the joint advantage and give each member a larger share of the profits than they could achieve on their own. The value creation from collaboration can come from cost savings gained through the transfer of best practices, strengthened capacity and flexibility due to collective action, improved decision-making and increased revenues obtained through the pooling of resources, and innovations made by collecting and sharing ideas.

It can be argued that the crucial role of collaboration is its ability to cope with turbulent environments (Jamal, 2004). Collaboration among partners sharing the same goals reduces negative environmental impacts (Klassen and Vachon, 2009). Ibrahim (2009) and Sunlu (2003) claim that negative impacts on a destination's natural resources may discourage tourist visits and therefore negatively affect local community livelihoods. Thus, government and non-governmental related organizations directly and indirectly associated with tourism should seek to achieve people's, especially the rural poor's, livelihood objectives while sustaining tourism for the current and next generation by protecting the natural environment (Shen, 2009; Muhanna, 2007; Salafsky and Wollenberg, 2000; Mowforth and Munt, 2008; Cooper and Fellow, 2004). The linking of conservation objectives with local development needs inevitably requires collaboration, whilst the success of such action is contingent upon a

plethora of factors that influence the formation and functioning of collaborative relationships.

### **3.3 Collaboration and the formation of actor-networks**

Collaboration is an emergent process “in which those parties with a stake in a problem actively seek a mutually determined solution, with stakeholders retaining their independence in decision-making despite agreeing to abide by shared rules among collaborative parties” (Gray, 1989: xviii). The theory of collaboration has been used extensively to examine collective organizational arrangements in a variety of contexts, including tourism (e.g. Bramwell and Sharman, 1999; Jamal, 2004; Jamal and Getz, 1995; Jamal and Stronza, 2009; Medeiros de Araujo and Bramwell, 2002). However, in contrast with ANT, collaboration neglects to consider the processes and dynamics of problem identification in the first instance. Larson (1992) and Ebers (1997) identify three developmental stages of actor-network formation: a pre-networking phase in which the pre-conditions for building a relationship are set out; a second phase in which the conditions for creating a relationship are settled; and a third stage in which the networking relationship is strengthened. Moreover, theories of collaboration proposed by Gray (1989) are based on a three-stage model comprising (1) a problem-setting stage which includes identifying the main stakeholders and issues; (2) direction-setting which includes identifying and sharing future collaborative interpretations, and appreciating a sense of common purpose; and (3) implementation, which requires institutionalizing the shared meanings that emerge.

While these findings undoubtedly offer valuable insights into how to manage collaborative relationships, virtually no research has been undertaken which links the need for, and presence of, general and specific factors at different stages of the collaboration process. Gray (1989, 1996) and Waddock (1989) perhaps come the closest to doing so by providing a useful framework, identifying three stages of collaboration – problem-setting, direction-setting and implementation – and presenting specific concerns and issues that need to be resolved at each stage if the collaboration is to develop effectively.

During the first stage, problem-setting, the most crucial concerns are to convene the relevant stakeholders and ensure their willingness and commitment to cooperate. Hence, the focus should be on defining the problem clearly, involving suitable stakeholders, developing commitment among those stakeholders, ensuring that the collaboration meets the members' specific interests, building trust between the convenor and the other members, and securing the resources to move forward in building the collaboration (Gray, 1989, 1996). During the second stage, direction-setting, stakeholders investigate the problems(s) in depth and reach agreement about the approaches they will follow. The key purposes at this stage are to identify the key issues to be addressed in the collaboration (agenda-setting), gather information and perspectives on the problem or generate new information, explore options for working together and establish agreements, and determine the basic rules for working together. Following this, the implementation phase focuses primarily on following-through on the agreements reached for the collaborative arrangement. The main concerns are deciding how to structure the collaboration and planning the process for working together, identifying

partners' responsibilities and resources, ensuring that all members have the support and agreement of the partner organizations, and monitoring the collaboration to ensure that all partners fulfil their agreements. However, such theories fail to focus on the intricacies involved in the formation of collaborative arrangements, which are captured in greater detail within the ANT's four moments of translation.

This view is most notably expressed by Rodger (2007), who argues that ANT looks at the transformation of heterogeneous networks into aligned networks, which can be made up of people, organizations, machines, animals and more (human and non-human actors). ANT examines how networks form, who or what this involves, how they came to be, how they are maintained, and how they compete with other networks (Tatnal and Gilding, 1999; Rodger et al., 2009). This requires what are known as the four moments of translation: problematization, interessement, enrolment and mobilization (see section 2.3) (Stanforth, 2006; Alcouffe et al., 2008; Greener, 2006; Galloway, 2010; Gunawong and Gao, 2010). The application of this body of theory may thus facilitate an examination of the roles of, and the relationships between, government and non-governmental related organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism in Hurghada, Egypt, which lies at the heart of this study. Moreover, previous studies have revealed that the success of collaborative relationship networks depends on a combination of key factors such as trust, commitment, communication quality and coordination (Humphries and Wilding, 2004; Medina-Muñoz and García-Falcón, 2000; In, 2005; Dyer, 2000; Ramayah et al., 2011; Devine et al., 2011; Blomqvist and Levy, 2006;

Morgan and Hunt, 1994; Kelly et al., 2002; Healey, 1997; Roberts and Bradley, 1991; Schuett et al., 2001; Borden and Perkins, 1999; Bramwell and Sharman, 1999; Blomqvist and Levy, 2006).

### **3.3.1 Factors influencing the formation and functioning of actor-networks**

One of the earliest studies to identify a series of factors influencing collaboration was that undertaken by Gray in 1989. He outlines five key features of interorganizational collaboration: (1) the stakeholders are interdependent; (2) solutions to an issue emerge through dealing constructively with differences among actors; (3) there is shared ownership of decisions; (4) the stakeholders take on collective accountability for the continuing direction of the field; (5) collaboration is an evolving process by which stakeholders collectively deal with the increasing complexity of an environment. Additionally, to maximize the interests of all parties involved in a common goal, the actors have to move from focusing on intra-organizational goals to including inter-organizational goals and goal tracking (Ramayah et al., 2011).

With accumulating experience of collaboration, the literature is now replete with a general set of influences and specific factors that have been found to facilitate its creation and functioning, and whose absence may present certain challenges. With respect to the former, early studies of collaboration (most notably by Borden and Perkins, 1999; Gray, 1985, 1989; Huxham, 1996; Jamal and Getz, 1995; Krause et al., 1999; Mohr and Speckman, 1994; Roberts and Bradley, 1991; Selin and Beason, 1991; Selin, 1993; Selin and Chavez, 1994; Selin and Myers, 1998; Waddock, 1989) all highlighted several common pre-conditions that must hold if collaboration is to occur and be effective. These

include the following: recognition of the interdependence of actors; joint ownership of decisions; inclusion of all relevant actors; recognition that adequate resources, in the form of expertise, time and money, will be provided in order to guarantee that the collaboration will not be interrupted due to a lack of resources; mutual understanding; access to information about the issue; involvement of a legitimate convenor and/or strong leader; the formation of realistic expectations about what can be delivered.

In an examination of a local collaborative arrangement to develop a visitor management plan for the Hope Valley in Britain's Peak District National Park, Bramwell and Sharman (1999) develop these conceptual ideas further. A framework is proposed which focuses on three sets of issues – the scope of the collaboration, the intensity of collaborative activity, and the degree to which consensus emerges – which might affect the actual functioning of a collaborative venture. Issues related to the scope of collaboration include the representativeness of the participants, the inclusion of facilitators as well as implementers, levels of support for the project, the existence of shared visions and goals, and perceptions that mutual benefits will result from the collaboration. Indeed, according to Healey (1997) and Vernon et al. (2005), incomplete representation, imbalanced power relations among stakeholders, or a lack of accountability can reduce the effectiveness of collaborative activities. The second group of issues relate to the intensity of collaboration, and include the nature and frequency of participation, the flow of information, the extent of mutual understanding, respect, trust and learning that exists within the actor-network, and the development of new approaches. Meanwhile, the third group of issues focuses on the extent to which consensus among the stakeholders

emerges in relation to the aims and goals of the collaboration. The extent to which compromises are embraced, the emergence of ownership, the willingness to implement decisions and having realistic expectations about what is achievable are also relevant.

Subsequent studies of collaboration have reinforced the need for these general factors (e.g. Blomqvist and Levy, 2006; Jamal and Stronza, 2009; Kelly et al., 2002; Mattessich et al., 2001; Paulraj and Chen, 2007; Schuett et al., 2001; Thomson et al., 2009; Vernon et al., 2005; Weiler et al., 2007) and also highlighted others. For example, Kelly et al.'s (2002) examination of the types of challenges that companies face in the start-up phase of an alliance identifies cultural differences as influencing collaboration. In an analysis of the Australian Alps National Parks trans-border partnership, Weiler et al. (2007) identify the need for the existence of innovation and/or an openness to change, and Jamal and Stronza's (2009) study of an evolving partnership between local and international stakeholders in Chalal'an, Bolivia, reveals the importance of local traditions to the process.

Furthermore, Thomson et al.'s (2009) investigation of collaboration amongst the directors of US organizations participating in a large national service programme, AmeriCorps State/National, identifies 17 key indicators that directly contributed to that collaboration, four of which were previously unidentified (for more details, see section 4.5.3 and appendix 3.1), namely (1) understanding an organization's roles and responsibilities, (2) meetings that accomplish what is necessary for the collaboration to function well, (3) brainstorming with other

partners, which enables problems to be conceptualized, and (4) tensions between the meeting of organizational and collaborative expectations.

However, although the idea of collaboration provides a less appropriate theoretical framework through which to examine the formation and functioning of webs of relations and activities within and between tourism-related organizations, there is a lack of available literature relating specifically to the factors influencing their formation and functioning of actor-networks. Thus, this examination will be informed by mutually compatible insights from studies pertaining to the characteristics of developing and operating effective and/or successful collaborative networks (e.g. Blomqvist and Levy, 2006; Bramwell and Sharman, 1999; Erkus-Ozturk and Eraydin, 2010; Ibrahim, 2009; Jarvenpaa et al., 1998; Jarvenpaa and Leinder, 1999; Thomson et al., 2009), partnerships (Casey, 2008; Selin and Chavez, 1994; Waddock, 1989), and/or interorganizational collaboration (e.g. Gray, 1985, 1989; Jamal, 1994; Jamal and Getz, 1995; Jamal and Stronza, 2009; Selin and Myers, 1995).

Taking these studies together, it is clear that collaboration is influenced by a host of general factors. However, given that collaboration inevitably involves interpersonal relations, the most relevant factors appear to be commitment, trust, communication and coordination, which will now be examined individually.

### **3.3.1.1 Commitment**

According to Das and Kumar (2009: 37), commitment is “the obligation or pledge to carry out some action or policy or to give support to some policy or person” or “the state of being obligated or bound”, whether through intellectual

conviction or emotional ties. In (2005) claims that commitment is an integral part of any long-term collaborative network. Basically, commitment means sacrifice on the part of the partners and the existence of a strong relationship between the involved organizations. Commitment is also defined as the organization's desire to make an effort to maintain a relationship that is perceived to be sufficiently worthwhile (Medina-Muñoz and García-Falcón, 2000). Pesämaa and Hair (2007) states that it is based on the loyalty of an actor to another actor in a social unit, which leads to the formation of a relationship and requires an enduring desire and recognition of the importance of the relationship if it is to be maintained (Abosag et al., 2006; Chen et al., 2003).

Also fundamental to commitment is the existence of a future intention to exchange information, and to share interests and decision-making. Thus, for successful collaboration, it is essential for these relationships to comprise highly committed parties (Aas et al., 2005; Ramayah et al., 2011; Devine et al., 2011; Pesämaa and Hair, 2007). It is therefore hardly surprising that many studies of collaborative arrangements have identified commitment as a factor critical to success (Blomqvist and Levy, 1999; Casey, 2008; Hoegl et al., 2004; Krause et al. 1999; Mohr and Spekman, 1994; Pesämaa and Hair, 2007; Plewa and Quester, 2006; Rampersad et al. 2009).

### **3.3.1.2 Trust**

Essentially, trust is seen as a relationship building block (Ramayah et al., 2011) and critical for successful collaborative relationships (Dyer, 2000; Huxham and Vangen, 2005). Blomqvist and Levy (2006) argue that trust is based on beliefs about what a partner or partners can do and how they will behave in the future.

Lasker et al. (2001: 192) describe trust as follows: "to work closely together, the people and organizations involved in a partnership need to be confident that other partners will follow through on their responsibilities and obligations and will not take advantage of them". Thus, trust is considered a keystone of a successful collaborative relationship as it improves relationships, minimizes harmful conflict and allows for effective responses in crises (Humphries and Wilding, 2004).

Trust has also been highlighted as a key factor associated with successful collaboration (e.g. Blomqvist and Levy, 1999; Casey, 2008; Healey, 1997; Jarvenpaa, 1998; Mohr and Spekman, 1994; Pearce et al., 1992; Pesämaa and Hair, 2007; Rampersad et al., 2009; Selin and Chavez, 1994; Weiler et al., 2007; Youn-Ybarra and Wiersema, 1999). This is primarily because it is knowledge-driven; lack of, or incomplete, knowledge creates the need for trust (Abosag et al., 2006). It is developed through demonstrations of reliability, honesty, fairness, responsibility, helpfulness and confidence (Pesämaa and Hair, 2007). Owusu (2003) states that trust allows actors to expect the best possible behaviour from other actors. In addition, it enables participants to negotiate in order to overcome short-term conflicts of interests, personal confrontations or even communication misunderstandings (Owusu, 2003).

### **3.3.1.3 Communication**

Several studies of collaborative arrangements have revealed communication to be another critical factor (e.g. Borden and Perkins, 1999; Blomqvist and Levy, 1999; Casey, 2008; Jarvenpaa and Leinder, 1999; Krause et al., 1999; Mattessich et al., 2001; Mohr and Spekman, 1994; Paulraj et al., 2008; Schuett

et al., 2001; Selin and Chavez, 1994; Wieler et al., 2007). Anderson and Narus (1990: 44) define communication as “the formal as well as the informal sharing of meaningful and timely information between firms”. Kirchmajer and Patterson (2003: 3) claim that it is impossible to have relationships without communication, because communication is the human activity that links people together and creates relationships. In particular, effective collaboration between participants requires extensive communication for brainstorming, for the sharing of project-related information and performance feedback, for reducing perceived risks and for improving credibility (Abosag et al., 2006; Devine et al., 2011; Graci, 2012).

Ramayah et al. (2011) found that communication has the strongest impact on collaborative relationships in tourism, in comparison to other factors such as trust and commitment. Collaborative communication indicates the participants' collaborative intentions towards each other, enhances collaborative processes, smooths the building of actor-networks, and facilitates the building of a supportive and respectful atmosphere between the collaborating participants (Blomqvist and Levy, 2006). Gorman (2006) argues that correct timing and frequent communications among all partners are vital to sustain commitment. Poor communication between the partners in a collaborative network in contrast is one of the main causes of problems and conflicts (Medina-Muñoz and García-Falcón, 2000). Thus, throughout the course of any collaborative arrangement, much information has to be shared between actors, who are consequently dependent upon extensive contact with each other.

### **3.3.1.4 Coordination**

Meanwhile, collaborative studies undertaken by Casey (2008), Hoegl et al. (2004), Mohr and Speckman (1994), Rampersad et al. (2009), Thomson et al. (2009), and Zoogah et al. (2011) all reveal the importance of coordination. Zoogah et al. (2011), for example, state that coordination refers to the organizing of network activities and relationships amongst a set of participants. Interorganizational coordination can be defined as a process in which two or more organizations design and implement plans and policies in order to achieve common goals (Kojoori, 2011). It has also been defined as the process by which partners in an interorganizational relationship seek to work together in a joint effort (Medina-Muñoz and García-Falcón, 2000). By doing so, duplicating and overlapping activities are avoided, agreed roles and responsibilities are coordinated with others, conflicts are settled quickly, and constructive discussions are facilitated (Thomson et al., 2008, 2009). Kojoori (2011) argues that coordination between organizations emphasizes cooperation and assistance with respect to the codification and/or management of plans in order to achieve common goals and purposes. Meanwhile, a lack of appropriate coordination can lead to ineffective communication channels and non-value-adding activities, resulting in a decrease in performance and an increase in coordination costs (Kim, 2001).

Given the existing research, it therefore appears that commitment, communication, trust and coordination are the main components of successful collaboration amongst a set of actors. However, due to the multi-dimensional nature of interpersonal relations, the latter are interlinked and act as mediators upon each other. For example, in an investigation of the role of personal

relationships on cooperative firm strategies, Pesämaa and Hair (2007) reveal that commitment and trust are paramount in stimulating successful cooperation, and Rampersad et al.'s (2009) examination of the impact of trust and commitment on network harmony demonstrates the significant impact that trust has on coordination. Meanwhile, a study undertaken by Paulraj et al. (2008) of the antecedents and performance outcomes of interorganizational communication found that communication affected coordination, trust and commitment, and studies by Plewa and Quester (2006) and Jarvenpaa and Leinder (1999) revealed links between commitment and trust.

Therefore, a lack of commitment, trust, communication and coordination may negatively affect the relationships between tourism-related organizations involved in environmental protection and the management of tourism. In addition, weak relationships between the organizations may negatively affect the formation of actor-networks. According to Gray (1985, 1989) and Waddock (1989), designing the most advantageous conditions for collaboration relies on the strength of the above four factors at particular points throughout the collaborative process. It is therefore surprising that subsequent research has neglected to consider in detail the presence of these factors that are essential during the different phases of collaboration. This study seeks to address this shortcoming by undertaking a micro-level analysis of the factors influencing the formation and functioning of a specific type of collaborative arrangement, the actor-network.

### **3.4 The conceptual framework**

ANT therefore provides the over-arching framework within which this study will examine the formation and functioning of collaborative arrangements aimed at safeguarding people's livelihoods through the conservation of natural resources.

The latter constitutes the obligatory passage point (OPP) and, as a result, ANT can shed light on the success or otherwise of managing tourism's environmental impacts in Hurghada, Egypt since the main actors have to pass through the OPP in order to achieve the required livelihood outcomes for the local community. Furthermore, ANT aids an investigation of the roles of heterogeneous actors in these networks, according to their interests. Each actor has specific aims and goals that require coordination, trust, commitment, communication, partnerships, collaboration and, ultimately, networks. In particular, ANT will help with the analysis of the origins, formation and development of such networks, and an investigation of the factors associated with successful and unsuccessful actor-networks.

Overall, this conceptual framework will enable an analysis of the relationships between tourism-related organizations, the formation of actor-networks, and the factors that influence the functioning of these collaborative relationships, in the context of environmental protection and the management of tourism in Hurghada. These relationships are conceptualized in Figure 3.1, which consists of three inter-related components (A, B and C). Component A encapsulates the first three moments of translation (problematization, interessement and enrolment) and focuses on the factors, both positive and negative, influencing the formation and functioning of actor-networks amongst government and non-governmental related organizations, directly and indirectly involved in managing

tourism's environmental impacts in Hurghada, Egypt. As this chapter has already discussed (See section 3.3.2, 3.3.2.1, 3.3.2.2, 3.3.2.3 and 3.3.2.4), based on existing studies of collaboration, four factors commitment (COMMIT), trust (TRUST), communication (COMMU) and coordination (COORD), are most likely to influence collaboration (COLLA) between the tourism-related organizations involved environmental protection, and most notably in the development of SCLs, the preferred approach that is being implemented in the case-study location.

Component B of Figure 3.1 incorporates the first three moments of translation and focuses on the efforts of government and non-governmental tourism-related organizations involved directly and indirectly in managing tourism's environmental impacts, to secure the necessities of life for the long term. Their achievement is closely linked to the objectives and goals of these organizations which focus on the environment, most notably natural resource conservation (environmental role, ER), and/or on other non-environmental aspects that may affect the livelihoods of a local community (non-environmental, NER) (See section 3.2). At this stage of the conceptualization, it is assumed that the non-environmental role of the tourism-related organizations affects their environmental role and thus has an indirect impact on the achievement of safeguarding people's livelihoods through natural resource conservation. Additionally, collaboration is assumed to positively and negatively affect the environmental and non-environmental roles of tourism-related organizations, and thus the achievement of people's livelihood outcomes.

Component C of this conceptual framework relates to the fourth moment of translation, mobilization. It focuses on establishing the extent to which tourism-related organizations are satisfied with their performance in managing tourism's environmental impacts and encouraging more sustainable livelihoods (PERFS), and on the challenges (CHALL) to actor-network formation and functioning encountered along the way. The latter construct describes the impediments that prevent tourism-related organizations from fulfilling their roles, and which negatively affect their relationships with each other (See section 2.3.4 and 3.3.2). By viewing perceptions of performance alongside identified challenges, it is then possible to ascertain satisfaction with the overall performance of the tourism-related actor-networks.

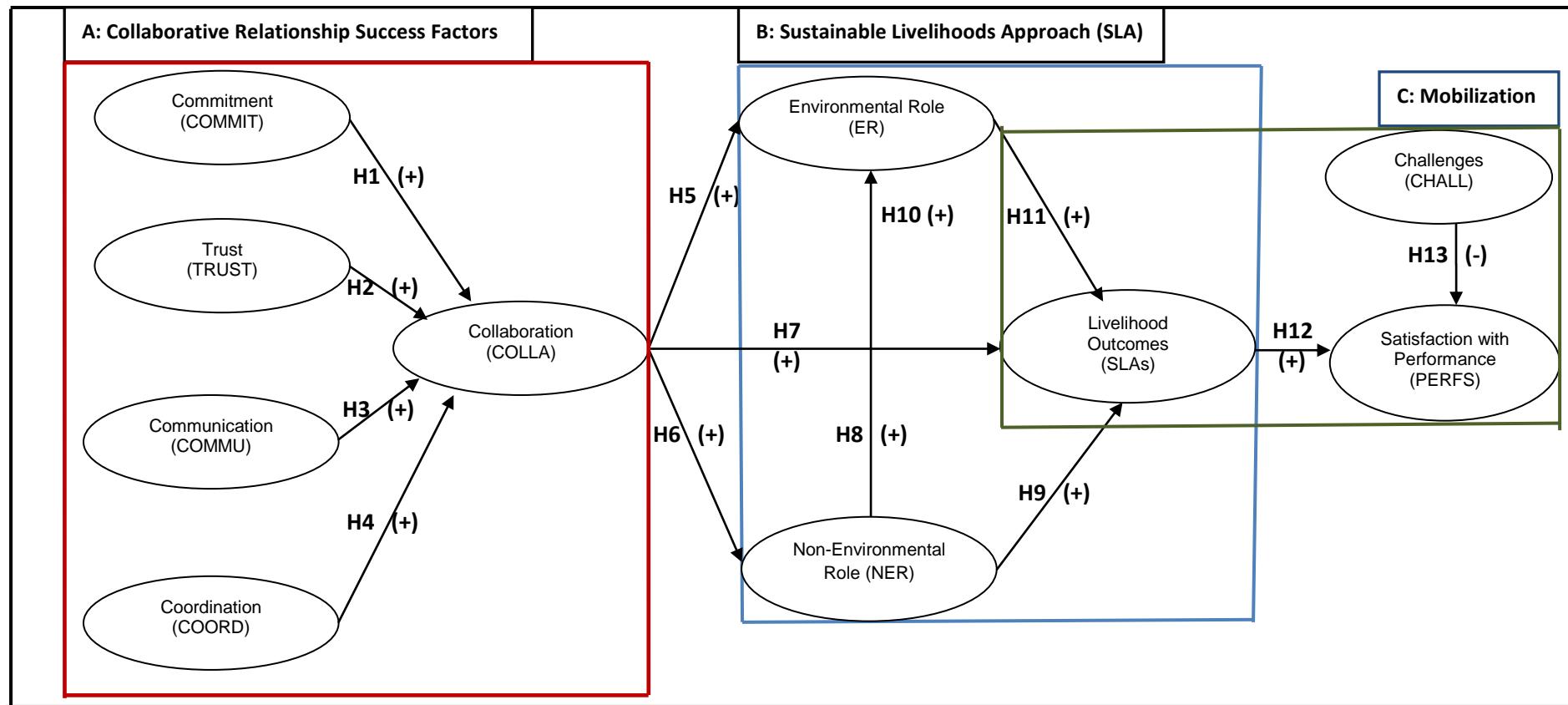


Figure 3.1 The proposed conceptual framework

Note: Figure 3.1 = The ANT Model, which consists of the following: Figure 3.1A = Collaborative Relationship Success Factors; Figure 3.1B = Sustainable Livelihoods Approach and Figure 3.1C = Testing the Success of the Fourth Stage of the ANT (Mobilization).

### **3.5 Summary**

To sum up, this chapter has presented the study's conceptual framework which brings together and discussed in detail the key constructs – collaboration, ANT, and the factors influencing the formation and functioning of actor-networks - underpinning this examination. The next chapter presents the research methodology employed in this study and the reasons for its adoption, as well as the tools and techniques used to implement the research.

## **Chapter 4: Research Methodology**

### **4.1 Introduction**

This chapter addresses the philosophical approach behind the methodology used in this research. This study employs a sequential explanatory mixed-methods design, which integrates quantitative and qualitative approaches. The quantitative phase is undertaken first, the analysis of which is informed by a second phase of qualitative data collection; thus both methods are employed within a single study (Ivankova et al., 2006; Ivankova and Stick, 2007; Collins et al., 2006). This approach to research design relies on the pragmatism paradigm, integrating the findings of both quantitative and qualitative approaches to provide the best understanding of the research problem (Creswell, 2009).

Thus, within this chapter, firstly, a pragmatic research philosophy is discussed, and the reason for selecting this philosophy explained. The mixed-methods research paradigm and its definitions are also covered, followed by the reasons for adopting this research paradigm and design. Also, the data collection techniques used and the implementation of the research strategy are described.

Then, this chapter introduces the quantitative phase (QUAN) of the data collection. The purpose of this section is to provide a description of the methods used in implementing the quantitative phase of this sequential, explanatory mixed-methods study. The discussion starts with the rationale behind the choice of the sample survey technique. It proceeds to explain the selection of the survey population (tourism-related organization employees involved in environmental protection and the management of tourism in Hurghada, Egypt),

the research sampling frame, and the survey's reliability and validity. The use of a self-administered questionnaire for data collection is justified. Then, the study concentrates on the survey design, the pre-tests, and the pilot study used to measure various issues in the research strategy and research instruments. The rationale behind the choice of the structural equation modelling (SEM) technique, the justification for adopting partial least squares (PLS) SEM and the main advantages of WarpPLS that led to its use in this study are discussed.

There is a description of the latent variables and scale items, and the data preparation technique used to examine the accuracy of the data. Then, the data preparation is detailed, which includes dealing with missing values and outliers. Following this, the measurement model for PLS-SEM is discussed (see Section 4.5.6.1). Finally the second, qualitative phase (qual) is discussed. The main aim of this section is to describe the qualitative phase of this study. Thus, this section outlines the sample selection, data collection, data preparation, data analysis and strategy used in the qualitative approach.

## **4.2 Pragmatism as a Research Philosophy**

There are two basic methodological paradigms in Social Science that influence the way research is conducted: positivism and post-positivism (Brotherton, 2008). Saunders et al. (2009) added realism and pragmatism. Positivism, which adopts a clear quantitative method of analysis to investigate phenomena, is dependent on the natural scientific approach to dealing with the truth. In contrast post-positivism is concerned with understanding the subjectivity of social phenomena, and aims to demonstrate and investigate in-depth phenomena from a qualitative perspective (Noor, 2008; Gale and Beeftink,

2005). As Marshall (1996) stated, the choice of quantitative or qualitative research method should not be determined by the researcher's preferences but by their research question.

The present study follows the pragmatism philosophy. Felizer (2010) argued that this approach has appeared as a response to the endless and unproductive debate between positivism/post-positivism and constructivism/interpretivism. Considered to be an alternative paradigm, pragmatism bypasses the debate on truth and reality, and is based on the assumption that multiple realities can be investigated empirically, with the focus more on solving practical problems in the "real world" (Felizer, 2010). Creswell et al. (2007) posited that pragmatism frees the researcher from the limitations of the chosen research paradigm. Felizer (2010) stated, it (pragmatism) does not believe to discover unvarying causal associations or truths but aims to investigate a particular question, theory, or phenomenon with the most suitable research method.

In this thesis, the pragmatic approach is employed because it helps the researcher to focus on, and emphasize, the research problem, utilizing appropriate data collection methods so as to fully understand it (Creswell, 2009). Moreover, according to Pansiri (2006), there is a strong belief that basing future tourism research on pragmatism could result in better research outcomes when mixed methods are applied. In pragmatism, according to Betzner (2008), "what works" has become, in practice, a measure of the truth of confirmations, the rightness of actions and the value of appraisals. Pragmatism can be employed as a guide for both deductive research designs and grounded inductive research. It affords the possibility to construct a properly combined

methodology for the social sciences, in recognition of the value of both quantitative and qualitative approaches and the knowledge generated by such research to enhance our understanding of community and social life (Felizer, 2010).

#### **4.3 Mixed-Methods Research**

As mentioned above, this study uses mixed methods, based on the pragmatism paradigm, and combines both deductive and inductive approaches. The deductive approach is used to test the conceptual framework of the study and the statistical findings generated from the quantitative stage are used to support the generalization of the study's results. Meanwhile, using interviews, the inductive approach is used to collect tourism-related organization representatives' opinions, ideas and understanding of the role their organizations and others play in managing tourism's environmental impacts in Hurghada, and the key factors that negatively or positively affect their role, achievements, and relationships between other involved organizations.

The researcher chose the mixed-methods approach as it works as a bridge between paradigms and offers a greater diversity of methods to the researcher to deal with complex problems (Giddings, 2006). Furthermore, the integration of qualitative and quantitative findings could provide this study with more support and more certainty, leading to greater confidence in the outcomes. Mixing methods can potentially benefit from the strengths of both quantitative and qualitative approaches (Ostlund et al., 2009). Jick (1979) asserted that, to overcome the complexity of social phenomena, it is important that mixed methods be employed to maximize our understanding of the human experience.

According to Macionis (2007, cited in Creswell, 2009), the three most commonly used research frameworks in the social sciences are (1) quantitative research conducted in the positivist tradition and primarily concerned with numerical data analyses, (2) qualitative research conducted in the constructivist tradition and primarily interested in the analysis of narrative data, and (3) mixed-methods research that works within other paradigms and is concerned with both types of data.

Bazeley (2004: 2) argued that “the qualitative and quantitative approaches are defined on the basis of the type of data used (textual or numeric; structured or unstructured), the logic employed (inductive or deductive), the type of investigation (exploratory or confirmatory), the method of analysis (interpretive or statistical), the approach to explanation (variance theory or process theory), and, for some, on the basis of the presumed underlying paradigm (positivist or interpretivist/critical; rationalist or naturalist)”. According to Noor (2008), the adoption of a suitable research method should be based on the nature of the research problem.

According to Tashakkori and Teddlie (2010), by merging the characteristics of the quantitative and qualitative traditions, mixed-methods research provides answers to questions that cannot be answered with a single method. Bazeley (2004: 8) provided the following reason for adopting mixed-methods research: “When evidence from different sources is conflicting, one has to determine how to weight the different components—or, preferably, seek reasons for the discrepancy. Ultimately, mixed methods analysis is a process of piecing together bits of a puzzle to find answers to questions”. Sandelowski (2002)

clarified that mixed-methods research is not itself a mixture of paradigms of investigation, but rather the paradigms are reflected in the techniques that the researchers decide to integrate, and how and why they integrate them.

Johnson and Onwuegbuzie (2004) argued that mixed-methods research is an attempt to justify the rationale behind employing several approaches to answer research questions, rather than limiting or restricting researchers' choices (i.e., it rejects dogmatism). Meanwhile, according to Creswell and Zhang (2009), mixed-methods research does have an important role to play in theory generation and development, case study research, the explanation of findings, cases of convergent evidence, and the explanation of outliers. Hesse-Biber (2010) determined five particular reasons (see Table 4.1) why investigators should consider using mixed methods (i.e., triangulation, complementarity, development, initiation and expansion). According to Macionis (2007), triangulation and complementarity support the tenet that mixed-methods research can provide outcomes that confirm or complement each other. Development, initiation and expansion, meanwhile, relate to the sequential use of mixed methods, where the results of one stage lead to the design of the next (more explanation of this will be provided in the Section 4.3.1 of the thesis).

**Table 4.1 Rationales for using a mixed-methods research design**

Purpose	Justification
<b>Triangulation</b>	Reviewing and analysing evidence from different methods such that a study's findings are dependent on the convergence, verification and correspondence of that information.
<b>Complementarity</b>	Seeks interpretation, enhancement, clarification and explanation of the research findings from a single method, using the findings of the other method.
<b>Development</b>	Seeks to employ the findings from one method to develop and inform the other method, where the development incorporates sampling and measurement decisions.
<b>Initiation</b>	Seeks the detection of paradoxes and contradictions, new perspectives of frameworks, or the recasting of questions or findings from one method based on the questions or findings from other methods.
<b>Expansion</b>	Mixed-methods research adds scope and breadth to a study through the use of different methods for different components of the inquiry.

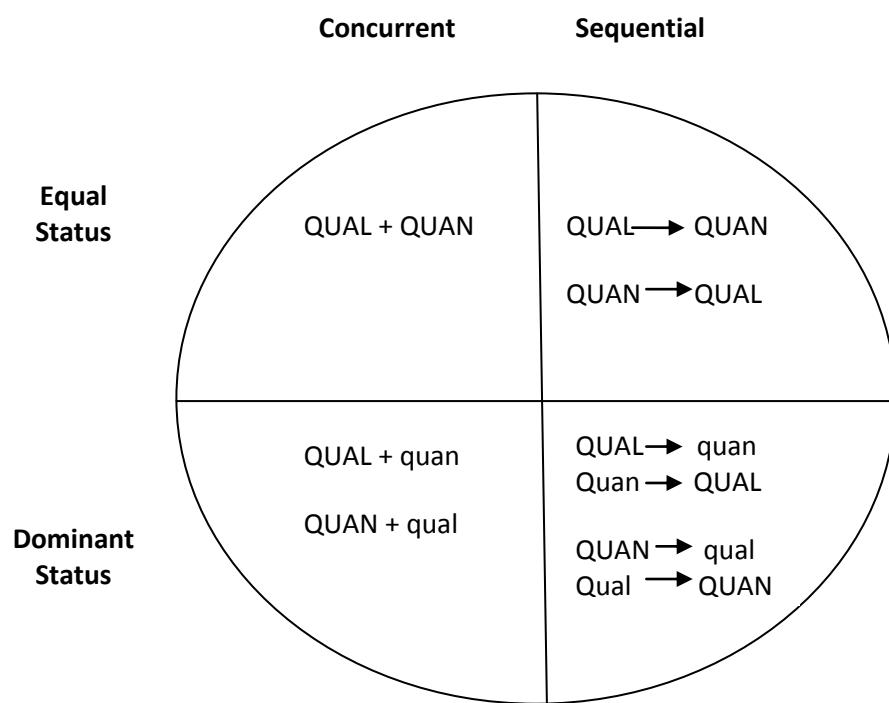
Source: Adapted from Hesse-Biber (2010), Macdonald (2007).

The adoption of mixed methods in this study is important as the qualitative data will help the researcher to answer complex questions that are not clearly explained by the quantitative phase. For example, the qualitative phase will help the researcher to determine why key factors have negatively affected the formation and functioning of existing tourism-related actor-networks. In addition, the qualitative phase will help the researcher to identify the focal actors involved in managing tourism's environmental impacts in Hurghada. Thus, according to Hesse-Biber (2010), those who practise a more positivistic methodology—usually seen as quantitative—can employ qualitative as well as quantitative methods.

#### **4.3.1 Sequential Explanatory Mixed-Methods Design**

Within the present study, a sequential explanatory mixed-methods design is employed. In the first phase, quantitative, numeric data are collected, using a self-administered questionnaire survey, and the data are subjected to SEM. Figure 4.1 shows the multiple approaches that can be used to design mixed-methods research (Pansiri, 2005). The concurrent approach implies that both qualitative and quantitative data collection techniques are employed at the

same time, and both types of data analysis occur simultaneously (Pansiri, 2005), while the sequential approach means that the researcher undertakes one type first, and the other second. In addition, sequential mixed designs answer confirmatory and/or exploratory questions chronologically, in a predetermined order. While still complex, these designs are easier for the solo researcher to conduct than are concurrent mixed designs, as it is simple to keep the strands separate, and the studies typically unfold more slowly and in a more predictable method (Teddlie and Tashakkori, 2006).



*Figure 4.1 Mixed-methods research design. Note: 'qual' stands for qualitative; 'quan' stands for quantitative; '+' stands for concurrent; → stands for sequential; capital letters – 'QUAL' and 'QUAN' – denote a higher priority or weight, and lower case letters – 'qual' and 'quan' – denote a lower priority or weight. Source: adapted from Pansiri (2005) and Creswell (2009).*

According to Creswell (2009) and Ivankova et al. (2006), three issues need to be taken into consideration in sequential explanatory mixed-methods design: priority, implementation and integration (see Figure 4.3).

#### **4.3.1.1 Priority**

Creswell (2009) argued that, in sequential explanatory design, priority refers to which methods, quantitative or qualitative, are given more emphasis. The priority in this study (see Figure 4.3) is given to the quantitative method because the major aspects of the data collection and analysis are focused on identifying the predictive power of the key success factors and their effect on the roles and the relationships between, government and non-governmental related organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism in Hurghada. The smaller, qualitative second phase is used to confirm, explore and enhance the statistical findings from the quantitative phase, to determine why certain success factors are significant predictors and whether they have strong, medium or weak effects on these actors' roles in managing tourism's environmental impacts in Hurghada, Egypt.

#### **4.3.1.2 Implementation**

According to Ivankova et al. (2006) and Ivankova and Stick (2007), in sequential explanatory design, implementation refers to whether the collection and analysis of the quantitative and qualitative data come in sequence, with one phase (e.g., quantitative) followed by another (e.g., qualitative). In this study, the researcher collects the quantitative data using a self-administrated survey. This is because the main goal of the first phase is to identify the predictive

power of the factors that are influencing the success of actor-networks involved in environmental protection and the management of tourism in Hurghada, Egypt, and the influence of the tourism-related organizations in safe-guarding livelihoods. The researcher then collects and analyses qualitative data in order to explain why such factors are significant or insignificant predictors of success.

#### **4.3.1.3 Integration**

Tashakkori and Teddlie (1998) defined integration as the phase or phases in the research study process during which the connection or combination of the quantitative and qualitative methods occurs. In this study, the researcher integrates and connects the quantitative and qualitative data at the beginning of the qualitative phase, by selecting the participants for the semi-structured interviews based on the findings of the SEM from the first, quantitative, part. Then, the findings obtained from each phase are connected and integrated during the discussion and interpretation of the overall outcomes of the study.

In this study, the findings that help the researcher to achieve the main research objectives are as follows: First, the success factors that characterize the development and functioning of successful actor-networks in the developing world are identified (see Figure 4.2). Then, the researcher discusses the findings of the qualitative phase with the aim of confirming, exploring and enhancing the results obtained in the first, quantitative, phase.

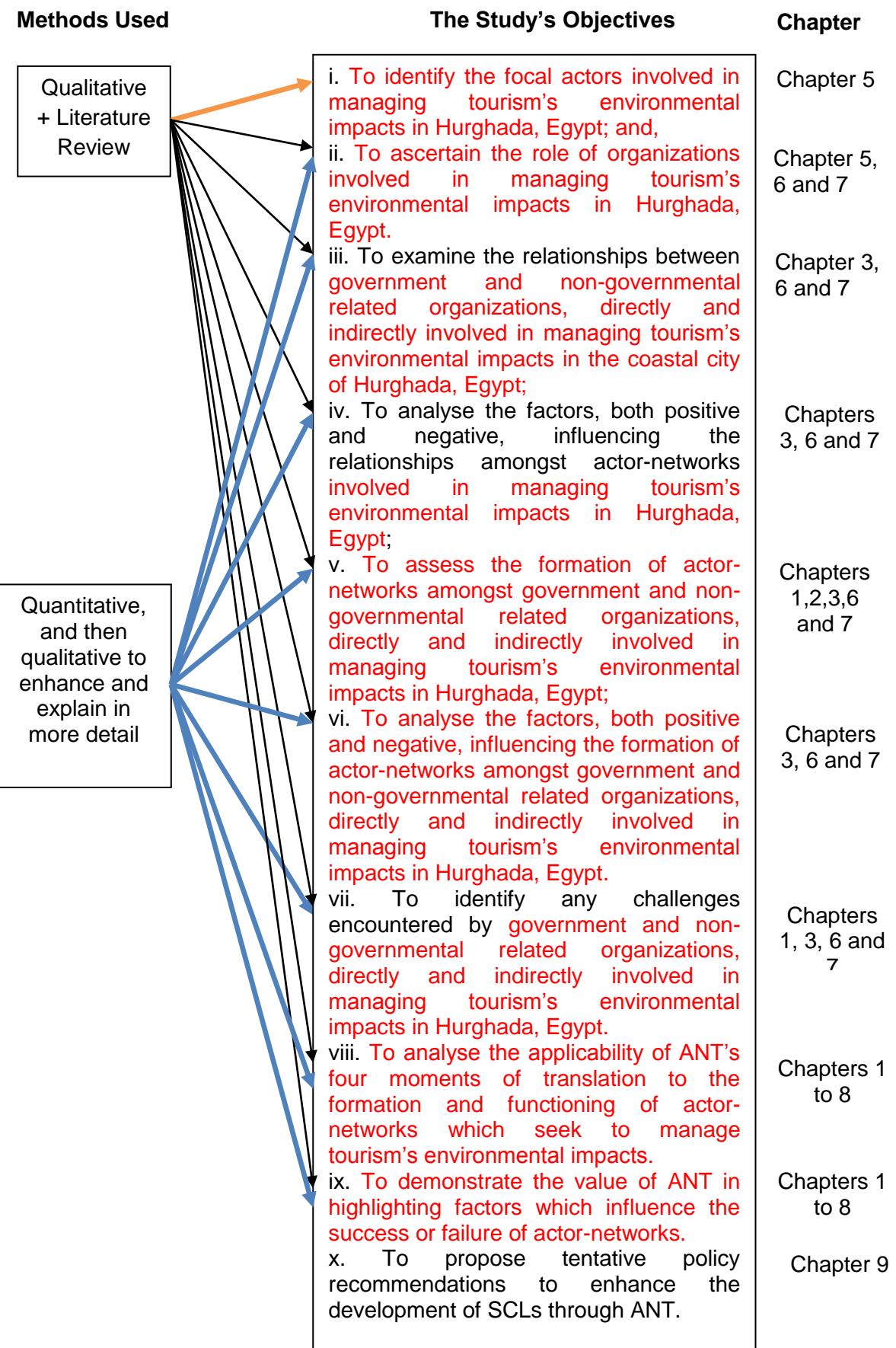


Figure 4.2 Mixed methods based on the pragmatism paradigm to test the study's objectives

Note: → = qualitative only, → = using qualitative and literature review,  
 → = Using quantitative first and then using qualitative

### **4.3.3 Explanatory Sequential Mixed-Methods Sample**

In this study, the researcher adopted nested sampling. In the quantitative phase, through a self-administrated survey, 510 valid observations were collected; this number was sufficient for the quantitative analysis. Conversely, the qualitative phase of the study started with the selection of interviewees who would be capable of answering the research questions (managers or their representatives). Fourteen participants were interviewed. The data collection and analysis for the qualitative phase are discussed in Section 4.7.

According to Sandelowski (2002), one of the most significant characteristics distinguishing what are usually referred to as qualitative and quantitative inquiries is the type of sampling adopted. While qualitative research typically involves purposeful sampling to enhance the understanding of information-rich cases, quantitative research ideally encompasses convenience sampling to permit statistical inferences to be made (the researcher distributed questionnaires to all participants available and willing to participate in order to obtain sufficient observations to be able to run SEM analysis).

Collins et al. (2006) argued that the investigator must make a decision about whether the samples for the quantitative and qualitative components should be identical (i.e., exactly the same sample participants engaged in both the qualitative and quantitative phases of the study), parallel (i.e., the samples used are different but drawn from the same population of interest ), nested (i.e., sample participants chosen for the qualitative would be a subset of those for the quantitative, seeing as generally the qualitative sample is smaller), or

multilevel (i.e., employing two or more sets of samples extracted from different levels of the study).

#### **4.3.3.1 Visual Model**

A flow chart of the sequential explanatory mixed-methods design procedure is shown in Figure 4.3. This has helped the researcher toenvizage the concatenation of the data collection phases, the priority of certain methods, and the combination of two approaches within this single study. Moreover, it has helped the researcher to determine when, how and where to make amendments and/or seek more information. In addition, it should help the reader to understand and interpret the sequential explanatory mixed-methods design (Ivankova et al., 2006).

This type of design helps researchers to investigate quantitative findings in more detail and to explain them further. It also facilitates the illustration of any issues that may arise in the first, quantitative, phase. In this research, for example, it helps the researcher to explain why communication has the largest, and commitment the smallest, effect on the collaboration among tourism-related organizations involved in environmental protection and the management of tourism in Hurghada, Egypt. In general, the sequential explanatory mixed-methods design offers this study confirmation and enhancement of the results obtained from the first phase. The difficulties of using this type of design include the time and effort required to implement the two phases.

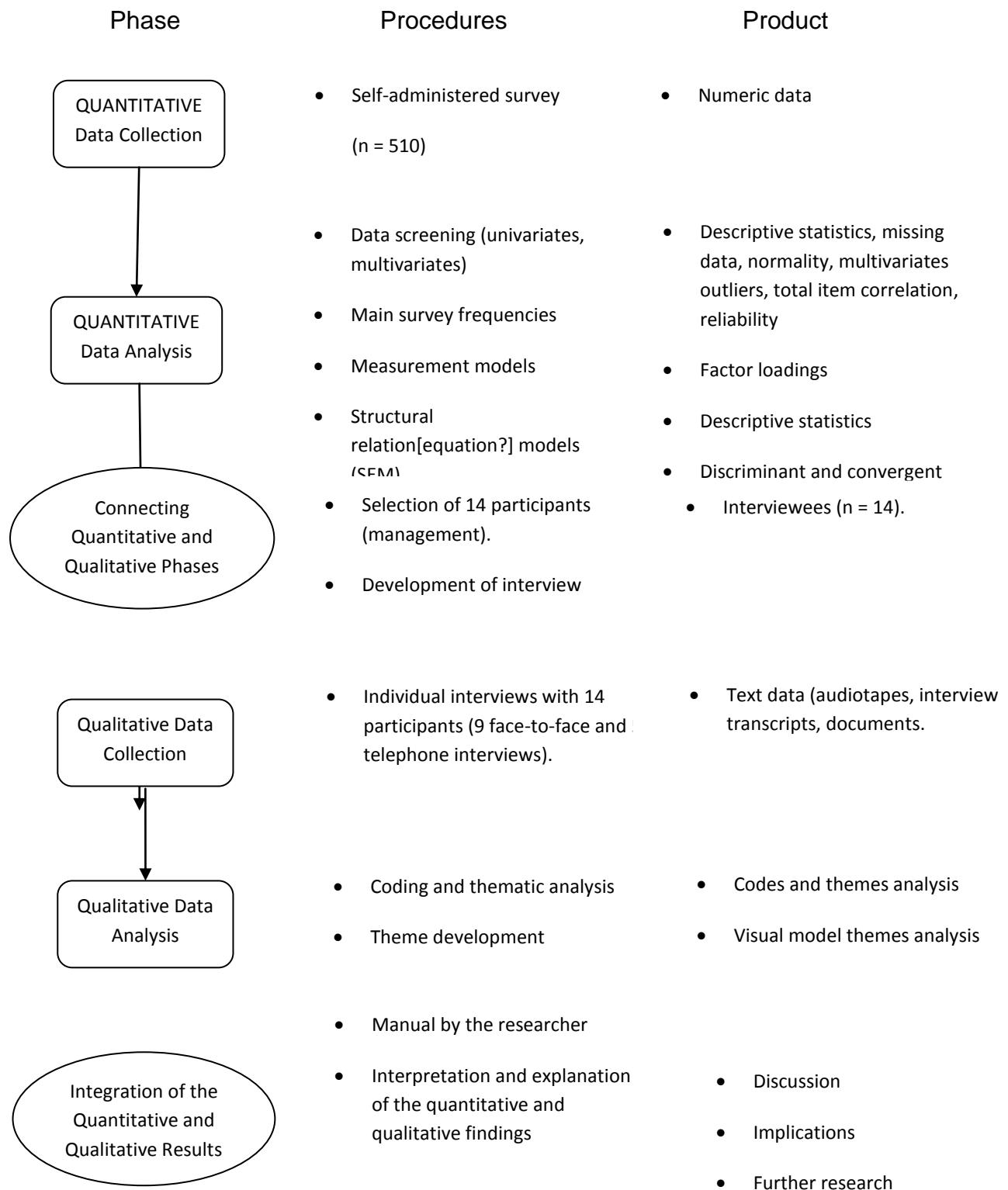


Figure 4.3: Visual Model of Sequential Explanatory Mixed-Methods Design Procedures

The advantages and disadvantages of this design have been widely discussed in the literature (Creswell, 2009; Ivankova and Stick, 2007). The advantages include its straightforwardness and the opportunities for investigating the quantitative findings in more detail. It can also be particularly helpful when unexpected findings arise from the quantitative part of the study. However, it also has some limitations, which include the long period of time and the resources required to collect and analyse both types of data (Ivankova et al., 2006).

#### **4.4 Case Study Methodology**

Applying a case study in this research enabled the researcher to get a holistic view of Hurghada's environmental/natural resource protection and importance. In addition, it helped the researcher to explore the role of tourism-related organizations in the region in sustaining and safeguarding local community livelihoods. Moreover, it offered the opportunity to better understand and confirm our knowledge regarding the predictive power of collaborative relationships and network success factors (i.e., trust, commitment, communication, coordination and collaboration) and their impact on environmental protection and the management of tourism in Hurghada, Egypt. Furthermore, adopting Hurghada as a case study is useful as it helps to illustrate in depth the role tourism-related organizations play in protecting Hurghada's environmental/natural resources and the management of tourism in Hurghada's community. In the context of this study, community can be defined as a group of people that interacting with each other within their immediate environment. A representative local community consists of business operators, public agency staff and populations, and their collaborations can include the

sharing of different resources, experience, information, knowledge and assistance, as well as the establishment of commercial relationships between local business and consumers (Business Dictionary, 2013).

The case study technique allows the researcher to expand and generalize on theories by integrating existing theoretical knowledge with new empirical insights (Vissak, 2010). For example, adopting Hurghada as a case study in this research helped the researcher to combine ANT, and the key success factors with new empirical insights into the role of tourism-related organizations in protecting Hurghada's environmental/natural resources. Hence, the Hurghada case study is undertaken because it helps the researcher to refine those constructs.

In this instance, the case study is employed to examine the role of tourism-related organizations in protecting environmental/natural resources in Hurghada, Egypt, with the ultimate aim of sustaining local community livelihoods. Noor (2008) also argued that case studies are helpful when one wants to understand some particular problem, issue or situation in greater depth, and where one can identify cases that are rich in information. Christie et al. (2000) argued that a case study is an appropriate tool when the investigators intend to define topics broadly rather than narrowly. However, there are also many limitations in using a case approach, namely the shortage of scientific rigour and reliability, and the fact that they do not address the issue of generalizability. A case study, as Noor (2008) explained, is intended to focus on a particular issue, characteristic or entity of analysis.

Baxter and Jack (2008) argue that the qualitative case study methodology is an essential tool that assists researchers in studying complex phenomena within their chosen context. Noor (2008: 1602) defines a case study as “an event, an entity, an individual or even a unit of analysis. It is an empirical inquiry that investigates a contemporary phenomenon within its real life context using multiple sources of evidence”. Employing multiple sources of evidence enables the researcher to provide convincing arguments in answer to who, why and how questions (Lubbe, 2003). Christie et al. (2000) stated that a case study strategy provides data that contribute to existing knowledge through an analysis from another perspective using the self as a research instrument.

Schell (1992) argued that the process of the case study preparation takes too long and results in massive, unreadable documents or reports only the researcher's conclusions. The case study data analysis and presentation requires more skill, therefore more highly qualified (and scarce) researchers and is subject to a greater risk of researcher bias than other research strategies. Therefore, following Faugier and Sargent (1997), this study attempts to overcome that difficulty by adopting the sequential explanatory mixed methods design. This combines (or triangulates) a range of methodologies (qualitative and quantitative), which, it has been claimed, can neutralize inherent bias and accomplish a convergence of results (Creswell, 2009). Triangulating or mixing quantitative and qualitative approaches within a case study should also help to avoid researcher prejudice.

#### **4.4.1 Rationale for Using Hurghada as a Single Case Study**

Using case studies can either focus on a single case or use multiple cases: a single case may shape the basis of a study towards typical, critical or deviant cases. This study adopts Hurghada as a single case study for four reasons, which have been adopted from Yin (2003) and Schell (1992). The first reason behind the selection of the case-study is that it represents a critical case in testing a well-formulated theory, in this study, ANT. This study uses ANT to explore the roles of, and the relationships between, government and non-governmental related organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism in Hurghada, Egypt. The theory specifies a clear set of propositions as well as the circumstances in which the propositions are believed to be true. Thus, ANT can help to identify a series of factors that may be useful in determining how successful actor-networks are in managing tourism's environmental impacts and the management of tourism in Hurghada, Egypt.

The second reason for the use of a single case is that Hurghada is a unique case. It helps to enhance the understanding of relationships amongst two unconnected bodies of literature: ANT and collaboration, and the factors that characterize the development and functioning of successful actor-networks in Hurghada, Egypt. Thirdly, using a single case study facilitates the investigation of the success factors of collaborative relationships/networks and their influence on the role of tourism-related organizations in protecting natural resources and the management of tourism in Hurghada, Egypt. Meanwhile, the fourth reason for employing a single case is when it represents a longitudinal case: where the same single case can be adopted at two or more multiple points in time. The

theory of interest would likely specify how certain circumstances change over time, and the time intervals chosen would reflect the presumed phases at which the changes should reveal themselves. This study is to some extent an extension of the previous studies of Medio (1996) and Serour (2004).

Addressing the types of mixed methods samples used in the sequential explanatory mixed methods design is clarified in the following section, whilst the results of the quantitative and qualitative phases of data collection are documented in the Chapters 6 and 7.

## **4.5 The Quantitative Phase (QUAN)**

### **4.5.1 Rationale Behind Using the Survey Technique**

The objective of the first phase of this study is to present a comprehensive analytical framework in which to examine the roles of, and the relationships between, government and non-governmental related organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism in Hurghada, Egypt. As well as this, it aims to explore the success factors affecting tourism-related organizations' roles, relationships and environmental protection. Furthermore, it highlights a series of factors that may be useful in determining how successful actor networks are in managing tourism's negative environmental impacts in Hurghada. For the current study, the survey technique's aim is both descriptive and interpretative given that it provides information on the distribution of several characteristics of a population, such as demographic descriptors, as well as explanations of the role of the tourism-related organizations in managing tourism's environmental

impacts in Hurghada, Egypt in the Red Sea governorate (in particular Hurghada city), in Egypt.

Generally, the survey strategy is associated with the quantitative research approach. It is a popular and familiar strategy especially in business and management studies and is most frequently adopted by researchers aiming to answer questions such as who, what, where, how much and how many. It therefore tends to be employed for exploratory and descriptive research. Survey is also popular as it enables the collection of a great amount of data from a sizeable population in a highly economical way (Saunders al., 2009). The sample survey design has been one of the most widely used data collection strategies. It is also one of the most controversial techniques. Moreover, the sample survey method has the ability to make competent use of limited research resources such as effort, time and money. The self-administrated questionnaire falls within this category. It is often chosen when there is a need to study a large sample with a reasonable investment of time and effort (Podsakoff and Dalton, 1987). The main purpose of the questionnaire technique is to generalize from a sample population in order to make a statement about the entire population (Moser and Kalton, 1971; Robson, 2002).

#### **4.5.1.1 Non-Probabilistic Convenience Sampling Method**

Selecting the sample of study is one of the most important steps in any research project because it is rarely practical, efficient or ethical to study whole populations. The purpose of all quantitative sampling approaches is to draw a sample that represents the population, so that the findings of studying the sample can then be generalized back to the population (Marshall, 1996). Thus,

to select a suitable method should depend upon the purpose of the study. Non-probability samples are obtained when participants are selected because they are easily available or the investigators have some justification for the belief that they are representative of the target population of the study (Kitchenham and Pfleeger, 2002). Onwuegbuzie and Collins (2007: 287) argued that “If the goal is not to generalize to a population but to obtain insights into a phenomenon, individuals, or events (as will often be the case in the qualitative component of a mixed methods study), then the researcher purposefully selects individuals, groups, and settings for this phase that maximize understanding of the underlying phenomenon”.

The non-probability sample runs the risk of being biased (that is, not being representative of the target population (Kitchenham and Pfleeger, 2002), and of limited potential to generalize from the sample to the whole population (Tansey, 2007). However, according to Yeager et al. (2011), non-probability samples may sometimes produce findings that are just as precise as random/probability samples. The distinctive nature of non-probability sampling is that subjective judgements play a role in sample selection because the researchers decide which units of the target population to incorporate (Tansey, 2007). It is also important when the target population is very specific and of limited availability (Kitchenham and Pfleeger, 2002).

Convenience sampling is a non-probability method which involves the researcher selecting settings, groups, and/or individuals that are the most readily and easily accessible and willing to be involved in a study, regardless of characteristics, until the required sample size has been achieved (Yu and

Cooper, 1983; Kitchenham and Pfleeger, 2002; Tansey, 2007; Teddlie and Yu, 2007; Onwuegbuzie and Collins, 2007). This type of sample is the least costly to the researcher, in terms of money, effort and time (Marshall, 1996).

After identifying the accessible sample, the researcher distributed the questionnaires for all participants who are willing to participate to have adequate units to carry out valid analysis and draw inferences. This study uses SEM, which requires a certain number of observations in order to provide valid results. The literature recommends a minimum of five observations for each variable (Hair et al., 1998; Azzopardi, 2011). The research model consists of 81 items/indicators meaning that a minimum of 405 observations is required. In total, 510 valid observations were gathered, which was sufficient for the purposes of the analysis.

This study focuses primarily on tourism-related organizations, attached to which is a very specific definition. In this particular study, it is taken to mean government and non-governmental tourism-related organizations directly and indirectly associated with tourism, which are involved in environmental protection and the management of tourism in Hurghada, Egypt. Thus, the surveyed population includes their employees (managerial position, below managerial position or an equivalent role) who are involved in managing tourism's environmental impacts in Hurghada, Egypt. Their main activities include the environmental protection and management of tourism; the delivery of health care and educational services; and the provision of clean and portable water and an energy supply to the indigenous community. The main goal of these organizations is to sustain the continuity of tourism activities and to

safeguard the livelihoods of Hurghada's local community (see Sections 5.5.1, 5.5.2 and 5.5.3). The surveyed population were therefore all familiar with their organization's role in protecting Hurghada's natural resources and the interaction between their organization and other partner organizations involved in the management of tourism in Hurghada.

The use of this specific sample instead of businesses, tourists or residents of the local community was due to the main goal of the study, which lies in the examination of the role of government and non-governmental tourism-related organizations involved in managing tourism's environmental impacts in Hurghada, and the impact of interactions between these organizations on the fulfilment of this role. Moreover, this specific focus was adopted because Egypt is typical of many developing countries (see Chapter 2), as it possess an authoritarian regime characterised by high levels of bureaucracy, a lack of community participation in planning and development, combined with centralization, with some decentralization features (see Chapters 1 and 5 for a fuller explanation). Nonetheless, it is important to note that HEPICA did include a number of businesses and residents of the local community and therefore their voices were not entirely excluded (see Section 5.5.2.1).

As a consequence, government organizations typically exert a strong influence over tourism development, and tourists, businesses and residents would be unable to provide the information required to answer the research questions. Moreover at the time of data collection, Egypt was under-going a period of political instability and there was a general reluctance amongst individual

businesses and residents to participate in any activity that might be deemed critical of the regime.

#### **4.5.1.2 Sampling Frame**

For the purpose of this study, the sampling frame includes all government and non-governmental tourism-related organizations' employees who are familiar with their organization's role in protecting natural resources and their interaction with other partner organizations involved in environmental protection and managing tourism in Hurghada. Table 4.2 lists the criteria used to identify these organizations.

**Table 4.2: Criteria for Selection of Tourism-related organizations**

1 Organizations which have interests related to tourism and roles in managing tourism's environmental impacts in Hurghada city.
2 Organizations with an active role in maintaining the basics of natural tourist attractions and, especially, the coral reefs in Hurghada city.
3 Organizations which participate directly in distributing or organizing access to tourism-related natural resources in Hurghada city.
4 Organizations which have participated in reducing poverty in the Egyptian local community in Hurghada city.
5 Local/international organizations which have introduced special programmes in environmental protection and the management of tourism in Hurghada city.
6 Organizations which have direct and indirect roles over the management of natural resources in Hurghada city.

Note: The actor should meet at least one of these criteria.

Based on the above criteria, and through a review of relevant literature, including policy documents and reports, 13 tourism-related organizations and associations involved in environmental protection and the management of tourism in Hurghada, Egypt were identified as the main components of the sample population for this study. They include the following: the Tourism Development Authority (TDA), the Egyptian Environmental Affairs Agency

(EEAA), the Red Sea Governorate (RSG), the United States Agency for International Development (USAID), the Hurghada Environmental Protection and Conservation Association (HEPCA), Abu Salama Society (ASS), the Egyptian Authority for Shore Protection (EASP), Central Management of Nature Reserves (CMNR), Global Environment Facility (GEF), the United Nations Development Programme (UNDP), The Chamber of Diving and Water Sports (CDWS), the Egyptian Ministry of Tourism (MOT), and the Egyptian Authority for Tourism Promotion (EATP).

In addition to the literature review, the researcher used snowball sampling in order to contact other tourism-related organizations involved in environmental protection and the management of tourism in Hurghada. Snowball sampling, as stated by Snijders (1992), is a rather informal technique used to reach a population, or sometimes to make inferences about a population of individuals, or about the network structure in that population. It is a chain referral method, designed for the clear purpose of generating systematic information in circumstances and situations in which convenience sampling is inappropriate alone and probability sampling unrealistic (Wright and Stein, 2005), and has been used extensively in qualitative sociological research (Biernacki and Waldorf, 1981). The sample is created from a base of preliminary contacts of participants (seeds), who are required to provide introductions to their partners, who, in turn, are asked to nominate others. Therefore, this process should be continued until a sample has been built (Wright and Stein, 2005).

#### **4.5.2 Questionnaire Design**

The survey questionnaire was designed and administered in order to collect and analyse the data required to achieve the research's aims and objectives. It included valid measures of the research items and aimed to encourage the respondents' participation so as to supply high-quality data for the statistical analysis. The survey was conducted through different procedures in order to ascertain that the respondents were knowledgeable about the phenomenon under study, ensure they could understand the questions as they were intended by the researcher, and would be keen to respond to them in the form established by the questionnaire.

The questionnaire was divided into four sections. In the first section, the participants were required to circle their response on the following scale: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. This scale was also applied to other questions used for the research's conceptual framework. Questions 1 and 2 asked the respondents to identify what actions had been undertaken by tourism-related organization networks to protect Hurghada's natural resources and so secure the residents' livelihoods in the region of Hurghada (objectives i, ii).

The second section of the questionnaire was aimed at examining the relationships between different tourism-related organizations. It consisted of five questions. Question 3 asked to what extent the tourism-related organization felt that relationship factors (trust, commitment, coordination, communication and collaboration) had contributed to the success of the network's goal of protecting Hurghada's natural resources (objectives iii and iv, v and vi). Section 3 of the

questionnaire was designed to explore the outcomes of the tourism related organizations' networks, satisfaction with their role and outcomes achieved and challenges which had been encountered. For example, the first part of question 4 asked about the extent to which given outcomes (related to protecting Hurghada's natural resources) had been achieved as a result of the actions of the networks activities. The second part of question 4 asked about the degree of satisfaction regarding their role and outcomes achieved (objective ii). Question 5 asked the participants to demonstrate the challenges that had been encountered between the network(s) (objective vii). Overall these questions (questions 1 to 5) help the researcher to test the study's conceptual framework (see Figure 3.1) (Objectives viii and ix).

Finally, section 4 (Questions 6 to 10) aimed to obtain general information about the network itself. For example, the participants were asked how many years they had worked for their current tourism-related organization, how long the network had been established, how long it was expected to be operational, how often their organization formally met with other members of the network and what means of communication were used to contact other members of the network (see Appendix 4.1). Having designed the questionnaire, it was necessary to identify the main variables of the study.

#### **4.5.2.1 Variables of the Study**

The development of the questionnaire instrument was based mainly on four new scales that were newly developed. This is because the current study could not identify any previous studies directly addressing the phenomenon under investigation (see Sections 3.2, 3.3, 3.3.1, 4.4 and 4.4.1). Hence, the research

model of the current study is composed of 10 latent variables. Six constructs (reflective) were used and validated before in previous studies. The research model of the study is composed of ten latent variables or constructs. Quantitative data about these constructs were gathered through the use of 57 items (see Section 3.4 and Figure 3.1).

Six of the constructs (21 items) had been used and validated in previous studies. Four constructs (36 items) were developed by the researcher, using the literature and with the guidance of experts (i.e. representative of tourism-related organizations in Hurghada). Four of the latent variables in this study are formative, meaning that the items/indicators are considered to cause the latent variables. The other six are reflective, meaning that the indicators reflect the latent variables.

#### **4.5.2.1.1 Environmental Role Construct**

Table 4.34 provides more detail about the first, *Environmental Role* construct and its scale items. In the context of this study, an *Environmental Role (ER)* indicates actions which seek natural resource protection through different means. The *Environmental Role (ER)* latent variable is shown in Table 4.3; respondents were asked to indicate actions that had been undertaken by the tourism-related organizations in which their organizations were involved, in order to protect Hurghada's environmental and natural resources. The *Environmental Role* construct is a new scale based on Dewidar (2002), Cesar et al. (2003), Mansour et al. (2007), Serour (2004), TDA (1998), USAID (2006), USAID (2007, 2008).

**Table 4.3: Environmental Role Construct: Scale items**

<b>Environmental Role (ER); 11 items (formative).</b>
ER1) Establish mechanisms for minimizing and mitigating human impact on the environment's natural resources
ER2) Provide support (financial, technical , information and research to help build and improve Hurghada's natural resources)
ER3) Increased ability of institutions to effectively monitor the natural environment
ER4) Encourage local communities in the region to participate in environmental natural resources protection
ER5) Implement solid waste management systems
ER6) Managing the coastal setback lands and other common spaces within the tourism centre to ensure public access
ER7) Prepare/enforce regulations governing pollution control, shoreline remediation and other environmental management activities
ER8) Contribute to the protection of coral reefs
ER9) Contribute to the protection of biodiversity
ER10) Contribute in maintaining the cleanliness of the environment in Hurghada
ER11) Determine the carrying capacity of the coastal areas and water bodies.

#### **4.5.2.1.2 Non-Environmental Role Construct**

Table 4.4 provides more details about the second, *Non-environmental Role* construct and its scale items. The *Non-Environmental Role (NER)*, in this context, refers to roles and responsibilities carried out by the tourism-related organizations and associations with regard to community service that are not linked directly to maintaining natural resources. The construct in table 4.4 is based on USAID (2006), USAID (2007), HEPICA (2012a) and USAID (2008) (see Section 3.2 and Figure 3.1). The construct shows what actions have been undertaken to secure residents' livelihoods, by the tourism-related organizations involved in the protection of environmental and natural resources.

**Table 4.4: Non-Environmental Role Construct: Scale items**

<b>Non-Environmental Role (NER); 6 items (formative).</b>
NER1) Support the training of local community members to enter the workforce in the tourism industry
NER2) Address health needs of the local community in the region
NER3) Address educational needs of the local community in the region
NER4) Support local communities through the use of products, services and facilities of the local community in tourism
NER5) Contribute to the creation of jobs for residents of the community in Hurghada
NER6) Work with other organizations involved in the field of environmental protection to preserve the natural resources in Hurghada

#### **4.5.2.1.3 Trust Construct**

Table 4.5 provides more details about the sixth, *Trust* construct and its scale items. In this study, trust is defined as follows: "trust is considered an experience of mutual honesty and confidence that includes few negative surprises and is established on the basis of similar value" (Pesämaa and Hair, 2007: 608). The respondents were asked to illustrate to what extent they felt that trust-related factors had contributed to meeting the tourism-related organization network's goal of protecting Hurghada's natural resources. The *Trust* latent variable is measured using four items modified from Jarvenpaa and Leidner (1999).

**Table 4.5: Trust (TRUST) Construct: Scale items**

<b>Trust (TRUST); 4 items (Reflective).</b>
Trust1) My organization can rely on those with whom I work in this collaboration
Trust2) Overall, the other partner organizations in the collaboration are very trustworthy
Trust3) We are usually considerate of one another's circumstances in the collaboration
Trust4) Partner organizations' relationships in the collaboration are friendly

#### **4.5.2.1.4 Commitment Construct**

Table 4.6 provides more details about the seventh, *Commitment* construct and its scale items. In this study, commitment is defined as "the obligation or pledge to carry out some action or policy or to give support to some policy or person" or "the state of being obligated or bound (as by intellectual conviction or emotional ties)" (Das and Kumar, 2009: 37). The respondents were asked to identify to what extent they felt that commitment-related factors had contributed to meeting the network's goal of protecting Hurghada's natural resources. The *Commitment* latent variable was assessed using a two-item scale drawn from Hoegl et al. (2004).

**Table 4.6: Commitment (COMMIT) Construct: Scale items****Commitment (COMMIT); 2 items (Reflective).**

- |  |
|--|
| COMMIT1) My organization is proud to be a part of protecting Hurghada's environmental/natural resources  |
| COMMIT2) My organization is committed not only to its goals, but to the overall aim of protecting Hurghada's environmental/natural resources collaboration |

**4.5.2.1.5 Coordination Construct**

Table 4.7 provides more details about the ninth, *Coordination* construct and its scale items. Coordination refers to the organization of network activities and relationships amongst a set of participants to improve the effectiveness and performance of the activity cycle (Rampersad et al., 2009). The respondents were asked to illustrate to what extent they felt that coordination-related factors had contributed to meeting the network's goal of protecting Hurghada's natural resources. *Coordination* construct shown in table 4.7 was measured using three indicators modified from Rampersad et al. (2009).

**Table 4.7: Coordination (COORD) Construct: Scale items****Coordination (COORD); 3 items (Reflective).**

- |   |
|---|
| COORD1) Connected processes and activities are/were well coordinated with other partner organizations |
| COORD2) Duplicated and overlapping activities are/were avoided  |
| COORD3) We have/had no problems in coordinating with other partner organizations                      |

**4.5.2.1.6 Communication Construct**

Table 4.8 provides more details about the eighth, *Communication* construct and its scale items. In the context of this study, communication is the human activity that links people together and creates relationships (Kirchmayer and Patterson, 2003). The *Communication* construct shown in table 4.8 is captured via a three-item scale, drawing from Young-Ybarra and Wiersema (1999) and Paulraj et al. (2008). The respondents were asked to indicate to what extent they felt that

communication-related factors had contributed to the network meeting its goal of protecting Hurghada's natural resources.

**Table 4.8: Communication (COMMU) Construct: Scale items**

**Communication (COMMU); 3 items (Reflective).**

- |  |
|--|
| COMMU1) Exchange of information in this collaboration takes place frequently and informally, not only according to a pre-specified agreement |
| COMMU2) We have frequent face-to-face planning/communication   |
| COMMU3) We exchange performance feedback   |

#### **4.5.2.1.7 Collaboration Construct**

Table 4.9 provides more details about the tenth, the *Collaboration* construct and its scale items. In this study, collaboration refers to “a process in which autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions” (Thomson and Perry, 2006: 23).

The *Collaboration* construct shown in table 4.9 consists of six items developed based on Thomson et al. (2009). These constructs describe the extent to which the successful relationship factors between and within the tourism-related organizations' networks have contributed to the success of their goal of protecting Egypt's natural resources. Some items were modified and four items were removed from the original construct to reflect the specific context of the current study.

**Table 4.9: Collaboration (COLLA) Construct: Scale items**

<b>Collaboration (COLLA); 6 items (Reflective).</b>
COLLA1) As a representative of the organization in this/these collaborative relationships, I understand my organization's roles and responsibilities as a member of this collaboration
COLLA2) Partner organization's meetings accomplish what is necessary for the collaboration to function well
COLLA3) Partner organizations (including my organization) agree on the goals of the collaboration
COLLA4) My organization achieves its own goals better by working with partner organizations than by working alone
COLLA5) Other partner organizations take my organization's opinion seriously when decisions are made about the collaboration
COLLA6) My organization brainstorms with other partner organizations to develop solutions to mission-related problems facing the collaboration.

#### **4.5.2.1.8 Sustainable Livelihoods Outcomes**

Table 4.10 provides more details about the fourth, the *Sustainable Livelihoods Outcomes* construct and its scale items. In this study, the *Sustainable Livelihoods Outcomes (SLAs)* construct refers to the outcomes achieved to secure the necessities of life for the long term. The Sustainable Livelihoods Outcomes construct shown in table 4.10 is based on Laing et al. (2009) and Cooper and Fellow (2004). Livelihood outcomes are measured using ten indicators to determine the extent to which sustainable livelihood outcomes are achieved as a result of the actions of tourism-related organizations created to protect natural resources.

**Table 4.10: Sustainable Livelihoods Outcomes (SLAs) Construct: Scale items**

<b>Sustainable Livelihoods Outcomes (SLAs); 10 items (formative).</b>
SLAs1) Increased incomes
SLAs2) Reduced the vulnerability of households and communities to shocks and stresses
SLAs3) Reduced job insecurity
SLAs4) Ensuring the sustainable use of natural resources
SLAs5) Created a heightened sense of well-being among residents in the region
SLAs6) Improved understanding of the values of environmental/natural resource conservation
SLAs7) Improved biodiversity conservation in the tourist destination
SLAs8) Protecting Hurghada's coral reefs
SLAs9) Created jobs for residents of the community in Hurghada
SLAs10) The local community has contributed and is involved in maintaining the natural resources

#### **4.5.2.1.9 Satisfaction with Overall Performance Construct**

Table 4.11 provides more details about the fifth, tourism-related organizations' Satisfaction with the overall performance construct and its scale items. In this study, the *Satisfaction with Overall Performance (PERFM)* construct refers to the extent to which the networks are satisfied with their overall performance and outcomes. The constructs three items are adapted from Hoegl et al. (2004).

**Table 4.11: Satisfaction with Overall performance (PERFM) Construct: Scale items**

<b>Satisfaction with Overall performance (PERFM); 5 items (Reflective).</b>
PERFM1) So far, this collaboration can be regarded as successful
PERFM2) So far, all the collaboration's goals have been achieved
PERFM3) So far, the collaboration's output is of high quality

#### **4.5.2.1.10 Challenges Construct**

Table 4.12 provides more details about the third, the *Challenges* construct and its scale items. Challenges can be defined in this context of study as impediments that prevent tourism-related organizations from fulfilling their roles, and which negatively affect their relationships with each other. The *Challenges (CHALL)* latent variable shown in table 4.12 is assessed using a nine-indicator scale drawn from Gunawong and Gao (2010), Tatnall and Gilding (1999), Timur and Getz (2008) and Rodger et al. (2009). The construct indicates the extent to which challenges have been encountered during the collaboration in which the organizations are most involved.

**Table 4.12: Challenges Construct: Scale items**

<b>Challenges (CHALL); 9 items (formative).</b>
CHALL1) Identifying the problems related to the use of Hurghada as a tourist destination
CHALL2) Identifying solutions related to the use of Hurghada as a tourist destination
CHALL3) Identifying the most appropriate organizations to work with
CHALL4) Convincing other organizations to be involved with the network
CHALL5) Lack of trust between partner organizations
CHALL6) Poor communication between partner organizations
CHALL7) Difficulties of agreeing roles and responsibilities
CHALL8) Change of leadership style
CHALL9) Poor participation of the local community in maintaining and protecting the natural environment in Hurghada

Overall, the measurement indicators/items and constructs were used to operationalize the theoretical latent variables. As illustrated above, the study used measurement instruments from the literature to develop four new latent variables, while six validated constructs were used from previous studies. Some items were modified and four items were removed from the collaboration construct to reflect the specific context of the current study. Having designed the questionnaire, it was necessary to test it before administering it.

#### **4.5.2.2 Pretesting Questionnaire**

As explained above, the questionnaire consisted of four sections, dealing with the role of networks in protecting Hurghada's natural resources, the relationships between those tourism-related organizations involved, network outcomes and participants' personal information. In total, there were 87 questions/items, 82 of which related to the research constructs. All of the items used in the questionnaire were steadily and cautiously developed through pre-testing before administering the survey to the target sample. During the pre-tests, the final items/questions were conceptually reviewed once more in order to improve their content validity (Berghman, 2006). Some changes have been

made regarding the language, the length of the questions and order of the questions.

Content validity is defined according to Saunders et al. (2009) as the extent to which the measurement questions in a survey provide adequate coverage of the investigative questions. In other words, the measurement items of the questionnaire should represent a proper sample of the theoretical content domain of the construct (Hardesty and Bearden, 2004). At the same time, the face validity of the questionnaire was assessed. Hardesty and Bearden (2004) defined face validity as the extent to which a measure reflects what it is proposed to measure.

To establish both content and face validity, initially, the survey questionnaire was given to 26 tourism-related organization employees and academic colleagues. They were asked to determine whether the questions were clear, understandable, and presented in a logical order (face validity) and asked to express their views on whether the 82 items/questions were representative of the research constructs (content validity). Specifically, they were asked about the following (Saunders et al., 2009): how long it took to complete the questionnaire; the clarity of the instructions; which, if any, questions were unclear or vague; which, if any, questions they felt difficult about answering; whether in their view there were any major subject omissions; whether the layout of the questionnaire was clear and attractive. Furthermore, following Saunders et al. (2009), the researcher asked colleagues (both Arabic and English speaking) to evaluate the degree to which the items/questions were representative of the constructs' conceptual definitions. Both the Arabic tourism-

related organizations' employees and the Arabic and English colleagues reported that the statements were clear, easy to understand, came in a logical order, and that the items represented the research constructs.

The most common reason for translating survey questionnaires is so as to provide an instrument that is not accessible in the language required in the field (Harkness, 2003). It was necessary to translate the questionnaire for this study because it was targeted at Egyptian respondents. Therefore, the researcher wanted to develop a questionnaire in Arabic to provide clarity to the respondents. The questionnaire was sent to two Egyptian companies to be translated (one translator held a Masters degree in legal translation and a BSc in Tourism and Hospitality, while the other had a BSc in English Language). After it had been translated into Arabic, the procedures described above for ensuring face and content validity were repeated. In the final draft of the survey, the presentation and layout were enhanced and some minor changes were applied.

#### **4.5.3 Pilot Study**

Prior to using a questionnaire for data collection it should be pilot tested. The researcher asked 50 of the target respondents to fill out the questionnaire as a test, following Saunders et al. (2009). The purpose of the pilot test is to refine the survey so that the target participants will have no difficulties in answering the questions and there will be no problem in recording the data. It can also help the researcher to obtain an evaluation of the questions' validity and the probable reliability of the data that will be collected. Thus, the initial analysis using the pilot test data can be carried out to guarantee that the data eventually

collected will allow the research questions to be answered (Saunders et al., 2009).

#### **4.5.3.1Constructs' Reliability**

The 50 completed questionnaires were coded and entered into an IBM SPSS Statistics version 19 database package. Pilot studies are generally perceived as testing grounds for the reliability (internal consistency) and validity of the variable scales (Moser and Kalton, 1971). To evaluate the measurement properties, Cronbach's alpha ( $\alpha$ ), scale's mean and corrected item-total correlation were used. Item-total correlation is a method commonly used to examine the homogeneity of a scale made up of several items. It is basically the Pearson's product moment correlation coefficient of an individual item/indicator with the scale total calculated from the remaining items (Everitt and Skrondal, 2006). The common rule of thumb is that an item should be correlated with the total by more than 0.3. Items with a lower correlation than this should be discarded (Field, 2009; Everitt and Skrondal, 2006). Reliability analysis was performed on ten constructs. Cronbach's alpha can be seen as an index of the internal consistency (construct reliability) of a set of measurements (Everitt and Skrondal, 2006). The internal consistency of the ten constructs is highly reliable (see Appendix 4.2). In this study the researcher used both formative and reflective measurements/indicators (for more details see Section 4.6.2 which provides more illustration regarding reflective versus formative indicators).

Given the results shown in Appendix 4.2, it can be concluded that the ten constructs are highly reliable. There was a good distribution of the respondents' answers across all indicators/items, indicating that the participants could

discriminate between the ten concepts (latent variables). Corrected item-total correlations ranged from 0.33 to 0.91, indicating that no item was redundant, and thus no items were deleted. Pilot studies help the researcher to recognize as many problems as possible, and address them, before the final survey is executed. In this study, no significant problems were identified.

#### **4.5.4 Coverage and sampling error**

According to Henry (1998) and Lindner (2002), coverage error is defined as a mismatch between the target population, about which one wants to make inferences, and the frame population, a subset of the target population based on the method of access. Thus, coverage and sample error arises when the list or frame from which the sample is drawn fails to include all the people in the population of specific interest (Lindner, 2002). In this study, through the use of a review of policy documents and reports and snowball sampling, the researcher first identified tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. Then, the researcher approached these organizations personally and met with those responsible for this work, so as to identify employees involved in networks which sought to manage tourism in Hurghada. This helped the researcher to obtain the participants required for the purpose of the research.

Sampling error occurs as a result of measuring a feature in some, but not all, of the units or individuals in the target population of interest. Sampling error always happens at some level when a probability sample is drawn. It can be minimized through the use of larger samples but cannot ever be completely eliminated (Lindner, 2002). For the current study, the researcher adopted a

purposive convenient sampling approach because in this type of sample there is less error. Using a population census provides very good coverage of the population surveyed (Saunders et al., 2009). However, there were still some cases of non-response. Face-to-face, the researcher distributed 585 questionnaire forms; 533 were collected, giving a 91.1% response rate or a 4% non-response error. A further 23 observations were excluded because they had missing data (Kofman and Sharpe, 2000). Concerns over non-response error will be tackled in the following section.

#### **4.5.5 Sample Size and Response Rates**

The questionnaire was administered between 21 July and 20 October 2011. Three months earlier, a letter, introducing the study, was sent to the Egyptian Cultural Centre and Educational Bureau in London: the researcher's sponsor. Then, the sponsor sent a letter to the Cultural Affairs and Missions Centre in Egypt in order to obtain approval for the researcher to go to Egypt between 21 July and 20 October 2011 to collect the data. This has explained briefly that the study aimed at identifying and assessing the role of the tourism-related organizations involved in environmental protection and the development of sustainable livelihoods of Hurghada's local community.

On receipt of the questionnaires from the participants, these were given immediately an identification number and checked for completeness. At the end of the three-month consultation period, the returned surveys were checked once again for completeness and reconciled against those which had been received. A high response rate of 91.1% was achieved (Saunders et al., 2009). Table

4.13 shows the descriptive statistics of the tourism-related organizations' employees who participated in the quantitative study.

Table 4.13: Descriptive Statistics of Tourism-related organizations' Employees who participated in the Quantitative Study

Category	Organization's Name	Location		Number of Questionnaires Used
		Cairo	Hurghada	
GOV-Bodies	EEAA	✓	✓	120
	TDA	✓	✓	115
	MOT/ETPA	✓	✓	106
	SPA/CMNR	✓	✓	80
NGOs	GEF	-	✓	-
	RSG	-	✓	28
	ASS	-	✓	10
	USID	-	✓	-
	CDWS	✓	-	5
	UNEP	✓	-	15
	HEPCA	✓	-	31
<b>Total</b>				<b>510</b>

Table 4.13 demonstrates the results of the data collection phase and shows the response rate to the study's questionnaire. The table compares, also, the response rate to that of the pilot study.

**Table 4.14: Response Rates: Comparison of Pilot to Main Survey**

Results	Pilot	Survey
<b>Response Rate</b>	50 (90.9%)	533 (91.1%)
<b>No answer</b>	5 (9.1%)	52 (8.9%)
<b>Usable</b>	50 (90.9%)	510 (87.2%)
<b>Excluded</b>	- -	23 (3.8%)
<b>Total</b>	55 (100%)	585 (100%)

Concerns over the non-response error will be tackled in the following section.

#### **4.5.5.1 Non-response error**

Dillman (2000) illustrates that there are four possible causes of error in sample questionnaire research: sampling error, coverage error, measurement error and non-response error. Both coverage error and sampling error were tackled in the previous section. Measurement error was tackled in the pilot study section and will also be dealt with in the analysis section of this study (by confirming construct reliability and construct validity). The fourth type of error (non-response error) will now be handled. Non-response error arises when some of the respondents in the frame used for the questionnaire cannot be located or reject the request of the researcher (Pont, 2007). In other words, non-response errors exist to the extent that people incorporated in the sample be unsuccessful to provide usable responses, and are different from those people who do participate when it comes to the characteristics of interest to the study (Lindner, 2002: 101).

Armstrong and Terry (1977) explain that certain procedures can be applied to address non-response error. Namely, providing strong evidence that early/late respondents are statistically similar, or follow-ups with non-respondents showing them to be statistically similar to the respondents, are valid, reliable, and in general well-acknowledged procedures for handling non-response error and its threat to the external validity of study findings. Armstrong and Terry (1977) illustrated why the early/late method is a suitable way of handling non-response error. They concluded that persons responding later can be assumed to be more similar to non-respondents than to those who respond earlier. However, one downside is that it can be difficult to evaluate how long a respondent was aware of the survey before they actually completed it. In this

study, the research will follow Armstrong and Terry (1977) and handle non-response error using the early/late method (see Table 4.15). The minimum number of late respondents used for comparison should be 30 observations.

**Table 4.15 Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
<b>ER1</b>	Equal variances assumed	.020	.887	1.172	98	.244	.120	.102	-.083	.323
	Equal variances not assumed			1.172	85.808	.244	.120	.102	-.084	.324
<b>ER2</b>	Equal variances assumed	3.481	.065	.179	98	.858	.020	.112	-.202	.242
	Equal variances not assumed			.179	82.174	.858	.020	.112	-.202	.242
<b>NER1</b>	Equal variances assumed	2.696	.104	-.402	98	.689	-.060	.149	-.356	.236
	Equal variances not assumed			-.402	85.500	.689	-.060	.149	-.357	.237
<b>NER2</b>	Equal variances assumed	.777	.380	.405	98	.686	.060	.148	-.234	.354
	Equal variances not assumed			.405	88.747	.686	.060	.148	-.234	.354
<b>NER4</b>	Equal variances assumed	1.119	.293	.670	98	.504	.100	.149	-.196	.396
	Equal variances not assumed			.670	91.522	.504	.100	.149	-.196	.396
<b>ER12</b>	Equal variances assumed	.195	.659	1.125	98	.263	.160	.142	-.122	.442
	Equal variances not assumed			1.125	93.799	.263	.160	.142	-.122	.442
<b>NER5</b>	Equal variances assumed	.002	.968	1.262	98	.210	.160	.127	-.092	.412
	Equal variances not assumed			1.262	97.356	.210	.160	.127	-.092	.412
<b>NER6</b>	Equal variances assumed	.064	.801	1.871	98	.064	.240	.128	-.015	.495
	Equal variances not assumed			1.871	97.190	.064	.240	.128	-.015	.495
<b>CHALL7</b>	Equal variances assumed	3.824	.053	-1.960	98	.053	-.320	.163	-.644	.004
	Equal variances not assumed			-1.960	87.412	.053	-.320	.163	-.644	.004
<b>CHALL8</b>	Equal variances assumed	3.129	.080	-1.176	98	.242	-.200	.170	-.537	.137
	Equal variances not assumed			-1.176	88.801	.243	-.200	.170	-.538	.138
<b>TRUST4</b>	Equal variances assumed	2.610	.109	-1.397	98	.166	-.260	.186	-.629	.109
	Equal variances not assumed			-1.397	97.584	.166	-.260	.186	-.629	.109
<b>TRUST5</b>	Equal variances assumed	3.126	.080	.233	98	.816	.040	.172	-.300	.380
	Equal variances not assumed			.233	93.874	.816	.040	.172	-.301	.381
<b>COMMIT3</b>	Equal variances assumed	2.475	.119	-1.301	98	.196	-.180	.138	-.455	.095
	Equal variances not assumed			-1.301	95.947	.196	-.180	.138	-.455	.095

COMMIT4	Equal variances assumed	.040	.841	1.783	98	.078	.260	.146	-.029	.549
	Equal variances not assumed			1.783	97.645	.078	.260	.146	-.029	.549
COLLA1	Equal variances assumed	1.187	.279	.675	98	.501	.080	.118	-.155	.315
	Equal variances not assumed			.675	78.837	.502	.080	.118	-.156	.316
COLLA2	Equal variances assumed	2.228	.139	.643	98	.521	.080	.124	-.167	.327
	Equal variances not assumed			.643	78.102	.522	.080	.124	-.168	.328
COLLA10	Equal variances assumed	6.255	.014	1.593	98	.114	.180	.113	-.044	.404
	Equal variances not assumed			1.593	95.504	.115	.180	.113	-.044	.404
COLLA13	Equal variances assumed	4.776	.031	.299	98	.765	.040	.134	-.225	.305
	Equal variances not assumed			.299	89.722	.765	.040	.134	-.225	.305
COORD1	Equal variances assumed	.229	.633	.000	98	1.000	.000	.116	-.231	.231
	Equal variances not assumed			.000	97.646	1.000	.000	.116	-.231	.231
COMMU1	Equal variances assumed	2.601	.110	.000	98	1.000	.000	.114	-.226	.226
	Equal variances not assumed			.000	94.623	1.000	.000	.114	-.226	.226
SLAs1	Equal variances assumed	5.365	.023	-.292	98	.771	-.040	.137	-.312	.232
	Equal variances not assumed			-.292	78.645	.771	-.040	.137	-.313	.233
SLAs6	Equal variances assumed	4.528	.036	.000	98	1.000	.000	.125	-.248	.248
	Equal variances not assumed			.000	89.215	1.000	.000	.125	-.248	.248
SLAs9	Equal variances assumed	5.157	.025	.407	98	.685	.060	.147	-.233	.353
	Equal variances not assumed			.407	89.769	.685	.060	.147	-.233	.353

In this study, the researcher used 50 respondents to compare the early respondents to the late respondents. To compare the two groups of respondents, t-test analysis was used. Table 4.15 shows the Levene's test hypotheses and the t-test hypothesis. The null hypothesis for the Levene's test is: the two groups (early respondents and late respondents) are drawn from the same population and share the same variance/distribution. Table 4.15 shows that all of the items (which were selected randomly) are not significant, with P>0.05 (see Appendix 4.3). Therefore, the null hypothesis is accepted and it is concluded that the early and late respondents are drawn from the same population and share the same variance/distribution. Thus, the equal variances assumed t-test is used.

The t-test's null hypothesis is that there is no difference between the means of the early and late respondents. Table 4.15 shows that the t-test for all items gives an associated non-significance of  $P>0.05$ . Therefore, the null hypothesis is accepted and it can be concluded that there is no difference between the means of the early and late respondents.

#### **4.5.6 Analysis**

The researcher used SEM to analyse the data gathered during the quantitative phase.

##### **4.5.6.1 Structural Equation Modelling**

The SEM technique has been considered to be one of the most important components of applied multivariate statistical analyses and has been employed by many researchers in different fields such as biologists, economists, education, marketing, medical, and a variety of other social and behavioural scientists (Pugesek et al., 2003). According to Byrne (2010: 3), SEM can be seen as “a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory on a given phenomenon”.

Typically, SEM can be seen as theory that represents “causal” procedures that produce observations on multiple variables (Lampe et al., 2003). According to Kopp et al. (2003) and Wong et al. (2011) the SEM as a term conveys two essential notions of the procedure: (a) that the causal processes under study are provided by a group of structural (i.e., regression) equations, taking into account the measurement error (Roldán and Sanchez-Franco, 2012), and (b) that these structural associations can be modelled pictorially to facilitate a

clearer conceptualization of the theory and hypotheses under study (Roy and Mohapatra, 2003).

SEM is a significantly complex statistical technique for measuring relations between constructs, including latent variables and observed variables. Latent variables represent conceptual terms employed to express theoretical concepts or phenomena. Observed variables, also referred to as measures, indicators or items, are variables that are measured directly. Latent variables can be exogenous (independent variables), or endogenous (dependent variables) (Andreev et al., 2009). Roldán and Sanchez-Franco (2012) differentiate between latent variables and observed variables as follows: 1) The theoretical constructs/latent variables are graphically symbolized by a circle, while 2) the indicator, measure, items, question or observable variable is graphically represented by a square. A latent variable is then defined as a hypothetical construct or an unobservable construct, which is a theoretical notion that is not directly measurable, but is useful nonetheless. A latent variable can only be inferred from multiple measured variables which also known as manifest variables, indicators, items, or observed measures (Berghman, 2006).

The literature review on SEM discriminates between two dissimilar operationalization of the relationships between constructs/latent variables and their observed indicators: (1) the reflective indicators/principal factor and (2) the formative indicators/composite index measurement models of the latent variable (Diamantopoulos and Siguaw, 2006; Coltman et al., 2008; Ringle et al., 2009; Hardin and Marcoulides, 2011). The following part of this section will briefly distinguish between reflective and formative indicators.

#### **4.5.6.2 Reflective versus Formative Indicators**

On the one hand, conventional measurement practice in business and business marketing is based upon reflective indicators, whereby observed indicators are supposed to reflect variations in latent variables (Navarro et al., 2010). For this reason, the path of causality is supposed to run from the latent variable to the observed indicators and (see Figure 4.4a), thus, changes in the latent variable are expected to be shown in changes in all observed indicators including a multi-item scale (Diamantopoulos, 2008). On the other hand, formative indicator models assume the opposite direction of causality (that the indicators cause the latent variable), such that the content of the indicators defines the meaning of the latent variable (see Figure 4.4b). An implication of this observation is that classical test theory's reflective indicators must be internally consistent, whereas no such requirement exists for formative indicators (Cadogan et al., 2008: 1264).

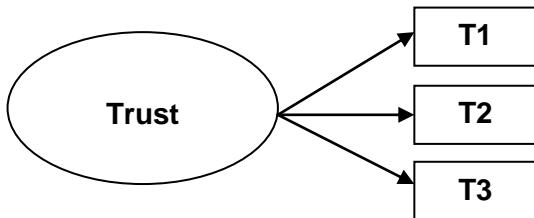


Figure 4.4a Reflective Latent Variable

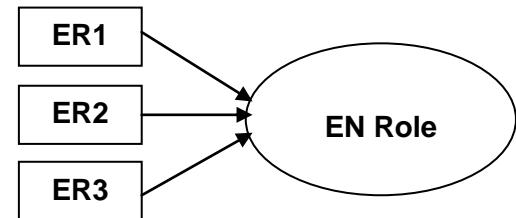


Figure 4.4b Formative Latent Variable

Plenty of studies in many different field of research have by default or by erroneous design inaccurately specified their indicators as reflective when they should have applied a formative measurement model operationalization (Ringle et al., 2009; Diamantopoulos et al., 2008; Kline, 2011; Cadogan et al., 2008;

Addreev et al., 2009). Misspecification usually related to the adoption of reflective indicators where formative indicators would be appropriate or vice versa (Petter et al., 2007; Diamantopoulos et al., 2008, 2008b). According to Diamantopoulos (2008), the issue of misspecification (i.e., measurement problems) could affect the conclusions drawn from the study about the theoretical relationships among the latent variables (see Jarvis et al., 2003; Petter et al., 2007; MacKenzie et al., 2005). There are two statistical methodologies to estimate SEM with constructs including formative measurement models: covariance-based (CB-SEM) and partial least squares path modelling (PLS-PM) or variance-based SEM (Steenkamp and van Trijp, 1996; Haenlein and Kaplan, 2004; Ringle et al., 2009). This study applies PLS-PM. The following section will briefly discuss the characteristics of this method.

#### **4.5.6.3 Variance-Based SEM: Partial Least Squares**

The CB-SEM method has conventionally been considered the best-known SEM method (Chin, 1998a, 1998b), and is popular in many research disciplines, with the widespread availability of software programs such as LISREL, AMOS, CALIS, EQS, and SEPATH. CB-SEM attempts to calculate model parameters that will minimize the difference between the calculated and observed covariance matrices, yielding goodness-of-fit indices as a result of the magnitude of these differences (Addreev et al., 2009; Berghman, 2006; Azzopardi, 2011). The PLS-PM methodology is used to maximize the variance of all dependent variables instead of using the model to explain the covariance of all the indicators (Ringle et al., 2009).

Therefore, parameter estimates are produced based on the ability to minimize the residual variances of the dependent/endogenous (latent and observed) variables (Haenlein and Kaplan, 2004; Ringle et al., 2009; Henseler et al., 2009; Vinzi et al., 2010). Some of the software programs are available to implement PLS-SEM; for example: LVPLS 1.6 and 1.8 (Lohmöller, 1984), PLS-Graph 3.0 (Chin, 2001), SmartPLS 1.0 and 1.01 (Hansmann and Ringle, 2004), and most recently, WarpPLS 3.0 (Kock, 2012). The current study applied WarpPLS 3.0.

Before discussing its advantages and disadvantages, and the researcher's main justification for selecting PLS-SEM, it should first be briefly explained how PLS works. The fundamental idea is quite straightforward: First, the weight relations, which link the indicators to their respective constructs/latent variables, are estimated. Next, case values for each construct are calculated, based on a weighted average of its indicators, using the weight relations as an input. Finally, these case values are used in a set of regression equations to determine the parameters for the structural relations (Haenlein and Kaplan, 2004: 291). PLS-SEM software has some disadvantages, such as the lack of widespread accessibility because the expansion of the PLS software is bounded in comparison with CB-SEM software (Vinzi et al., 2010; Andreev et al., 2009). PLS is also more heuristically used for exploratory research (Henseler et al., 2009; Vinzi et al., 2010). However, PLS has some advantages over CB-SEM: it exerts minimal demands on the measurement scale, the sample size required for PLS-SEM analyses is smaller than for CB-SEM (Sellin, 1995; Henseler et al., 2009), a large number of latent variables can be handled with PLS-PM, it applies simpler algorithms, estimates of latent variables in PLS have a more practical meaning since its formation is obvious, it tolerates the

building of a complex conceptual framework from multi-block analysis, and, ultimately, it eases the task of estimating all of the formative latent variables (Ringle et al., 2012; Garza, 2011; Henseler et al., 2009; Sellin, 1995; Hair et al., 2011).

In addition to these advantages, Ringle et al. (2012) illustrated that the most considerably cited reasons for using it relate to small sample sizes (24 studies, 36.92%), non-normal data (22 studies, 33.85%), and the use of formatively measured latent variables (20 studies, 30.77%). PLS-SEM can use either a jackknife or a bootstrap technique to produce t-values and P-values for the indicator's loadings (Kock, 2012). Table 4.16 shows a summary of the differences between the PLS-PM and CB-SEM methods.

**Table 4.16: Comparison of PLS-PM and CB-SEM**

Criterion	PLS-PM	CB-SEM
<b>Objective:</b>	Prediction oriented	Parameter oriented
<b>Approach:</b>	Variance-based approach	Covariance-based approach
<b>Assumptions:</b>	Predictor specification (nonparametric) robust to deviations from a multivariate distribution	Multivariate normal distribution and independent observations (parametric)
<b>Parameter estimates:</b>	Reliable as items/indicators and sample size increase	Reliable
<b>Construct scores:</b>	Explicitly estimated	Indeterminate
<b>Latent variables:</b>	Can be modelled with both formative and/or reflective instruments	Typically can only be modelled with reflective instruments
<b>Implications</b>	Best for prediction accuracy	Best for parameter accuracy
<b>Model complexity:</b>	High complexity	Small to medium complexity
<b>Model comparison</b>	Produces statistic to compare alternative models	Produces statistic to compare alternative confirmatory factor analysis models
<b>Sample size:</b>	Power analysis based on the portion with the largest number of predictors. Minimal recommendations range from 30 to 100 cases	Ideally based on power analysis of specific model. Minimal recommendations range from 200 to 800
<b>Theory base:</b>	Supports exploratory and confirmatory research	Requires sound theory base. Supports confirmatory research

Adapted from Vinzi et al. (2010), Garza (2011), Hair et al. (2011) and Henseler et al. (2009).

Based on the above, a researcher has the choice of applying CB-SEM or PLS-PM when using formative SEM (Ringle et al., 2009). In addition to the advantages mentioned above WarpPLS 3.0 software was selected for the current study because, the conceptual framework of the current study is mainly formative latent variables. The following part of this study will briefly discuss why WarpPLS software was selected.

#### **4.5.6.3.1 WarpPLS Variance-Based Structural Equation Modelling**

WarpPLS is a software package that conducts SEM using a PLS regression algorithm. WarpPLS software is dissimilar from other PLS software in its ability to recognize nonlinear associations among the latent constructs of the model. The software can perform a Warp PLS regression, robust path analysis or a standard PLS regression analysis. Hence, the most stable method should be employed to analyse the data. Considerably different findings obtained using bootstrap; blindfolding and jackknifing techniques can be seen as an indicator of instability (Kock, 2011, 2012; Garza, 2011).

WarpPLS can deal with data outliers and non-normal distributions simply (Kock, 2012). Moreover, it provides some features that are not available in other PLS-PM and CB-SEM software: effect size, estimated collinearity, full collinearity VIFs, indirect and total effects, P-values for all weights and loadings, predictive validity, ranked data and restricted range, standard errors for all weights and loadings and VIFs for all indicators (Kock, 2012). As a result, the researcher chose WarpPLS for this research (see Kock, 2012, for more information about WarpPLS software).

#### **4.5.6.4 Data Preparation: Missing Values and Outliers**

To examine the accuracy of the data, missing values and outliers were checked. The researcher excluded 23 returned questionnaires with missing values. This left the remaining data set free of missing data. To deal with outliers, according to Grubbs (1969) "An outlying observation, or "outlier," is one that appears to deviate markedly from other members of the sample in which it occurs", the researcher used the WarpPLS software, which gives the choice of using ranked data. According to Kock (2012: 3), researchers can conduct their analyses with ranked data, whereby all the data is automatically ranked prior to the SEM analysis (the original data is retained in unranked format). When data is ranked, typically the value distances that typify outliers are significantly reduced, effectively eliminating outliers without any decrease in sample size.

Moreover, WarpPLS allows the use of the distribution-free jackknife method for the evaluation of statistical relationships. Jackknife refers to re-sampling without replacement (Leuangthong et al., 2004). This technique does not require the strict assumptions often required in classical significance testing. This unique characteristic of PLS eases the analysis of complex models, even under circumstances that would cause other methods to be unable to produce reasonable results. Jackknifing performs better than bootstrapping at handling problems associated with outliers due to errors in data gathering. Bootstrapping can be defined according to Bizani and Ney (2004) as a computer-based method for assigning measures of accuracy to sample estimates.

Jackknifing tends to produce more stable re-sampling path coefficients (and thus more reliable P-values), even with samples containing outliers. With jackknifing, outlying data points do not appear more than once in the set of re-samples, which accounts for the better performance (Kock, 2011: 7). Thus, the researcher used the jackknifing technique to deal with the data outliers, to avoid reducing the sample size and to obtain reliable results with reliable P-values. After checking for missing data and selecting the jackknifing technique to deal with the outliers in the data set, exploratory factor analysis was used to help obtain a research model fit.

## **4.6 PHASE 2: The Qualitative Phase (qual)**

### **4.6.1 Methods**

#### **4.6.1.1 Sample and Selection of Participants**

The main purpose of this phase of the study is to explain the quantitative findings and explore them in more depth by means of a qualitative methodology. The sampling procedure for a follow-up qualitative phase should be based on the main purpose of the research (sequential explanatory design). Firstly, in this study's qualitative phase the researcher selected purposively a total of 14 participants (see Table 4.17). These were managers or their representatives who were considered to be able to answer the research questions. Face-to- face interviews with eleven participants at their places of work were undertaken. The researcher interviewed the remaining three participants by telephone. The researcher conducted these interviews between August and December 2011.

Table 4.17: Descriptive Statistics of Tourism-Related Organizations who Participated in the Qualitative Study

Category	Organization's Name	Location		Number of Interviewees/position
		Cairo	Hurghada	
Non-Governmental Organizations	HEPCA	-	✓	(2) Manager and Deputy manager
	ASS	-	✓	(1) Manager
	RSG	-	✓	(1) Representative
	CDWS	-	✓	(1) Representative
	USAID	✓	-	-
	UNEP	✓	-	(1) Director National Biodiversity Department
	GEF	✓	-	
Governmental Bodies	EEAA	✓	✓	(2) Deputy Manager in Hurghada and Cairo
	TDA	✓	✓	(2) Manger in Hurghada/ Deputy Manager in Tourism in Cairo
	MOT/ETPA	✓	✓	(2) Deputy Minister of Tourism/ Manager in Hurghada
	SPA/CMNR	✓	✓	(2) Manager in Cairo/ Representative in Hurghada
Total				14 Interviewees

#### 4.6.1.2 Data collection process

Unstructured, semi-structured and structured are the main forms of qualitative interviews (Bloom and Crabtree, 2006). The current study adopts a semi-structured, in-depth interview format because this type enables the researcher to obtain sufficient information to address key issues represented by the questions what, why, from what, and how (Werlang and Botega, 2003). Semi-structured interviews are often used as the sole method of data collection for a qualitative research project and can be used to obtain data from individuals or groups (Bloom and Crabtree, 2006). Individual semi-structured interviews were employed in this study to answer questions such as why certain success factors are significant predictors of tourism-related organizations' collaborative relationship networks and why their effect sizes differ.

Overall, this study adopts the sequential explanatory mixed methods design. Semi-structured questions, as the second stage of the design, allowed the respondents to express their own points of view and to describe situations, events and their experiences regarding the networks' success factors and their impacts on environmental protection and the management of tourism in Hurghada, Egypt. Laforest et al. (2009) pointed out that semi-structured in-depth interviews are suitable when working with small samples and are helpful for studying particular situations as is the case in this study. They permit the researcher to obtain more details from the participants about their own views regarding the issue under study (Barter and Cormack, 1996). A set of semi-structured questions (see appendix 4.4) were tailored precisely to the aims of this study in order to gather the data required to achieve those aims (United Nations, 2004).

The researcher contacted all participants a few days before the interviews took place to explain the nature and aims of the research and to set an appropriate time to conduct a personal interview. Authorization was requested to make digital audio recordings of the interviews. Only three participants agreed to this. The remaining eleven stated that they would prefer it if the researcher took written notes. Each interview lasted between 35 and 55 minutes. The researcher pilot-tested the interview protocol on three participants (selected from those who had completed the questionnaire in the quantitative phase of the study), whom were felt to have the experience, ability and knowledge to answer the questions. Based on the pilot interviews, the researcher changed the order of the questions slightly, and added some more probing questions.

#### **4.6.1.3 Interview protocol development**

The main goal in developing the interview protocol (see appendix 4.4) was to explore in more detail the findings from the quantitative phase. Based on the characteristics of the sequential explanatory mixed-methods design, the content of the interview questions was based on those findings (Ivankova et al., 2006; Razzhavaikina, 2007; Creswell et al., 2010). The protocol consisted of main eleven open-ended questions exploring the success factors that contribute to successful relationships between tourism-related organizations.

The first question asked participants about their views on the relationships between the tourism-related organizations involved in environmental protection and the management of tourism in Hurghada, Egypt. The second question asked to what extent there is, respectively, trust, commitment, coordination and communication between these organizations. The third question asked the participants how and to what extent they thought that interrelationships in the network of tourism-related organizations help to protect Hurghada's natural resources. For example, they were asked how they a) increase community well-being, b) generate income, and c) increase the sustainable use of natural resources. Questions 4 and 5 asked the participants to what extent they thought that the network had achieved or was achieving its goals, and about the barriers to success. Question 6 asked to what extent they thought that their organizations' involvement with other partners contributed to the protection of natural resources in Hurghada. Question 7 asked them about the roles and responsibilities of tourism-related organizations involved in environmental protection and the management of tourism in Hurghada. The eighth and ninth questions concerned the extent to which the network's outcomes had been

achieved and to what extent tourism-related organizations network (s) has achieved/or is achieving its goals. The tenth question concerned the organizations' and networks' satisfaction. The eleventh question asked about the barriers affecting this satisfaction. In the final interviews, all of the participants were assured that the researcher would not include any personal identifiers in the transcribed data reports. The participants' names were replaced with codes.

#### **4.6.1.4 Ethical Considerations**

According to Fouka and Mantzorou (2011), when conducting a piece of research it is important for the researchers to be aware of some ethical considerations, which include respect for privacy, respect for anonymity and confidentiality, and beneficence, that is doing no harm. Ethical considerations can emerge in the design and undertaking of research and in the reporting of findings, and cover issues such as informed consent, openness and honesty, privacy and confidentiality (Veal, 2006).

Before the data collection, in 2011, Plymouth Business School at the University of Plymouth required the author to obtain ethical approval covering the period of investigation. This ethical application was submitted, and then granted in 2011, and ensured the research conformed to each requirement of the University of Plymouth's ethical protocol. Once ethical approval had been granted, the initial respondents were contacted, and were provided with as much detailed information as possible about the nature of the research. During data collection, participants were interviewed only after their approval had been obtained for the conducting of personal interviews. They were also informed by the researcher

that, if any issues or comments were felt to be contentious or could possibly harm the participants, they would be referred to anonymously in the text.

#### **4.6.1.5 Qualitative Data Quality**

In qualitative research, the term trustworthiness is used instead of validity (Onwuegbuzie and Johnson, 2006). The researcher seeks believability through a process of verification rather than through traditional validity and reliability measures (Eisner, 1998). Trustworthiness consists of several elements, including credibility, transferability, confirmability and dependability (Lincoln and Guba, 1985). Thus, to validate the findings of the qualitative phase of this study, four primary validation procedures were adopted to establish the credibility and trustworthiness of the findings:

1. Triangulation of methods, that is, the convergence of multiple data collection methods (Creswell, 2009). In this study, the researcher combined qualitative and quantitative approaches, namely, collecting numeric data and textual data through a survey and interviews, respectively.
2. Clarifying the interviewer's bias from the outset of the study (Saunders et al., 2009). This brings to light the position of the researcher and any biases or assumptions that could have influenced their inquiry (Razzhavaikina, 2007). The researcher made an attempt to avoid any gestures that might indicate any bias in his thinking.
3. Providing the reader with rich, sufficient and thick descriptions so that they can verify the accuracy of the research findings (Lincoln and Guba, 1985).

4. The following aspects were addressed (Saunders et al., 2009): a) The researcher was knowledgeable about the topic of research and the organizational or situational context in which the interview took place. b) The researcher provided the participants with a list of the interview themes before the event take place, for both telephone and face-to-face interviews. c) The interviews took place in appropriate locations, where audio recording could be carried out and where the researcher and participant were able to hear one another clearly. d) The researcher considered his appearance because this can affect the perceptions of the interviewee, and an adverse effect on the researcher's credibility in the eyes of the participants could lead to a failure to obtain their confidence.

The resulting bias could influence the reliability of the data obtained. e) The researcher explained the nature and objectives of the research to the participants and gained their consent in advance. f) The questions asked were phrased clearly, so that the interviewees could understand them. The researcher also asked the participants all questions in a neutral tone of voice. g) The researcher listened to the participants carefully and attentively. h) The researcher tested his understanding by summarizing the participant's response back to them. This helped to assure the interviewees of his competence in understanding them, and gave them the opportunity to correct him where required, so as to avoid biased or shortened interpretations.

Swanson and Holton (2005) claimed that three key issues are important in establishing the trustworthiness of a qualitative study. The first is credibility

(internal consistency), which means the extent to which the results of the qualitative phase make sense and are trustworthy to both the people studied and the readers. The second is the consistency of the qualitative results, which means that the qualitative study should focus on the dependability and consistency of the results obtained from the qualitative data rather than simply getting the same findings as in quantitative inquiry. The third issue is the transferability of the qualitative research findings, which concerns the extent to which results from one study can be applied as a guide to what might occur in another situation, based on logic and comparisons among situations.

#### **4.6.1.6 Qualitative Data Analysis**

The purpose of this section is to present an explanation of the analysis and interpretive process used to answer the qualitative study questions. The digital recordings were transcribed within two or three days of each individual interview. The question asked was transcribed in italics and the participants' responses in plain text. Each transcript was also labelled with the participant's details: male=1, female=2, name of organization, and location, as well as a code number assigned to each participant by the researcher. Through the translation office, the transcription was translated from Arabic (the mother tongue in Egypt) into English (see Appendix 4.5). The researcher then made some revisions to the translations (his first language being Arabic, and English being his second). Each transcribed interview was given a number and saved in a separate word-processor file.

This study's approach to qualitative analysis is based on deductive thinking. Using the deductive approach means that researchers use existing theory to

shape the approach used in the qualitative research process and in aspects of the data analysis, as opposed to the inductive approach that seeks to build up a theory based on the data collected (Saunders et al., 2009). This means that, in this study, the data categories and codes used to analyze the data are based on an existing theory and following a predetermined analytical framework (See the study's conceptual framework (Chapter 3), which is based on connecting actor-network theory. Thus, the categorizations used in this study are derived from some terms used in the conceptual framework. For example; the main categorizations used in the first, quantitative, phase of the study were commitment, coordination, trust, communication, collaboration and tourism-related organizations' role in environmental protection and the management of tourism in Hurghada.

#### **4.7 Summary**

This study employed a sequential explanatory mixed methods design based on the pragmatism philosophy. The deductive (positivism) - inductive (post - positivism) approach is used to examine the causal relationships amongst the quantitative variables and qualitative data is employed to allow and facilitate interpretation of the quantitative findings in more depth. For quantitative data collection, a questionnaire survey is used from tourism-related organizations who are involved in managing tourism's environmental impacts in Hurghada, Egypt. A convenience sampling technique is used to select the research participants. Personal and telephone interviews with the managers or representatives of some of the tourism-related organizations in both Cairo and Hurghada are used for the qualitative data collection.

In this study the researcher uses a sequential explanatory mixed methods design, which beginning with a quantitative approach and ending with a qualitative approach. The interview schedule is designed and the gathered data is used to help for more explanation and interpretation the quantitative findings of the study. This study employs structural equation modelling, in particular PLS-SEM, to analyse the factors that are influencing, albeit positively or negatively the origins, development and functioning of tourism actor-networks committed to environmental protection and the management of tourism in Hurghada.

## **Chapter 5: Hurghada as a Case Study**

### **5.1 Introduction**

As mentioned earlier, a case-study approach is adopted in this study (see Chapter 4, Sections 4.4 and 4.4.1 for further details). This chapter focuses on the case study of the coastal city of Hurghada, Egypt, on which this investigation is based. The purpose of this chapter is to demonstrate the importance of tourism to the local community in Hurghada. It also explores the general degradation of the natural environment in Hurghada, and specifically the deterioration of the coral reefs. Then, the chapter identifies possible key tourism-related organizations in Hurghada that may be involved in protecting the natural environment and the management of tourism in Hurghada, Egypt. Overall, this chapter aims to investigate the roles of, and the relationships between, government and non-governmental related organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism, and how this affects the development of sustainable livelihood outcomes in Hurghada, Egypt.

The organizations involved in managing tourism's environmental impacts in Hurghada may be divided into three categories. The first category is governmental organizations and includes the Egyptian Development Authority (TDA), the Egyptian Environmental Affairs Agency (EEAA), The Egyptian Red Sea Governorate (RSG), the Egyptian Public Authority for Shore Protection (SPA) and the Egyptian Ministry Of Tourism (MOT). The second category is non-governmental organizations (NGOs) in Hurghada, such as the Hurghada Environmental Protection and Conservation Association (HEPCA), the Abu

Salama Society (ASS) and the Chamber of Diving and Water Sports (CDWS). The third category consists of international organizations such as the United States Agency for International Development (USAID), the United Nations Environment Program (UNEP) and the Global Environment Facility (GEF).

## **5.2 Egypt as a Developing Country**

Egypt is located on the north-eastern tip of Africa. The Mediterranean Sea forms Egypt's northern border, separating the country from Europe, while the Red Sea forms its eastern border, separating it from Asia (see Figure 5.1). Serour (2004: 7) described the Red Sea as follows: "Starting at its southernmost tip, in the straits of Bab El-Mandeb, and ending by the Gulf of Suez and the Gulf of Aqaba to the north, the Red Sea has a length of more than 2,250 km and a maximum depth of 3040m, occupying a major zone of depression and faulting, known as the Great Rift Valley". The Egyptian portion of the Red Sea coastline covers approximately 1,500 kilometres (Aufmuth et al., 2006). The reputation of the Red Sea as an international tourist destination is linked to the natural attractiveness of its coral reefs, and its scope for scuba-diving activities. It is estimated that about 600,000 dives per year take place in the coastal region of Hurghada (Serour, 2004).

The RSG is one of the most important tourist governorates in Egypt (for more details see Section 5.5.1.3) as it includes a wonderful coastline, beaches and scuba-diving sites that are all very important elements for tourists (RSG, 2012).

This governorate is situated between the River Nile and the Red Sea, in the southeast of Egypt, and its southern border forms part of the country's border with Sudan. It includes the coastal region of Hurghada (its capital) in addition to

five other cities (Ras Ghareb, Safaga, Qusier, Marsa Alam and Shalatin). It covers an area of 203,685 km<sup>2</sup> and its beach is 1,080 kilometres long. According to the latest census (2006), the RSG has 288,233 inhabitants, more than 275,000 of whom live in just a few towns situated along the coast (RSG, 2012).

Egypt as a developing country, according to Ayeh (2006), is least prepared, physically, institutionally, and in terms of human infrastructure. Nielsen (2011: 6) claimed that “a global poverty line can be approximated by using an average of country-specific poverty lines found among the poorer developing countries”. In Egypt, as is the case in most other low- and middle-income countries, the poverty line defined as US\$1 per person per day is used. In the Egyptian context, this produces misleading and meaningless numbers regarding poverty. Gebril (2004) indicated that the absence of reliable statistical data, fuzziness of information and hiding it from society, are different obvious reasons which impede transparency in Egypt. For example, according to the most recent application of this poverty line, in 2004, only 2 per cent of Egypt’s population were deemed ‘poor’ (the figures were 1.8 per cent in 1999 and 2.5 per cent in 1995) (Sabry, 2010). However, according to a World Bank report (2007: iii), poverty has increased in Egypt, “affecting 40 percent of the population, and there are deep pockets of poverty. The 40 percent overall poverty rate in 2005 represents 28 million people, of which 13.6 million (19.6 of population) are in absolute poverty, and even more, 14.5 million (21.0 percent), are near-poor. Furthermore, 2.6 million of the poor (3.8 percent of population) are extremely poor”.

The poverty and social crisis which prevails in Egypt today are the final results of a failure of development over the last 50 years, first in relation to state control and then in the restructuring of uncontrolled capitalism (Kishk, no date). This failure of development has prevented the accumulation of much in the way of livelihood assets, has caused unequal access to those assets, and has led to the deprivation of the majority and therefore fewer opportunities, less freedom and a poor quality of life (Kishk, no date).

According to Hussein (2009), the tourism sector in Egypt can be seen as an important source of foreign exchange, and a significant generator of directly related and indirectly related jobs, as well as the key engine for Egypt's growth. Tourism in Egypt is associated with about 70 feeder services and complementary industries, and it represented about 40 per cent of Egypt's non-commodity exports in 2007/2008 (Hilmi et al., 2012). The tourism boom has had a great effect on Egypt's economic development. In most cases, Egypt can be seen as a perfect example of the positive economic outcomes of tourism, which seem to outweigh its negative effects (Steiner, 2006).

In 2010, international tourism receipts in Egypt reached US\$12.528 billion, while in 2011 tourism in Egypt generated an estimated US\$8.707 billion (UNWTO, 2012). The tourism revenue is equivalent to approximately 6 per cent of national GDP if both directly and indirectly tourism-related activities are included, and it provides employment for 12 per cent of the national workforce (UNWTO, 2012).



Figure 5.1 Map of Egypt. Source: RSG (2012).

The RSG (especially Hurghada) has some unique marine habitats, such as coral reefs, mangroves and sea-grass beds. They provide the main resources for coastal residents, including food, the protection of the beaches and job stability, as well as economic benefits from tourism (Hilmi et al., 2012). The Red Sea as a tourist destination includes a wide range of tropical marine habitats that offer conservation, scientific, economic and recreational value. These habitats come under a variety of stresses, however, both locally and more widely, as a result of human activity (Mohamed, 2005). As Hilmi et al. (2012) emphasize, and as discussed above, the RSG is located in a developing country that is extremely dependent on tourism as a source of foreign income. Moreover, Red Sea tourism is mainly dependent on the surrounding natural

environment, such as sand and water quality, and especially the coral reefs, which are sensitive to tourist activity and are suffering from low government control in the region and a growth in private investment (Ibrahim, 2009) (see Section 1.5). Hurghada is famous for being the Egyptian Red Sea's first tourist resort (see Figure 5.2) (Hilmi et al., 2012).

### **5.3 Description of the Hurghada Coastal Region**

Hurghada is the capital of the RSG (Eraqi, 2007). It is located on the western Egyptian coast of the Red Sea, at  $27^{\circ} 13' 48''$ N;  $33^{\circ} 50' 37''$ E (Madkour and Dar, 2007; Vanderstraete, 2004), 500 kilometres southeast of Cairo (Dewidar, 2002) (Figure 5.2). It is considered one of the major tourist areas on the Red Sea coast, for both international and domestic tourism (see sections 1.3 and 1.3.1) (Mohamed, 2002). Hurghada has been transformed from a small fishing village of a few hundred people into a booming town of over 180,000 (Eraqi, 2007; IDSC, 2009). Before 1980s, it was mainly a place where fishing ships were constructed, maintained and repaired (Madkour and Dar, 2007). However, development began to promote Hurghada as a destination for scuba-diving tourists (Dewidar, 2002). The tremendous growth is almost entirely a result of tourism, which now represents 95 per cent of the local economy (Eraqi, 2007).

Hurghada has most of the elements that attract tourists to the Red Sea coast, such as sandy beaches and coral reefs, and is located close to a group of islands, including Giftun, Abu Rmai, Abu Menkar, Major Om Gawish and Minor Om Gawish. Scattered along the coast are a number of wetlands, and a number of valleys end at the sea close to Hurghada. The coast has natural protection

from waves, and the movement of the tides protects the area from pollution (Mohamed, 2002).



Figure 5.2 Map of Hurghada. Source: RSG (2012).

As explained in a report by the RSG (2012), Hurghada is divided into three main districts: (1) El-Dahar is the old part of the town, with souks, fishermen's cafes and local shops; it provides visitors with a taste of real Egyptian life and

excellent shopping for local artifacts; (2) Sekala is the tourist district, and is located around the old port; it is a vibrant area with many hotels, stores, shopping centres, cinemas, clubs and restaurants, and everything remains open until late at night; (3) Al-Ahyaaa is located to the north of Hurghada, along the coastal road. It is a native residential area and also contains some new hotels. These three districts contain many of the tourist attractions that make Hurghada one of the most famous tourist destinations, both domestically and internationally (RSG, 2012).

### **5.3.1 Tourist Attractions in Hurghada**

The RSG, and in particular Hurghada, has many tourist attractions (see Table 5.1) (The Egyptian Tourist Guide: ETG, 2012). A new type of tourism has been developed in Hurghada recently, namely tourism festivals. The city now hosts several international festivals throughout the year, including the international Hurghada squash championship, the Tourism and Shopping Festival and various fishing festivals (ETG, 2012).

**Table 5.1 Tourist attractions and sites in Hurghada**

<b>Subject</b>	<b>Tourist Attractions</b>
<b>Red Sea Islands</b>	<ul style="list-style-type: none"> <li>- Aquamarine (Zabargad) island off the coast of Bernice</li> <li>- The Great and Small Gifton islands off the coast of Hurghada</li> <li>- Abu Menkar island opposite the Sheraton Hurghada</li> <li>- Shedowan Island off the coast of Hurghada</li> </ul>
<b>Southern diving sites of Hurghada</b>	<ul style="list-style-type: none"> <li>- El Gouna - East Coral Belinda</li> <li>- West Coral Belinda - Island of Abu Ramada Jerana</li> <li>- The island of Abu Hashish - Island Magawish</li> </ul>
<b>Northern diving sites of Hurghada</b>	<ul style="list-style-type: none"> <li>- Coral Abu Mankar - Abu Katra</li> <li>- Abu Nahas - Om el Eish</li> <li>- Om Kamar - Carlos</li> <li>- Orock - Island Alphenadir</li> <li>- Abu Nakad - Coral Taweela</li> <li>- North Gifton - Seol Major - Seol Minor</li> </ul>
<b>Tourist sites near Hurghada</b>	<ul style="list-style-type: none"> <li>- El Gouna</li> <li>- Sahl Hasheesh</li> <li>- Island Shidwan</li> <li>- Aquarium</li> </ul>

The most important tourist attractions in the region of Hurghada are the beaches with coral reefs. The coral reefs are considered to be one of the most important factors upon which the tourism coast of the Red Sea, and Hurghada in particular, depends (RSG, 2012). Aufmouth et al. (2006) commented that the coral reefs of the Red Sea, and in particular the Egyptian Red Sea, comprise one of the world's most spectacular recreational diving destinations.

### **5.3.2 Tourism in Hurghada and its Importance to the Local Community**

In the early 1980s, the industry was very small with only two or three dive boats, each carrying a capacity of about ten divers. Thereafter, diving tourism began to flourish and, almost a decade later, Hurghada witnessed a real growth in prosperity due to Red Sea tourism. The number of boats increased to 20 boats by the middle of the decade (Serour, 2004) and to more than 1200 by 2006 (Hilmi et al., 2012). With its mainly water-based activities, Hurghada became the most famous tourist destination and, based on the revenues from diving operations, its economy continues to thrive (Serour, 2004).

According to global estimates (Cesar et al., 2003; Cesar and Chong, 2004) which count only the economic value of the coral reef fisheries, the tourism industry, and shoreline preservation, the cost of damaging one kilometre of coral reefs over a 25-year period ranges between US\$137,000 and US\$1,200,000. On the contrary, properly managed coral reefs can achieve an annual average of 15 tonnes of fish and other seafood per square kilometre. This suggests that the estimated total economic value of the Egyptian Red Sea reefs is between US\$205.5 million and US\$1,800 million. Also, these reefs can yield about 1,400 tonnes of seafood (Hilmi et al., 2012). The Red Sea's tourism

industry plays an important role in Egypt's tourism industry in general and for Hurghada's local community in particular (Hilmi et al., 2011; Serour, 2004, El-Gamaly et al., 2001).

For example (see sections 1.3 and 13.1), in 2010, over 4.9 million tourists visited the Red Sea coast. This is almost one third of all the estimated 12.5 million tourists who came to Egypt that year (Tourism in Figures, 2010). It is estimated, also, that these 4.9 million tourists generated more than 275,000 jobs (USAID, no date). Tables 5.2 and 5.3 summarize some of the statistics which show the importance of the tourist industry to Hurghada.

Table 5.2: Breakdown of Hurghada City Hotel - Capacity by Category

Category	Units	Rooms	Beds	Diving Centres 167
<b>5 Star Hotels</b>	8	3215	6430	
<b>4 Star Hotels</b>	30	11719	23438	
<b>3 Star Hotels</b>	35	5762	11524	
<b>2 Star Hotels</b>	23	2715	5430	
<b>1 Star Hotels</b>	13	844	1688	
<b>Under Classification</b>	5	1255	2510	
<b>Total</b>	114	25510	51020	

Source: Tourism in Figures (2010).

Table 5.3: Tourist Numbers and Nights and Number of employees in 2007/2008

Number of tourists arriving by air		Tourist nights		Number of employees
2007	2008	2007	2008	34,930
3,461,516	4,126,897	27,757,654	32,652,118	

Source: IDSC (2009)

According to Prior et al. (1995), Hurghada's coral reefs are subject to a wide range of negative effects due to human activity such as coastal engineering; fisheries, water pollution, and sedimentation (see section 1.2.2.1 and 1.3.2). Therefore, a number of stakeholders including the TDA, investors, developers and business managers, the EEAA, various Egyptian governorates, international bodies and NGOs (TDA, 1998) need to take responsibility for the effective development of tourism along the Red Sea coast.

### **5.3.3 Coral Reef Deterioration in Hurghada**

Coral reefs, according to Ali and Hamed (2006), are sensitive and fragile ecosystems in delicate balance with nature. Coral reefs are valuable as a result of their high biodiversity and the major role they play in the tropical marine biosphere. Moreover, as mentioned above, coral reefs are extremely important as a tourism resource, providing significant contributions to the GDPs of many countries (see section 5.3.2) (Vanderstraete et al., 2006). The gorgeous fringing reefs, the clear and clean blue water, the moderate dry weather throughout the year, and the winter sun, make Hurghada an attractive destination for tourism and recreational activities. These activities involve viewing the coral reefs and scuba diving, swimming, wind surfing, sightseeing tours in glass-bottomed boats and small submarines, underwater photography, boating, sport fishing, sunbathing, and shoreline sports (Frihy et al., 1996).

Despite these natural and socio-economic advantages provided by coral reefs, many factors are threatening these assets. For example, Serour (2004) remarks on the worrying negative impacts of diving tourism on the coral reefs around Hurghada. Moreover, the development of coastal urban regions is generating a

number of problems in nearby beach habitats, such as direct physical damage resulting from the construction of ports, airports and tourist resorts, or through the mining of the coral reef regions for construction materials (Vanderstraete et al., 2003, 2006). The indirect negative impacts of development are often the most damaging (Vanderstraete et al., 2003; Hawkins and Roberts, 1994; Ammar et al., 2000; Riegl and Piller, 2000). For example, the construction of hotels and resorts and other developments along Egypt's coast is proceeding rapidly and threatening the ecosystems that make up the value of the coral reefs (Jameson et al., 1999). Another example, algal blooms caused by the input of nutrient-rich sewage from urban areas and the disturbance of sediment during coastline construction make the shoreline water more turbid (Vanderstraete et al., 2006, 2004). Turbidity generates unfavourable environmental conditions by changing the clarity of the water and thus may damage the remaining living coral communities that exist on the reef surface, and the healthy living corals in deep waters (Frihy et al., 1996). It does this by blocking sunlight and thus greatly diminishing coral growth. In terms of natural environmental effects, the loss of the complex habitat structure and the decline of associated invertebrates, as well as a reduction in the number of fish, and an increase in the growth of algae, planktivores, herbivores and detritivores (Hilmi et al., 2011).

Therefore, Egypt provides a good example of destructive over-development in a coastal area and the absence of (or slow) institutional responses from government departments, with massive environmental degradation caused to both land and sea. The environmental impacts of tourism in Hurghada are not

limited to the coral reefs. Urbanization and landfilling are the main causes of shoreline environmental degradation (Hilmi et al., 2011).

#### **5.3.4 Governance in Hurghada**

The Egyptian local government system is considered to be mainly a centralized hierarchy system with some decentralized features. However, the Egyptian local administration system is more of a local government than a local governance structure (Tobbala, 2012). Although, within the system of elected local councils and appointed local councils, the elected local popular councils exist at various local levels, the root cause of their ineffectiveness is the centralized hierarchy and its non-specific roles and responsibilities. According to the Arab Republic of Egypt report, the Egyptian government system is largely administrative and executive and has no political functions (Arab Republic of Egypt, 2004, cited in Tobbala, 2012) (see Section 1.2.3).

According to Fielding and Shortland (2010), successive Egyptian governments, beginning in 1952 in the era of President Nasser through to President Al-Sadat until Mubarak in 2011, were secular governments. These successive governments excluded or marginalised the Islamist movements from the political process. Especially under President Nasser's and President Mubarak's governments, this resulted in the exclusion of the Islamist groups. However, a revival of Islamist groups started in the 1970s. Being banned and marginalized from the political process, some extremist Islamist movements began a campaign of politically motivated terrorism. Hence, this created a kind of political instability (Paciello, 2011). According to Hai and Chik (2011: 59), political instability can be defined "as a situation of a country where a

government has been collapsed, or is directed by group following a coup or where fundamental practical requisites for social-order manage and continuance are unsteady and sporadically interrupted. It has multifaceted and complex natures and impact in many countries worldwide”.

According to Ryan (2001: 7), “the durability and survivability of the Nasser, Sadat, and Mubarak regimes benefitted from the uninterrupted historical development of a centralized bureaucratic system”. Consequently, each regime was able to build upon what has been referred to as a “historical pattern of autocracy and bureaucratic control”. For example, since 1967, Egypt has spent all but five months under a declared “state of emergency” under which successive governments justified the prohibition of demonstrations; the use of indefinite detentions without trial; and the endowment of presidential decrees with the force of law (Brownlee, 2002).

As an example of a tyrannical regime, Paciello (2011:1) explained that, “Hosni Mubarak rose to power in 1981, after Anwar Sadat’s assassination. After a period of relative tolerance in the 1980s, in the 1990s Mubarak’s authoritarian rule deepened: civil and political rights were constrained; the party law was amended; press freedom was significantly limited and repression was used against the Muslim Brotherhood as the main political opponents”. Overall, Brownlee (2002) added that, since the beginning of Mubarak’s reign, pluralism had been rejected considerably. Unless the pressure of local community and — possibly more significantly— international key actors forced President Hosni Mubarak to distribute authority to other branches of local government and to permit civil society and other NGOs to act independently, in Egypt, the outlook

for organized political challenge would continue only to dim. Ryan (2001: 15) summarized the last 60 years of Egyptian history by saying, “Nasser, Sadat, and Mubarak have been quite consistent in their attempts to contain, repress, and divert political pressures”.

In authoritarian regimes, such as in Egypt and since 1952 from President Nasser’s era, the state controlled citizens and compelled them into behaviours directed by the political authorities and its security forces (Tobbala, 2012). Therefore, by considering the consequences of political instability and political violence more generally in a dynamic cross country panel, tourists might be put off, also, by the suppression of opposition movements; human rights abuses; and the existence of police around tourist institutions (Fielding and Shortland, 2010). For example, due to the Egyptian authoritarian regimes (Paciello, 2011), Egypt suffered a series of political events and clashes during 2011. These events began on 25<sup>th</sup> January 2011 when tens of thousands of people gathered in Cairo’s Tahrir Square to protest about their rejection of the political system and Egypt’s socio-economic conditions. These events ended on 11 February 2011 when Hosni Mubarak, the former president of Egypt, was compelled to step down (Mohammad, et al., 2012). Consequently, there was overwhelmingly clear evidence of the Egyptian Revolution’s negative influence on the tourism industry and on the nation’s overall economy. The influences extended considerably beyond the airline and accommodation cancellations which transpired around the period of the initial uprising. Because of fears regarding the political instability, increased crime rates and absence of sufficient police protection, as broadcast by most of the main international media facilities, tourists have avoided visits to Egypt (Nasser, 2012).

In his study “ecotourism resources management as a way for sustainable tourism development in Egypt”, Eraqi (2007) stated that the key challenges, encountered by the management of Egypt’s ecotourism resources, were the absence of appropriate skills in the region of ecotourism resources management; marketing; and business. Also, there were weaknesses in the local government’s ability in terms of the sustainable management of tourism natural environments and green marketing management; insufficient accountability; and transparency by community leaders in dealing with public funds and revenues. In addition, there was an absence of effective monitoring tools or frameworks to follow up the application of the criteria of ecotourism (Eraqi, 2007). Sowers (2007) argued that, under Egypt’s authoritarian rule, community-based conservation of natural resources efforts were insufficient when, systematically, the central government marginalized such communities. In the Egyptian context, he demonstrated that the central government’s personnel and institutions constituted the backbone of the development apparatus onto which expatriate consultants and their projects were grafted temporarily. In these circumstances, the effective management of natural resources was likely to remain limited to spatial and temporal enclaves (Sowers, 2007).

According to Saif (2011: 2), “Egypt has historically fared poorly in governance indicators such as rule of law, quality of business regulations, and corruption associated with ineffective social spending. The result of the poor ratings is misallocation of resources. Consequently, the government could face the worst-case scenario of continued economic decline and a reversion to

authoritarianism". Saif (2011) indicated that, when compared to other promising markets, Egypt ranked poorly on governance indicators. It had one of the worst levels of government efficacy related to the government institutions' efficiency and their role in economic and social development.

#### **5.3.4.1 Governance and the Role of the Egyptian's Government in Tourism Development**

According to Shaalan (2005), up until recently, the Red Sea coast had very few economic activities; these incorporated offshore oil exploration and drilling; phosphate mining; and fishing. This region was one of Egypt's least populated regions. However, since the early 1980s, the Egyptian Red Sea region had experienced significant growth and massive tourism development (Helmy, 2004). The tourism development strategy, adopted by the Egyptian Ministry of Tourism, placed a main concern on natural resource aspects. This strategy offered a significant consideration given to the conservation of the Egypt's unique heritage besides the protection of the natural resources of ecotourism including coral reefs (Eraqi, 2007). For the protection of coral reefs protection and associated habitats, it was necessary to adopt appropriate managerial methodologies and to design environmental policies for the competent management of leisure activities (Eraqi, 2007).

Helmy (2004) and Kunst (2011) stated that, by adopting the principles of sustainable development as a key factor in improving the quality of the environment, the existing Egyptian tourist policies realised the importance of future tourist plans. The current policy and strategy's most important achievement is the role given to the Egyptian Development Authority (TDA) as

planner and supervisor of the processes of tourism development which take place in the new pristine natural regions outside the city boundaries. For example, for sustainable tourism development in Egypt, the most important project is the Red Sea Sustainable Tourism Initiative which is financed by the United States Agency for International Development (USAID) and implemented by the TDA. The Red Sea Sustainable Tourism Initiative (RSSTI)'s main work areas comprise of 'Best Practices'; Environmental Impact Assessment and Monitoring; Environmental Management Systems; and sustainable tourism awareness, primarily in Red Sea resorts (TDA, 1998; Helmy, 2004). According to Helmy (2004), the TDA is the most appropriate tourist authority to be accountable for crafting and implementing sustainable tourism development programmes. However, this authority is responsible currently for only the development of the new coastal areas outside the city boundaries. Consequently, its responsibility does not extend to the implementation of sustainable development strategies in the existing tourist destinations. In other words, private entrepreneurs hold the initiative in expressing their interests in the development of specific regions, whilst the TDA has an obligation to verify whether or not the expressed interest complies with Egypt's adopted tourism development strategy or relates to the priority regions or priority projects (Kunst, 2011).

In addition to the TDA's role in the development of tourism in Egypt, the Egyptian Environmental Affairs Agency (EEAA), as the executive arm of the Ministry of Environment, was launched in 1982 as a coordinating body between other Egyptian Ministries. Its goal was the formulation and implementation of environmental policy. The EEAA was in charge, also, of the reduction of the

bureaucracy processes in Egypt (Tabet and Fanning, 2012). The EEAA's key goal is the protection of the environment from human induced degradation by industry; tourism development impacts; construction; tourism and waste disposal; and other factors (Helmi et al., 2011). In particular, the EEAA considered resource management programmes in the coastal regions of the Red Sea. For example, there was the installation of mooring points in some diving centres in the Red Sea and South Sinai. These help to protect the coral reefs from any damage caused by tourist vessel anchors or tourism development activities generally (Helmy, 2004).

#### **5.3.4.2 The Absence of Good Governance in Hurghada**

Despite all government announcements regarding the adoption of sustainable development concepts, on the ground, the policies and practices are still far from being sustainable (Shaalan, 2005). For example, Shackley (1999) stated that, in theory, all developers and donors required EEAA approval but, in practice, many EEAA guidelines seemed to be either broadly ignored or interpreted flexibly in view of the need to attract foreign investors into the destination. In the Red Sea region, including Hurghada, there is a very small number of NGOs which can play a significant role in the environment development. With the absence of financial and human capacity, the NGOs are reliant mainly on foreign and local financial support. Hence, there is a limited role which NGOs can play and there are no indications that this situation will change in the near future (Shaalan, 2005).

In addition, in a developing context such as Egypt and the whole Middle Eastern region, there are a number of shortages which may hinder the implementation

of tourism development (Eraqi, 2007; Helmy, 2004). Wahab (1997) identified five inherent challenges which obstructed tourism development in Egypt (cited in Ibrahim, 2009; Eraqi, 2007; Helmy, 2004). These are: (1) the broad target of sustainability fails to meet specific goals in different aspects of the development of sustainable tourism; (2) the lack of sub-policies to connect the key tourist policy and the required strategies for tourism development sustainability; (3) the lack of accountability of the Egyptian Government bodies to deal with all the challenges which have an effect on specific protection issues; (4) the absence of harmonization and integration of sustainability and conservation policies between authorities; and (5) the inadequate and insufficient strategies as a result of the above concerns.

Helmy and Cooper (2002), Eraqi (2007), and Ibrahim (2009) stated that there were additional constraints which hampered the Egyptian tourism strategy's ability to deal with these challenges. These were: 1) low sanitation standards; tourist harassment; modest safety records in air, sea, and on-land transport; and political upheavals; (2) the lack of an adequate and competent infrastructure and main tourist development projects in tourism destinations; (3) insufficient qualified numbers of skilled personnel and the ineffectiveness of education and training programs; (4) risk conflict between tourist developers and local communities regarding sustainable tourists development projects; and (5) low level of environmental conditions.

Eventually, it can be concluded that there is an absence of good governance in the Egyptian government's role in tourism development. Gebril (2004: 3) summarized the governance situation in Egypt when he said: "International

Reports indicate that accountability mechanisms are missing in Egyptian government performance. Consequently there exist multiples of modes of corruption such as misuse of public funds, bribes, tax fraud, misuse of power and authority, favouritism and ascription in selecting government leaders and in providing government services". Furthermore, the establishment of a bureaucratic system suffers from abundance and rigidity which, regularly, obstructs attempts at modernization and improvement. Consequently, the executive authority is strictly centralized. The absence of reliable statistical data, fuzziness of information and hiding it from society, are obviously different reasons which impede transparency. NGOs and civil community organizations are still inactive in political and developmental activities (Gebril, 2004).

Therefore, the centralization and the identified weaknesses of the Egyptian government's governance of the tourism sector resulted in the absence of an effective coordination between the governmental authorities (Attia, 1999). Furthermore, in brief, Egypt's tourism development emerged out of the coincidence of two major factors. Firstly, there were cost-benefit estimations of a neo-patrimonial Rentier state which were proposed in order to avoid more costly different policy options and, secondly, there was a rational motivation of segments of the Egyptian bourgeoisie to obtain the highest available earnings from their own investments (Richter and Steiner, 2007). To sum up, according to Sowers (2007), the Egyptian government engages in tireless and continuous attempts to disorganize, deteriorate, and, selectively, to induce NGOs, political parties, and business associations. This system of authoritarian governance which, often, has included and demobilized demands from public associations, has been characterized diversely as "executive hegemony".

In recognition of these difficulties, collaboration has become important between different types of governmental, NGOs, local and international and supranational organizations associated directly and indirectly with tourism. These are involved in environmental protection and the management of tourism in Hurghada, an Egyptian coastal resort (Pechlaner et al., 2009; Uhlig, 1992). This is because collaboration can produce better returns in protecting and conserving the environment than can be achieved by businesses and organizations acting in isolation.

#### **5.4 The Role of Tourism-Related Organizations in Managing Tourism's Environmental Impacts in Hurghada**

Given the environmental and economic importance of Hurghada's natural assets, for the tourism industry but also for local people living in the reef areas as a source of income (Cesar et al., 2003), protecting and managing such assets is of crucial importance. As shown in Table 5.4, the Monitoring, Verification, and Evaluation (MVE) Unit of the Egyptian Environmental Policy Program (EEPP) has identified a number of biological indicators to help preserve the Red Sea environment for tourism activities. According to the EEPP indicators, the main goal is to conserve the Red Sea environment, especially so as to sustain the tourism along the Egyptian Red Sea coast, and in particular in Hurghada. In addition, the plan of the Egyptian governmental organizations (EEAA, TDA, RSG, etc), in collaboration with other stakeholders (NGOs), is dedicated to preserving the marine environment and all its constituent tourist attractions, such as the coral reefs, which represent the key element of tourism along the Red Sea coast in general, and in Hurghada in particular (TDA, 1998).

**Table 5.4 MVE biological indicators**

<b>Subject</b>	<b>Indicators</b>
<b>A - Condition of Natural Resources</b>	1 - Coastal water quality 2 - Coral reef quality and extent
<b>B - Tourist Facilities</b>	1 - Number of tourist nights in the governorate of the Red Sea. 2 - Percentage of tourist facilities with approved EIAs (Environment Impact Assessments) before construction. 3 - Percentage of hotel rooms in facilities that have instituted best practices, located on TDA-owned land in the RSG.
<b>C - Diving Activity</b>	1 - Number of dive/snorkel trips. 2 - Number of mooring buoys installed in the RSG.
<b>D - Management of the Red Sea Coast</b>	1 - Number of rangers in the RSG, qualified by the EEAA. 2 - Annual budget of the EEAA for preserving Red Sea natural resources. Value of fees collected for natural resources, including the Red Sea protectorate. 3 - Revenues gained from Red Sea diver and snorkeler fees.

Source: Adapted from MVE (2003)

According to the Egyptian environmental action plan 2002-2017 (EEAA, 2001), the income generated from tourism supports the development of, and improvements to, facilities aimed at preserving and regenerating natural resources that will benefit both the local community and tourists. However, in order to reap these benefits, better management of tourism is required, and the tourism industry needs to operate within overall plans that protect the natural and cultural heritage of Hurghada.

The role of tourism-related organizations involved in environmental protection and the management of tourism in Hurghada, varies from the environmental (i.e. protecting coral reefs and the natural environment in general) to the non-environmental (i.e. providing education, health services, clean water, electricity and other public services) (TDA, 1998; USAID, 2006, 2007, 2008; Cesar, 2003, HEPCA, 2012a, 2012b). For example, according to the TDA (1998) and Mohamed (2002), tourism-related organizations are involved in the following projects aimed at protecting the natural environment around Hurghada (some of

which are already complete, some are on-going, and some are still in the planning stages):

- 1. The instigation of zone marine areas to ensure safe water sports and to protect sensitive natural areas:** This involves the separation of incompatible uses (such as swimming and boating), directing users to appropriate areas (such as the best dive sites) and protecting particularly sensitive areas (such as fish nurseries).
- 2. The protection of the coral reefs by providing moorings for vessels:** Mooring buoys are an essential tool for limiting anchor damage to coral reefs. When integrated into a dive site management plan, mooring buoys can also be used to keep dive site use within estimated carrying capacities. By monitoring the use of buoys, a record of the locations and intensity of diving activity can be maintained. Mooring buoys can also be used to direct divers to the most appropriate sites.
- 3. The design of environmentally appropriate access for the use and enjoyment of marine ecosystems:** Access to the coastal features that are attractive to visitors depends on the site itself – its vulnerabilities, its dangers and its specific physical features. Thus, it is important to provide safe and environmentally appropriate access for visitors, especially those with special needs, including young children, the elderly and those with disabilities.
- 4. The design of artificial lagoons to avoid environmental impacts and ensure good water quality:** The lagoon design is an important factor in the planning of the overall tourism centre at Hurghada. This lagoon system maintains attractive and healthy water quality and avoids

stagnant water areas with excessive sedimentation, algal growth and other negative characteristics.

**5. The design of jetties and marine structures to minimize the impact**

**on ecosystems:** Jetties should be constructed in sheltered or semi-sheltered areas, especially if access to boats is required. Prior to the selection of the jetty location, site reconnaissance studies should be carried out by specialized coastal/harbour engineers to identify the most appropriate locations.

**6. The location and design of marinas to respond to site conditions**

**and provide public access:** An ideal marina site is protected from wave exposure from all directions, is provided with protected access, and enjoys a comfortable wind and wave climate within the marina itself.

## **5.5 Tourism-related Organizations Involved in Managing Tourism's Environmental Impacts in Hurghada**

There are a number of actors playing important roles in protecting Hurghada's environmental resources, including governmental, non-governmental (NGOs) and international organizations (see Section 4.5.1.2). According to Somerville (1999), the actor-network theory (ANT) focuses on one particular actor, not because it is a human being, or because of its size, but because it has the most important role in a particular network. Hence, this study concentrates on particular actors with important roles directly and indirectly associated with tourism who are involved in environmental protection and the management of tourism in Hurghada, Egypt. In the next part of this chapter, the main actors will be introduced.

### **5.5.1 Governmental organizations**

#### **5.5.1.1 Egyptian Development Authority (TDA)**

The TDA comes under the jurisdiction of the Egyptian Ministry of Tourism (MOT) (Rady, 2002). It was established in 1989 (TDA, 1998) and its responsibility lies in planning, coordinating and promoting new tourism development projects within the framework of Egypt's general policy and economic plan (Rady, 2002; Merchant, 2008). It also facilitates the development of tourism by streamlining investment applications and offering highly attractive incentives through low land prices and tax breaks (Merchant, 2008). According to the TDA (1998), its responsibilities can be summarized as follows: (1) encouraging environmentally sound private investment in tourism development, (2) establishing tourist zones and overseeing the implementation of development plans for them, (3) developing infrastructure schemes in these zones and recovering their costs, (4) selling off desert lands designated for tourism development projects and (5) monitoring the application of environmental regulations (TDA, 1998).

According to UNWTO (2009), in order to manage future tourism expansion in Hurghada, which has a high concentration of fringe coral reefs and protected areas, the TDA initiated a land use management plan and zoning process for the RSG. There are many other important developmental and environmental management responsibilities that reside with the TDA, including the following (TDA, 1998): (1) mandating and assisting in the preparation of plans for the development of tourist centres to ensure high-quality design and environmental planning, (2) requiring and supporting the protection of important natural capital that falls within allocated properties, such as wadi/valley, flood lines and public

access to natural harbours and beaches, (3) leading the management of the coastal setback lands to ensure public access, reduce improper use of the natural landscape and encourage good landscape design, (4) adjusting the three-year provision as required to allow more careful development planning and encourage ecolodge/eco-tourism development in line with the policies of natural resource management, (5) working with developers and donors to guarantee sound EIAs and alleviation procedures and subsequent monitoring and (6) providing early technical support and information to assist developers and donors in meeting developmental and natural resource conservation objectives, and mandating the preparation of the EIAs for each tourism centre prior to authorizing development on individual parcels.

In addition, the TDA established a new Policy Implementation Unit (PIU) in the summer of 1998 to help it to achieve the following tasks (York, 1999): (1) The PIU would improve the coordination of investment within the tourism sector in Egypt and with other government agencies in the sector; (2) It would ensure that tourism development would be sensitive to the new environmental demands placed on all industrial sectors, including tourism, by Law 4 of 1994 (Law 4/94). According to Helmy (2004), this law relates to the use of natural capital and its conservation from degradation, and the law relates to these policies adopted by the TDA. Rady (2002) explained that, according to this law, all new projects or extensions of existing projects have to prepare and provide an EIA report, together with an application to the licensing authority, such as the TDA or other authority, ministry or government body; (3) The PIU would effectively coordinate and channel all external bilateral and multilateral assistance to provide appropriate forms of support within the tourism sector; (4)

It would coordinate, for the Egyptian government, the technical support necessary for the implementation of policy; and, (5) It would provide advice to the chairman of the TDA with regard to the allocation of existing and new resources to support improvements in the performance of “the authority’s” technical units.

Thus, the PIU is an enabler and facilitator, acting as a catalyst to the TDA to ensure that the latter meets its environmental policy goals, leading to tourism development that is environmentally sustainable and makes the best use of land earmarked for tourism development (York 1999). Thus, it can be seen that the TDA's most prominent role is one of planner and supervisor of tourist development in virgin natural regions (Helmy, 2004), which can help to protect the coral reefs of Hurghada (Hilmi et al., 2011).

#### **5.5.1.2 The Egyptian Environmental Affairs Agency (EEAA)**

The EEAA comes under the jurisdiction of the Ministry of Environment, which is the association responsible for the conservation and management of all national parks and protected areas in Egypt (Rady, 2002). The EEAA is the central association involved in environmental protection and coordination in Egypt. It has multiple functions and mandates, including administering the comprehensive requirements and regulations encompassed by the abovementioned Law 4/94, and Law 102/83 (TDA, 1998). The EEAA has a public juridical nature and is affiliated with the Minister for Environmental Affairs. In this context, the EEAA prepares the general policy and formulates the essential plans for the protection and promotion of environmental assets. It also

follows up on the implementation of such plans, in coordination with the relevant government departments (Tortell, 2004).

The purpose of Law 4/94 is to address pollution measures and control, and it also deals with new developments and projects, and the expansion of existing ones (Tortell, 2004). Law 4/94 (Decree No. 338/1995) gives the EEAA full authority to implement EIAs on specific projects (Rady, 2002). According to Tortell (2004), the EIA is one of the most significant policy interventions, seeking to guarantee that projects are environmentally sound and sustainable and that any impacts on natural resources are predictable and taken into consideration early in the project cycle.

The TDA (1998) described the responsibilities of the EEAA as follows: (1) It prepares baseline data systems for protected areas and other key natural resources, and implements protected area management plans. (2) It works constructively with the TDA, NGOs, developers, donors and design professionals at the early, conceptual phase of each new tourism development, in order to influence and support technical input into the design, and ensure natural resource protection measures are put in place. (3) It develops design guidelines for tourism-related shoreline alteration activities, and issues standards for solid waste management. (4) It prepares/enforces regulations governing pollution control, shoreline remediation and other environmental management activities. (5) It establishes protocols with the TDA, governorates, IDCs and agencies involved in the preparation, review and enforcement of its EIA procedures. (6) It expedites EIA review procedures in order to reduce developers' costs associated with protracted reviews, and to enable the full

cooperation of all parties so as to achieve improved environmental practices. (7) It works with the TDA to design training and awareness programmes for developers and hotel/tourism facility managers and for design and planning professionals involved in tourism development. (8) It works with the TDA to identify cost-effective environmental equipment, materials, management techniques, and best practices (and encourage their adoption by Tourism Centre Integrated Development Companies (IDCs) and individual resort developers/managers).

#### **5.5.1.3 The Egyptian Red Sea Governorate (RSG)**

The RSG has gradually taken on more and more responsibility for tourism development along the Red Sea coast. The coastal governorates have budgets for administration and social and economic development at the provincial level. Their responsibilities related to tourism development include the following (TDA, 1998): (1) to support the EEAA and the TDA in the enforcement of environmental standards, (2) to facilitate a private-sector-led solid waste management programme, and work with the EEAA, the TDA, local NGOs and resort managers to increase public awareness of solid waste management issues, (3) to establish systems for the controlled disposal of construction-related waste and debris, (4) to lead local efforts to clean up beaches, shorefronts and streets in the various municipalities and (5) to coordinate environmental compliance activities with the EEAA and the TDA.

#### **5.5.1.4 The Egyptian Public Authority for Shore Protection (SPA)**

According to the Ministry of Water Resources and Irrigation (MWRI), the responsibilities of the SPA are as follows (MWRI, 2012): (1) general planning for

shore protection activities and projects, (2) the development of master plans and the preparation of technical designs for new development projects on the seashore and (3) the development of pilot projects that serve the Egyptian government's activities, in cooperation with different authorities and Egyptian and foreign universities. The SPA has many branches across the country, through which it carries out its aims and objectives.

The MWRI described the future plans of the SPA as follows (MWRI, 2012): (1) to establish an overall integrated shoreline management plan to protect the Egyptian coast, (2) to expand the usage of aerial wave photos of Egyptian shores, (3) to expand the international cooperation between the SPA and countries that are more advanced in this field, (4) to continue establishing and using the meteomarine current recording and wave measurements and (5) to establish a net system for information and data at the SPA and its branches, in order to link all Egyptian shorelines and facilitate the follow-up process.

#### **5.5.1.5 The Egyptian Ministry of Tourism (MOT)**

The MOT is the official organization responsible for the main plans and organization related to tourism in Egypt. Established in 1964, it aims to participate in the development of the national economy, to support relations with the peoples of the world, to deepen citizens' awareness of the heritage of their country and their association with their civilization, and to encourage contemporary scientific planning for overall tourism development. It also aims to develop national participation in the tourism industry and to deepen interdependence and integration between different sectors of work-related tourism (MOT, 2012).

Thus, it has the following responsibilities (MOT, 2012): It designs the main policies so as to organize work and ensure efficient performance in various tourist-related areas, and to achieve consistency and integration between sectors and tourism-related bodies in Egypt. It produces public policies for tourism development, including the investment of resources, and the available means for developing new resources within the framework of the national policy for economic and social development. It prepares and issues the necessary legislation for the implementation of its general policy and financial and administrative aspects of the policy. It promotes new tourism projects, attempts to attract investors and oversees development, and works for the establishment of hotels and various other tourist facilities.

It prepares plans and programmes to aid development and technical and administrative efficiency, in various establishments and tourism professions. It aims to deepen relations with national and foreign tourism-related organizations, to serve the goals of tourism development in Egypt. It concludes international agreements, in accordance with the provisions of applicable laws, and aims to improve relations with international organizations and bodies. It prepares general plans and national programmes for tourism development, defines the requirements and elements of implementation and the work to be carried out, and determines standards and rates, mainly involving planning, monitoring and evaluation. Finally, it conducts research and studies to identify all aspects of the work and tourist-related resources and supplies, and to follow how they evolve, globally and locally.

### **5.5.2 NGOs in Hurghada**

The TDA's (1998) report described the potential roles and responsibilities of NGOs in tourism development and environmental protection as including working with the EEAA, the TDA, the governorates, and private sector tourism interests to promote public awareness of environmental management issues. NGOs help governmental organizations and associations to promote the enforcement of coastal management and pollution laws. They also carry out environmental improvement projects, such as mooring buoy installation and maintenance and coastal trail development. Furthermore, they facilitate the management of important natural areas in cooperation with the TDA, the EEAA and hoteliers, and work with centres of learning to conduct research on a variety of environmental management topics. Finally, NGOs can help to develop and manage ecotourism activities to raise funds for environmental projects, and to promote measures aimed at protecting key environmental assets, such as mangroves, wadis/valleys, coral reef ecosystems, and wildlife and bird habitats.

#### **5.5.2.1 Hurghada Environmental Protection and Conservation Association (HEPCA)**

In Hurghada, NGOs can play a vital role in encouraging and assisting with high-quality tourism and environmental developments along the shores of the Red Sea. According to the TDA report (1998), the leading environmental NGO in the Red Sea area is HEPCA, which was formed in 1992 by 12 members of local diving centres to combat further damage to the marine environment. HEPCA is either involved in, or is the initiator of, many projects and campaigns that aim to protect and preserve the natural environment of the Red Sea (HEPCA, 2012b).

It is supported by its members and affiliated to many governmental and non-governmental agencies. It achieves its goals and objectives through active partnerships with other partner organizations (e.g. governmental organizations) in various environmental projects. Its mandate is the protection and conservation of the land and marine ecology and the submarine environment of the coral reefs, the land ecosystems of the Red Sea, and its coastline (HEPCA, 2012a). HEPCA's website describes its main reason for being as follows:

*“Environmental deterioration is no longer a threat but a reality. Each day in the Red Sea we are witness to the depletion of the very resource base that attracts so many visitors here in the first place. Without proper environmental and logistical planning, and interventions to promote sustainable development, the corals and marine life of the Red Sea will die... affecting not only the environment, but hundreds of thousands of livelihoods, ultimately causing the degradation of the entire tourism industry along the Red Sea coast of Egypt”* (HEPCA, 2012a).

HEPCA now has 50 hotel and dive shop members and has, among other accomplishments, helped to implement the joint USAID/EEAA mooring buoy installation programme along the coastline, to deter boats from anchoring on coral reefs (TDA, 1998). HEPCA is also engaged in a large number of projects focusing on the development of the local environment. It has provided training programmes for local boat crews, and assisted in the development of solid waste management plants to help manage the vast amount of rubbish that accumulates in Hurghada. HEPCA also participates in awareness-raising activities that target the local community, schools, the tourism industry, service providers and tourists (HEPCA, 2012b).

Recently, HEPICA has been planning to launch a new project called FEEL. Through this project, it aims to encourage today's young Egyptians to take responsibility for Egypt's natural resources. The FEEL project is an educational training programme for young Egyptian students wanting to learn more about the field of marine conservation. It gives students the opportunity to work intensively with professional scientists in order to learn many of the skills that will enable them to become Egypt's future environmental leaders. The FEEL project consists of five different programmes, located mainly in the city of Marsa Alam: (1) FEEL's main project, (2) FEEL for the young, (3) FEEL scientific diving, (4) FEEL for the turtles and (5) FEEL for the dolphins (HEPCA, 2013).

According to HEPICA's team, all of FEEL's programmes are designed to educate through entertaining activities. Participants will be able to enjoy diving/snorkelling while learning about the diversity of marine life (coral reefs and fish, dolphins, turtles). During observational activities involving marine mammals, students will learn the best ways of conducting research in the sea. HEPICA's website describes the FEEL project as follows:

*"All the programs are designed to educate through entertaining activities. Participant will indulge in diving/snorkeling practices while learning the diversity of marine animals (coral reef and fish, dolphin, turtle ID). During observational activities involving the marine mammals, students will learn the best practices in the sea! Every night, students will have the chance to attend lectures given by our team of marine biologists... Our children will play a major role in the protection of the amazing natural resources of the Red Sea. FEEL programs will surely provide our generations to come with the necessary knowledge for a better future" (HEPCA, 2013).*

Thus, the FEEL project aims to get Egypt's children involved in protecting the amazing natural resources of the Red Sea. The FEEL programmes will also provide Egyptian generations to come with the necessary knowledge to build a better future (HEPCA, 2013).

#### **5.5.2.2 Abu Salama Society (ASS)**

ASS is a non-profit NGO. It was established in Hurghada in April 2004, and is dedicated to supporting and protecting the natural environment (both marine and terrestrial) of the Egyptian Red Sea. Its activities include conducting environmental research and implementing community-based activities that produce information, increase knowledge and promote the local community's awareness of the importance of the Red Sea's ecological systems to their livelihoods, whilst aiming at positive change and conservation (ASS, 2012). It has conducted several research projects, including the following:

**(a) Samadi:** This is the organization's most famous project, initiated in 2006, focusing on the protection of the dolphins' habitat and its sustainable use in Samadi. Samadi is an off-shore reef located approximately five kilometres southeast of Marsa Alam (a tourist destination on the Red Sea); **(b) Seagrass:** In 2007, ASS was awarded a grant by the World Seagrass Association (WSA) to study and monitor the seagrass meadows in the Red Sea. This project enabled a great number of researchers from various organizations and universities to be trained in monitoring activities; **(c) Wadi Al-Jemal:** During 2008, most of ASS's activities were related to the Bedouin community

development of the Wadi Al-Jemal area in the south (a remote area), with assistance from USAID and the RSG (ASS, 2012).

#### **5.5.2.3 The Chamber of Diving and Water Sports (CDWS)**

The CDWS is a NGO under the umbrella of the Egyptian Tourist Federation, dedicated to all diving and water sports activities that take place throughout Egypt's coastal waters. It has pushed for greater punishments to deter dive centres from breaking the law, including appealing for four-month jail sentences rather than fines for illegal dive centre owners who continue to operate without licences (Blue Magazine, 2011).

### **5.5.3 International Organizations**

#### **5.5.3.1 The United States Agency for International Development (USAID)**

USAID is an independent agency that offers economic, developmental and humanitarian help across the world in order to sustain the foreign policy goals of the United States (USAID, 2008). According to Natsios (2005), USAID has undertaken or begun more than 90 projects since the year 2000, in 72 countries, either specifically addressing the tourism industry or employing tourism as a means to achieve other objectives. USAID also has a long history of extending assistance to communities outside the US that are struggling to make their lives better, to recover from disasters or that wish to live in free and democratic countries (USAID, 2006).

It is important to note at this point that, according to Ferguson (2007), USAID is one of the most important sources of funding for the development of tourism. The organization sees tourism as a means for achieving economic growth and

equity. It advocates that, in any development project, the tourism industry must be involved from the beginning, and pledges support for partnerships between the public and private sectors in the development of tourism, echoing the explicit commitment from the United Nations World Tourism Organization (UNWTO) as to the role of the private sector in the development of tourism and the alleviation of poverty. USAID also recognizes that sustainable tourism has played an important role in international development, assisting in the achievement of various objectives, such as economic growth, poverty reduction, enhanced local governance, biodiversity preservation, and improved management of natural capital (Bennett et al., 1999).

USAID can be considered one of the main actors in the Hurghada, embracing important projects aimed at protecting the environmental and managing tourism activities in Hurghada, Egypt. It has adopted many projects in Egypt, and in particular in the Hurghada region through the LIFE Red Sea Project (LRS), which is based in Hurghada and aims to achieve sustainable economic growth in the RSG. The stated aims of LRS are as follows: to identify ways to maximize the role of all stakeholders in decisions about project activities, to create opportunities for higher and more reliable family incomes, to facilitate direct access to social services and healthcare, to provide direct economic benefits through revenue from tourism-related enterprises, to improve quality of life through a cleaner community, and to embed greater recognition and rewards for natural and cultural resource-related programmes (USAID, 2005).

The Red Sea Sustainable Tourism Initiative (RSSTI) is probably the most well-known project aimed at sustainable tourism development in Egypt. It is financed

by USAID and implemented by the TDA and other partner organizations (Helmy, 2004; Merchant, 2008). The objectives of the project are to build a model for sustainable natural resource management and infrastructure development under the accelerating development conditions existing in the Red Sea area. The project has developed an environmental strategy of sustainable tourism as a guideline for the future (Bennett et al., 1999). Hence, the core work of the RSSTI includes best practices, EIA and monitoring, environmental management systems, and sustainable tourism awareness, primarily in Red Sea resorts (Helmy, 2004).

#### **5.5.3.2 The Global Environment Facility (GEF)**

The GEF was founded by the International Bank for Reconstruction and Development (IBRD or World Bank) as a pilot programme to help in the conservation of the global natural environment and thereby encourage environmentally sound and sustainable economic development. The instigators were the executive directors of the World Bank and it is also supported by related interagency arrangements between the United Nations Development Program (UNDP), UNEP and the World Bank (Young, 2002). The GEF operates, on the basis of collaboration and partnership between the implementing agencies, as a mechanism for international cooperation with the aim of providing new and increased funding and concessional grants to meet the agreed incremental costs of measures aimed at achieving agreed global environmental benefits. The GEF's role is dedicated to the following focal areas: (a) biodiversity, (b) climate change, (c) international waters, (d) land degradation, primarily desertification and deforestation, (e) depletion of the ozone layer and (f) persistent organic pollutants (GEF, 2012). Moreover, the

GEF aims to guarantee the cost efficiency of its activities in addressing global environmental issues, by funding programmes and projects geared to each country that are based on national priorities designed to maintain sustainable development. Moreover, it aims to sustain adequate flexibility to respond to changing conditions in order to achieve its objectives (GEF, 2008).

#### **5.5.3.3 The United Nations Environment Program (UNEP)**

UNEP is dedicated mainly to providing leadership and encouraging collaboration and partnership in caring for the environment, by inspiring, informing and enabling countries and peoples to enhance their quality of life without undermining that of future generations (UNEP, 2009). As the main UN body in the field of the environment, UNEP participates in the implementation of Agenda 21, which aims to eliminate poverty by stimulating environmental measures at all levels, and assisting governments through cooperation with other partner organizations and different stakeholders (UNEP, 2000).

UNEP conducts field-based environmental evaluations and strengthens national capacities for environmental management, in nations affected by conflicts and disasters (UNEP, 2009). Since 1999, it has worked in more than twenty-five nations and published eighteen environmental evaluation reports. Based on this expertise, UNEP also provides technical support to the UN peace-building commission for the evaluation of the role of natural resources and the environment in conflict and peace building. The key purpose of this collaboration is to avoid putting any stress on natural resources and the environment that might weaken the peace-building process, while at the same

time using the environment as a platform for dialogue, collaboration and confidence building (UNEP, 2009).

## **5.6 Summary**

This chapter has aimed to shed light on the situation in the coastal region of Hurghada, situated in the RSG, Egypt, by describing how the problems it is facing will affect tourism activity in the future, as well as detailing the Egyptian policies relating to Hurghada. In addition, it has discussed governance and the role of the Egyptian's government in tourism development. This chapter has also shown that the Hurghada region has interesting natural resources such as coral reefs that make it one of the best-known scuba-diving destinations in the world. However, during the past few decades, the reefs at Hurghada have been undergoing continuous degradation as a result of a combination of intensive diving and other water-based recreational activities, pollution, landfill and other activities related to tourism development.

This chapter has also identified the main actors that have adopted projects aimed at environmental protection and the management of tourism in Hurghada, Egypt. It has also been shown that there are different types of actors in Hurghada, which can be divided into governmental organizations, NGOs and international organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism. The next chapter uses structural equation modelling to test the tourism-related organizations' roles statistically.

## **Chapter 6. Results: The Quantitative data**

### **6.1 Introduction**

The thesis thus far has reviewed the relevant literature relating to actor-networks, collaboration theory, governance in developing countries and sustainable community livelihoods, has proposed a conceptual framework which underpins the study, has documented the research process, methods and instruments employed and has introduced the case-study. This chapter presents and analyses the results of the quantitative data collection. This chapter begins with the descriptive statistics for the main survey and each construct. Next, the discriminant and convergent validity and construct reliability of the “reflective” measurement models are tested. Additionally, the discriminant and convergent validity and construct reliability of the “formative” measurement models are tested. The nomological validity of the formative measurement model is also established.

The chapter concludes with an analysis and presentation of the findings of the structural models. These findings are divided into four main points: (1) The relationships from commitment, trust, communication and coordination to collaboration, (2) The relationships from collaboration to environmental role, non-environmental role and sustainable livelihood outcomes, (3) the relationships from sustainable livelihood outcomes and challenges to satisfaction with overall performance, and (4) The results of the complete mediation model. Finally, the global goodness of fit (GoF) of the model is tested.

## **6.2 Descriptive Data Findings**

This section discusses descriptive data for the main survey (see Section 4.5.2), including: the environmental role of tourism-related organizations, non-environmental role of tourism-related organizations, trust between tourism-related organizations, commitment between tourism-related organizations, coordination between tourism-related organizations, communication between tourism-related organizations, collaboration between tourism-related organizations, sustainable livelihoods outcomes achieved by tourism-related organizations, tourism-related organizations' satisfaction with their overall performance, challenges have been encountered tourism-related organizations and general information.

### **6.2.1 Environmental Role of Tourism-related organizations**

In general, the tourism organization representative's responses average on the *Environmental Role* are mostly 'Agree (4.28) on 'ER11' 'determine the carrying capacity of the coastal areas and water bodies in Hurghada' to (4.40) on 'ER6' 'managing the coastal setback lands and other common spaces within the tourism centre to ensure public access'. These responses signify that the respondents believe on 'ER6' as the most action undertaken to protect Hurghada's natural environment. Table 6.1 shows the descriptive statistics of the environmental role undertaken by tourism-related organizations to protect the natural resources in Hurghada. This tables gives descriptive statistics of the 11 items of the environmental role by introducing the indicator's frequencies, strongly disagree (SD), disagree (D), Neutral (N), agree (A), strongly agree (SA) and the mean.

**Table 6.1: Descriptive statistics of the environmental role of tourism-related organizations**

Environmental Role (ER); 11 items (formative).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
ER1)Establish mechanisms for minimizing and mitigating human impact on the environment's natural resources	0	.0	6	1.2	14	2.7	313	61.4	177	34.7	4.30
ER2)Provide support (financial, technical , information and research to help build and improve Hurghada's natural resources)	0	.0	5	1.0	10	2.0	294	57.6	201	39.4	4.35
ER3)Increased ability of institutions to effectively monitor the natural environment	1	.2	3	.6	11	2.2	285	55.9	210	41.2	4.37
ER4)Encourage local communities in the region to participate in environmental natural resources protection	1	.2	2	.4	11	2.2	281	55.1	215	42.2	4.39
ER5)Implement solid waste management systems	2	.4	4	.8	6	1.2	282	55.3	216	42.4	4.38
ER6)Managing the coastal setback lands and other common spaces within the tourism centre to ensure public access	3	.6	4	.8	8	1.6	266	55.2	229	44.9	4.40
ER7)Prepare/enforce regulations governing pollution control, shoreline remediation and other environmental management activities	3	.6	7	1.4	5	1.0	272	53.3	229	44.9	4.38
ER8)Contribute to the protection of coral reefs	2	.4	4	.8	29	5.7	244	47.8	231	45.3	4.37
ER9)Contribute to the protection of biodiversity	0	.0	6	1.2	27	5.3	242	47.5	235	46.1	4.38
ER10)Contribute in maintaining the cleanliness of the environment in Hurghada	1	.2	2	.4	39	7.6	252	49.4	216	42.4	4.33
ER11)Determine the carrying capacity of the coastal areas and water bodies in Hurghada	2	.4	4	.8	49	9.6	251	49.2	204	40.0	4.28

## 6.2.2 Non-Environmental Role of Tourism-related organizations

For the tourism organization representative's responses average on the *Non-Environmental Role* are mostly 'Agree (4.37) on 'NER5' 'contribute to the creation of jobs for residents of the community in Hurghada' and (4.37) on 'NER6' 'work with other organizations involved in the field of environmental

protection to preserve the natural resources in Hurghada' to (4.45) on 'NER2' 'address health needs of the local community in the region. These responses signify that the respondents believe on 'NER2' as the most action undertaken by tourism-related organizations in the development of sustainable community livelihoods in Hurghada region. Table 6.2 shows the descriptive statistics of the *Non-Environmental Role* undertaken by tourism-related organizations to secure local community livelihoods in Hurghada.

**Table 6.2: Descriptive statistics of the non-environmental role of tourism-related organizations**

Non-Environmental Role (NER); 6 items (formative).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
NER1)Support the training of local community members to enter the workforce in the tourism industry	4	.8	5	1.2	9	1.8	247	48.4	245	48.0	4.42
NER2)Address health needs of the local community in the region	3	.6	4	.8	8	1.6	239	46.9	256	50.2	4.45
NER3)Address educational needs of the local community in the region	2	.4	6	1.2	11	2.2	253	49.6	238	46.7	4.41
NER4)Support local communities through the use of products, services and facilities of the local community in tourism	4	.8	4	.8	19	3.7	246	48.2	237	46.5	4.39
NER5)Contribute to the creation of jobs for residents of the community in Hurghada	2	.4	5	1.0	19	3.7	262	51.4	222	43.5	4.37
NER6)Work with other organizations involved in the field of environmental protection to preserve the natural resources in Hurghada	1	.2	5	1.0	23	4.5	256	50.2	225	44.1	4.37

### 6.2.3 Trust between tourism-related organizations

In terms of trust between the tourism-related organizations, Table 6.3 shows that respondents have opinions range from 'Agree (3.62) on 'TRUST3 'we are usually considerate of one another's circumstances in the collaboration' to

(3.74) on 'TRUST1' 'my organization can rely on those with whom I work in this collaboration'. Table 6.3 shows the descriptive statistics of trust between tourism-related organizations who are involved in the development of sustainable community livelihoods in Hurghada region.

**Table 6.3: Descriptive statistics of trust between tourism-related organizations**

Trust (TRUST); 4 items (Reflective).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
TRUST1)My organization can rely on those with whom I work in this collaboration	1	.2	55	10.8	131	25.7	214	42.0	109	21.4	3.74
TRUST2)Overall, the other partner organizations in the network are very trustworthy	3	.6	94	18.4	88	17.3	215	42.2	110	21.6	3.66
TRUST3)We are usually considerate of one another's circumstances in the network	5	1.0	105	20.6	79	15.5	213	41.8	108	21.2	3.62
TRUST4)Partner organizations' relationships in the network are friendly	4	.8	101	19.8	85	16.7	212	44.6	108	21.2	3.63

#### **6.2.4 Commitment between tourism-related organizations**

For commitment between tourism-related organizations, Table 6.4 shows that respondents have opinions range from 'Neutral (2.62) on 'COMMIT2' 'my organization is committed not only to its goals, but to the overall aim of protecting Hurghada's environmental/natural resources collaboration' to (2.84) on 'COMMIT1' 'my organization is proud to be a part of protecting Hurghada's environmental/natural resources'. Table 6.4 shows the descriptive statistics of commitment between tourism-related organizations who are involved in the development of sustainable community livelihoods in Hurghada region.

**Table 6.4: Descriptive statistics of commitment between tourism-related organizations**

Commitment (COMMIT); 2 items (Reflective).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
COMMIT1) My organization is proud to be a part of protecting Hurghada's environmental/natural resources	7	1.4	190	37.3	216	42.4	72	14.1	25	4.9	2.84
COMMIT2) My organization is committed not only to its goals, but to the overall aim of protecting Hurghada's environmental/natural resources collaboration	24	4.7	240	47.1	176	34.5	51	10.0	19	3.7	2.61

### 6.2.5 Coordination between tourism-related organizations

In terms of coordination between tourism-related organizations, Table 6.5 shows that respondents have opinions range from 'Agree (4.34) on 'COORD2' 'duplicated and overlapping activities are/were avoided' to (4.38) on 'COORD3' 'we have/had no problems in coordinating with other partner organizations'.

Table 6.5 shows the descriptive statistics of coordination between tourism-related organizations who are involved in the development of sustainable community livelihoods in Hurghada region.

**Table 6.5: Descriptive statistics of coordination between tourism-related organizations**

Coordination (COORD); 3 items (Reflective).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
COORD1) Connected processes and activities are/were well coordinated with other partner organizations	0	.0	2	.4	21	4.1	278	54.5	209	41.9	4.36
COORD2) Duplicated and overlapping activities are/were avoided	1	.2	2	.4	17	3.3	291	57.1	199	39.0	4.34
COORD3) We have/had no problems in coordinating with other partner organizations resources collaboration	0	.0	3	.6	18	3.5	271	53.1	218	42.7	4.38

### **6.2.6 Communication between tourism-related organizations**

For communication between tourism-related organizations who are involved in the development of sustainable community livelihoods in Hurghada region, Table 6.7 indicates that participants have opinions range from 'Agree (4.28) on 'COMMU3' 'we exchange performance feedback' to (4.33) on 'COMMU1' 'exchange of information in this collaboration takes place frequently and informally, not only according to a pre-specified agreement'. Table 6.7 shows the descriptive statistics of communication between tourism-related organizations.

**Table 6.6: Descriptive statistics of communication between tourism-related organizations**

Communication (COMMU); 3 items (Reflective).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
COMMU1) Exchange of information in this collaboration takes place frequently and informally, not only according to a pre-specified agreement	2	.4	3	.6	33	6.5	260	51.0	212	41.6	4.33
COMMU2) We have frequent face-to-face planning/communication	2	.4	4	.8	36	7.1	262	51.4	206	40.4	4.31
COMMU3) We exchange performance feedback	1	.2	8	1.6	44	8.6	249	48.8	208	40.8	4.28

### **6.2.7 Collaboration between tourism-related organizations**

Regarding collaboration between tourism-related organizations, Table 6.7 shows that respondents have opinions range from 'Agree (4.26) on 'COLLA1' 'as a representative of the organization in this/these collaborative relationships, I understand my organization's roles and responsibilities as a member of this collaboration' to (4.48) on 'COLLA5' 'other partner organizations take my organization's opinion seriously when decisions are made about the collaboration'. Table 6.7 shows the descriptive statistics of collaboration

between tourism-related organizations who are involved in the development of sustainable community livelihoods in Hurghada region.

**Table 6.7: Descriptive statistics of collaboration between tourism-related organizations**

Collaboration (COLLA); 6 items (Reflective).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
COLLA1)As a representative of the organization in this/these collaborative network(s), I understand my organization's roles and responsibilities as a member of this collaboration	5	1.0	6	1.4	14	2.7	312	61.2	173	33.9	4.26
COLLA2)Partner organization's meetings accomplish what is necessary for the collaboration to function well	4	.8	4	.8	15	2.9	316	62.0	171	33.5	4.27
COLLA3)Partner organizations (including my organization) agree on the goals of the collaboration	4	.8	3	.6	11	2.2	308	60.4	184	36.1	4.30
COLLA4)My organization achieves its own goals better by working with partner organizations than by working alone	1	.2	4	.8	14	2.7	250	49.1	241	47.3	4.42
COLLA5)Other partner organizations take my organization's opinion seriously when decisions are made about the collaboration	0	.0	4	.8	16	3.1	220	43.1	270	52.9	4.48
COLLA6) My organization brainstorms with other partner organizations to develop solutions to mission-related problems facing the collaboration.	1	.2	2	.4	22	4.3	216	42.4	269	52.7	4.47

## 6.2.8 Sustainable livelihoods outcomes achieved by tourism-related organizations

The tourism organization representative's responses average on the sustainable community livelihoods achieved are mostly 'Agree (4.27) on 'SLAs2' 'reduced the vulnerability of households and communities to shocks and stresses' to (4.44) on 'SLAs6' 'improved understanding of the values of environmental/natural resource conservation'. These responses signify that the

respondents believe on 'SLAs6' as the most sustainable community livelihoods achieved as a result of the tourism-related organizations role undertaken to protect Hurghada's natural environment. Table 6.8 shows the descriptive statistics of the sustainable community livelihoods achieved by tourism-related organizations in Hurghada.

**Table 6.8: Descriptive statistics of the sustainable livelihood outcomes achieved by tourism-related organizations**

Sustainable livelihood outcomes (SLAs); 10 items (formative).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
SLAs1)Increased incomes	3	.6	5	1.0	15	2.9	310	61.4	177	34.7	4.28
SLAs2)Reduced the vulnerability of households and communities to shocks and stresses	3	.6	3	.6	19	3.7	314	61.6	171	33.5	4.27
SLAs3)Reduced job insecurity	1	.2	6	1.2	18	3.5	278	54.5	207	40.6	4.34
SLAs4)Ensuring the sustainable use of natural resources	1	.2	5	1.0	21	4.1	258	50.6	225	44.1	4.37
SLAs5)Created a heightened sense of well-being among residents in the region	1	.2	5	1.0	22	4.3	234	45.9	248	48.6	4.42
SLAs6)Improved understanding of the values of environmental/natural resource conservation	1	.2	5	1.0	18	3.5	230	45.1	256	50.2	4.44
SLAs7)Improved biodiversity conservation in the tourist destination	2	.4	3	.6	24	4.7	236	46.3	245	48.0	4.41
SLAs8)Protecting Hurghada's coral reefs	1	.2	6	1.2	23	4.5	256	50.2	224	43.9	4.36
SLAs9)Created jobs for residents of the community in Hurghada	1	.2	8	1.6	29	5.7	252	49.5	220	43.1	4.34
SLAs10)The local community has contributed and is involved in maintaining the natural resources	1	.2	9	1.8	31	6.1	275	53.9	194	38.0	4.28

### 6.2.9 Tourism-related organizations' satisfaction with overall performance

For tourism-related organizations' satisfaction with overall performance, Table 6.9 shows that the average of participants' views range from 'Agree (4.25) on 'PERFM1' 'so far, this collaboration can be regarded as successful' to (4.26) on 'PERFM2' 'so far, all the collaboration's goals have been achieved' and (4.26)

'PERFM3' 'so far, the collaboration's output is of high quality'. Table 6.9 shows the descriptive statistics of tourism-related organizations' satisfaction with their overall performance in Hurghada region.

**Table 6.9: Descriptive statistics of commitment between tourism-related organizations**

Satisfaction with overall performance (PERFM); 3 items (Reflective).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
PERFM1)So far, this collaboration can be regarded as successful	1	.2	6	1.2	35	6.9	290	56.9	178	35.9	4.25
PERFM2)So far, all the collaboration's goals have been achieved	0	.0	8	1.6	37	7.3	279	54.7	186	36.5	4.26
PERFM3)So far, the collaboration's output is of high quality	0	.0	6	1.2	50	9.8	261	51.2	193	37.8	4.26

### **6.2.10 Challenges have been encountered tourism-related organizations**

The tourism organization representative's responses average on the sustainable community livelihoods achieved are mostly 'Agree (3.77) on 'CHALL9' 'poor participation of the local community in maintaining and protecting the natural environment in Hurghada' to (4.14) on 'CHALL1' 'identifying the problems related to the use of Hurghada as a tourist destination'.

These responses signify that the respondents believe on 'CHALL1' as the most challenge that prevent tourism-related organizations from doing their roles, and which negatively affect their relationships with each other. Table 6.10 shows the descriptive statistics of the challenges have been encountered the collaboration in which the organizations are most involved in Hurghada.

**Table 6.10: Descriptive statistics of the challenges have been encountered tourism-related organizations**

Challenges (CHALL); 9 items (formative).	SD		D		N		A		SA		Mean
	F	%	F	%	F	%	F	%	F	%	
CHALL1)Identifying the problems related to the use of Hurghada as a tourist destination	1	.2	7	1.4	94	18.4	228	44.7	180	35.3	4.14
CHALL2)Identifying solutions related to the use of Hurghada as a tourist destination	1	.2	12	2.4	108	21.2	208	40.8	181	35.5	4.09
CHALL3)Identifying the most appropriate organizations to work with	0	.0	31	6.1	115	22.5	181	35.5	183	35.9	4.01
CHALL4)Convincing other organizations to be involved with the network	1	.2	61	12.0	90	17.6	179	35.1	179	35.1	3.93
CHALL5)Lack of trust between partner organizations	2	.4	96	18.8	64	12.5	186	36.5	162	31.8	3.80
CHALL6)Poor communication between partner organizations	1	.2	92	18.0	69	13.5	206	40.4	142	27.8	3.78
CHALL7)Difficulties of agreeing roles and responsibilities	1	.2	71	13.9	97	19.0	200	39.2	141	27.6	3.80
CHALL8)Change of leadership style	3	.6	58	11.4	114	22.4	194	38.0	141	27.6	3.81
CHALL9)Poor participation of the local community in maintaining and protecting the natural environment in Hurghada	3	.6	70	13.7	109	21.4	187	36.7	141	27.6	3.77

### 6.2.11 General Information

Table 6.11 shows a summary of all of the descriptive data, including the number of valid and missing cases, and the item means and standard deviations. The number of valid cases is 510. The responses to the first question ‘how long has your tourism organization’s network been established?’ have a mean of 4.62 and a standard deviation of 0.865. Question 2 ‘how long is this collaboration expected to be operational?’ has mean response 4.22 with standard deviation 1.447. The third question ‘how often do tourism-related organizations and the members of the network formally meet?’ receives mean and standard deviation of responses of 3.24 and 1.773. The fourth question ‘what means of communication do you generally use to contact members of the collaboration?’

has mean and standard deviation 2.14 and 1.073. The last question which asked about means of communications received the following results: participants has used telephone which has a mean of 0.75 and standard deviation of 0.443, fax has a mean of 0.43 and standard deviation of 0.496, email has a mean of 0.59 and standard deviation of 0.492, while using videoconference has a mean of 0.04 and standard deviation of 0.190; and finally face-to-face communication has a mean of 0.56 and standard deviation of 0.497. This result signifies a low standard deviation which indicates that the data points tend to be very close to the mean. This demonstrates the quality of data used.

**Table 6.11: Summary of Descriptive Statistics**

N Valid Missing Mean Std. Deviation	How long has your tourism organization's collaboration been established?	How long is this collaboration expected to be operational?	How often do tourism-related organizations and the members of the collaboration formally meet?	What means of communication do you generally use to contact members of the collaboration?	Using Tele	Using Fax	Using Email	Using Video	Using Face-to-Face
	510	510	510	510	510	510	510	510	510
	0	0	0	0	0	0	0	0	0
	4.62	4.22	3.24	2.14	.75	.43	.59	.04	.56
	.865	1.447	1.773	1.073	.443	.496	.492	.190	.497

The following discussion addresses each question in more details, from tables 6.12 to 6.20. Table 6.12 shows that the majority of the participants (403, 79.0%) reported that their tourism organization's networks had been established for more than 6 years, while only 14 participants (about 2.7%) reported duration of less than a year.

**Table 6.12: How Long has the collaboration been Established?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a year	14	2.7	2.7	2.7
	3-4 years	46	9.0	9.0	11.8
	5–6 years	47	9.2	9.2	21.0
	More than 6 years	403	79.0	79.0	100.0
	Total	510	100.0	100.0	

Table 6.13 illustrates that the majority of the participants (383, 75.1%) reported that they expected their organization's network to be operational for more than 6 years, followed by 63 participants (about 12.4%) who marked the option of less than a year, while only 13 participants (about 2.5%) ticked the option for 5 to 6 years.

**Table 6.13: How long is this collaboration expected to be operational?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a year	63	12.4	12.4	12.4
	1-2 years	30	5.9	5.9	18.2
	3-4 years	21	4.1	4.1	22.4
	5–6 years	13	2.5	2.5	24.9
	More than 6 years	383	75.1	75.1	100.0
	Total	510	100.0	100.0	

Table 6.14 demonstrates that the most frequently cited category (113, 22.2%) was meeting less than once a month, followed by 101 participants (about 19.8%) ticked the option of every three months, and then 95 participants (about 18.6%) reported that they meet every month, while only 37 participants (about 7.3%) said that they met formally every six months.

**Table 7.14: How often do people from your organization formally meet with members of the collaboration?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a Month	113	22.2	22.2	22.2
	Every Month	95	18.6	18.6	40.8
	Every three Months	101	19.8	19.8	60.6
	Every six Months	37	7.3	7.3	67.8
	Every Year	86	16.9	16.9	84.7
	More than one year	78	15.3	15.3	100.0
	Total	510	100.0	100.0	

Table 6.15 shows that 191 participants (37.5%) reported that they had been working for the organization for 6 to 10 years, also 165 participants (about 32.4%) said that they had been tenure with their organizations from one-five years, while 17 only participants (about 3.3%) reported that they had been with their organization for more than 20 years. Table 8.48 to 8.52 report on the means of communications these tourism-related organizations generally use to contact other members of the collaboration.

**Table 6.15: Tenure with Organization**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 – 5 Years	165	32.4	32.4	32.4
	6 – 10 Years	191	37.5	37.5	69.8
	11 – 15 Years	90	17.6	17.6	87.5
	16 – 20 Years	47	9.2	9.2	96.7
	More than 20 Years	17	3.3	3.3	100.0
	Total	510	100.0	100.0	

Table 6.16 indicates that, the majority of the participants (378, 74.1%) reported that they do use the telephone to contact other members of the network.

**Table 6.16: Telephone**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	130	25.5	25.5	25.5
	Yes	378	74.1	74.1	99.6
	Total	510	100.0	100.0	

Table 6.17 shows that slightly more than half of the participants (289, 56.7%) stated that they do not use a fax machine to contact members of the network.

**Table 6.17: Fax**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	289	56.7	56.7	56.7
	Yes	221	43.3	43.3	100.0
	Total	510	100.0	100.0	

Table 6.18 illustrates that the majority of the participants (302, 59.2%) declared that they use email to contact members of the collaboration.

**Table 6.18: Email**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	208	40.8	40.8	40.8
	Yes	302	59.2	59.2	100.0
	Total	510	100.0	100.0	

Table 6.19 shows that, the majority of the participants (491, 96.3%) declared that they do not use videoconferencing to contact other members of the tourism-related organizations network.

**Table 6.19: Videoconferencing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	491	96.3	96.3	96.3
	Yes	19	3.7	3.7	100.0
	Total	510	100.0	100.0	

Table 6.20 shows that slightly more than half of the participants (285, 55.9%) reported that they contact members of the network face-to-face.

**Table 6.20: Face-to-face**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	225	44.1	44.1	44.1
	Yes	285	55.9	55.9	100.0
	Total	510	100.0	100.0	

Overall, we can conclude that the telephone is most widely used as a means to contact members of the network (378, 74.1%); while videoconferencing is rarely used (491 said they did not use this, 96.3%).

### 6.3 Structural equation model results

SEM is composed of two models, the measurement model and the structural model (Schreiber et al., 2006). The measurement model described the nature of the relationship between latent constructs and the manifest indicators that measured those latent constructs (Yoon and Uysal, 2005); in other words, it represents the CFA model. Meanwhile, the structured model looks at the causal relationships among the unobserved variables (Van de Wijngaert, 2010, cited in Abou-Shouk, 2012).

### **6.3.1 Measurement model in PLS-SEM**

The measurement model is a pre-cursor to structural equation modelling. The constructs of a measurement model cannot be validated by definition; the confirmation of the validity and reliability of the developed scales is the rationale used to label a measurement model as valid (Abou-Shouk, 2012). According to MacKenzie et al. (2011) the measurement model enables the researcher to assessment how the newly developed latent variables fit together and whether they are linked sufficiently to their indicators. This means, the measurement model help to evaluate aspects the latent variables' validity and reliability concerns (Krumlinde-Sundholm et al., 2007). These include latent variable validity (discriminant and convergent) and Cronbach's alpha and composite reliability for all latent variables (Reflective and Formative, for more detail see Sections 4.6.2) in the measurement model.

In this study, the researcher used the analysis provided in WarpPLS 3.0 (Kock, 2012) (For more detail, see Section 4.6.3). The algorithm used was Warp3 PLS regression. The re-sampling method was jackknifing. The number of data re-samples used was 100. The number of cases (rows) in the model data was 510. The number of latent variables in the model was 10. The number of indicators used in the model was 57. Only ranked data were used in the analysis to handle the problem of outliers.

The following section will illustrate the descriptive statistics for each construct (Table 6.21). This is followed by the research model's reliability / internal consistency (Cronbach's alpha and composite reliability) and construct validity (Discriminant validity, convergent validity and average variance extracted

(AVE)) for both the reflective and the formative measurement models. Discriminant and convergent validity (construct validity) and construct reliability will be discussed for the reflective measurement model first.

### **6.3.3.1 Descriptive statistics for the main constructs**

Table 6.21 shows the descriptive statistics for each construct. These statistics consist of the construct's name and abbreviation, the number of items, and the construct's mean and standard deviation.

**Table 6.21: Descriptive statistics for each construct**

Construct	Types of construct	Number of items	Items Mean	Standard Deviation
<b>(1) Environmental Role (ER)</b>	Formative	11	4.361	4.019
<b>(2) Non-environmental (NER)</b>	Formative	6	4.396	2.601
<b>(3) Sustainable Livelihoods Outcomes (SLAs)</b>	Formative	10	4.351	4.137
<b>(4) Challenges (CHALL)</b>	Formative	9	3.903	7.331
<b>(5) Satisfaction Overall Performance (PERFM)</b>	Reflective	3	4.256	1.697
<b>(6) Collaboration (COLLA)</b>	Reflective	6	4.368	2.746
<b>(7) Trust (TRUST)</b>	Reflective	4	3.658	3.788
<b>(8) Commitment (COMMIT)</b>	Reflective	2	2.725	1.603
<b>(9) Communication (COMMU)</b>	Reflective	3	4.306	1.734
<b>(10) Coordination (COORD)</b>	Reflective	3	4.361	1.520

### **6.3.1.2 Discriminant Validity of the Reflective Measurement Model**

Construct validity is used to determine whether the indicators of the construct indeed measure what they are intend to, from the perspective of relationships between the constructs and between the constructs and their relative indicators (Anddreev et al., 2009). To assess validity, Henseler et al. (2009) stressed that there is two validity subtypes are regularly tested: convergent validity and discriminant validity. Discriminant validity is assumed to hold when the extracted variance is greater than the squared correlation (Henseler et al., 2009; Kock and Verville, 2012), and it is recommended that the measurement indicators' loadings on their assigned constructs should be an order of magnitude larger

than their loadings on the other constructs (Head and Ziolkowski, 2010). Discriminant validity is used to distinguish among latent variables that are expected to measure different phenomena. Achieving proper discriminant validity in a study means that the latent variables are actually measuring different things (Kline, 2009, cited in Garza, 2011).

Through the process of confirmatory factor analysis (CFA), no items of the reflective and formative latent variables removed. These items were sufficient for the analysis because it were implied that they measure the latent variables as expected. The factor loadings of all of the remaining reflective indicators exceed the 0.5 threshold; consequently, it can be said that the model has sufficient convergent validity. When looking at the indicators loadings between the latent variables, it can be noticed that none of the indicators loadings are high, which means that this study has appropriate discriminant validity (see Table 6.22).

Table 6.22 shows the loadings and cross-loadings for the reflective indicators and their P-values, demonstrating an appropriate convergent and discriminant validity for the measurement indicators. Reflective constructs and their indicators are shaded to differentiate between them and the formative constructs.

**Table 6.22: Combined Loadings and Cross-Loadings**

	ER	COLLA	COMMU	SLAs	TRUST	COMMIT	COORD	NER	PERFM	CHALL	SE	P VALUE
ER1	(0.732)	0.115	0.072	-0.106	-0.146	0.011	0.054	-0.084	0.072	0.056	0.048	<0.001
ER2	(0.790)	-0.006	0.064	-0.075	-0.161	0.069	0.027	-0.113	0.095	0.076	0.047	<0.001
ER3	(0.824)	-0.049	0.017	-0.026	-0.121	0.115	0.015	-0.085	0.029	-0.027	0.054	<0.001
ER4	(0.843)	-0.069	-0.054	-0.051	0.036	0.101	0.040	-0.124	0.041	-0.045	0.051	<0.001
ER5	(0.795)	-0.083	-0.061	-0.019	0.256	-0.070	-0.075	0.009	-0.018	-0.166	0.076	<0.001
ER6	(0.707)	-0.029	-0.095	0.031	0.183	-0.129	-0.095	0.190	-0.024	-0.023	0.097	<0.001
ER7	(0.556)	0.034	-0.095	0.069	0.181	-0.123	-0.092	0.413	-0.011	-0.029	0.113	<0.001
ER9	(0.349)	0.001	-0.069	0.184	-0.149	-0.056	0.036	-0.009	-0.104	0.176	0.104	<0.001
ER10	(0.356)	0.063	0.023	0.111	-0.036	-0.033	0.049	-0.114	-0.121	0.134	0.106	<0.001
ER12	(0.362)	0.075	0.172	0.044	-0.135	0.010	0.078	-0.010	-0.125	0.086	0.091	<0.001
ER13	(0.268)	0.138	0.187	0.131	-0.060	-0.002	0.049	0.004	-0.094	-0.065	0.095	0.002
COLLA1	0.097	(0.808)	-0.046	-0.104	-0.029	0.097	0.063	0.060	0.023	-0.074	0.083	<0.001
COLLA2	0.053	(0.834)	0.018	-0.154	-0.018	0.108	0.044	0.033	0.014	-0.089	0.082	<0.001
COLLA3	-0.006	(0.832)	-0.002	-0.060	-0.021	0.075	0.056	0.019	0.053	-0.051	0.081	<0.001
COLLA5	-0.046	(0.753)	-0.055	0.116	-0.036	-0.077	-0.067	-0.062	-0.025	0.125	0.070	<0.001
COLLA6	-0.101	(0.650)	0.029	0.118	0.053	-0.144	-0.061	-0.039	-0.028	0.107	0.081	<0.001
COLLA7	-0.035	(0.500)	0.092	0.196	0.097	-0.158	-0.088	-0.039	-0.075	0.026	0.102	<0.001
COMMU4	0.012	0.047	(0.842)	0.001	-0.128	0.017	-0.029	-0.026	-0.007	0.121	0.059	<0.001
COMMU5	0.045	-0.008	(0.919)	-0.049	0.051	0.014	-0.009	-0.011	-0.026	-0.029	0.049	<0.001
COMMU6	-0.064	-0.040	(0.802)	0.056	0.076	-0.035	0.040	0.041	0.037	-0.094	0.052	<0.001
SLAs1	0.093	0.202	-0.002	(0.576)	0.126	0.062	0.043	-0.082	-0.097	0.058	0.125	<0.001
SLAs2	0.091	0.199	0.021	(0.595)	0.172	0.053	0.037	-0.034	-0.134	0.010	0.126	<0.001
SLAs3	0.088	0.084	0.067	(0.650)	0.135	-0.009	0.055	-0.061	-0.182	-0.002	0.102	<0.001
SLAs4	0.130	-0.112	0.004	(0.694)	-0.003	-0.030	0.086	0.035	-0.241	-0.001	0.078	<0.001
SLAs5	0.107	-0.175	-0.020	(0.744)	-0.016	-0.050	0.046	0.024	-0.272	-0.046	0.064	<0.001
SLAs6	0.064	-0.090	-0.063	(0.738)	-0.084	-0.003	0.005	-0.037	-0.163	-0.070	0.065	<0.001
SLAs7	-0.112	-0.030	-0.014	(0.712)	-0.111	0.005	-0.041	0.000	-0.031	-0.041	0.088	<0.001
SLAs8	-0.166	0.020	0.001	(0.655)	-0.080	-0.011	-0.091	0.059	0.195	0.001	0.097	<0.001
SLAs9	-0.188	-0.008	-0.015	(0.583)	-0.105	0.012	-0.115	0.039	0.495	0.099	0.105	<0.001
SLAs10	-0.169	-0.004	0.044	(0.493)	0.013	-0.008	-0.050	0.062	0.707	0.038	0.109	<0.001
TRUST2	0.025	0.072	-0.005	-0.072	(0.904)	0.012	-0.004	0.003	-0.023	-0.063	0.029	<0.001
TRUST3	0.010	0.021	0.014	-0.021	(0.958)	0.026	0.012	-0.009	-0.028	-0.099	0.026	<0.001
TRUST4	-0.010	-0.034	0.024	0.037	(0.957)	-0.011	0.003	-0.007	-0.011	0.011	0.025	<0.001
TRUST5	-0.025	-0.058	-0.035	0.056	(0.903)	-0.028	-0.011	0.014	0.064	0.156	0.027	<0.001
COMMIT3	0.013	0.004	0.016	-0.012	0.077	(0.926)	-0.006	-0.002	-0.004	0.027	0.035	<0.001
COMMIT4	-0.013	-0.004	-0.016	0.012	-0.077	(0.926)	0.006	0.002	0.004	-0.027	0.039	<0.001
COORD1	0.012	0.006	-0.131	-0.040	0.089	-0.018	(0.846)	0.044	-0.016	-0.052	0.040	<0.001
COORD2	0.019	0.007	-0.016	0.013	0.016	0.051	(0.938)	-0.039	0.041	-0.005	0.045	<0.001
COORD3	-0.034	-0.014	0.153	0.027	-0.110	-0.039	(0.823)	-0.001	-0.030	0.059	0.047	<0.001
NER1	0.178	0.017	-0.074	0.042	0.116	-0.089	-0.093	(0.731)	0.050	-0.054	0.086	<0.001
NER2	-0.032	-0.000	0.026	-0.007	0.031	-0.015	-0.022	(0.846)	-0.006	0.025	0.072	<0.001
NER3	-0.091	0.007	0.042	-0.061	0.004	0.022	0.025	(0.882)	-0.010	-0.006	0.058	<0.001
NER4	-0.064	-0.002	0.029	0.016	-0.039	0.019	0.055	(0.876)	-0.011	-0.015	0.062	<0.001
NER5	-0.064	0.002	-0.029	-0.004	-0.063	0.068	0.027	(0.778)	-0.022	0.007	0.069	<0.001
NER6	0.240	-0.054	-0.025	0.051	-0.093	-0.033	-0.014	(0.342)	0.014	0.093	0.113	0.001
PERFM1	-0.031	-0.019	0.069	0.016	0.006	0.014	-0.016	-0.004	(0.820)	0.038	0.057	<0.001
PERFM2	0.022	0.003	-0.012	-0.009	0.015	-0.018	-0.017	-0.012	(0.928)	-0.024	0.040	<0.001
PERFM3	0.007	0.015	-0.056	-0.006	-0.023	0.006	0.035	0.017	(0.814)	-0.011	0.043	<0.001
CHALL1	0.074	0.076	0.002	0.063	-0.242	0.046	0.027	-0.038	-0.080	(0.772)	0.041	<0.001
CHALL2	0.076	0.091	0.037	0.048	-0.174	0.018	-0.009	-0.096	-0.095	(0.820)	0.037	<0.001
CHALL3	0.012	0.074	0.008	0.030	-0.092	0.023	-0.011	-0.105	-0.086	(0.868)	0.030	<0.001
CHALL4	-0.033	0.062	-0.002	-0.020	-0.079	0.021	-0.004	-0.044	-0.038	(0.906)	0.028	<0.001
CHALL6	-0.041	0.045	0.005	-0.041	-0.030	-0.003	-0.016	-0.004	0.016	(0.908)	0.027	<0.001
CHALL7	-0.030	-0.030	0.014	0.004	-0.016	-0.037	0.004	0.000	0.039	(0.882)	0.028	<0.001
CHALL8	-0.025	-0.057	0.016	-0.016	0.109	-0.071	0.005	0.048	0.078	(0.855)	0.030	<0.001
CHALL9	-0.018	-0.146	-0.031	0.003	0.214	-0.032	0.008	0.111	0.065	(0.815)	0.032	<0.001
CHALL10	-0.001	-0.130	-0.055	-0.067	0.328	0.042	-0.000	0.143	0.104	(0.775)	0.033	<0.001

Note: P-Values <0.05 are desirable for reflective indicators

The researcher followed Kock (2012), Hair et al. (2011) and Vinzi et al. (2010), who state that two criteria are recommended as a basis for the conclusion that a measurement model has adequate convergent validity: that the P-values associated with the loadings are lower than 0.05 and that the loadings are greater than or equal to 0.5. Thus, it can be concluded that each reflective item loaded higher on the latent variable it was intended to measure than on any of the other constructs. Moreover, each block of reflective indicators loaded higher on its respective latent variable than did the indicators of all the other latent variables. Moreover, the P-values for all reflective indicators are significant ( $P<0.05$ ).

It is also recommended to test the AVEs to determine whether a study has discriminant validity (Garza, 2011; Kock and Verville, 2012). Table 6.23 shows the square roots of the AVEs of the latent variables. The correlations are on the diagonal. To ensure discriminant validity for each latent construct, the square roots of the AVEs should be larger than any of the correlations involving that latent construct (Kock, 2012; Hair et al., 2011; Henseler et al., 2009).

Table 6.23 demonstrates that the AVEs of each latent variable, whether reflective or formative, are higher than the construct's highest squared correlation with any other latent variable. In other words, the individual square roots of the AVEs are higher than any of the correlations shown below or above them. Thus, it can be concluded that the reflective latent variables have appropriate discriminant validity.

**Table 6.23: Correlations among Latent Variable**

	ER	COLLA	COMMU	SLAs	TRUST	COMMIT	COORD	NER	PERFM	CHALL
ER	(0.636)	0.435	0.287	0.405	-0.018	0.018	0.188	0.321	0.336	-0.029
<b>COLLA</b>	0.435	<b>(0.740)</b>	0.294	0.470	0.029	0.052	0.238	0.363	0.351	-0.005
<b>COMMU</b>	0.287	0.294	<b>(0.856)</b>	0.344	-0.054	-0.012	0.141	0.202	0.294	-0.108
SLAs	0.405	0.470	0.344	(0.649)	0.129	0.075	0.214	0.365	0.410	0.053
<b>TRUST</b>	-0.018	0.029	-0.054	0.129	<b>(0.931)</b>	0.232	-0.024	0.148	-0.015	0.809
<b>COMMIT</b>	0.018	0.052	-0.012	0.075	0.232	<b>(0.926)</b>	-0.001	0.000	-0.001	0.221
<b>COORD</b>	0.188	0.238	0.141	0.214	-0.024	-0.001	<b>(0.870)</b>	0.147	0.162	-0.071
NER	0.321	0.363	0.202	0.365	0.148	0.000	0.147	(0.766)	0.216	0.166
<b>PERFM</b>	0.336	0.351	0.294	0.410	-0.015	-0.001	0.162	0.216	<b>(0.856)</b>	-0.064
CHALL	-0.029	-0.005	-0.108	0.053	0.809	0.221	-0.071	0.166	-0.064	(0.846)

Note: 1) Square roots of average variance extracted (AVEs) shown on the diagonal. 2) Shaded cells are reflective latent variables.

Full collinearity variance inflation factors (VIFs) are also obtained for all of the latent variables and employed to measure discriminant validity and overall collinearity (see Table 6.24) (Kock, 2012). The VIFs are estimated based on a full collinearity test that enables the detection of, not only vertical, but also lateral collinearity, and help for a test of collinearity including all of the constructs in a model. Vertical, or classic, collinearity is predictor-predictor construct collinearity in individual latent variable blocks. In this context, a VIF is a measure of the degree of “vertical” collinearity, or redundancy, among the latent constructs that are hypothesized to affect another latent construct (Kock, 2012: 45). Lateral collinearity is a new expression that denotes predictor-criterion latent variable collinearity, which is a type of collinearity that can lead to particularly biased findings (Kock, 2012; Andreev et al., 2009). It is conservatively recommended that VIFs be less than 5; a more relaxed standard is that they should be less than 10 (Elias, 2011; Kline, 2011; Hair et al., 2011).

Table 6.24 demonstrates that the full collinearity for all latent variables is lower than 5. This means that adequate VIFs are achieved for the reflective latent

variables, indicating there is sufficient discriminant validity. Kock (2012) recommends testing the block VIFs.

**Table 6.24: Full Collinearity for all Latent Variables**

Full Collinearity (VIFs)									
Formative constructs									
TRUST	COMMIT	COORD	COLLA	COMMU	PERFM	NER	CHALL	ER	SLAs
2.993	1.070	1.092	1.526	1.227	1.313	1.302	3.025	1.526	1.611

*Note: Shaded constructs are reflective latent variables*

Furthermore, Table 6.24 provides VIFs for each construct that has two or more predictors, that is, for each latent variable block. Each VIF is associated with one predictor, and relates to the link between that predictor and its latent variable criterion. As explained above, there are two thresholds that can be used to test VIFs, the more conservative 5, and the more relaxed 10.

**Table 6.25: Block Variance Inflation Factors**

Constructs	ER	COLLA	COMMU	SLAs	TRUST	COMMIT	COORD	NER	PERFM	CHALL
ER										
COLLA		1.815							1.815	
COMMU			1.466			1.192	1.072	1.246		
SLAs										
TRUST	2.761	2.428							2.411	
COMMIT										
COORD										
NER										
PERFM										
CHALL					1.027					1.027

The block VIFs for all latent variables provided in Table 6.25 are all lower than 5. This means that adequate VIFs are achieved for the reflective latent variables, again indicating there is sufficient discriminant validity.

### 6.3.1.3 Convergent Validity of the Reflective Measurement Model

Convergent validity indicates that a set of items represents the same underlying latent variable, which can be illustrated through their unidimensionality (Henseler et al., 2009). In this section, convergent validity is tested by extracting the factor loadings and cross-loadings of all the items on their respective constructs (see Table 6.27). It was illustrated that the validity of the measurement scale was convergent because of the high item loadings (i.e., greater than or equal to 0.5) on their associated latent variables.

Henseler et al. (2009) and Hair et al. (2011) recommend using the AVE as a criterion for the convergent validity of reflective indicators. An AVE value should be higher than 0.5 to signify adequate convergent validity, this mean that a latent construct is able to explain more than half of the variance of its indicators on average (see Table 6.26).

**Table 6.26: Testing Convergent Validity using Average Variance Extracted (AVE)**

Average Variance Extracted (AVE)					
Reflective constructs					
TRUST	COMMIT	COORD	COLLA	COMMU	PERFM
0.87	0.86	0.76	0.55	0.73	0.73

Table 6.26 shows the AVEs for the reflective latent variables. All are above the 0.5 threshold, meaning that the measurement constructs show adequate convergent validity.

**Table 6.27: Structural Loadings and Cross-Loadings**

	ER	COLLA	COMMU	SLAs	TRUST	COMMIT	COORD	NER	PERFM	CHALL
<b>ER1</b>	(0.732)	0.381	0.262	0.269	-0.111	-0.027	0.179	0.194	0.292	-0.111
<b>ER2</b>	(0.790)	0.324	0.261	0.282	-0.101	0.023	0.153	0.169	0.305	-0.093
<b>ER3</b>	(0.824)	0.310	0.236	0.299	-0.129	0.052	0.152	0.183	0.264	-0.137
<b>ER4</b>	(0.843)	0.294	0.180	0.276	-0.022	0.085	0.170	0.146	0.262	-0.038
<b>ER5</b>	(0.795)	0.273	0.179	0.276	0.056	-0.012	0.087	0.219	0.220	0.014
<b>ER6</b>	(0.707)	0.310	0.154	0.312	0.121	-0.025	0.079	0.356	0.223	0.120
<b>ER7</b>	(0.556)	0.350	0.157	0.353	0.162	-0.016	0.092	0.515	0.228	0.159
<b>ER9</b>	(0.349)	0.170	0.066	0.213	0.011	-0.006	0.085	0.156	0.105	0.034
<b>ER10</b>	(0.356)	0.183	0.107	0.178	0.064	0.023	0.089	0.077	0.094	0.059
<b>ER12</b>	(0.362)	0.204	0.197	0.176	-0.052	0.007	0.127	0.132	0.095	-0.043
<b>ER13</b>	(0.268)	0.240	0.223	0.234	-0.086	-0.015	0.119	0.130	0.131	-0.117
<b>COLLA1</b>	0.406	(0.808)	0.217	0.354	-0.036	0.063	0.227	0.322	0.306	-0.067
<b>COLLA2</b>	0.378	(0.834)	0.259	0.326	-0.047	0.070	0.213	0.290	0.287	-0.080
<b>COLLA3</b>	0.357	(0.832)	0.254	0.384	-0.019	0.058	0.234	0.297	0.320	-0.052
<b>COLLA5</b>	0.295	(0.753)	0.173	0.373	0.072	0.034	0.134	0.244	0.241	0.071
<b>COLLA6</b>	0.230	(0.650)	0.188	0.333	0.123	-0.001	0.126	0.243	0.205	0.102
<b>COLLA7</b>	0.228	(0.500)	0.217	0.330	0.087	-0.023	0.082	0.203	0.166	0.057
<b>COMMU4</b>	0.252	0.268	(0.842)	0.295	-0.062	-0.005	0.096	0.164	0.246	-0.077
<b>COMMU5</b>	0.274	0.255	(0.919)	0.280	-0.030	0.004	0.114	0.170	0.244	-0.088
<b>COMMU6</b>	0.207	0.230	(0.802)	0.312	-0.047	-0.032	0.156	0.185	0.267	-0.114
<b>SLAs1</b>	0.281	0.358	0.188	(0.576)	0.206	0.119	0.145	0.217	0.230	0.165
<b>SLAs2</b>	0.290	0.371	0.209	(0.595)	0.211	0.115	0.147	0.257	0.217	0.161
<b>SLAs3</b>	0.288	0.334	0.254	(0.650)	0.166	0.067	0.159	0.229	0.225	0.110
<b>SLAs4</b>	0.310	0.270	0.227	(0.694)	0.080	0.030	0.184	0.274	0.202	0.039
<b>SLAs5</b>	0.302	0.249	0.224	(0.744)	0.058	0.014	0.165	0.256	0.173	0.002
<b>SLAs6</b>	0.308	0.296	0.211	(0.738)	-0.008	0.035	0.155	0.205	0.215	-0.068
<b>SLAs7</b>	0.223	0.302	0.230	(0.712)	-0.003	0.038	0.133	0.214	0.218	-0.061
<b>SLAs8</b>	0.213	0.320	0.237	(0.655)	0.036	0.026	0.104	0.259	0.291	-0.015
<b>SLAs9</b>	0.193	0.289	0.209	(0.583)	0.063	0.045	0.069	0.230	0.435	0.035
<b>SLAs10</b>	0.212	0.300	0.262	(0.493)	0.079	0.020	0.122	0.241	0.585	0.028
<b>TRUST2</b>	-0.003	0.058	-0.054	0.092	(0.904)	0.212	-0.023	0.140	-0.026	0.720
<b>TRUST3</b>	-0.013	0.036	-0.038	0.119	(0.958)	0.238	-0.011	0.133	-0.024	0.744
<b>TRUST4</b>	-0.024	0.011	-0.032	0.135	(0.957)	0.217	-0.020	0.134	-0.020	0.773
<b>TRUST5</b>	-0.028	0.002	-0.077	0.133	(0.903)	0.195	-0.034	0.145	0.017	0.775
<b>COMMIT3</b>	0.024	0.051	-0.006	0.078	0.301	(0.926)	-0.009	0.019	-0.003	0.285
<b>COMMIT4</b>	0.010	0.045	-0.016	0.062	0.128	(0.926)	0.008	-0.018	0.001	0.125
<b>COORD1</b>	0.125	0.171	0.015	0.133	0.020	-0.014	(0.846)	0.135	0.094	-0.023
<b>COORD2</b>	0.202	0.241	0.131	0.225	-0.003	0.049	(0.938)	0.120	0.185	-0.054
<b>COORD3</b>	0.162	0.205	0.226	0.199	-0.082	-0.044	(0.823)	0.130	0.141	-0.110
<b>NER1</b>	0.394	0.336	0.160	0.347	0.137	-0.024	0.085	(0.731)	0.242	0.137
<b>NER2</b>	0.242	0.296	0.178	0.298	0.162	0.014	0.110	(0.846)	0.168	0.186
<b>NER3</b>	0.203	0.288	0.175	0.266	0.135	0.004	0.128	(0.882)	0.155	0.151
<b>NER4</b>	0.246	0.313	0.190	0.326	0.093	-0.014	0.163	(0.876)	0.182	0.105
<b>NER5</b>	0.188	0.255	0.108	0.248	0.096	0.027	0.109	(0.778)	0.128	0.113
<b>NER6</b>	0.281	0.161	0.108	0.185	0.027	-0.015	0.060	(0.342)	0.129	0.042
<b>PERFM1</b>	0.290	0.305	0.294	0.384	0.029	0.020	0.138	0.191	(0.820)	-0.014
<b>PERFM2</b>	0.314	0.316	0.258	0.363	-0.025	-0.020	0.129	0.186	(0.928)	-0.075
<b>PERFM3</b>	0.257	0.279	0.202	0.305	-0.039	0.000	0.152	0.177	(0.814)	-0.075
<b>CHALL1</b>	0.066	0.069	-0.059	0.109	0.588	0.196	-0.014	0.168	-0.043	(0.772)
<b>CHALL2</b>	0.045	0.054	-0.049	0.088	0.643	0.183	-0.058	0.120	-0.064	(0.820)
<b>CHALL3</b>	-0.037	0.001	-0.103	0.036	0.694	0.205	-0.079	0.081	-0.103	(0.868)
<b>CHALL4</b>	-0.068	-0.009	-0.122	0.005	0.717	0.220	-0.074	0.106	-0.096	(0.906)
<b>CHALL6</b>	-0.060	0.004	-0.103	0.013	0.729	0.198	-0.082	0.137	-0.056	(0.908)
<b>CHALL7</b>	-0.043	-0.019	-0.087	0.042	0.698	0.175	-0.060	0.136	-0.041	(0.882)
<b>CHALL8</b>	-0.030	-0.011	-0.068	0.055	0.702	0.138	-0.050	0.166	-0.017	(0.855)
<b>CHALL9</b>	-0.047	-0.069	-0.107	0.043	0.690	0.158	-0.056	0.177	-0.047	(0.815)
<b>CHALL10</b>	-0.032	-0.056	-0.117	0.022	0.692	0.210	-0.057	0.188	-0.016	(0.775)

### **6.3.1.4 Construct Reliability for the Reflective Measurement Model**

Reliability is a gauge of the quality of a measurement instrument; the instrument itself is typically a set of question-statements. A measurement instrument has good reliability if the question-statements (or other measures) associated with each latent variable are understood in the same way by different respondents (Kock, 2012: 41). Construct reliability concerns the internal consistency of the measurement model (Anddreev et al., 2009: 6). Two measures are used to estimate internal consistency: Cronbach's alpha and the composite reliability should be greater than 0.7 for the reliability to be considered acceptable, 0.80 to be adequate and 0.90 to be excellent (Kock and Verville, 2012; Garza, 2011; Ruiz et al., 2008; Head and Ziolkowski, 2010; Hair et al., 2011).

Table 6.28 gives the composite reliability and Cronbach's alpha coefficients for the reflective latent variables. These coefficients are high (ranging from 0.81 to 0.96) and above the 0.7 advocated threshold for each one of the latent variables. Thus, it can be concluded that the measurement instruments employed in this study have sufficient reliability.

**Table 6.28: Reliability Coefficients for Reflective Constructs**

Composite Reliability Coefficients									
TRUST	COLLA	COMMU	COMMIT	COORD	PERFM	ER	NER	SLAs	CHALL
0.96	0.88	0.89	0.92	0.90	0.89	0.87	0.89	0.88	0.96
Cronbach's Alpha Coefficients									
TRUST	COLLA	COMMU	COMMIT	COORD	PERFM	ER	NER	SLAs	CHALL
0.95	0.83	0.81	0.84	0.84	0.81	0.83	0.84	0.84	0.95

Note: Shaded cells are reflective latent variables

### **6.3.1.5 Discriminant and Convergent Validity for the Formative Measurement Model**

According to Gudergan et al. (2008) and Henseler et al. (2009: 299-300), traditional validity assessments and classical test theory do not apply to manifest variables that are used in formative measurement models, and the concepts of reliability (i.e. internal consistency) and construct validity (i.e. convergent and discriminant validity) are not significant when a formative model is employed. This is because formative indicators are not required to be correlated with the latent variable scores nor with each other and are supposed to be error-free (Roldán and Sanchez-Franco, 2012; Kock, 2011). However, according to Diamantopoulos et al. (2008), Kock (2012) and Hair et al. (2011), the validity of a formative measurement instrument must still be established.

To test a formative indicator's validity, Hair et al. (2011), Petter et al. (2007) and Ruiz et al. (2008) recommend examining its weight and assessing its significance (i.e. P-values should be lower than 0.05). Each indicator's VIFs should also be tested and here there are two opinions. In this study, the researcher tested the formative indicators' validity and the formative latent variables' validity.

Table 6.29 provides the indicators' weights. All of the cross-weights are zero because of the way they are calculated through the PLS regression. Each construct score is calculated as an exact linear combination of its indicators, where the weights are multiple regression coefficients linking the indicators to the construct (Kock, 2012).

**Table 6.29: Indicator Weights**

	ER	COLLA	COMMU	SLAs	TRUST	COMMIT	COORD	NER	PERFM	CHALL	SE	P.VALUE	VIF
ER1	(0.165)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	<0.001	3.512	
ER2	(0.178)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	<0.001	5.219	
ER3	(0.186)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	<0.001	4.508	
ER4	(0.190)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	<0.001	3.623	
ER5	(0.179)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	<0.001	3.887	
ER6	(0.159)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	<0.001	4.138	
ER7	(0.125)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	<0.001	2.429	
ER9	(0.079)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	<0.001	2.130	
ER10	(0.080)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	<0.001	2.524	
ER12	(0.082)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	<0.001	1.903	
ER13	(0.060)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	<0.001	1.548	
COLLA1	0.000	(0.246)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026	<0.001	5.790	
COLLA2	0.000	(0.254)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	<0.001	8.905	
COLLA3	0.000	(0.254)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.025	<0.001	4.018	
COLLA5	0.000	(0.229)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	<0.001	2.753	
COLLA6	0.000	(0.198)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.025	<0.001	3.652	
COLLA7	0.000	(0.152)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	<0.001	2.163	
COMMU4	0.000	0.000	(0.383)	0.000	0.000	0.000	0.000	0.000	0.000	0.022	<0.001	1.984	
COMMU5	0.000	0.000	(0.419)	0.000	0.000	0.000	0.000	0.000	0.000	0.026	<0.001	2.643	
COMMU6	0.000	0.000	(0.365)	0.000	0.000	0.000	0.000	0.000	0.000	0.026	<0.001	1.667	
SLAs1	0.000	0.000	0.000	(0.137)	0.000	0.000	0.000	0.000	0.000	0.024	<0.001	4.145	
SLAs2	0.000	0.000	0.000	(0.141)	0.000	0.000	0.000	0.000	0.000	0.025	<0.001	5.175	
SLAs3	0.000	0.000	0.000	(0.154)	0.000	0.000	0.000	0.000	0.000	0.021	<0.001	3.272	
SLAs4	0.000	0.000	0.000	(0.165)	0.000	0.000	0.000	0.000	0.000	0.023	<0.001	3.330	
SLAs5	0.000	0.000	0.000	(0.177)	0.000	0.000	0.000	0.000	0.000	0.026	<0.001	3.591	
SLAs6	0.000	0.000	0.000	(0.175)	0.000	0.000	0.000	0.000	0.000	0.027	<0.001	3.259	
SLAs7	0.000	0.000	0.000	(0.169)	0.000	0.000	0.000	0.000	0.000	0.028	<0.001	3.641	
SLAs8	0.000	0.000	0.000	(0.156)	0.000	0.000	0.000	0.000	0.000	0.025	<0.001	3.969	
SLAs9	0.000	0.000	0.000	(0.139)	0.000	0.000	0.000	0.000	0.000	0.022	<0.001	3.917	
SLAs10	0.000	0.000	0.000	(0.117)	0.000	0.000	0.000	0.000	0.000	0.019	<0.001	2.530	
TRUST2	0.000	0.000	0.000	0.000	(0.261)	0.000	0.000	0.000	0.000	0.009	<0.001	4.761	
TRUST3	0.000	0.000	0.000	0.000	(0.276)	0.000	0.000	0.000	0.000	0.007	<0.001	9.203	
TRUST4	0.000	0.000	0.000	0.000	(0.276)	0.000	0.000	0.000	0.000	0.007	<0.001	9.059	
TRUST5	0.000	0.000	0.000	0.000	(0.261)	0.000	0.000	0.000	0.000	0.009	<0.001	4.660	
COMMIT3	0.000	0.000	0.000	0.000	0.000	(0.540)	0.000	0.000	0.000	0.023	<0.001	2.055	
COMMIT4	0.000	0.000	0.000	0.000	0.000	(0.540)	0.000	0.000	0.000	0.021	<0.001	2.055	
COORD1	0.000	0.000	0.000	0.000	0.000	0.000	(0.372)	0.000	0.000	0.025	<0.001	2.201	
COORD2	0.000	0.000	0.000	0.000	0.000	0.000	(0.413)	0.000	0.000	0.017	<0.001	3.313	
COORD3	0.000	0.000	0.000	0.000	0.000	0.000	(0.362)	0.000	0.000	0.016	<0.001	1.943	
NER1	0.000	0.000	0.000	0.000	0.000	0.000	(0.208)	0.000	0.000	0.017	<0.001	2.487	
NER2	0.000	0.000	0.000	0.000	0.000	0.000	(0.241)	0.000	0.000	0.022	<0.001	4.163	
NER3	0.000	0.000	0.000	0.000	0.000	0.000	(0.251)	0.000	0.000	0.027	<0.001	4.019	
NER4	0.000	0.000	0.000	0.000	0.000	0.000	(0.249)	0.000	0.000	0.026	<0.001	4.668	
NER5	0.000	0.000	0.000	0.000	0.000	0.000	(0.221)	0.000	0.000	0.022	<0.001	3.184	
NER6	0.000	0.000	0.000	0.000	0.000	0.000	(0.097)	0.000	0.000	0.024	<0.001	1.194	
PERFM1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.373)	0.000	0.018	<0.001	1.891	
PERFM2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.422)	0.000	0.024	<0.001	2.837	
PERFM3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.371)	0.000	0.023	<0.001	1.841	
CHALL1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.120)	0.005	<0.001	5.426	
CHALL2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.127)	0.005	<0.001	7.611	
CHALL3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.135)	0.005	<0.001	5.460	
CHALL4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.141)	0.005	<0.001	8.240	
CHALL6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.141)	0.005	<0.001	9.073	
CHALL7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.137)	0.005	<0.001	8.159	
CHALL8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.133)	0.005	<0.001	7.765	
CHALL9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.126)	0.005	<0.001	6.344	
CHALL10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(0.120)	0.005	<0.001	3.855	

Note: Shaded cells are formative latent variables

Table 6.29 shows that all of the formative indicators' P-values for the weights associated with the latent variables are significant (P-values of all indicators are lower than 0.05). This indicates that the formative latent variables' measurement indicators were properly constructed. The table also provides the VIFs for all of the indicators of all of the latent variables. As has mentioned before, only one indicator was removed (CHALL5) as its VIF was larger than 10. The remaining items were all lower than 10 (Kock, 2012; Hair et al., 2011; Garza, 2011). Standard errors are also provided for all formative indicators' weights. All of the formative indicators have sufficient discriminant and convergent validity.

### 6.3.1.6 Formative Construct Validity

Regarding formative construct discriminant validity, the square roots of the AVEs are provided in Table 6.30 for both the reflective and the formative latent variables. Table 6.30 shows that each formative latent variable's AVE is higher than the construct's highest squared correlation with any other latent variable. Thus, it can be concluded that the formative latent variables have appropriate discriminant validity.

**Table 6.30: Correlations among the Latent Variables**

	ER	COLLA	COMMU	SLAs	TRUST	COMMIT	COORD	NER	PERFM	CHALL
ER	(0.636)	0.435	0.287	0.405	-0.018	0.018	0.188	0.321	0.336	-0.029
COLLA	0.435	(0.740)	0.294	0.470	0.029	0.052	0.238	0.363	0.351	-0.005
COMMU	0.287	0.294	(0.856)	0.344	-0.054	-0.012	0.141	0.202	0.294	-0.108
SLAs	0.405	0.470	0.344	(0.649)	0.129	0.075	0.214	0.365	0.410	0.053
TRUST	-0.018	0.029	-0.054	0.129	(0.931)	0.232	-0.024	0.148	-0.015	0.809
COMMIT	0.018	0.052	-0.012	0.075	0.232	(0.926)	-0.001	0.000	-0.001	0.221
COORD	0.188	0.238	0.141	0.214	-0.024	-0.001	(0.870)	0.147	0.162	-0.071
NER	0.321	0.363	0.202	0.365	0.148	0.000	0.147	(0.766)	0.216	0.166
PERFM	0.336	0.351	0.294	0.410	-0.015	-0.001	0.162	0.216	(0.856)	-0.064
CHALL	-0.029	-0.005	-0.108	0.053	0.809	0.221	-0.071	0.166	-0.064	(0.846)

Note: 1) Square roots of average variance extracted (AVEs) shown on the diagonal. 2) Shaded cells are formative latent variables.

Table 6.31 illustrates that all of the full Collinearity for the formative latent variables are lower than 5. This means that adequate VIFs are achieved for the formative latent variables, signifying adequate discriminant validity.

**Table 6.31: Full Collinearity for all Latent Variables**

Full Collinearity (VIFs)									
Formative constructs									
TRUST	COMMIT	COORD	COLLA	COMMU	PERFM	NER	CHALL	ER	SLAs
2.993	1.070	1.092	1.526	1.227	1.313	1.302	3.025	1.526	1.611

*Note: Shaded cells are formative latent variables*

### 6.3.1.7 Formative Measurement Model: Reliability

Both composite reliability and Cronbach's alpha coefficients (internal consistency) were used to test the formative constructs' reliability (see Table 6.32). Table 6.32 provides the composite reliability and Cronbach's alpha coefficients for the formative latent variables. These coefficients are high (ranging from 0.83 to 0.96) and all are above the 0.7 recommended threshold. Consequently, it can be concluded that the latent variables employed in this study have sufficient reliability.

**Table 6.32: Reliability Coefficients for Formative Constructs**

Composite Reliability Coefficients									
TRUST	COLLA	COMMU	COMMIT	COORD	PERFM	ER	NER	SLAs	CHALL
0.96	0.88	0.89	0.92	0.90	0.89	0.87	0.89	0.88	0.96
Cronbach's Alpha Coefficients									
TRUST	COLLA	COMMU	COMMIT	COORD	PERFM	ER	NER	SLAs	CHALL
0.95	0.83	0.81	0.84	0.84	0.81	0.83	0.84	0.84	0.95

*Note: Shaded cells are formative latent variables*

### **6.3.1.8 Nomological Validity of the Formative Measurement Model**

Henseler et al. (2009) identified nomological validity as that the associations between the formative index and the other latent variables in the path model, which are adequately well known through prior research, should be strong and significant. Nomological validity can be evaluated by the same process for both formative and reflective items. First, a construct should be linked with its hypothesized antecedent and consequent constructs. Second, nomological validity is evidenced if the hypothesized linkages (structural paths) between the latent variables are found to be significantly greater than zero and their signs are in the expected causality direction (Andreev et al., 2009: 8). Thus, establishing sufficient discriminant and convergent validity with significant path coefficients (greater than zero) will provide evidence of nomological validity for this study (see Figure 6.2).

### **6.3.2 Results of the Structural Model**

The purpose of the structural mode is to investigate the fit of the hypothesized research model (Schreiber et al., 2006). Figure 6.1 shows the hypothesized structural model, illustrating the latent variables of the current study and their indicators (see also section 3.4). In this study, the structural model examines the relationships between trust (TRUST), commitment (COMMIT), coordination (COORD) and communication (COMMU) and collaboration (COLLA). It also examines the impact of collaboration (COLLA) on environmental role (ER), non-environmental role (NER) and sustainable livelihood outcomes (SLAs). Finally, the structural model examines the relationships from SLAs and challenges (CHALL) to tourism-related organizations' satisfaction with their overall performance.

The WarpPLS software 3.0 used in this study provides three model fit indices (see Table 6.33): the average path coefficient (APC), average R-squared (ARS), and average variance inflation factor (AVIF). For the APC and ARS, P-values are also provided. When assessing the model's fit with the data, the following standards are recommended: 1) It is recommended that the P-values for the APC and ARS should both be less than 0.05, that is, significant at the 0.05 level. 2) It is recommended that the AVIF be less than 5 (Kock, 2012).

Table 6.33 shows that the APC's criterion value is 0.282 with an associated significance of  $P<0.001$ . While the ARS's criterion value is 0.340 with an associated significance of  $P=0.028$ . Finally, the AVIF's criterion value is 1.660, which is lower than 5. Thus, it can be concluded that the three criteria for the model fit indices are met in the current study.

**Table 6.33: Model Fit Indices**

Criterion	Assessment	P. Values	Supported
(1)Average Path Coefficient (APC)	0.282	$P<0.001$	Supported
(2)Average R-squared (ARS)	0.340	$P=0.028$	Supported
(3)Average Variance Inflation Factor (AVIF)	1.660	<5	Supported

Figure 6.2 demonstrates the findings of the path analysis, showing the hypothesized effects of the structural model and the relationships between the latent variables.

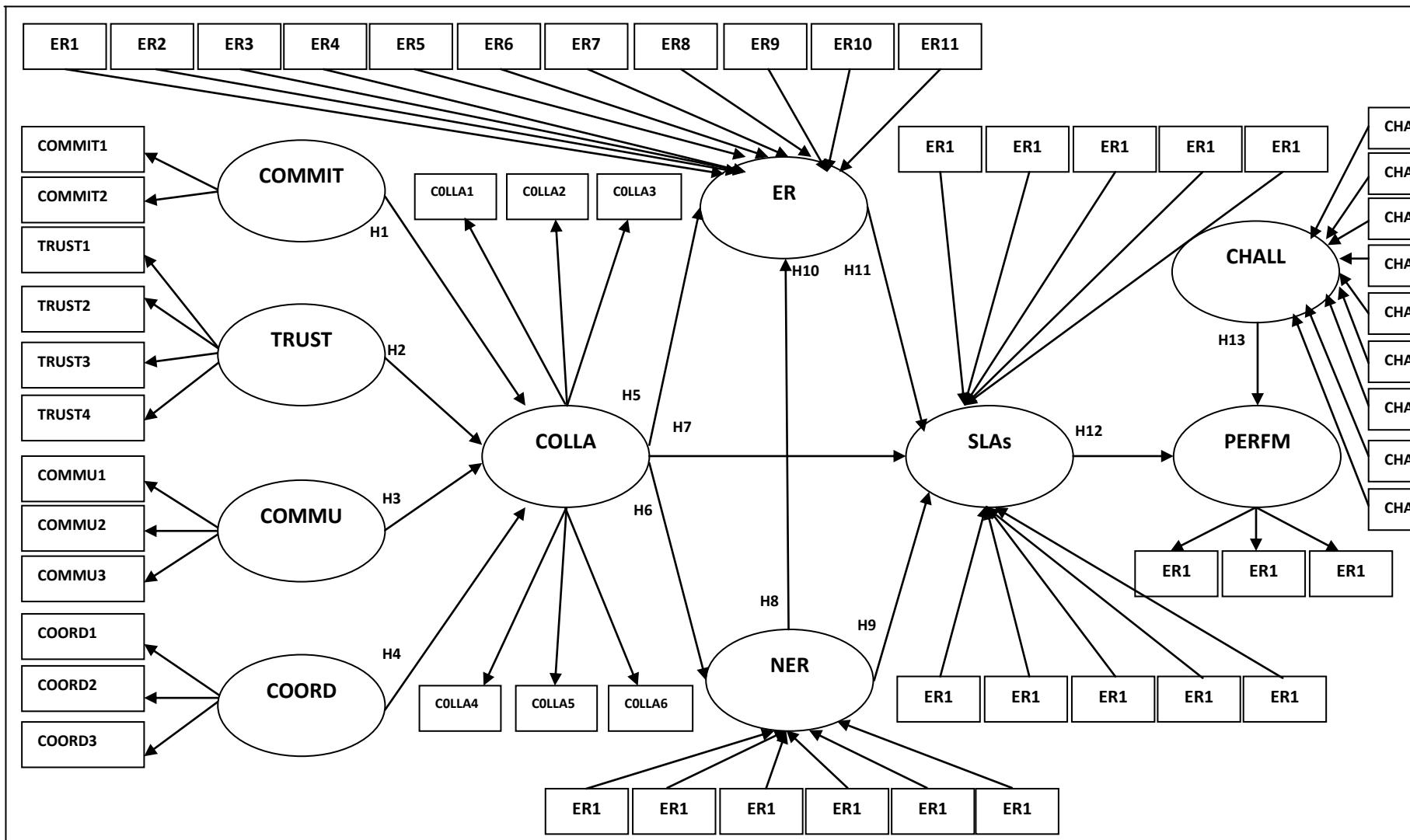


Figure 6.1 The hypothesized conceptual framework

After achieving an adequate evaluation of the measurement model, the next step is to assess the structural model estimates. Hair et al. (2011) stated that the most important assessment criteria for a structural model are the  $R^2$  value and the levels and significance of the path coefficients. For example, Roldán and Sanchez-Franco (2012) recommended that  $R^2$  measures should be at least 0.10, whereas Hair et al. (2011) stressed that  $R^2$  values of 0.75, 0.50 and 0.25 for the independent constructs in a structural model could be described as substantial, moderate and weak, respectively, and Henseler et al. (2009) recommended labelling  $R^2$  measures of 0.67, 0.33 and 0.19 for independent latent constructs in the inner path model as substantial, moderate and weak, respectively. As a consequence, it is also recommended that researchers estimate path coefficients in terms of their importance and their significance or P-values (Henseler et al., 2009; Kock, 2012).

Evaluating the  $R^2$  measures further, changes in the  $R^2$ , also known as the effect size test, can be explored to examine the substantive impact of each independent construct on the dependent construct. The power of the substantive effect of an independent construct can be estimated as follows: effect size  $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}})/(1 - R^2_{\text{included}})$  (Henseler et al., 2009: 303); values of 0.02, 0.15, and 0.35 can be viewed as indicating that an independent latent variable has a low, moderate or large effect at the structural level (Roldán and Sanchez-Franco, 2012). Values below 0.02 indicate that the effects are too small to be treated relevant from a practical point of view, even when the corresponding P-values are statistically significant; this situation may occur with large sample sizes. Table 6.36 provides a summary of the effect size results.

Figure 6.2 and Tables 6.34 and 6.35 present the results of the SEM analysis. Assessing explanatory power involves evaluating the R-squared values ( $R^2$ ) and exploring the effect sizes ( $f^2$ ) of a model's latent variables. Thus, the following discussion will address these two issues (Berghman, 2006; Elias, 2011; Hiar et al., 2011; Vinzi et al., 2010; Chin, 2010; Henseler et al., 2009; Garza, 2011). To simply explore the study findings, the following discussion is divided into four main points: (1) The relationships from commitment (COMMIT), trust (TRUST), communication (COMMU) and coordination (COORD) to collaboration (COLLA), (2) The relationships from collaboration (COLLA) to environmental role (ER), non-environmental role (NER) and sustainable livelihood outcomes (SLAs), (3) the relationships from sustainable livelihood outcomes (SLAs) and challenges (CHALL) to satisfaction with overall performance (PERFM), and (4) The results of the complete mediation model.

### **6.3.2.1The Relationships from COMMIT, TRUST, COMMU and COORD to COLLA**

This study is concerned with assessing thirteen hypotheses. The first four hypotheses deal with the effects of commitment, trust, coordination and communication on collaboration among tourism-related organizations involved in the development of sustainable community livelihoods in Hurghada, in Egypt. The analysis of the data collected show that all the research variables (trust, commitment, coordination and communications) have significant positive impact on collaboration (COLLA) in different degrees. Within this regard, communications had the highest positive impact on collaboration (standardised estimate = 0.31,  $P < 0.01$ ), followed by trust (standardised estimate = 0.27,  $P < 0.01$ ), commitment (standardised estimate = 0.16,  $P < 0.01$ ), and coordination

(standardised estimate = 0.14, P< 0.02) respectively. Accordingly, communications and trust are the most important variables affecting collaboration (COLLA) chances of success (see Figure 6.2 for a depiction of these positive and significant relationships).

The analysis of the data collected show that commitment has a weak impact on collaboration (standardised estimate = 0.16, P< 0.01) and that commitment is not one of the main factors affecting collaboration between tourism-related organizations in Egypt. The analysis of the data collected show that trust has a strong impact on collaboration (standardised estimate = 0.27, P< 0.01) and that trust is one of the main factors affecting collaboration between tourism-related organizations in Egypt. As for communication variable, the analysis of the data collected show that communications and the exchange of information among the tourism-related organizations had the highest positive impact on collaboration (standardised estimate = 0.31, P< 0.01). The quantitative findings show that the relationship between coordination to collaboration is weak (standardised estimate = 0.14, P< 0.02).

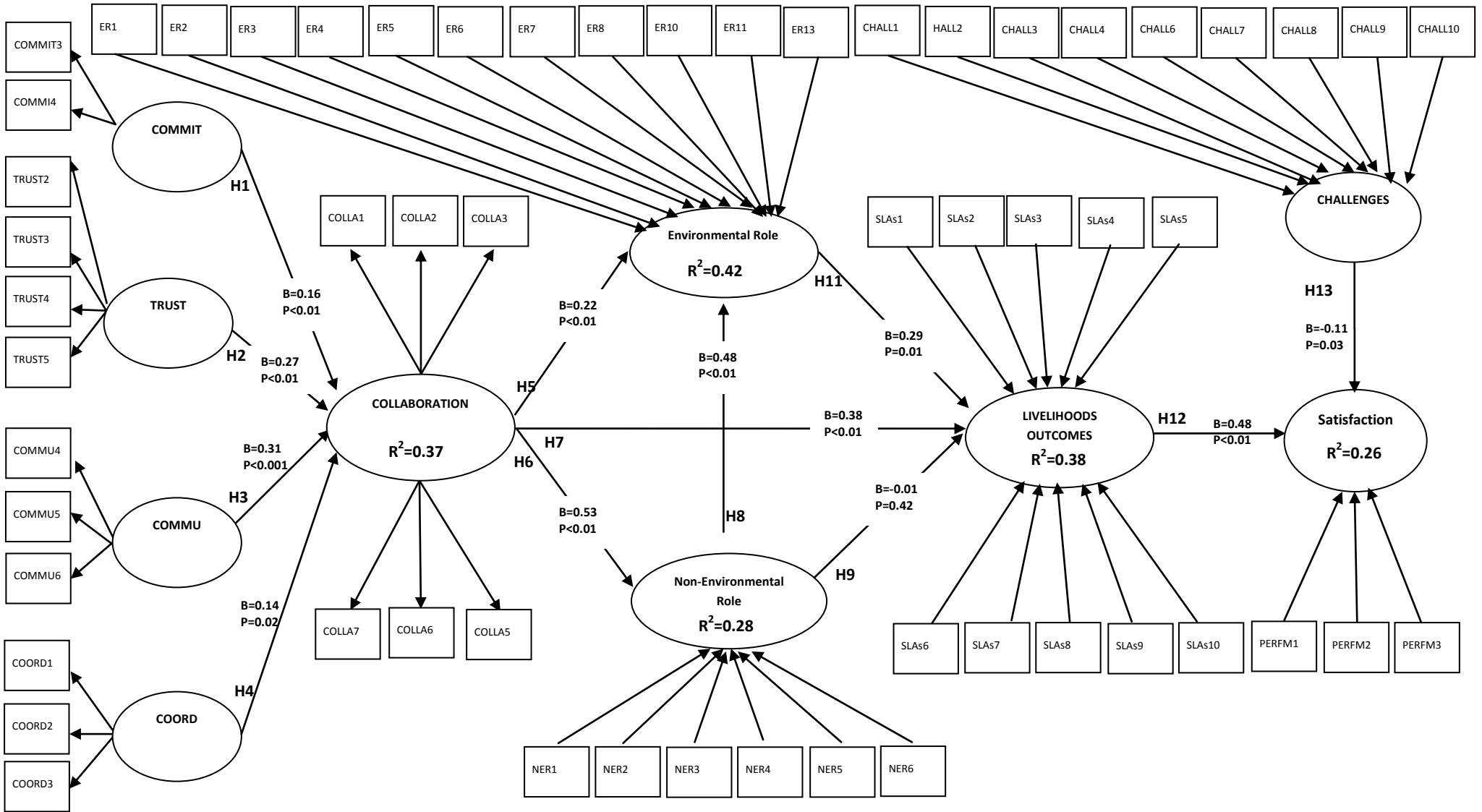


Figure 6.2 The Results of Path Model

**Table 6.34: Results of the Different Direct Tests**

Independent Variables	$\beta$	P. Values	H	Hypotheses supported/Not supported
Commitment → Collaboration	0.16	<0.01	H1	Supported
Trust → Collaboration	0.27	<0.01	H2	Supported
Communication → Collaboration	0.31	<0.001	H3	Supported
Coordination → Collaboration	0.14	=0.02	H4	supported
Collaboration → Environmental Role	0.20	<0.01	H5	Supported
collaboration → Non-environmental Role	0.53	<0.001	H6	Supported
collaboration → S. Livelihoods Outcomes	0.38	<0.001	H7	Supported
Non-environmental Role → Environmental Role	0.48	<0.001	H8	Supported
Environmental Role → S. Livelihoods Outcomes	0.29	=0.01	H9	Supported
Non-environmental Role → S. Livelihoods Outcomes	0.01	=0.42	H10	Not supported
S. Livelihoods Outcomes → Overall Performance	0.48	<0.001	H11	Supported
Challenges → Overall Performance	- 0.11	=0.03	H12	Supported
<b>R<sup>2</sup> Coefficient for Dependent Variables</b>				
Dependent Latent Variables	R <sup>2</sup> Coefficient	Assessment		
Collaboration (COLLA)	<b>R<sup>2</sup>= 0.37</b>	Moderate Effect		
Environmental Role (ER)	<b>R<sup>2</sup>= 0.42</b>	Moderate Effect		
Non-environmental Role (NER)	<b>R<sup>2</sup>= 0.28</b>	Small Effect		
Sustainable Livelihoods Outcomes (SLAs)	<b>R<sup>2</sup>= 0.38</b>	Moderate Effect		
Overall Performance (PERFM)	<b>R<sup>2</sup>= 0.26</b>	Small Effect		

Furthermore, the analysis of the data collected show that the effect size of commitment on collaboration is weak ( $f^2=0.045$ ). The effect size of the path coefficient from trust to collaboration is also weak ( $f^2=0.117$ ), while the effect size of the path coefficient from communication to collaboration is moderate ( $f^2=0.159$ ). The path coefficient from coordination to collaboration is small ( $f^2=0.046$ ) (see Table 6.35). This means that communication has the largest effect on collaboration out of these factors, while commitment has the smallest. These four independent variables, commitment, trust, communication and coordination, moderately explain the collaboration between and within tourism-related organizations, with an  $R^2=0.37$ . This means that successful interactions have positive impacts on the collaboration between tourism-related organizations involved in the development of sustainable community livelihoods

in Hurghada. Consequently, the first four hypotheses (H1, H2, H3 and H4) are supported.

### **6.3.2.2The Relationships from COLLA to ER, NER and SLAs**

Next, the path coefficient from collaboration to the environmental role played by tourism-related organizations was found to be positive and significant ( $\beta=0.22$ ,  $P<0.01$ ). The effect size of this path is small ( $f^2=0.116$ ). This means that the environmental role of the tourism-related organizations involved in the development of sustainable livelihoods is weakly predicted by the level of collaboration between these tourism-related organizations. Thus, hypothesis H5 is supported.

The path coefficient from collaboration to the non-environmental role of the tourism-related organizations was found to be positive and significant ( $\beta=0.53$ ,  $P<0.001$ ). The effect size from collaboration to the non-environmental role of tourism-related organizations involved in the development of sustainable community livelihoods is medium ( $f^2=0.278$ ). This means that the non-environmental role of tourism-related organizations involved in the development of sustainable livelihoods can be predicted by the level of collaboration between these tourism-related organizations. This supports hypothesis H6. Thus, collaboration between and within tourism-related organizations weakly explains the non-environmental role of tourism-related organizations with  $R^2=0.28$ .

The path coefficient from collaboration to the sustainable livelihood outcomes of tourism-related organizations involved in the development of sustainable livelihoods was found to be positive and significant ( $\beta=0.38$ ,  $P<0.001$ ). Table

6.35 also show that the effect size of this path coefficient is moderate ( $f^2=0.222$ ). This means that sustainable livelihood outcomes are positively predicted by collaboration between and within tourism-related organizations. This supports H7. Overall, the path coefficient from collaboration and the non-environmental role of tourism-related organizations network moderately explain the environmental role of tourism-related organizations with  $R^2=0.42$  (H5 and H8).

**Table 6.35: Effect Sizes for Path Coefficients**

Independent Variables	$f^2$	SE	Effect Size Assessment
Commitment → Collaboration	0.045	0.065	Small
Trust → Collaboration	0.117	0.094	Small
Communication → Collaboration	0.159	0.081	Moderate
Coordination → Collaboration	0.046	0.071	Small
Collaboration → Environmental Role	0.116	0.074	Small
collaboration → Non-environmental Role	0.278	0.091	Moderate
collaboration → S. Livelihoods Outcomes	0.222	0.114	Moderate
Non-environmental Role → Environmental Role	0.301	0.070	Moderate
Environmental Role → S. Livelihoods Outcomes	0.162	0.127	Moderate
Non-environmental Role → S. Livelihoods Outcomes	0.007	0.076	No Effect
S. Livelihoods Outcomes → Overall Performance	0.241	0.068	Moderate
Challenges → Overall Performance	0.021	0.054	Small

The path coefficient from the non-environmental role of tourism-related organizations to the environmental role of tourism-related organizations involved in the development of sustainable community livelihoods was found to be positive and significant ( $\beta=0.48$ ,  $P<0.001$ ). A moderate effect size was found for the path coefficient from the non-environmental role of tourism-related organizations to their role in protecting Hurghada's natural resources ( $f^2=0.301$ ). This means that the non-environmental role (NER) of the tourism-related organizations has a positive impact on their environmental role. Concerning the NER construct, in particular, the aspects with the most impact were addressing the educational needs of the local community (NER3) and supporting local

communities through the use of the products, services and facilities of the local community in tourism (NER4) (the survey questions can be found in the appendix), with weights and significance levels of 0.251,  $P<0.001$  and 0.294,  $P<0.001$ , respectively. However, working with other organizations involved in the field of environmental protection to preserve the natural resources in Hurghada (Partnership principal) (NER6) was found to have the least impact, with a weight and significance level of 0.097,  $P<0.001$ . Overall, hypothesis H8 is supported.

The path coefficient from the environmental role (ER) of tourism-related organizations network to sustainable livelihood outcomes (SLAs) was found to be positive and significant ( $\beta=0.29$ ,  $P=0.01$ ). The path coefficient from the environmental role of the tourism-related organizations to the sustainable livelihood outcomes is moderate ( $f^2=0.162$ ). This means that sustainable livelihood outcomes in the region of Hurghada are positively predicted by the environmental role played by the tourism-related organizations involved in the development of sustainable community livelihoods. Regarding the ER construct, the increased ability of institutions to effectively monitor the natural environment (ER3), encouraging local communities in the region to participate in environmental/natural resources protection (ER4) and implementing solid waste management systems (ER5) seem to have the most impact, with weights and significance levels of 0.186,  $P<0.001$ , 0.190,  $P<0.001$  and 0.179,  $P<0.001$ , respectively. However, contributing to the protection of biodiversity (ER10) and determining the carrying capacity of the coastal areas and water bodies in Hurghada (ER13) seem to have the least impact, with weights and significance

levels of 0.080,  $P<0.001$  and 0.60,  $P<0.001$ , respectively. Overall, hypothesis H11 is supported.

The path coefficient from the non-environmental role of tourism-related organizations to sustainable community livelihood outcomes was found to be non-significant ( $\beta=-0.01$ ,  $P=0.42$ ). The non-environmental role has no effect on the sustainable livelihood outcomes ( $f^2=0.007$ ). This means that sustainable livelihood outcomes in the region of Hurghada are not predicted by the non-environmental role played by tourism-related organizations involved in the development of sustainable community livelihoods. Thus, hypothesis H8 is not supported. This confirms the support for hypothesis H10. Moreover, the path coefficient from the non-environmental Role of tourism organization network to sustainable community livelihood outcomes is found to be fully mediated by the environmental role of tourism-related organizations (complete mediator; this will be discussed in more detail in a later part of this study) (H10).

As a result, collaboration between tourism-related organizations, the environmental role of tourism-related organizations and the non-environmental role of tourism-related organizations moderately explain sustainable community livelihood outcomes in Hurghada, with  $R^2=0.38$  (H7, H9 and H11).

### **6.3.2.3 The Relationships from SLAs and CHALL to PERFM**

The path coefficient from sustainable community livelihood outcomes to the overall performance of the tourism-related organizations involved in the development of sustainable community livelihoods is positive and significant ( $\beta=0.48$ ,  $P<0.001$ ). The effect size of the path coefficient from the sustainable

livelihood outcomes to the overall performance of the tourism-related organizations involved in the development of sustainable community livelihoods is moderate ( $f^2=0.241$ ). This means that the satisfaction of tourism-related organizations with their overall performance is positively and moderately predicted by the sustainable community livelihoods achieved as a result of the role the tourism-related organizations play in the development of sustainable community livelihoods in Hurghada.

With reference to the sustainable livelihoods outcomes (SLAs), creating a heightened sense of well-being among residents in the region (SLAs5 and improving the understanding of the value of environmental/natural resource conservation (SLAs6) seem to have the most impact, with weights and significance levels of 0.177,  $P<0.001$  and 0.175,  $P<0.001$ , respectively. However, increased incomes (SLAs1) and the local community contributing to and involved in maintaining the environment and natural resources (SLAs10) seem to have the smallest impact, with weights and significance levels of 0.117,  $P<0.001$  and 0.137,  $P<0.001$ , respectively. Overall, H12 is supported.

The path coefficient from the challenges to the tourism-related organizations' overall performance of their network roles is negative and significant ( $\beta=-0.11$ ,  $P=0.03$ ). Finally, the effect size of the path coefficient from challenges to the overall performance of the tourism-related organizations is weak ( $f^2=0.021$ ). This means that the tourism-related organizations' overall performance of their network roles is negatively predicted by the challenges they encounter.

Concerning the CHALL construct, convincing other organizations to get involved with the network (CHALL4) and a lack of trust between partner organizations (CHALL6) seem to have the most impact, with weights and significance levels of 0.141, P<0.001 and 0.141, P<0.001, respectively. However, identifying the problems related to Hurghada as a tourist destination (CHALL1) and the poor participation of the local community in maintaining and protecting the natural environment in Hurghada (CHALL10) seem to have the least impact, with weights and significance levels of 0.120, P<0.001 and 0.120, P<0.001, respectively. Hypothesis H13 is supported. As a result, the tourism-related organizations' overall performance of their network roles is weakly explained by the sustainable community livelihood outcomes and the challenges they encounter in their networks, with R<sup>2</sup>=0.26 (H12 and H13).

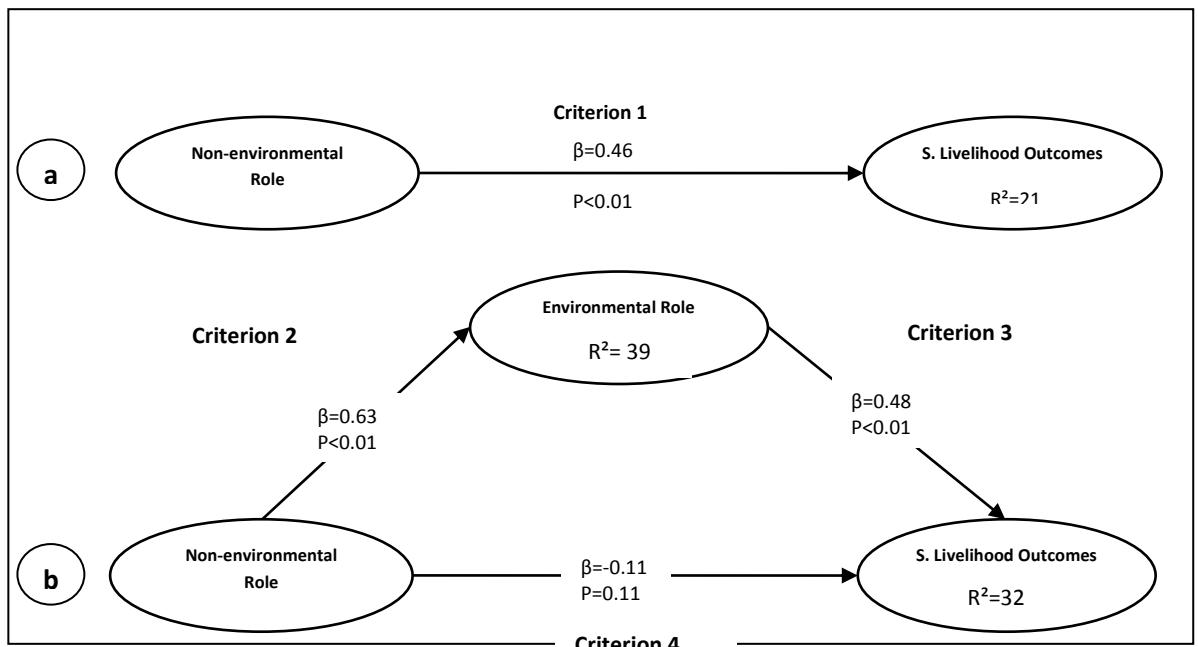
#### **6.3.2.4 Results of the Complete Mediation Model**

This part discusses in more depth the results for hypothesis **H10** (complete mediation relationship). **H10** proposed that the relationship between the non-environmental role of tourism-related organizations involved in the development of sustainable community livelihoods in Hurghada, and the sustainable livelihood outcomes, is perfectly mediated by the environmental role of the tourism-related organizations.

A mediator can be defined as a variable that elucidates the relation between an independent and a dependent variable. In other words, a mediator is the instrument through which an exogenous variable influences an endogenous variable (Frazier et al., 2004). In this study, the environmental role is introduced

as a complete mediator of the relation between the non-environmental role and the sustainable livelihood outcomes.

Kock (2011) stated that the mediating effect will be significant if the following three criteria are met: (1) In the first model (Figure 6.3a), the path between an independent and a dependent variable is significant (e.g.,  $P < 0.05$ , if this is the significance level used). (2) In the second model (Figure 6.3b), the path coefficient between a predictor and a mediator variable is significant. (3) In the second model (Figure 6.3b), the path coefficient between a mediator and a dependent variable is significant. In this case, the researcher ran the model separately to test whether the environmental role of the tourism-related organizations acts as a complete mediator of the relation between their non-environmental role and the sustainable livelihood outcomes. Table 6.37 shows the indirect effects of the separate model (Figure 6.3) and the hypothesized full model's results (Figure 6.1) for the complete mediator.



**Figure 6.3:** Testing Mediation Criteria

Figure 6.3 illustrates that the path coefficient of the direct relation from the non-environmental role to the sustainable livelihood outcomes is positive and significant ( $\beta=0.46$ ,  $P<0.01$ ). The path coefficient from the non-environmental moderately explains the sustainable livelihoods achieved by tourism-related organizations in Hurghada with  $R^2=0.21$ . This means that the first criterion for testing mediation is met. The path coefficient of the direct relation from the non-environmental role to the environmental role is positive and significant ( $\beta=0.63$ ,  $P<0.01$ ). This means that the second criterion is met. The path coefficient of the direct relation from the environmental role to the sustainable livelihood outcomes is positive and significant ( $\beta=0.48$ ,  $P<0.01$ ). This means that the third criterion is met.

Thus, all three criteria are met. In addition to the above three criteria, the path coefficient from the non-environmental role of the tourism-related organizations to the sustainable livelihood outcomes is not significant ( $\beta=-0.11$ ,  $P=0.11$ ) (criterion 4 for complete mediation, see Kock, 2011 and Frazier et al., 2004). Thus, the sustainable livelihood outcomes achieved is completely mediated by tourism-related organizations role in protecting natural environment in Hurghada with  $R^2=0.32$ . Thus, one can say that the environmental role is established as a complete mediator of the relation between the non-environmental role and the sustainable livelihood outcomes.

**Table 6.37: Results of the Complete Mediation Tests**

Criteria of Mediation Tests: Separate Model				Results of Path Coefficient Mediation Tests		
Criterion	H8a: NER → ER → SLAs	B Coefficient	P. Values	Indirect Effect Separate Model		
Criterion 1	NER → SLAs	0.46	p<0.01	0.30	P<0.01	
Criterion 2	NER → ER	0.63	p<0.01			
Criterion 3	ER → SLAs	0.48	p<0.01			
Criterion 4	NER → SLAs	0.11	P=0.11			
Criteria of Mediation Tests: Hypothesized Model				Results of Path Coefficient Mediation Tests		
Criterion	H8a: NER → ER → SLAs	B. Coefficient	P. Values	Indirect Effect Hypothesized Model		
Criterion 1	NER → SLAs	Not applicable	Not applicable	0.14	P<0.01	
Criterion 2	NER → ER	0.48	P<0.01			
Criterion 3	ER → SLAs	0.29	P=0.01			
Criterion 4	NER → SLAs	0.01	P=0.42			

Table 6.37 shows the results of the complete mediation test for both the separate and the hypothesized model. It can be concluded that the path coefficient relationship from the non-environmental role of tourism-related organizations to the sustainable livelihood outcomes is fully mediated by the environmental role of the tourism-related organizations. This result holds in the separate model in which the indirect effect is completely mediated (0.30, P<0.01) and in the hypothesized model, in which the indirect effect is again completely mediated (0.14, P<0.01). This means that the environmental role of tourism-related organizations can be considered a critical factor in the relation between their non-environmental role and sustainable livelihoods. In other words, without tourism-related organizations playing an environmental role to protect Hurghada's natural resources, there would be no significant effect of their non-environmental role on sustainable livelihood outcomes.

### **6.3.2.5 Predictive Validity (Relevance)**

In addition to the previous criteria, it is necessary to assess the predictive relevance of the independent latent variables (Stone-Geisser's  $Q^2$  test) (Table 6.38) (Roldán and Sanchez-Franco, 2012; Kock, 2012). It is claimed that a  $Q^2$  larger than 0 means that the model has predictive relevance, whereas a  $Q^2$  lower than 0 implies that the model is deficient in predictive relevance (Hiar et al., 2011; Roldán and Sanchez-Franco, 2012).

**Table 6.38: The Predictive Relevance of the Independent Constructs**

Q <sup>2</sup> Coefficient for Independent Latent Variables		
Dependent Latent Variables	Q <sup>2</sup> Coefficient	Assessment
Collaboration (COLLA)	$Q^2= 0.32$	Moderate Effect
Environmental Role (ER)	$Q^2= 0.41$	Moderate Effect
Non-environmental Role (NER)	$Q^2= 0.28$	Small Effect
Sustainable Livelihoods Outcomes (SLAs)	$Q^2= 0.38$	Moderate Effect
Satisfaction of Overall Performance (PERFM)	$Q^2= 0.26$	Small Effect

Table 6.38 demonstrates that the Q-squared coefficients for the predictive relevance (validity) associated with each latent variable block in the model, through the dependent latent variables, are all larger than zero, which indicates that the model has predictive relevance. Following on from Figure 6.2 and Tables 6.34, 6.35, 6.36, 6.37, 6.38 and the related discussion, Table 6.39 provides a summary of the results.

**Table 6.39: Summary of Results**

<b>Number of Hypothesis</b>	<b>Hypothesis</b>	<b>Supported /Not Supported</b>
<b>H1</b>	The commitment-related factors between the tourism-related organizations involved in the development of sustainable livelihoods in Egypt have a positive impact on whether they achieve collaboration.	<b>Supported</b>
<b>H2</b>	The trust-related factors between the tourism-related organizations involved in the development of sustainable livelihoods in Egypt have a positive impact on whether they achieve collaboration.	<b>Supported</b>
<b>H3</b>	The communication-related factors between the tourism-related organizations involved in the development of sustainable livelihoods in Egypt have a positive impact on whether they achieve collaboration.	<b>Supported</b>
<b>H4</b>	The coordination-related factors between the tourism-related organizations involved in the development of sustainable livelihoods in Egypt have a positive impact on whether they achieve collaboration.	<b>Supported</b>
<b>H5</b>	Achieving an effective environmental role in Egypt is dependent on successful collaborations between and within the tourism-related organizations involved in the development of sustainable livelihoods.	<b>Supported</b>
<b>H6</b>	Achieving an effective non-environmental role for tourism-related organizations in Egypt is dependent on successful collaborations between the tourism-related organizations involved in the development of the sustainable livelihoods.	<b>Supported</b>
<b>H7</b>	Achieving sustainable community livelihood outcomes in Egypt is dependent on successful collaborations between the tourism-related organizations involved in the development of sustainable livelihoods.	<b>Supported</b>
<b>H8</b>	The tourism-related organizations' non-environmental role-related factors have a positive impact on whether they can protect Egypt's environmental/natural resources.	<b>Supported</b>
<b>H9</b>	The tourism-related organizations' non-environmental role-related factors have a positive impact on sustainable community livelihood outcomes in Egypt.	<b>Not Supported</b>
<b>H10</b>	The tourism-related organizations' non-environmental role-related factors have an indirect positive impact on whether they can achieve sustainable community livelihood outcomes by protecting Egypt's environmental/natural resources (complete mediator).	<b>Supported</b>
<b>H11</b>	The tourism-related organizations' environmental role-related factors have a positive impact on the development of sustainable community livelihoods in Egypt.	<b>Supported</b>
<b>H12</b>	The tourism-related organizations' satisfaction of overall performance in Egypt is dependent on their achieving the sustainable community livelihood outcomes.	<b>Supported</b>
<b>H13</b>	The challenge-related factors have a negative impact on the tourism-related organizations' overall performance.	<b>Supported</b>

### **6.3.2.6 Global Goodness of Fit (GoF) of the Model**

In addition to the model fit indices provided in this study, PLS-SEM has also another measure of goodness of fit which has been defined by Tenenhaus et al. (2005) as the global fit measure (GoF). This measure is the geometric mean of the average variance extracted and the average  $R^2$  for the endogenous variables (Yusr and Othman, 2012). GoF is calculated by the following formula:

GoF = square root of: (average AVE) x (average R-squared).

$$GoF = \sqrt{R^2 * \text{Average Communalit}y (\text{AVE})}$$

$$GoF = \sqrt{0.340^2 * \text{Average Communalit}y (0.732)} = 0.499$$

According to Wetzels et al. (2009) criteria, the outcome (0.499) demonstrated that the model's goodness of fit measure is large and adequate for global PLS model validity. Wetzels et al. (2009) proposed the following thresholds for the GoF: small=0.1, medium=0.25 and large=0.36.

## **6.4 Summary**

This chapter describes the responses of the study's participants regarding the role of tourism-related organizations in environmental protection and the management of tourism in Hurghada, the factors, both positive and negative, influencing the relationships between the organizations and the formation of tourism actor-networks involved in environmental resource protection and the development of safeguarding local community livelihoods. The PLS-SEM statistical analysis has validated the study's conceptual model and it is found that the environmental role of tourism-related organizations in protecting Hurghada's natural resources mediates the causal relationship between their

non-environmental role and sustainable livelihood outcomes. The model of the study has been tested using the PLS-SEM model and it is found to be valid for explaining the factors, both positive and negative, influencing the roles, relationships and formation of tourism actor-networks involved in environmental resource protection and the management of tourism in Hurghada.

## **Chapter 7: Discussion**

### **7.1 Introduction**

The main aim of this study has been to explore the role of tourism-related organizations involved in managing tourism's environmental impacts in Hurghada, Egypt. In addition, the study has investigated the relationships between these organizations and the impacts of these relationships on the roles they play and the outcomes of their work. This research has identified and characterized the key factors that have influenced the success of existing collaborative relationships (i.e. trust, commitment, communication and coordination) and demonstrated their impact on the roles of, and the relationships between, government and non-governmental related organizations directly and indirectly associated with tourism which are involved in environmental protection and the management of tourism in Hurghada.

This chapter discusses the results of the quantitative study (as presented in Chapter 6) and reviews the findings of the qualitative study, in an attempt to synthesize and construct a more complete picture of what has been learned about collaboration between tourism-related organizations, natural resources conservation and ANT. More significantly, the study findings are integrated with the relevant literature in these fields of study. This chapter also discusses the applicability of ANT to the management of tourism's environmental impacts in the coastal city of Hurghada.

Thus, this chapter integrates the quantitative with the qualitative findings, using the qualitative findings to assist in explaining the quantitative. In so doing, and

based on the objectives of the study, it discusses the role of tourism-related organizations in environmental protection and management of tourism in Hurghada, how these organizations' environmental role (in protecting Hurghada's natural resources) completely mediates sustainable livelihood outcomes, the factors influencing their relationships, the formation of tourism actor-networks, the factors influencing their formation and functioning, the challenges encountered, and finally the value of the ANT's conceptual framework. The aims and objectives of the study that are addressed in this chapter are presented in Table 7.1.

Table 7.1: Framework for the Discussion Chapter and the Proposed Conceptual Framework

The aims and objectives of the study
<b>Aim 1- To examine the roles and responsibilities of tourism-related organizations in the management of tourism's environmental impacts in Hurghada, Egypt.</b>
(i) To identify the focal actors involved in managing tourism's environmental impacts in Hurghada, Egypt; and,
(ii) To ascertain the role of organizations involved in managing tourism's environmental impacts in Hurghada, Egypt.
<b>Aim 2- To explore the relationships between tourism-related organizations involved in the management of tourism's environmental impacts in Hurghada, Egypt</b>
(i) To examine the relationships between government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in the coastal city of Hurghada, Egypt;
(ii) To analyse the factors, both positive and negative, influencing the relationships amongst actor-networks involved in managing tourism's environmental impacts in Hurghada, Egypt;
(iii) To assess the formation of actor-networks amongst government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada, Egypt;
(iv) To analyse the factors, both positive and negative, influencing the formation of actor-networks amongst government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada, Egypt; and,
(v) To identify any challenges encountered by government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada, Egypt.
<b>Aim 3- To contribute to an enhanced understanding of ANT and collaboration.</b>
(i) To analyse the applicability of ANT's four moments of translation to the formation and functioning of actor-networks which seek to manage tourism's environmental impacts;
(ii) To demonstrate the value of ANT in highlighting factors which influence the success or failure of actor-networks;
(iii) To propose tentative policy recommendations to enhance the management of tourism's environmental impacts through actor-networks

The first objective of the study, namely identifying the focal actors involved in managing tourism's environmental impacts in Hurghada, Egypt, was covered in Chapter 5 (see Section 5.4). There are a number of tourism-related organizations involved in environmental protection and management of tourism in Hurghada. These organizations can be divided into three different categories. The first category is governmental organizations and includes the Egyptian Development Authority (TDA), the Egyptian Environmental Affairs Agency (EEAA), The Egyptian Red Sea Governorate (RSG), the Egyptian Public Authority for Shore Protection (SPA) and the Egyptian Ministry Of Tourism (MOT). The second category is non-governmental organizations (NGOs) acting in Hurghada, such as the Hurghada Environmental Protection and Conservation Association (HEPCA), the Abu Salama Society (ASS) and the Chamber of Diving and Water Sports (CDWS). The third category consists of international organizations such as the United States Agency for International Development (USAID), the United Nations Environment Program (UNEP) and the Global Environment Facility (GEF).

These different categories of tourism-related organizations, according to ANT, are addressed in this study as a single network dedicating its efforts towards managing tourism's environmental impacts in Hurghada. However, the governmental organizations, NGOs and international organizations also operate as three independent networks (see Chapter 5, Sections 5.4 and 5.5). As already mentioned in Chapter 1, Section 1.2.4, these heterogeneous actors may include various forms of individual or collective agency, defined by their ability to influence the response to environmental challenges through the exercising of authority, power and impact (Harrington et al., 2008). Erkuş-Öztürk

and Eraydin (2010) argue that collaborations with external organizations may help an organization to focus its efforts on improving productivity, increasing profits and minimizing negative environmental impacts. While collaborating with global organizations can help organizations to minimize global challenges, collaborating with governments can help them to create and implement new and more sustainable economic and environmental policies.

## **7.2 The Quantitative Phase's Key Findings**

As mentioned earlier (see Chapter 4, Section 4.7), this study used a sequential explanatory design strategy. Firstly, the researcher carried out the quantitative phase in order to obtain general quantitative results (see Chapter 6). In the second phase, he employed a qualitative approach to collect, through individual semi-structured interviews, text-based data. He did this to help explain why, for example, the range of factors, tested in the quantitative phase (i.e. trust, commitment, communication, and coordination) were significant predictors and had weak effects on the collaboration between tourism-related organizations involved in Hurghada's environmental protection and development of its tourism industry (see Chapter 6, Section 6.3.2.1).

The quantitative findings revealed, also, that there was a weak level of collaboration between them in respect of their environmental role. Meanwhile, their level of collaboration moderately affects their non-environmental role and the achievement of sustainable livelihoods (see Section 6.6.2.2). Furthermore, in the region of Hurghada, the tourist-related organizations' environmental roles had a moderate influence on the outcomes relating to sustainable livelihoods (see Section 6.6.2.1.2). However, the organizations' environmental role

mediated fully the effects of their non-environmental roles on managing tourism's environmental impacts in Hurghada (see Section 6.6.2.1.4).

Their achievement of environmental impacts in the coastal city of Hurghada had both positive and moderate effects on the tourism-related organizations' satisfaction with their overall performance. However, the challenges, which they encountered (see Section 6.6.2.1.3), had both negative and weak effects on this level of satisfaction. With the help of the qualitative data (Creswell and Zhang, 2009), the quantitative results require in-depth explanation and interpretation.

### **7.3 The role of tourism-related organizations in managing tourism's environmental impacts in Hurghada**

This section covers the second objective of the study, this being to ascertain the role of organizations involved in managing tourism's environmental impacts in Hurghada. The aim here is to gain a deeper understanding of the roles played by different types of tourism-related organizations involved in the environmental protection and tourism management in Hurghada. The quantitative phase of the study showed a positive and significant path coefficient from the non-environmental role to the environmental role (see Section 6.3.2.2). This implies that the non-environmental role of these organizations positively influences and supports the environmental role.

The quantitative findings reveal that the most important non-environmental roles undertaken by the tourism-related organizations include the following: (1) supporting the training of local community members to enter the workforce in the tourism industry; (2) addressing the health needs of the local community in

the region; (3) addressing the educational needs of the local community in the region; (4) supporting local communities by allowing them the use of tourism products, services and facilities; (5) contributing to the creation of jobs for residents of Hurghada; and, (6) working with other organizations involved in the field of environmental protection to preserve the natural resources in Hurghada (see Section 4.5.2.1.2 and 6.3.2.2). The qualitative phase of this study supported these findings. One of the participants, from an NGO stated,

*...Our organization, in cooperation with other partner organizations, takes part in some projects aimed at helping the local community, such as constructing hospitals and schools, and offering support with electricity and water, along with maintaining the environment...*

*...These in turn support the environmental role played by the tourism-related organizations; this is indispensable for achieving sustainable livelihoods...*

These results are in line with Salvestrin (2006) and two reports by the DFID (2002, 1999b), all of which state that it is imperative to establish ties between assets, as a single physical asset can produce multiple benefits. For example, if someone has secure access to land (natural capital) they may also be well-endowed with financial capital, as they will be able to employ the land not only for directly productive activities but also as a guarantee for loans. Other similar findings have been produced by Farrington et al. (1999), Ashley and Hussein (2000) and Agarwal et al. (2009), who claim that natural capital may have a crucial role in encouraging or limiting economic expansion and development at tourism destinations.

This study has also found the effect of the environmental role on livelihood outcomes to be positive, moderate and significant. Thus, sustainable livelihood outcomes in Hurghada have been positively affected by the environmental role played by tourism-related organizational networks involved in managing tourism's environmental impacts in Hurghada. Examples of the environmental roles played by the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada include: (1) establishing mechanisms for minimizing and mitigating the human impact on the environment's natural resources; (2) providing support, whether financial, technical, informational or research-based, to help build and improve Hurghada's natural resources; (3) increasing the ability of institutions to effectively monitor tourism's impact on the natural environment; (4) encouraging local communities in the area to participate in environmental natural resource protection; (5) implementing solid waste management systems; (6) managing the coastal setback lands and other common spaces within the tourism centre to ensure public access; (7) preparing/enforcing regulations governing pollution control, shoreline remediation and other environmental management activities; (8) contributing to the protection of coral reefs; (9) contributing to the protection of biodiversity; (10) contributing towards the maintenance of a clean environment in Hurghada; and, (11) determining the carrying capacity of the coastal areas and water bodies ( see Section 4.5.2.1.1 and 6.3.2.2).

As mentioned above, all of the tourism-related organizations involved in managing tourism's environmental impacts and tourism in Hurghada have a very broad environmental remit, but individually they have specific roles. For example, one of the participants spoke of the role of one of the governmental

organizations involved in managing tourism's environmental impacts in Hurghada, and its collaboration with other partner organizations, as follows:

*....The Agency for Environmental Affairs (EEAA), with other partner organizations, preserves natural and environmental resources in the Red Sea Governorate, including Hurghada....In coordination with non-governmental and international organizations, it makes specific, scheduled plans to improve environmental conditions as follows: (a) annual plans for newly-emerging natural phenomena to be monitored and annual reports on the achievements made, and (b) five-year plans that draw on the state budget and have a longer duration...*

*...Examples include projects for sanitary sewerage at the level of the governorate of Hurghada city, where there are environmental problems as a direct result of the dumping of sewage into the Red Sea. It was necessary to lay down a five-year plan to treat this environmental pollution and preserve our natural resources...*

One of the interviewees from an NGO stated,

*"Our organization supports research in the field of protecting the natural environment in the Red Sea Governorate, especially Hurghada".*

Another representative of an NGO spoke about the results of such plans:

*Our organization works together with other partner organizations to reduce the pollution of the marine environment and also to monitor and follow up on issues along the Red Sea coast. The Environment Department of the Red Sea, in cooperation with non-governmental organizations and societies, conducts scientific research to detect natural phenomena relating to natural and environmental touristic resources. The causes of any problems are examined.... For example, damage to the coral reefs*

*was detected and they are now monitored and attempts are being made to restore them.*

This result is in line with the findings of Kreag (2001), Goodwin (2007), Pechlaner et al. (2009) and Roe and Elliott (2004), who show that natural resource conservation and monitoring efforts provide opportunities to improve the livelihood outcomes of future generations. Similarly, Bramwell and Sharman (1999) found that collaboration adds value by allowing organizations to build on the store of knowledge, insights, and the capacity of stakeholders in the tourism destination, thus offering advantages to stakeholders and the destination. Similar results are presented by Graci (2012), who argues that collaborative relationships among the actors involved in working towards a common goal in a tourist destination are essential if the tourism industry is to move towards sustainability.

The quantitative results reveal that the environmental and non-environmental roles played by such tourism-related organizations have poorly contributed to the livelihoods outcomes of the local community. These goals include the following: (1) improved understanding of the values of environmental/natural resource conservation; (2) improved biodiversity conservation in the tourist destination; (3) protecting Hurghada's coral reefs; (4) creating jobs for residents of the community in Hurghada; (5) increasing local incomes; (6) reducing the vulnerability of households and communities to shocks and stresses; (7) reducing job insecurity; (8) ensuring the sustainable use of natural resources; (9) creating a heightened sense of well-being amongst residents in the region; and, (10) increasing the

contribution and involvement of the local community towards maintaining the area's natural resources (see Section 4.5.2.1.8 and 6.3.2.2).

However, the sustainable livelihood outcomes that have been achieved so far were described by one of the interviewees from an NGO as follows:

*...Tourism-related organizations involved in the development of sustainable community livelihoods in the city of Hurghada and the surrounding areas have poorly contributed to the local community by providing health and education services, clean water, electricity to some remote areas and jobs to some of the people of this area... This has led to some improvements in the living conditions of some residents...*

These results are consistent with those of Attia (1999) who found that centralization, combined with mis-governance, has arrested modernization and alienated many citizens outside of Cairo, and has restricted political and civil rights. Moreover it has contributed to the absence of effective coordination between the governmental authorities, resulting in a failure to effectively tackle the negative impacts of development including that caused by the tourism industry. Furthermore, Sowers (2007) argued that, under Egypt's authoritarian rule, community-based conservation of natural resources efforts were insufficient when, systematically, the central government marginalized such communities. In these circumstances, the effective management of natural resources is likely to remain limited to spatial and temporal enclaves (Sowers, 2007).

The findings also show that natural resources conservation is carried out in order to guarantee the continuity of the tourism industry in Hurghada. In addition to the protection of natural resources, other activities and services (e.g. educational, health) are carried out by the tourism-related organizations, and considered an important element of the development of sustainable community livelihoods in Hurghada. Therefore, collaboration has become important between different types of governmental, non-governmental, local, regional, national, international and supra-national organizations (Pechlaner et al., 2009; Uhlig, 1992). This is because it can produce better returns in protecting and conserving the environment than can be achieved by businesses and organizations acting in isolation.

This study has identified an insignificant relationship between the non-environmental role of the tourism-related organizations and livelihood outcomes in Hurghada. This suggests that sustainable livelihood outcomes are completely mediated by the environmental role played by these organizations (see Fig. 6.3 and Table 6.34).

### **7.3.1 Complete Mediation of the Impact of the Non-Environmental Role on Sustainable Livelihood Outcomes by the Environmental Role**

The quantitative results of this study demonstrated that the path from the non-environmental role of the tourism-related organizations to sustainable livelihood outcomes was completely mediated by their environmental role (see Table 6.34). This means that the environmental role is considered by the tourism-related organizations to be a critical factor in the relationship between their non-environmental role and sustainable livelihoods. An NGO representative stated,

*"I can almost assure you that the tourism industry cannot continue in the region without a collective role to protect the natural resources, which form the main pillar of the tourism industry."*

In other words, without the environmental role tourism-related organizations play in protecting Hurghada's natural resources, their non-environmental role would not have a significant effect on sustainable livelihood outcomes. These results are in line with those of Gregoire (2011), who found that maintaining and developing a pattern of sustainable livelihoods is dependent upon how we use our resources, specifically our natural capital. This means that preserving the natural resources in a particular destination is necessary if we are to secure people's livelihoods.

It can be concluded that the environmental and non-environmental roles complement one another. The environmental role is crucial because it represents a key element of the tourism industry in Hurghada. At the same time, non-environmental factors such as basic infrastructure are also crucial. As a result, both roles (environmental and non-environmental) are necessary for offering continued support to the tourism industry in Hurghada, and maintaining a type of tourism that is conducive to maintaining and securing the livelihoods of the local community in the long term. However, in order to achieve success in their environmental and non-environmental roles, as this study suggests, it is essential that the relevant tourism-related organizations build strong relationships with each other.

## **7.4 Relationships between the Tourism-Related Organizations Involved**

### **Managing Tourism's Environmental Impacts in Hurghada**

This section covers the third objective of this study, this being an examination of the relationships between government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in the coastal city of Hurghada, Egypt. The results from the quantitative phase of the study showed that the effects of collaboration between tourism-related organizations on the organizations' environmental and non-environmental roles and the livelihood outcomes are positive and significant. The effect on the non-environmental role and the livelihood outcomes is moderate but that on the environmental role is weak. These results are due to the apparent existence of poor relationships between the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. This was confirmed by the findings drawn from the qualitative phase and reinforced by a representative of the governmental organization, who stated,

*...There has been a noticeable and continuous improvement in the tourist activity in the city of Hurghada. For example, there has been a continuous increase in the number of tourists, increasing amounts of foreign and domestic investment, and an increasing proportion of people being employed in the tourism sector, either directly or indirectly...*

*...This in turn has led to improved well-being and the safeguarding of sustainable livelihoods for the local community...This is due to the role taken by our organization and our partners in maintaining the natural tourism resources....However, weak commitment, trust and poor communication are the main factors behind imperfect achievement of our aims...*

One of the participants in this study, who represents an NGO, described how weak relationships between the tourism-related organizations involved in

managing tourism's environmental impacts in Hurghada are affecting the protection of Hurghada's natural resources, arguing,

*The tourist organizations in Hurghada, operating in the field of protecting natural resources and the community, do experience, to some extent, negative relations that have harmed the preservation of natural resources, which are the foundation of the tourism industry.*

A representative of one of the governmental organizations in Hurghada clarified this point when asked about the relationship between their organization and HEPICA, an NGO:

*“...if you talk to representatives from HEPICA, they will inform you that cases have been filed against us by that organization”.*

These findings are in line with the work of Helmy (2004), who found that the TDA is the most appropriate tourist authority to be accountable for crafting and implementing sustainable tourism development programmes. However, this authority is responsible currently for only the development of the new coastal areas outside the city boundaries. Consequently, its responsibility does not extend to the implementation of sustainable development strategies in the existing tourist destinations. In other words, private entrepreneurs hold the initiative in expressing their interests in the development of specific regions, whilst the TDA has an obligation to verify whether the expressed interest complies with Egypt's adopted tourism development strategy or relates to the priority regions or priority projects (Kunst, 2011).

Wahab (1997), Helmy (2004) Iraqi (2007), and Ibrahim (2009) identified three main inherent challenges which obstructed environmental protection and the management of tourism in Hurghada. These are: (1) the lack of accountability of the Egyptian Government bodies to deal with all the challenges which have an effect on specific protection issues; (2) the absence of harmonization and integration of sustainability and conservation policies between authorities; and (3) risk conflict between tourist developers and local communities regarding sustainable tourists development projects. For example, Sowers (2007), demonstrated that the Egyptian government engages in tireless and continuous attempts to disorganize, deteriorate, and, selectively, to induce NGOs, political parties, and business associations. This system of authoritarian governance which, often, has included and demobilized demands from public associations, has been characterized diversely as “executive hegemony”.

Overall, the above findings reveal that relationships among the tourism-related organizations are negatively affected by the absence of good governance in the Egyptian government’s role in environmental protection and the management of tourism. Therefore, the centralization and the identified weaknesses of the Egyptian government’s governance of the tourism sector resulted in the absence of an effective commitment, trust, communication and coordination between the governmental authorities. These factors negatively affect the relations among the tourism-related organizations regarding their preferred roles and the realization of their goals.

## **7.5 Factors Influencing the Relationships between Tourism-related organizations Involved in managing tourism's environmental impacts in Hurghada**

This section covers the fourth objective of the study, which was to analyse the factors, both positive and negative, influencing the relationships amongst actor-networks involved in managing tourism's environmental impacts in Hurghada. The analysis of the data collected in this study revealed that all of the study variables (trust, commitment, coordination and communication) have a significant and positive impact on collaboration (COLLA) to differing degrees. Communication was found to have the highest impact, followed by trust, commitment and coordination respectively. Accordingly, communication and trust are shown to be the most important variables affecting the chances of success in collaborative activities (COLLA).

The study's findings showed that poor levels of commitment, trust and coordination led to poor collaboration between the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. However, communication and information exchange were found to have stronger effects than the aforementioned factors. Overall, the lack of these key factors in the case under study has negatively influenced the relationships between the organizations in question, the formation of tourism actor-networks and how they function. The qualitative findings of the study were consistent with the quantitative findings. This failure in the management of the environmental impacts of tourism is the result of the absence of good governance in Egypt. The qualitative and quantitative findings will be explained jointly in sections 7.5.1-7.5.4.

### **7.5.1 Commitment and the Relationships between the Tourism-Related Organizations**

The analysis of the data collected for this study (see Section 6.3.2.1) showed that poor levels of commitment led to poor collaboration between the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada and that, commitment is one of the main factors affecting the collaboration. This is supported by the findings of the qualitative phase. An interviewee from a governmental organization contended,

*...There are some difficulties and hurdles that cause tension in the relations between some organizations, but not all of them. Relations between HEPICA and the Tourist Development Authority (TDA), in Hurghada, are not good due to the TDA's weak control of the process of tourist development in Hurghada...*

*...Also, there is a failure to do what has been agreed upon previously, or, in other words, a weak commitment from these organizations to achieve what has been agreed....Thus, poor levels of commitment negatively affected tourism-related organizations to accomplish their role effectively...*

Furthermore, some of the interviewees argued that the reason behind these weak ties between some of the tourism-related organizations was the weak commitment from stakeholders with direct links to tourism activities in Hurghada. Others mentioned that the government organizations' supervision of tourism development activities in the destination was absent or ineffective. A representative of one of the governmental organizations explained this as follows:

*...Some investors disobeyed construction rules and encroached on the protected area of shore in Hurghada, which negatively affected the coral reefs. This was behind HEPCA's displeasure... also the failure of the governmental organizations and bodies to carry out their duties in controlling tourism development activity...*

These findings are consistent with Blomqvist and Levy (1999), Krause (1999), Casey (2008), Hoegl et al. (2004), Krause et al. (1999), Mohr and Spekman (1994), Pesämaa and Hair (2007), Plewa and Quester (2006), and Rampersad et al. (2009), who have all identified commitment as a factor critical to success. Reardon and Vosti (1995), and Cater (1993) also identify some reasons for the lack of commitment in developing countries: namely that these countries are poor and lack the economic basis and institutional capacity to cope with environmental degradation issues and simply cannot afford to undertake preventative measures to address environmental degradation.

### **7.5.2 Trust and the Relationships between the Tourism-Related Organizations**

The analysis of the data (see Section 6.3.2.2) showed that poor levels of trust led to poor collaboration between the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada and that, trust is one of the main factors affecting the collaboration between tourism-related organizations in Egypt. This is supported by the findings of the qualitative phase, in which interviewees illustrated that a lack of trust was one of the main reasons for the weak collaboration between the tourism-related organizations. According to the research interviewees, the level of trust among the tourism-related organizations in Egypt is insufficient to build an effective collaboration

and therefore the achievements of the organizations are still below the planned targets.

Thus, weak trust between Egyptian tourism-related organizations is negatively affecting the overall collaborative relationships among those involved in managing tourism's environmental impacts in Hurghada. For example, a representative of one of the governmental organizations explained,

*Relations amongst tourism-related organizations suffer from tension, to some extent, though not with all organizations as our relations with other governmental organizations are excellent... These tense or weak relations can lead to negative impacts on the trust among tourist organizations.*

Thus, the qualitative findings also showed another view: that the level of trust is reasonable between government organizations. Another representative of one of the governmental organizations claimed,

*“...Governmental tourism-related organizations enjoy good mutual trust thanks to the unity of the governmental administration and commitment”.*

Overall, however, the qualitative results showed the level of trust between tourism-related organizations to be weak, and many interviewees attributed this to the imperfect transparency of information between the organizations. An interviewee from one of the governmental organizations explained,

*...Frankly, we are not accustomed to cooperation, participation or joint operations... The main reason for this is the weak transparency and corporate governance between the tourism-related organizations...*

These results are in line with Pearce et al. (1992), Pesämaa and Hair (2007), Rampersad et al. (2009) and Humphries and Wilding (2004), who found trust to be considered a keystone of successful collaborative relationships as it improves relationships, minimizes harmful conflict and allows for effective responses to crises. Trust is knowledge-driven; a lack of, or incomplete, knowledge creates the need for trust (Abosag et al., 2006). Similar findings have been produced by Selin and Chavez (1994), Weiler et al. (2007), and Young-Ybarra and Wiersem (1999). As mentioned above, developing countries are characterized by a lack of transparency, institutional capacity and therefore trust and commitment (Attia, 1999; Gebril, 2004).

### **7.5.3 Communication and the Relationships between the Tourism-Related Organizations**

The analysis of the data (see Section 6.3.2.3) showed that communication and the exchange of information among the tourism-related organizations has the greatest positive impact on collaboration. However, the qualitative findings revealed that the communication between the tourism-related organizations' members is moderate, with some interviewees describing it as "very weak". For example, a representative of a governmental organization stated,

*"There is a weakness in communication...or we could say that communication is not available at all".*

The qualitative findings attributed the weak communication to low levels of trust between the organizations. One governmental organization's representative contended,

*...The communication problem is due to a weakness in trust and a weakness in exchanging information....Also, tourism-related organizations lack clear and continuous communication as they get in contact only when necessary...*

These findings are consistent with Kirchmayer and Patterson (2003), Abosag et al. (2006), Devine et al. (2011) and Graci (2012), who found that it is impossible to have relationships without communication, because communication is the human activity that links people together and creates relationships. Similar results have been produced by Medina-Muñoz and García-Falcón (2000), Blomqvist and Levy (2006), Gorman (2006), and Ramayah et al. (2011). This means that poor communication leads to the inability to exchange information between tourism-related organizations, which in turn has a negative impact on the relationships between them.

Overall, taking the quantitative and qualitative phases together, it can be concluded that poor communication has a negative effect on the success of the collaborative relationships between the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada, Egypt.

#### **7.5.4 Coordination and the Relationships between the Tourism-Related Organizations**

The quantitative findings (see Section 6.3.2.4) showed that poor levels of coordination led to poor collaboration between the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada and that, coordination is one of the main factors affecting this collaboration. The respondents consider coordination to be key to good relationships. These

findings are consistent with Thomson et al. (2008, 2009), Kojoori (2011), Medina-Muñoz and García-Falcón (2000), who found coordination to be a critical factor in the success of collaborative relationships between organizations. This is because, with good coordination, duplication and overlapping activities are avoided, agreed roles and responsibilities are coordinated with others, conflicts are settled quickly, and constructive discussions are facilitated.

Another point of view highlighted by the qualitative findings was that there is some coordination in the network, which can be attributed to a committee composed of members of the tourism-related organizations, which has been established by the government with the aim of protecting natural resources and resolving problems related to the environment and tourism. The committee includes representatives from governmental, non-governmental and international tourism-related organizations. An interviewee from one of the governmental organizations discussed its make-up:

*...The committee is composed of the following entities: the Ministry of Defence, the Egyptian General Authority for the Protection of Beaches, the Egyptian Tourism Development Authority, the Ministry of Antiquities, the Red Sea Governorate, the Ministry of Water Resources and finally the Home Office...this committee meets monthly to resolve urgent problems that need to be resolved quickly, in addition to problems that need more time...*

Overall, the above findings show that the relationships between tourism-related organizations involved in the environmental protection and tourism development in Hurghada are negatively affected by some key factors (i.e. commitment, trust,

communication, and coordination). This result is consistent with Ramayah et al. (2011), who found communication and commitment to impact on collaboration in tourism networks. However, Ramayah et al.'s study differs from the current study in that it found that trust had no impact on collaboration. Based on both quantitative and qualitative findings, it can be argued that the absence of good governance is the root cause behind the aforementioned negative relationships between tourism-related organizations in Hurghada.

Thus, having addressed the key factors and their impact on the collaborative relationships between the tourism-related organizations, it is now essential to delve into the consequences for collaboration, particularly the effect of these key factors on the formation of tourism actor-networks.

## **7.6 The Formation of Tourism-Related Actor-Networks**

This section covers the fifth objective of the study by assessing the formation of actor-networks amongst government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada. This study applies ANT in order to explore the role of, and relationships between, these tourism-related organizations in Hurghada. In particular, it assesses the applicability of the theory's four moments of translation—problematization, interessement, enrolment, and mobilization—to the tourism-related organizations' attempts to manage tourism's environmental impacts in Hurghada.

The key success factors used in this study (i.e. commitment, trust, communication and coordination) helped to establish whether there are

sufficient relationships between the tourism-related organizations for actor-networks to emerge in Hurghada in the first place. As a result of environmental problems in Hurghada and their impact on tourist activity and sustainable livelihoods for the local community (Medio, 1996), some tourist-related organizations, both government and non-government, have adopted projects and initiatives aimed at resolving such problems. For example, the EEAA launched Law 4 of 1994 (Law 4/94), which, according to Helmy (2004), relates to the use of natural capital and its conservation from degradation, and policies adopted by the TDA (see Section 5.5.1.2). USAID initiated the Life Red Sea Project that focuses on the conservation of the natural environment and other services aimed at developing sustainable livelihoods (Ibrahim, 2005; USAID, 2007, 2008) (see Section 1.3.2). Additionally, HEPICA has launched a project called FEEL, through which it aims to encourage today's young Egyptians to take responsibility for Egypt's natural resources (HEPCA, 2013). ANT places these types of initiatives within *problematization*, the first stage of translation.

Problematization, as defined earlier, is when the focal actors analyse a situation, define the problem and propose a solution. Then, the focal actors identify other actors who have similar aims, and are interested in forming a network in order to work together. Investigating the existence of an actor-network committed to protecting Hurghada's natural resources and the management of tourism in Hurghada helped with testing the success or failure of the first stage of ANT. It should be stressed that the problematization stage is still not being handled effectively by the tourism-related organizations involved, and this has prevented the focal organizations (i.e. HEPICA and USAID) from negotiating with some of the key organizations (e.g. TDA) that have the power

to influence decision-making in Hurghada. Thus, it can be concluded that errors in problematization have been the starting point for the failure to form an effective network in Hurghada (see Figure 7.1).

Figure 7.1 demonstrates the different types of human and non-human actors and their projects and roles in managing tourism's environmental impacts in Hurghada. The figure shows that the NGOs (including international organizations) are the focal actors in managing tourism development in Hurghada, while the governmental organizations have the power and decision-making authority (see Section 5.5).

A representative of one of the NGOs stated,

*Our organization, along with other partner organizations, has identified appropriate projects that will help to solve Hurghada's problems.... However, negative relationships between tourism-related organizations have hindered the establishment of a solid partnership to successfully protect Hurghada's natural resources.*

The result is consistent with Gunawong and Gao (2010), who found the failure of Thailand's Smart ID Card project to be due to errors in problematization that initiated starting-point failure. As was explained in Chapter two, interessement refers to the phase in which other actors become interested in the proposed solution identified in the first phase. The focal actors should play an important role in convincing other actors to get involved in the network. Additionally, the other actors involved must benefit from their participation. Due to the failure of the first phase (problematization), some key actors (e.g. HEPCA) are absent from the tourism-related actor-network in Hurghada and working in isolation

(failure of interessement). Moreover, the weak ties that caused the failure of problematization have also caused the focal actors (the NGOs) to cease negotiating with some of the key governmental organizations (e.g. the TDA).

Thus, it can be concluded that imperfect interessement has increased the chances of this actor-network failing. A representative of one of the NGOs stated,

*...Our organization also identifies other actors that may be interested in the development of sustainable community livelihoods and tries to convince them to get involved....But, as I said before, negative relationships between tourism-related organizations hinder our attempts to align the interests of the key organizations involved in the development of safeguarding local community livelihood outcomes...*

These results are in line with Luoma-aho and Paloviita (2010), who found that the process of translation is successful when a network of aligned interests is created, and with Gunawong and Gao (2010), who found that incomplete interessement creates a greater possibility of failing to form an actor-network. It is also consistent with Van Der Duim (2005), who stated that interessement will only occur if problematization has already been successful.

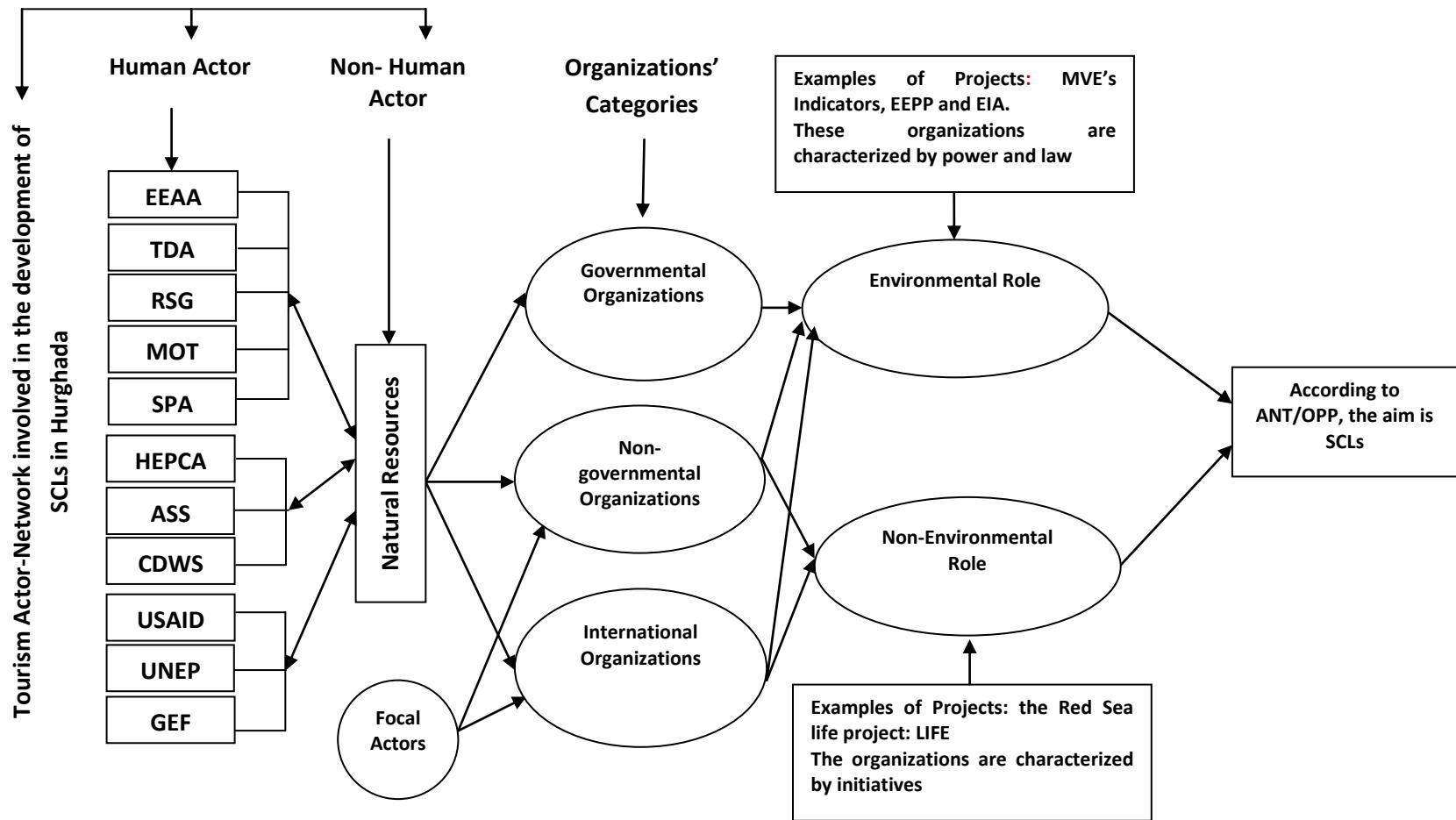


Figure 7.1 Human and non-human actors and their projects and role in managing tourism's environmental impacts in Hurghada

Note: ← → = The interactions between human and non-human actors.

Investigating the impacts of the key success factors on the environmental and non-environmental roles of the tourism-related organizations and on the sustainable livelihood outcomes helped with the testing of the success of the third phase of ANT (enrolment). Enrolment can be defined as the set of multilateral negotiations, trials of strength and tricks that accompany interessement and enable networks of actors to succeed in achieving their goals (see Section 2.3.3). In this case, because of the impairment of the first two phases, the third phase, enrolment, has also been compromised. The will of the focal actors (NGOs) is gradually being weakened due to the instability of the network. The NGOs may have the funds and the initiative to carry out their projects but without the governmental organizations' power and decision-making authority, the formation and functioning of the tourism-related organizations' network is ineffectual. A representative of one of the NGOs stated,

*...After roles and responsibilities have been agreed, our organization may work with other partner organizations to maintain, reinforce and provide support to these other tourism-related organizations through negotiation...*

This finding is consistent with Gunawong and Gao (2010), who found that uncontrolled chaos in the enrolment process negatively affected the success of the actor-network involved in Thailand's Smart ID Card project. It is also in line with Van Der Duim (2005), who argued that enrolment will only occur if interessement has already been successful, and with the findings of Casey (2008), who showed that a lack of trust, commitment, coordination and communication can make it difficult to sustain successful partnerships.

Finally, despite the problems with the first three phases, which have led to a failure to form an adequate network, there is an agreement among the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada to continue their attempts to protect the natural environment in Hurghada. A representative of the NGOs claimed,

*We are determined to continue in our efforts towards environmental protection and providing assistance to the local community...We will as much as possible invite others to join this network*

The interviewees from governmental organizations expressed the same point of view:

*As governmental organizations, our goals are dedicated to protecting natural resources and supporting the local community.*

These results are consistent with the findings of Gunawong and Gao (2010), who found that, regardless of problems with the first three phases, it is still possible for the fourth phase (mobilization) to go ahead.

The above discussion shows that, in order to build networks of tourism-related organizations, four phases have to be completed (i.e. problematization, interessement, enrolment and mobilization). However, the success of the networks studied here is being negatively affected at present by the weak ties between the tourism-related organizations involved in the environmental protection and tourism management in Hurghada. It can be argued that the negative relationships between tourism-related organizations and the failure of

tourism-related actor-networks' formation in Hurghada is due to the absence of good governance is in Hurghada, Egypt.

## **7.7 Factors Influencing the Formation and Functioning of Tourism-Related Actor-Networks**

This section covers the sixth objective of this study by analysing the factors, both positive and negative, influencing the formation of actor-networks amongst government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada. In order to specifically address the study's aims and objectives, earlier in this chapter, four key collaborative relationship success factors (i.e. trust, commitment, communication and coordination) were identified, and their impact on managing tourism's environmental impacts in Hurghada was assessed. In this section, both the quantitative and qualitative findings are used to address the factors that characterize the development and functioning of successful actor-networks in the developing world, and to determine the extent to which those success factors have influenced the management of tourism's environmental impacts in Hurghada through the formation and functioning of the tourism-related organizations' network. The findings of this study have confirmed the researcher's expectation that commitment, trust, communication and coordination would have a positive impact on the formation of such a network. However, the network is weak at present due to the limited commitment, trust, communication and coordination that exists.

### **7.7.1 Commitment and the Formation of Tourism-Related Actor-Networks**

The quantitative findings reveal that weak levels of commitment are causing poor collaboration between the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. The qualitative findings back this up. For example, a representative from one of the NGOs stated,

*...Some of our partner organizations are less committed to our agreed roles and responsibilities...And they only work to obtain funding and not for the sake of protecting the natural environment...*

The qualitative findings also showed the governmental organizations to be less committed to their roles and responsibilities than the NGOs. Moreover, some participants asserted that all of the organizations (governmental, NGOs and international) showed weak commitment towards each other. With regard to the relations between the tourism-related organizations in Hurghada, a representative of one of the NGOs commented,

*"There is weak commitment. This is due to the non-implementation of the rules and laws adopted by the government bodies, for example Environmental Law No. 4 in 1994".*

A representative of one of the governmental organizations gave an example of this weak commitment and the negative impact it has had on the relationship between HEPICA (an NGO) and TDA (a governmental organization):

*HEPCA and TDA have a tense relationship due to non-commitment to environmental standards and control over activities related to tourist*

*development...This has a negative effect on the success of our relationships, roles and sustainable livelihood outcomes.*

These findings back up previous research, which has found that, for successful long-term relationships, it is essential that the parties are highly committed and trusting of one another (Nöster et al., 1992; Pesämaa and Hair, 2007). Similar findings have been produced by Kirchmayer and Patterson (2003), Owusu (2003), Abosag et al. (2006), Erkus-Ozturk and Eraydin (2010), Aas et al. (2005), Ramayah et al. (2011) and Devine et al. (2011). Therefore, this weakness of commitment shown by the tourism-related organizations to one another is the crucial factor in the failure of their relationships with each other and resulting failure to build a joint collaboration and actor-network in Hurghada.

Overall, this section of the study shows that there is weakness in the commitment of the tourism-related organizations involved in managing tourism's environmental impacts. Many of them fail to perform their roles and responsibilities. Commitment between tourist-related organizations is very important for successful relationships because it helps to build mutual trust. In contrast, a weak commitment may lead to a weak trust and then adversely affect relations between tourism-related organizations and the formation of actor-networks.

### **7.7.2 Trust and the Formation of Tourism-Related Actor-Networks**

An interviewee from one of the governmental organizations confirmed that a lack of all four key factors (i.e. commitment, trust, communication and coordination) is harming collaborative relationships:

*... I can confirm that the lack of commitment of investors has a negative influence on the trust among tourism-related organizations, and the lack of control of the governmental organizations is behind all such problems among us...*

*...This is only one of the key factors that are harming the relations between tourism-related organizations. There are other factors, for example, poor communication, which in turn impacts on the coordination of roles and responsibilities among the members of the tourism-related organizations' network...*

The qualitative findings attributed the weak trust to political instability in the governmental organizations and a failure by them to perform their assigned roles, something that has led some tourism-related organizations to prefer working in isolation. A representative of one of the NGOs gave some other reasons for the weak trust:

*Political will and the leadership's perceptions lie behind these problems. In fact, corrupt political will and insufficient transparency have led to poor relations between governmental and non-governmental organizations...Thus, our organization prefers to do its work directly, to be sure that this work is conducted perfectly.*

These results are consistent with the findings of Blomqvist and Levy (2004) and Laing et al. (2009), who found that the main component of successful relationships amongst a set of actors are trust, commitment, communication and coordination. Similar results were also found by Medina-Muñoz and García-Falcón (2000), Ramayah et al. (2011), Humphries and Wilding (2004), Pesämaa and Hair (2007), Abosag et al. (2006), Chen et al. (2003), In (2005) Dyer (2000), Jarvenpaa and Leinder (1999) and Kojoori (2011). These studies

together concluded that these factors are the most important for the successful formation and continuation of relationships between any actors. Thus, the existence of strong mutual trust, commitment to the roles assigned to each actor, the exchange of information and good coordination will jointly lead to the successful building of a network of organizations. On the other hand, a failure of relations will lead to a failure to build such networks.

In general, we can conclude that there is a weak trust between the tourism-related organizations involved in the development of sustainable community livelihoods, and that this affects the efficiency of the collaborative networks. While the trust between governmental tourism-related organizations appears to be somewhat acceptable, that between governmental, non-governmental and international organizations is weak and needs improvement. Along with trust, the commitment among the different types of organizations is also weak and needs to be enhanced. A weak trust may negatively affect the process of information exchange, by leading to the withholding of information and poor communication.

### **7.7.3 Communication and the Formation of Tourism-Related Actor-Networks**

The relationship between communication and collaboration is moderately strong. Thus, among the key factors, communication is the only one that really helps collaboration between tourism-related organizations. An interviewee from one of the governmental organizations confirmed this:

*Communication takes place only as needed and in specific circumstances...I can say that communication is not completely absent,*

*but it is still weak and this has a negative impact on the success of the relations between the organizations.*

The qualitative findings provided some reasons for the poor communication. For example, a representative of one of the governmental organizations explained,

*...The weak communication among the members of the tourism-related organizations is due to the poor exchange of information among them...as well as an unwillingness to share information. They believe that retaining information strengthens their position compared to other partner organizations and strengthens the value of their organization in the view of the political administration...*

However, another representative of a governmental organization said,

*Communication between our organization and our partner organizations is quite good and usually takes place every month... This, to some extent, helps to improve the role of our organization and other partners in the development of sustainable community livelihoods.*

This corroborates Ramayah et al. (2011), who found that communication has the strongest impact on collaboration in tourism networks. It is also in line with Nöster et al. (1992), who found that communication is a crucial factor in trusting relationships. Finally, it is consistent with Medina-Muñoz and García-Falcón (2000), Kirchmajer and Patterson (2003), Devine et al. (2011), Graci (2012), Krause et al. (1999), Abosag et al. (2006), Mattessich et al. (2001), Mohr and Spekman (1994), Paulraj et al. (2008), Gorman (2006), and Blomqvist and Levy (2006). All of these works confirm that communication and exchanging information between actors is the most important factor contributing to the success of businesses and the building of strong working relationships.

Furthermore, these findings are consistent with Kirchmair and Patterson (2003), who found that it is impossible to have relationships without communication, because communication is the human activity that links people together and creates relationships. In particular, effective collaboration between participants requires extensive communication for brainstorming, for the sharing of project-related information and performance feedback, for reducing perceived risks and for improving credibility (Abosag et al., 2006; Devine et al., 2011; Graci, 2012).

It can be concluded that, despite some weaknesses, communication between the tourism-related organizations is still better than either trust or commitment. The results reveal that the communication between the tourism-related organizations is negatively affected by some other factors (i.e. trust and an unwillingness to share and exchange information). The poor communication has a negative effect on the success of the collaborative relationships and the formations of actor-networks which were involved in managing tourism's environmental impacts in Hurghada, Egypt. Overall, the lack of good governance is regarded as the main cause behind the negative relationships between the organizations and the formation of actor-networks in Hurghada.

#### **7.7.4 Coordination and the Formation of Tourism-Related Actor-Networks**

The quantitative findings revealed that the coordination between these tourism-related organizations is weak. The qualitative findings were consistent with this result. However, as in the case of commitment, trust and communication, the coordination between governmental organizations was found to be better than

the overall coordination between tourism-related organizations in general. A representative of one of the NGOs stated,

*...We rarely do coordinate on many issues, especially with governmental organizations, as they make the decisions relating to many joint issues...despite the existence of this committee charged with resolving potential conflicts, poor communication has led to some shortcomings in coordination...*

Good coordination is very important if the network is to accomplish its role effectively. Therefore, it is crucial that the tourism-related organizations improve this aspect of their relationships. These findings are consistent with Kojoori (2011), who found that coordination between organizations emphasizes cooperation and assistance with respect to the codification and/or management of plans in order to achieve common goals and purposes. Kim (2001) also found that a lack of appropriate coordination can lead to ineffective communication channels and non-value-adding activities, resulting in a decrease in performance and an increase in coordination costs (Kim, 2001).

Overall, both the quantitative and qualitative phases of the study showed that trust is negatively influenced by weak commitment amongst the tourism-related organizations. In turn, weak trust leads to poor communication and information exchange between them. Coordination is then negatively influenced by poor communication. Thus, in combination, these factors are having a negative effect on the formation of actor-networks amongst government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada. These findings are consistent with Gray (1985, 1989) and Waddock (1989), who found that designing the most

advantageous conditions for collaboration relies on the strength of the above four factors at particular points throughout the collaborative process. These results are also in line with Paulraj et al. (2008), who found that communication affects coordination, trust and commitment, and studies by Plewa and Quester (2006) and Jarvenpaa and Leinder (1999), which revealed links between commitment and trust.

It can be concluded that poor level of commitment, trust, coordination and communication have harmed the relationships between these organizations, the formation of tourism actor-networks and their functioning.

### **7.8 Challenges Encountered by the Tourism-Related Organizations**

This section covers the seventh objective of the study: identifying any challenges encountered by government and non-governmental related organizations, directly and indirectly involved in managing tourism's environmental impacts in Hurghada. This study has identified a weak negative relationship between such challenges and the livelihood outcomes. A representative of one of the NGOs listed these challenges as follows:

*...Communication, commitment, trust and coordination are weak among the organizations due to the ineffective political administration regarding the preservation of natural resources in Hurghada...*

*...In addition, there is a poor level of commitment from some partner organizations in implementing their agreed role of protecting the environment, which is the most serious obstacle...*

This is in line with the previously mentioned work of Casey (2008), who found that a lack of these four factors makes it difficult to sustain successful partnerships or relationships. It is also consistent with Kirchmayer and Patterson (2003), who found that it is impossible to have a relationship without communication, as communication is the glue that links people together and creates relationships. Moreover, Kojoori (2011), Hoegl et al. (2004), Mohr and Spekman (1994), Rampersad et al. (2009), Zoogah et al. (2011), and Kim (2001) all showed that a lack of commitment, trust, communication and coordination may negatively affect the relationships between actors.

Furthermore, the quantitative results revealed various challenges that are facing the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. Examples of the types of challenges encountered include: (1) the difficulty of agreeing roles and responsibilities; (2) changes of leadership style; (3) poor participation from the local community in maintaining and protecting the natural environment in Hurghada; (4) the difficulty of identifying the most appropriate organizations to work with; and, (5) the difficulty of convincing other organizations to get involved in the collaboration. Together, these challenges are having a negative impact on the tourism-related organizations' satisfaction with their performance, and the formation of actor-networks.

The quantitative phase showed a significant and positive relationship between livelihood outcomes and satisfaction with the overall performance of the tourism-related organizations in Hurghada. Thus, satisfaction with performance is positively affected by the sustainable livelihood outcomes achieved by the

network. The effect was found to be moderate (see Table 6.34). With regard to the tourism-related organizations' satisfaction, an interviewee from a governmental organization made the following comment:

*...To some extent, there is satisfaction as regards the joint performance of the tourism-related organizations in protecting environmental/natural resources and a means of sustainable living for the local community in Hurghada and the Red Sea Governorate as a whole...However, this does not mean there is full satisfaction, as there are still some problems that are hindering the tourism-related organizations' ability to achieve their goals...*

This backs up previous research that has found that successful networks can have a strong impact on satisfaction with overall performance, which leads the focal actors to direct their efforts towards the consolidation of the new network of interests (Rodger et al., 2009). It is also in line with Medina-Muñoz and García-Falcón (2000), who found that the performance of the partners involved in an inter-organizational relationship can be used to measure the partners' satisfaction.

Given what has been mentioned above, the following section demonstrates the value of using ANT to (1) study the role of tourism-related organizations involved in managing tourism's environmental impacts in Hurghada, (2) explore the relationships between these tourism-related organizations and (3) analyse the factors, both positive and negative, that influence the formation and functioning of actor-networks.

## **7.9 The Contribution of the ANT and Collaboration Theories to the Tourism-Related Networks**

This section covers the eighth and ninth objectives of the study: analysing the applicability of ANT's four moments of translation to the formation and functioning of actor-networks which seek to manage tourism's environmental impacts and the value of collaboration theories in highlighting factors which influence the success or failure of such actor-networks (see Section 3.4). The ANT and collaboration based conceptual framework has brought some benefits to the current study. It has helped the researcher to explore the environmental and non-environmental roles of heterogeneous tourism-related organizations (governmental, NGOs and international) involved in managing tourism's environmental impacts in Hurghada. ANT helped with the identification of tourism-related organizations with an interest in the conservation of environmental resources in Hurghada (see Chapter 5).

Similarly, Rodger (2007) found that the value of ANT is that it examines the construction of alliances and the mobilization of resources. Additionally, Mahanty (2002) found that ANT may help to identify actors with an interest in the conservation of environmental resources. Finally, Luoma-aho and Paloviita (2010) indicated that one of the most important advantages of ANT is the broader understanding it provides of networks and their formation.

The use of ANT in the present study has helped to shed light on the importance and role of non-human actors, namely natural resources, in the formation and functioning of tourism actor-networks. The study findings showed that, without the environmental role tourism-related organizations play in protecting

Hurghada's natural resources, their non-environmental role would not have a significant effect on sustainable livelihood outcomes. This means that the environmental role is considered by the tourism-related organizations to be a critical factor in the relationship between their non-environmental role and sustainable livelihoods. ANT and collaboration theories have also assisted with the exploration of the relationships between human (e.g. tourism-related organizations) and non-human (e.g. natural resources) actors.

Morris (2004) also found ANT to be a powerful analytical tool for answering environmental questions, because it enables non-human entities to be built into the analysis of human ones, and indeed treated as equal partners to them. Similarly, Gareau (2012) found ANT to be valuable for rural development due to its ability to incorporate nature into the make-up of networks. He also demonstrated that ANT is useful for environmental management, planning and policy in that it allows the researcher to explore the relationships between the human (i.e. individuals and organizations) and non-human (i.e. the natural environment) worlds, and the ways in which these two worlds are linked through knowledge and action.

In the present study, the use of collaboration in the environmental governance has helped to shed light the importance of good governance in the environmental protection and the management of tourism in Hurghada. According to Harrington et al. (2008), the environmental management governance comprises heterogeneous actors, regulations, policy documents, agreements and components of the natural environment interacting in different places. These heterogeneous actors include various forms of individual or

collective agency, defined by their ability to influence environmental challenges through the exercising of authority, power and impact. Philip et al. (2008), argued that governance often provides local government with the power to develop its own by-laws and policies at the local level, these must still comply with provincial, national and supra-national frameworks. Local governments therefore need to have a good understanding of such legal and regulatory frameworks to avoid contraventions and consequent penalties.

In this study, ANT and collaboration theory has facilitated the investigation of a set of factors (i.e. commitment, trust, communication and coordination) and their influence on collaborative relationships, and the formation and functioning of actor-networks. ANT has helped with the examination of the relationships among the tourism-related organizations and their role in protecting Hurghada's natural resources and sustainable livelihood outcomes. The findings in this regard backed up previous studies that found that the success or failure of collaborative relationship networks depends on a combination of these four key factors (Humphries and Wilding, 2004; Medina-Muñoz and García-Falcón, 2000; In, 2005; Dyer, 2000; Ramayah et al., 2011; Devine et al., 2011; Blomqvist and Levy, 2006; Morgan and Hunt, 1994; Kelly et al., 2002; Healey, 1997; Roberts and Bradley, 1991; Schuett et al., 2001; Borden and Perkins, 1999; Bramwell and Sharman, 1999; Blomqvist and Levy, 2006).

ANT and collaboration theory helped the researcher to identify the challenges facing the tourism-related organizations and their impact on the satisfaction with the organizations' relationships, performance and achievements. It helped to clarify the crucial role the tourism-related organizations play in protecting

Hurghada's natural resources. Similarly, Rodgers et al. (2009) and Van Der Duim (2007) found ANT to have great value for studying tourism development. Also, a number of other authors (Paget et al., 2010; Jóhannesson, 2005; Ren et al., 2010; Rodger et al., 2009; Van Der Duim, 2005, 2007; Van Der Duim and Caalders, 2008) have found ANT to be a valuable tool for exploring the processes and complex interactions at work in tourism.

## **7.10 Summary**

This chapter has discussed the quantitative and qualitative findings of this study, according to the objectives of the study. It has integrated the quantitative and qualitative findings and linked them to previous studies. It has covered the key success factors (i.e. commitment, trust, communication and coordination) that affect the relationships between tourism-related organizations involved in the environmental protection and tourism development in Hurghada. It has also discussed the extent to which these relationships impact on the roles of the organizations and sustainable livelihood outcomes. The vast majority of the findings are in line with previous studies of the environment-tourism relationship, natural resources conservation and tourism-related organizations' collaborative networks in different environments/contexts. This confirms the reliability of these findings and the effects of the key success factors on the formation of collaborative networks, which in turn impacts on the tourism-related organizations' roles and outcomes.

## **Chapter 8: CONCLUSION**

### **8.1 Introduction**

This chapter presents an overview of the study, summarizing the findings obtained by integrating the data collected from the quantitative and qualitative research instruments. Then, the study implications are discussed, with particular emphasis placed on the theoretical and practical contributions of this study. Next, this chapter provides generic recommendations as to how tourism organization networks (including governmental bodies, NGOs, international organizations and other stakeholders) can successfully improve their roles and outcomes. In doing so, this chapter addresses the study's tenth objective, this being to propose tentative policy recommendations to enhance the environmental protection and tourism development in Hurghada through ANT. Finally, some limitations of the study are highlighted, and ideas for future research proposed.

### **8.2 Study's Key Findings**

This study has applied ANT in order to explore the role of, and relationships between, tourism-related organizations involved in managing tourism's environmental impacts in the coastal city of Hurghada, Egypt. In particular, it has assessed the applicability of ANT's four moments of translation—problematization, interessement, enrolment and mobilization—to the tourism-related organizations involved in environmental protection and the management of tourism in Hurghada. Overall, taking the quantitative and qualitative phases together, it can be revealed that poor level of commitment, trust, coordination and communication have had a negative effect on the

success of the collaborative relationships between the tourism-related organizations involved in managing tourism's environmental impacts in the coastal city of Hurghada. Thus, it can be concluded that weaknesses in these key factors, which are the consequences of miss-governance in Egypt, have damaged the relationships between these organizations, the formation of tourism-related actor-networks and their functioning (see Sections 5.3.4.1 and 5.3.4.2).

The quantitative and qualitative phases together also revealed that, the environmental and non-environmental roles played by tourism-related organizations have poorly contributed to the livelihood outcomes of the local community. The quantitative phase of the study showed a positive and significant path coefficient from the non-environmental to the environmental role. This implies that the non-environmental role played by these organizations positively influences and supports their environmental role. However, an insignificant relationship was identified between the non-environmental role of the tourism-related organizations and livelihood outcomes in Hurghada. This result suggests that sustainable livelihood outcomes are completely mediated by the environmental role of the tourism-related organizations. This means that the environmental role is considered by the tourism-related organizations to be a critical factor in the relationship between their non-environmental role and sustainable livelihoods (see Section 7.2.1).

As mentioned earlier (see Chapter 6), the study's findings showed that the problematization stage is still not being handled effectively among the tourism-related organizations, and this has prevented the focal organizations (i.e.

HEPCA and USAID) from negotiating with some of the key organizations (e.g. TDA) with the power to influence decision making in Hurghada. Thus, it can be concluded that errors in problematization have been the starting point for the failure to form an effective network in Hurghada. Due to the failure of the first phase (problematization), some key actors (e.g. HEPCA) may be absent from the tourism actor-network in Hurghada (failure of interessement). Moreover, the weak ties that caused the failure of problematization have also caused the focal actors (the NGOs) to cease negotiating with some of the key governmental organizations (e.g. the TDA). Thus, it can be concluded that imperfect interessement has increased the chances of failure for the tourism-related organizations' network. Because of the impairment of the first two phases, the third phase, enrolment, has also been harmed. The will of the focal actors (NGOs) is gradually being weakened due to the political instability and absence of good governance of the network. Finally, despite the problems with the first three phases, which have led to a failure to form an adequate network, there is a consensus among the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada that they should continue their attempts to protect the natural environment in Hurghada.

The researcher believes that these results are to be expected, due to the political instability, lack of accountability, absence of transparency, bureaucracy and lack of governance of the Egyptian governments. Hence, these results represent the reality of the failure to manage Hurghada's natural resources successfully, a common phenomenon in developing countries such as Egypt (see Sections 5.3.4.1 and 5.3.4.2).

As indicated in Chapter 7 (see Figure 7.1), NGOs can be considered the focal actors in Hurghada. This is because it is the NGOs that have usually initiated the projects targeting environmental protection and the management of tourism in Hurghada. Meanwhile, the governmental organizations have been established by law to work on the preservation of environmental resources. They have the power to take decisions and have contributed to the disabling of these projects through their bureaucracy, centralization, political instability and mis-governance.

The findings also identified some other problems confronting the network of tourism-related organizations, concerning its formation and decisions about the most important tasks to be carried out and collaboration among the organizations in carrying out their roles and tasks (see Section 7.7). These challenges are having an important negative effect on the degree of satisfaction with the tourism-related organizations' network. This dissatisfaction is in turn reducing the tourism-related organizations' desire to continue performing their roles in the network.

The following sections (8.3.1 and 8.3.2) will describe this study's theoretical and practical contributions to academic knowledge and practice. This will highlight the originality of the study, and emphasize its bearing upon the existing academic literature associated with ANT, tourism-related organizations, collaboration, governance, environmental protection and tourism development in Hurghada, Egypt.

### **8.3 Implications of the Study**

This study has both theoretical and practical implications. The following sections address these implications.

#### **8.3.1 Theoretical Implications**

In terms of the theoretical implications, this research attempted to enhance our knowledge and understanding of the relationships between four previously unconnected subjects. These were, namely, ANT; collaborative governance; tourism-related organizations; and environmental protection. The research explored the key factors which influenced the success or failure of the formation and functioning of tourism-related organization networks involved in environmental protection and the development of tourism. Furthermore, it examined the utility of applying ANT and collaboration theories to enhance knowledge and understanding of tourism-related organizations' roles and responsibilities; their collaborative relationships; and networks in managing tourism's environmental impacts on Hurghada.

Through the use of ANT, this research has contributed to the environmental governance literature generally by identifying the factors affecting the success or failure of the formation and effectiveness of the tourism-related actor-networks involved in environmental protection and tourism management. Precisely, through the application of this theory, the researcher discovered that the lack of factors including commitment, trust, coordination and communication could lead to the failure of the formation of tourism-related-actor-networks and, hence, could have a negative effect on their effectiveness. In the context of this study, these factors are representative of the absence of the quality of

governance and, hence, it can be pointed that good governance is the pillar of environmental protection and tourism management.

Additionally, this study determined, specifically through collaborative governance, the nature, role and extent of involvement of the tourism-related organizations in protecting the environment. Moreover, it demonstrated the value and general applicability of ANT. For example, ANT helped the study to examine the interaction between different types of human actors (including governmental, non-governmental, local, regional, national, international and supra-national organizations) and non-human actor (including natural resources). Consequently, this interaction shed light on the crucial and key role of the “Non-human actor” in the formation and functioning of tourism-related actor-networks involved in environmental protection and tourism development. More specifically, the ANT’s four moments of translation helped to understand the roles and responsibilities of the government and non-governmental related organizations involved directly and indirectly in managing the environmental impacts of tourism on Hurghada. For example, through a micro level study of the stages, ANT helped to incorporate natural environment as a key actor and resulted in tourism-related organizations’ collaboration which existing theories did not provide.

However, the use of ANT presented a number of shortcomings. The ANT had not been applied previously in a quantitative study. Consequently, this presented challenges for the researcher since the theory was unable to identify quantitatively the focal actor of this study. The statistical analysis was unable to tell the researcher which actors had initiated the collaboration (focal actor). In

order to overcome this difficulty, the quantitative study relied on the qualitative phase. In fact, on its own, this theory could not be applied to explain the relationships between the research variables. In fact, although this theory revealed the link between the four stages of the ANT, it could not identify which factor had the strongest or weakest influence on each of the factors of the ANT's four stages which affected the relationship between tourism-related organizations and the formation of actor-networks amongst them. In order to overcome this limitation, the researcher had to rely on collaboration theories; these helped the study to identify such factors. Such integration contributed to developing both collaboration theories and ANT by making these theories complement each other. In fact, whilst the collaboration theories could not provide the micro level stages analysis of the formation of actor-networks, the ANT filled this gap by highlighting these steps. Similarly, whilst the ANT failed to identify the factors affecting the success or failure of actor-networks' formation, the collaboration theories filled this gap by providing such factors.

Combining quantitative and qualitative methods brought, also, several contributions to this research. In fact, the quantitative analysis allowed the examination of the relationships between the study variables and helped to establish the cause and effect between collaboration - presented through commitment, trust, communication and coordination - and effectiveness of environmental protection. Specifically, by using a quantitative approach, the researcher was able to identify precisely the strongest and weakest effects of factors influencing the relationship and formation of a tourism related actor-network which, in turn, affected their effectiveness in environmental protection and the development of tourism. Also, the use of a quantitative approach helped

the researcher to identify accurately the complete mediating effect (not just the partial mediating effect) of protecting Hurghada's natural resources through developing both environmental protection and managing the city's tourism. This could not be achieved through the qualitative study.

Based on the findings gained from the quantitative study, the qualitative phase took place in order to: (1) confirm, explore and enhance the statistical findings from the quantitative study; and (2) to determine why certain success factors were significant predictors and whether or not they had strong, medium or weak effects on these actors' roles in environmental protection and the development of tourism in Hurghada. The quantitative study increased both the reliability and the objectivity of this research (e.g. external and internal consistencies were established). This was achieved by using a larger sample (510 respondents) than the qualitative study which was based on 14 interviews.

Furthermore, in examining protection of the environment and tourism, previous studies examined different elements of collaborative arrangements (e.g. collaboration theory; stakeholder theory; partnerships; and network theories). Traditionally, these studies focused on the outcomes and/or achievements of existing actor-networks and neglected to examine their formations or how they functioned. Consequently, this study used ANT to address these shortcomings and did so specifically through its four moments of translation, namely: problematization; interessement; enrolment; and mobilization. ANT helped the researcher to explore the importance of interaction in a network consisting of both human and non-human actors. The integration of ANT and the key success factors facilitated the exploration of the role of tourism-related

organizations (human actors) and the protection of Hurghada's natural resources (a non-human actor) in the development of sustainable livelihood outcomes for Hurghada's local community.

Moreover, the study's conceptual framework used both formative and reflective latent variables (see Section 4.5.6.2). The researcher developed the four formative latent variables by using statistical criteria (see Sections 4.5.3 and 6.3.1). These latent variables allowed the researcher to measure tourism-related organizations' role in managing tourism's environmental impacts. Indeed, the environmental protection literature, reviewed in this study, did not provide tested and validated measurements to enable such tourism-related organisations' role to be assessed so that it could be used in this research. These four formative latent variables were: (1) the *environmental role* consisting of 11 indicators; (2) the *non-environmental role* consisting of 6 indicators; (3) outcomes for *sustainable livelihoods* consisting of 10 indicators; and (4) *challenges* consisting of 9 indicators. It is important to note that the researcher tested and validated these four latent variable and their related indicators (e.g. Discriminant and Convergent validity, and Composite and Cronbach's alpha were established). Consequently, these latent variables constituted valid and reliable quantitative measurements which could be used as a tool to measure the environmental protection role of such collaborative networks. This was considered to have added a significant value to the environmental protection literature.

This study included most of the tourism-related organizations involved in protecting Hurghada's environment (see Section 5.5). According to the criteria

identified in Section 4.5.1.2 (see Table 4.2), the tourism-related organizations, covered in this study, were responsible for the conservation of natural resources and the development of tourism throughout Egypt and not only in Hurghada. Most had their main organizational centres in Cairo (the capital of Egypt) with branches located in Hurghada. In this regard, identifying the key players, involved in the environmental protection and the development of tourism in Hurghada, helped the study to explore the relationships between these actors and to establish the extent to which the absence of good governance in Hurghada was harming the formation of their network; its ability to function; and the outcomes.

Collaboration network theories helped the researcher to identify the key factors which contributed to the successful collaborative relationships between the tourism-related organizations involved in managing both the development of tourism and its environmental impacts on Hurghada. This series of factors, known as collaborative relationship success factors and comprising of trust, commitment, communication and coordination, determined the success of the formation and operation of tourism actor-networks in achieving sustainable livelihoods for Hurghada's local community. This assisted the study in identifying the relationships between these organizations and, to what extent, poor governance (e.g. poor level of commitment, trust, accountability, transparency, communication and coordination) had a negative effect on the formation of tourism-related actor networks. Consequently, collaborations between different actors is required to improve the quality of governance and, hence, in managing effectively tourism's environmental impacts and the development of tourism. This agrees with a number of previous findings

(Gruffydd Jones, 2013; Sharpley, 2010; Wyler, 2008; Lancaster, 2006; Chesterman et al., 2005; Tosun, 2001).

In addition, this study contributed to the DFID's SLA. The quantitative results demonstrated that the tourism-related organizations' path, from the non-environmental role to sustainable livelihood outcomes, was mediated completely by their environmental roles. This meant the respondents considered that the tourist organizations' environmental role was a critical factor in the relationship between their organizations' non-environmental roles and sustainable livelihoods. Therefore, this study added to the SLA by shedding light on the importance of the tourism-related organizations' environmental role in protecting Hurghada's natural resources. It demonstrated, also, that, without this environmental protection of Hurghada, an Egyptian coastal resort city, their non-environmental role would not have had a significant effect on sustainable livelihood outcomes.

In summary, this study revealed the existence of negative relationships between the tourism-related organisations involved in environmental protection and the management of tourism. These negative relationships were due mainly to the lack of trust, commitment, communication and coordination amongst those organisations. In other words, the lack of these factors resulted from the absence of governance in Hurghada. Such poor governance led to the failure of the formation and the effectiveness of tourism actor-networks and, in turn, affected their role in protecting the environment and managing the tourism activities. In the long run, such a situation would lead to a decline in the quality of the environment which constituted the main the pillar on which tourism

activities relied. In order to overcome this issue, Egyptian governmental organisations ought to adopt principles of good governance in terms of accountability, transparency, decentralization, information sharing, law enforcement and less bureaucracy. This would enhance the collaboration spirit between the different tourism-related organisations and, therefore, would lead to a successful formation of effective networks which would help to protect and preserve natural resources and to improve tourism management.

### **8.3.2 Practical Implications**

This study's practical contribution can be illustrated through its identification of the tourism-related organizations, involved in managing the environmental impacts of tourism on Hurghada, and their contribution to the local community, particularly the poorest members of that community. Also, it illustrated the benefits for the tourism-related organizations themselves. In turn, this led to the identification of focal/lead actors and their effects on whether or not a network succeeded or failed.

This study demonstrates, also, the importance of protecting environmental and natural resources, upon which most of Hurghada's tourism activities depend, and which sustain the livelihoods of the local community. Furthermore, this study analysed the role of tourism-related organizations, involved in the management of tourism's environmental impacts, in order to identify their main strengths and weaknesses, and to consider how partnership networks could overcome the weaknesses and could consolidate their strengths.

In addition, through such networks, this study helps these tourism-related organizations to adopt suitable activities, policies, strategies and laws so that the local community's livelihood assets can be protected. Therefore, knowing the key success factors of collaborative networks and the importance of good governance will help these tourism-related organizations' networks to improve their performance in terms of assisting Hurghada's local community generally and the poor people in particular.

This study found that poor commitment, lack of transparency, trust, coordination and mis-governance led to poor collaboration between the tourism-related organizations involved in managing the environmental impacts of tourism on Hurghada. However, poor communication and information exchange had even stronger effects. Overall, the lack of these key factors had a negative influence on the formation of Hurghada's tourism actor-networks and their abilities to function.

Therefore, these findings should encourage the state and the tourism-related organizations, themselves, to attempt to avoid, in the future, such difficulties, lack of governance, and such weak relationships. In turn, these should improve their performance and outcomes. Consequently, there is a need for forums to be put in place so that dialogue and discussions can rebuild trust between the different categories of tourism-related organizations involved in environmental protection and the management of tourism. The researcher believes, also, that it is important for a committee to be formed. Its aim should be to encourage transparency, accountability, and good governance, and to illustrate the

importance of joint action, as well as clarifying the benefits of working as a network rather than in isolation.

This study illustrates, also, the importance of collective action between all actors in a society. It contributes to the local community by adopting the ANT; this could act as a blueprint of how to meet the challenges facing tourism in Egypt generally and in Hurghada in particular. For example, the use of the ANT, as a blueprint, could help the involved parties to: (1) identify the problems and challenges preventing the achievement of sustainable livelihoods for the local community; (2) identify the actors interested in environmental protection and the management of tourism and who may contribute to solving those problems; and (3) encourage and persuade those actors to become involved in collective action to protect the natural environment and in providing assistance to the local community. This may help to build a solid and effective network of tourism-related organizations ready to play an important role in managing the environmental impacts of tourism and in creating a tourism-related organizations' network to enhance local community livelihood outcomes.

#### **8.4 Recommendations of the Study**

The study's findings reveal that the weakness in the key factors of commitment, trust, communication and coordination is having a negative effect on the collaborative relationships among the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. As a result, the formation of effective tourism organization networks has been harmed. Therefore, all stakeholders must work to strengthen their relationships with each other. To do this, all actors must identify the main causes of their weak

relationships and address them. From the study's findings, it is clear that the key factors play a crucial role in these networks: weak commitment from the organizations has reduced trust in the network, leading to poor communication and information exchange between the tourism-related organizations. Finally, coordination is reduced as a result of the poor communication. Thus, the tourism-related organizations in Egypt, and Hurghada in particular, should take heed of these findings and emphasize accountability, commitment, transparency, trust, communication, coordination and good governance more strongly in their interactions with partner organizations in the tourism industry.

Strong and positive relationships between the tourism-related organizations will improve their performance and their outcomes. In order to build strong and durable relationships, it is important that all actors are committed to the roles and responsibilities that have been agreed upon. Frequent communication and the sharing of important information are also needed to help increase the trust and coordination between the organizations. This will help them to build strong ties within their networks.

The findings show that the tourism-related organizations' performance (i.e. in their environmental and their non-environmental roles) plays a vital role in sustaining local community livelihoods in Hurghada. Thus, the tourism-related organizations should pay attention to both of these roles. The two complement each other; the tourism industry in Hurghada cannot rely on either role without the other. The findings clearly show that the impacts of the non-environmental role (i.e. education, health, electricity, clean water, public services, etc) on sustainable livelihood outcomes are completely mediated by the environmental

role (natural resources conservation in Hurghada). This means that the preservation of Hurghada's environmental resources is crucial to the continuation of the tourism industry in the region. Thus, tourism players in Hurghada should focus on maintaining and protecting the area's natural resources. It is also important that the tourism-related organizations' network works to increase awareness of the benefits of natural resources conservation among the local community, other organizations and tourists. The governmental organizations should also encourage the local community to become involved in managing tourism's environmental impacts.

The findings also reveal that the sustainable livelihood outcomes being achieved by these tourism-related organizations are still modest, and more collective efforts are required if the network is to achieve its desired results. Hence, it is important that the tourism-related organizations investigate the causes of these modest outcomes, such as weak commitment, trust, communication, coordination and absence of good governance. In this way, the problems can be solved and performance (outcomes) improved. In addition, the modest outcomes have led to a low degree of satisfaction with the tourism-related organizations' performance. Achieving better outcomes should positively influence satisfaction. All of these aims will rely on the tourism-related organizations enhancing their relationships. Good governance and good relationships are vital to ensure that the network members remain engaged in managing tourism's environmental impacts in Hurghada.

The study's findings also reveal that the tourism-related organizations' satisfaction is negatively affected by various challenges. These challenges can

be divided into two types: (1) those related to the tourism-related organizations' relationships with each other, and (2) those related to the formation of the network itself. In addition to weak relationships between tourism-related organizations, there are also other difficulties negatively affecting the formation and operation of those organizations. For example, there are difficulties in agreeing roles and responsibilities, changes of leadership style, poor participation from the local community in maintaining and protecting the natural environment in Hurghada, challenges in identifying the most appropriate organizations to work with, and challenges in convincing other organizations to become involved in the collaboration, lack of accountability, bureaucracy, absence of good governance, all of which are having a negative impact on the tourism-related organizations' role and satisfaction. Thus, it is important for the tourism-related organizations' network in Hurghada to work to avoid these problems in the future and resolve any existing ones.

### **8.5 Limitations of the study**

Despite this study's contribution to theory and practice, it has some limitations which require further discussion.

This study aimed to gain a deeper knowledge of the relationships between the tourism-related organizations involved in Hurghada's environmental protection and development of tourism in. It explored particularly the key factors which had an impact on their roles in protecting Hurghada's natural resources. This study focused upon four key factors (i.e. commitment; trust; communication; and coordination). In this regard, it is important for future researches to consider

additional success factors (e.g. leadership perception) which could also play an important role in improving the tourism-related organizations' performance.

As for this study's sample, the latter was limited only to governmental organizations and NGOs which were involved jointly in existing environmental protection and the development of tourism projects with governmental bodies. The reason for this focus was that these organizations were seen to be the major influencing bodies in protecting Hurghada's environment and developing its tourism. Such a high influence was due to the power of authority held by these organizations when making final decisions. Consequently, the tourism-related organizations generally and the governmental ones, in particular, appeared to be crucial to the management of tourism. Especially in a developing country such as Egypt, the authoritarian regime is characterised by high levels of bureaucracy and centralization; allegations of corruption; and the absence of good governance. Therefore, governmental organizations have a strong control and effect over the tourism industry. As a result and due to its restricted role and power upon the development of the tourism industry, the private sector and residents were not covered by this study.

As regards analysing the data, the researcher spent five months studying different types of SEM software, including AMOS (CB-SEM), PLS-Graph, SmartPLS and WarpPLS (SEM-SEM), in order to find a technique suitable for generating reliable and valid findings. In the end, he decided to use WarpPLS in this study. He adopted the PLS-SEM approach which had a number of limitations, for instance, the potential underestimation of path coefficients and the overestimation of factor loadings (Chin, 1995, cited in Song, 2012).

However, the researcher decided that PLS-SEM was suitable for the study's mainly formative conceptual model since CB-SEM, such as used in AMOS, would be unsuitable for such a model. Therefore, despite its limitations, he decided to use PLS-SEM.

The study was conducted during the Egyptian revolution and resulting mobility issues meant that (for the distribution and collection of the questionnaires and to conduct the interviews) the researcher was forced to travel from his place of residence to Hurghada and Cairo by air. This increased the cost and effort involved in carrying out the study. The researcher used non-probabilistic convenience sampling since PLS-SEM required a specific number of respondents for the data analysis.

The researcher used snowball sampling in the qualitative research and used, as participants, only managers or the representative of those tourism-related organizations involved previously in the first quantitative phase. It could be argued that this approach led to biased results. However, the findings gained from the second phase of the study (qualitative phase) were used only to assist the researcher in explaining the quantitative findings and not in providing the study's core findings.

Moreover, for the quantitative and qualitative data collection and despite the researcher's assurances that the data would remain confidential, there was a general desire amongst the participants not to provide any personal information about themselves or their organizations. The researcher had to agree to this request and, consequently, this led to a lack of descriptive statistics on how

representative the sample was of tourism-related organizations. Additionally, most participants refused to allow their interviews to be recorded and agreed only to the researcher making notes about what they said. Furthermore, when introducing qualitative findings and respondents in their original format researcher bias is often unavoidable. However, the researcher hopes that, in doing so, the richness of this qualitative data was retained.

Eventually, with regard to the use of the ANT, few limitations were acknowledged. In fact, this theory could not be applied on its own to explain the relationships between the research variables. As an example, although this theory has revealed the link between the four phases of the ANT, it could not identify the factors affecting the relationship between tourism-related organizations and the formation of actor-networks amongst them. In order to overcome this limitation, the researcher had to rely on collaboration theories which helped the study to identify these factors. Furthermore, to the best of the researcher's knowledge, the ANT theory has not been previously applied previously in a quantitative study. This presented challenges for the researcher since the theory was unable quantitatively to identify the focal actor of this study. In order to overcome this difficulty, the quantitative study had to be followed-up by a qualitative phase.

Despite these limitations, there is a sound methodology to support this study's findings on the tourism-related organizations' role in managing the environmental impacts of tourism on the Egyptian city of Hurghada. However, these limitations offer scope for further research which may advance the

understanding of this emerging field of tourism studies. The following section discusses these future research opportunities.

### **8.6 Future research directions**

The conceptual framework proposed in this thesis is intended to be a generic model that bridges the gaps between the ANT and the success factors of collaborative networks. The aim is to provide a broader understanding and investigation of the role of tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. It is also used to examine the extent to which the relationships between these organizations affect (positively or negatively) their roles and the sustainable livelihood outcomes achieved. However, the tourism context studied here represents a specific case. Consequently, first of all, future work should evaluate and improve the proposed conceptual framework's applicability to multiple development contexts.

Second, the study looks at the key success factors that influence the relationships between tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. However, it is essential to identify whether any other factors in other contexts may help to improve our broad understanding of interorganizational relationships. One example is the extent to which leadership perception influences tourism-related organizations' roles and outcomes.

Third, the adoption of the ANT allows the study to explore the heterogeneous roles of tourism-related organizations (governmental, NGOs, local, international and others) involved in managing tourism's environmental impacts in the

coastal city of Hurghada, Egypt. Therefore, multi-group analysis (a comparative study between governmental, non-governmental, international organizations and private sector, residents) may help to explore the different views of the different stakeholders regarding their roles and perception. Additionally, this could support the validity of the model developed in this study and confirm or identify more of the factors that influence tourism-related organizations' network formation, operation and outcomes. Although the results of this study come from a single empirical investigation, there is an opportunity to perform further studies and develop more effective measurement scales for examining the role of tourism-related organizations involved in managing tourism's environmental impacts in Hurghada, Egypt.

Fourth, the study's findings reveal the existence of a number of tourism-related actor-networks that are attempting to develop local community livelihoods through environmental protection, and of the key factors – trust, coordination, commitment and communication – whose lack has negatively influenced their formation and functioning so far. Therefore, it is important to investigate the challenges affecting the roles and outcomes of the tourism-related organizations involved in managing tourism's environmental impacts in Hurghada. This will greatly improve our understanding of the factors that influence tourism-related organizations' goals.

Fifth, the study findings show that trust is damaged when there is weak commitment among the organizations in a network. In turn, poor trust leads to poor communication and information exchange. Poor coordination, meanwhile, results from poor communication. Thus, these factors together influence

tourism-related organizations' collaborative relationships and thus the formation, functioning and outcomes of their networks. Therefore, it is important to study which factors will improve the tourism-related organizations' collaborative relationships. Moreover, it is essential to examine more deeply the reasons behind the current negative relationships in the tourism-related organizations' network.

Sixth, as time and money constraints prevented the collection of data from a developed country for this study, future research could be conducted in such a context to provide a cross-country comparison and obtain an idea of the different collaborative relations factors that influence tourism-related organizations' roles and outcomes in developed and developing countries. This could support the applicability and generalizability of the research model developed in this study. Finally, on the one hand, future research should investigate the residents' perceptions of tourism-related organizations' roles and outcomes in environmental protection and the management of tourism in Hurghada. On the other hand, future research should examine the consequences of tourism-impacting factors on local residents' attitudes towards tourism development.

## **8.7 Conclusion**

It was argued that, despite all the government's announcements regarding the adoption of sustainable development concepts, the policies and practices on the grounds remained far from being effective and significant. It was indicated that, in the tourism sector, the main weakness of the Egyptian government structure was the absence of an effective coordination between the governmental

authorities. It was pointed out, also, that, in the development of tourism, the Egyptian government's role development was characterised by the absence of good governance. It was stated that the Egyptian government engaged in tireless and continuous attempts to disorganize, to reduce and to induce, selectively, NGOs, political parties, and business associations. This system of authoritarian governance, which often had included and demobilized demands from public associations, had a significantly negative effect on the protection of Hurghada's environment and the development of its tourism. In addition, there was a very small number of NGOs which could play a significant role in developing the environment. This was due to the absence of financial and human capacity since these organizations were reliant mainly on foreign and local financial support. Hence, their role was limited.

In this respect, this study identified a set of key factors which would enable the tourism organizations to be successful in overcoming the absence of good governance and mutual collaboration. In addition, such factors would help the poor people to overcome the government's insignificant role in protecting Hurghada's environment and developing its tourism.

Broadly, it was found that achieving environmental protection and tourism development required different actors to play collaborative roles. In this study, the purpose of the conceptual framework was to connect the ANT with tourism-related organizations, collaboration theories and environmental protection and tourism development in Hurghada's coastal region. The main intention was to provide a broad vision in managing tourism's environmental impacts in Hurghada and the importance of the tourism-related organizations' network in

achieving successful outcomes in this area. Therefore, this study addressed the factors which contributed to successful relationships within tourism-related organizations' networks. The findings revealed that the network under study lacked these key factors. Consequently, this had a negative effect on the proper formation of the network and limited the organizations' success in managing Hurghada natural resources and developing its tourism.

This study provided rich, empirical data on the relationships within the tourism-related organizations involved in environmental protection and the management of tourism in Hurghada. The study's quantitative phase provided valuable information about the key factors which affected collaborative relationships and, in turn, the effects of these relationships on the tourism-related organizations' roles and outcomes. Then, the study's qualitative phase provided important information which was categorized into a range of themes. These served as a basis for developing specific items to assist in explaining and confirming further the quantitative phase of the study.

The study has made, also, a valuable contribution in terms of both theoretical and managerial implications. In terms of the theoretical implications, this research attempted to enhance our knowledge and understanding of the relationships between previously unconnected subjects: the ANT; tourism-related organizations; collaboration theories; environmental governance; and the management of tourism's environmental impacts.

In addition, the study developed a valid ANT-based conceptual model and related it to tourism-related organizations and the success factors of

collaborative networks so that it could be used to analyse and examine the tourism-related organizations' roles and responsibilities of. The study's conceptual model also facilitated, too, the investigation of the impacts of the tourism-related organizations' relationships on their respective roles and outcomes.

From a practical point of view, the findings provide an understanding of the conservation of natural resources; the tourism-related organizations' collaborative network, and their role in managing tourism's negative impacts and encouraging more sustainable livelihoods aimed at helping the tourism industry to protect the main assets required for the survival of Hurghada's tourism in. The findings highlight, also, the importance of strengthening and maintaining the relationships within the network. Overall, this study established a solid foundation for future research into conservation of natural resources by means of collaborative relationships.

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### Appendix 3.1

#### Factors influencing the development and operation of collaboration networks/arrangements

Collaborative networks / arrangements	Context of study
Kelly, M.J., Schaan, J-L. and Joncas, H. (2002). Managing alliance relationships: key challenges in the early stages of collaboration. <i>RandD Management</i> , 32(1), 11-22.	Recent surveys indicate that executives of technology companies consider strategic alliances to be central to their competitive strategies. Yet the barriers to successful alliance are formidable. In many instances these barriers develop in the early stages of an alliance. This study identifies and analyses the types of challenges that companies face in the start-up phase of their alliances. It is based on a survey and interviews with executives in the Canadian high technology industry. The study finds that the principal challenges in the first year of an alliance relate to relationship issues between the partners involving problems related to communication, cultural differences and responsibilities and roles. However, operations issues (lack of understanding of each others products, under-estimating the cost of support, insufficient formal / detailed specifications, problems in the transfer of technology, scarce engineering support, obstacles in aligning quality system processes and methodology, major quality problems, cost control problems, problems in software compatibility, limited market understanding by partner, scheduling changes, need to debug products from partners, more development work than anticipated, reduced capacity to serve other customers), strategic agenda (problems concerning the goals and objectives of the venture), and results (related to performance of the venture).
Healey, P. (1997). Collaborative planning. Shaping places in fragmented societies. London: MacMillan Press.	Highlighted the following: respectful speaking and listening among stakeholders forms a dialogue, collective learning and consensus-building are required to build trust, confidence and mutual understanding.
Roberts, N.C., and Bradley, R.T. (1991). Stakeholder collaboration and innovation: a study of public policy initiation at the state level. <i>Journal of Applied Behavioural Science</i> , 27, 209-227.	A field study was conducted to determine whether diverse, competing stakeholders in a domain can use collaboration to intentionally initiate innovative policy affecting that domain. The subjects consisted of 61 partners representing 24 stakeholder groups gathered by a US governor that met regularly from 1985 to 1987 to develop a visionary proposal for the state's public education. The authors sought to differentiate the substance of collaboration from its result and devised a sociological concept of collaboration of five elements: trans-mutational purpose, explicit and voluntary membership, organization, interactive process and temporal property.
Schuett,M., Selin, S. and Carr, D. (2001). Making it work, keys to successful collaboration in natural resource management.	This study explores participants' overall attitudes about keys to successful collaboration. The sample consisted of 671 participants involved in 30 collaborative initiatives with the US Forest Service. It profiled the collaborative initiatives investigating purpose, problems addressed, groups involved and years in existence, and six categories emerged: development, information exchange,

Environmental Management 27(4), 587-593.	organization support, personal communication, relationships / team building and accomplishments.
Borden, L., and Perkins, D. (1999). Assessing your collaboration: A self-evaluation tool. <i>Journal of Extension</i> , 37(2), no page.	Many scholars have studied the collaborative process and have suggested that there are several key factors that promote or inhibit the collaborative process. Given the importance of these factors, a self-evaluation tool was developed to assist existing and forming groups. This self-evaluation tool examines thirteen factors that can influence the collaborative process. The information gained from this tool can provide group members with an understanding of the strengths and challenges they face as they work to reach their goals. Specific factors highlighted include communication (collaboration has clear and open communication), sustainability (the collaboration has a plan for sustaining membership and resources), research and evaluation (established goals and is performance driven), resources (access to needed resources such as environmental, in-kind, financial and human), catalysts (recognition of existing problems requiring a comprehensive approach), connectedness (recognition of interdependence), and leadership (supports team-building, capitalises on diversity and strengths).
Blomqvist, K., and Levy, J. (2006). Collaboration capability – a focal concept in collaborative knowledge creation and innovation in networks. <i>International Journal of Management Concepts and Philosophy</i> , 2(1), 31-48.	Collaboration capability is considered a prerequisite for actors if they wish to leverage knowledge in order to innovate. On the basis of a survey of the literature, the authors define it as the actor's capability to build and manage network relationships based on mutual trust, communication and commitment, three factors that distinguish relational exchange from transactional exchange.
Bramwell, B., and Sharman, A. (1999). Collaboration in local tourism policymaking. <i>Annals of Tourism Research</i> , 26, 392-415.	Presents an analytical framework to assess whether local collaborative arrangements were inclusionary and involve collective learning and consensus building. An examination of local collaborative arrangements to develop a visitor management plan for the Hope Valley in Britain's Peak District National Park. Three sets of issues are considered in the framework, these being: (1) the scope of the collaboration (stakeholder representativeness, see there are positive benefits, inclusion of a facilitator and stakeholders responsible for implementation, agreed vision and goals); (2) Intensity of collaboration (need for compromise, frequency of meetings, information exchange, existence of openness, honesty, tolerance, respectful speaking, listening, confidence and trust, learn from each other); and (3) degree to which consensus emerges (embrace compromises, consensus, emergence of ownership, realistic about what is achievable, and willingness to implement decisions).
Jarvenpaa, S.L., and Leinder, D.E. (1999). Communication and trust in global teams.	This paper explores the challenges of creating and maintaining trust in a global virtual team whose members transcend time, space, and culture. A case study approach was employed to explore these challenges empirically amongst global virtual teams organised via a collaboration of

Organizational Science, 10(6), 791-815.	professors of information systems from graduate business programs around the world. 350 masters students from 28 universities participated in a global virtual collaboration organised over a six week period during the spring semester of 1996. Every continent was involved except Antarctica. 8 indicators initiated proposed by Pearce et al. (1992) were used to explore what communication behaviours appeared to facilitate trust in global virtual teams.
Jarvenpaa, S.L., (1998). Is anybody out there? Antecedents of trust in global virtual teams. Journal of Management Information Systems, 14(4), 29-64.	Jarvenpaa et al. (1998) adopted 8 items from Pearce et al's (1992) study to explore the antecedents of trust in global virtual team setting. The investigation was set in the University of Texas at Austin, and data was collected during a global virtual collaboration of masters students over a period of eight weeks during the 1996 spring semester.
Huxham, C. (1996). Collaboration and collaborative advantage. In C. Huxham (Ed.) Creating collaborative advantage (pp. 1-18). London: Sage.	This book provides an overview of the theory of collaborative advantage. This is a practice-oriented theory concerned with enhancing practical understanding of the management issues involved in joint working across organizations. Two contrasting concepts are central to it: collaborative advantage which is concerned with the potential for synergy from working collaboratively; and, collaborative inertia which relates to the often disappointing output in reality. The theory is structured as a set of overlapping themes, which are predominantly issues that practitioners see as causing pain and reward in collaborative situations. Five example themes are discussed: common aims; power; trust; membership structures; and, leadership. It is argued that the theory captures the complexity that underlies collaborative situations and conveys it in a way that seems real to those involved. It aims to empower those involved through legitimising experienced frustration and providing conceptual handles to help address the practical issues involved.
Pesämaa , O., and Hair, J. (2008). More than friendship is required: an empirical test of cooperative firm strategies. Management Decision, 45(3), 602-615.	The authors investigate the role of personal relationships and reveal the importance of long-term relationships to friendship, loyalty, commitment and trust, and that commitment and trust are paramount in stimulating successful cooperation.
Rampersad, G., Quester, P., and Troshani, I. (2009). Examining network factors: commitment, trust, co-ordination and harmony. Journal of Business and Industrial Marketing, 25(7), 487-500.	The purpose of this paper is to investigate the impact of trust and commitment on network harmony and coordination. The study applies confirmatory factor analysis, using structural equation modelling, to ascertain the impact of trust and commitment on harmony and coordination within networks. It is based on responses of 124 participants from an Australian biotechnology and nanotechnology network. The study reveals that trust has significant impacts on both network coordination and harmony.
Thomson, A.M., Perry, J.L., and Miller, T.K. (2009).	This study is conducted amongst USA Directors of organizations who participated in a large national service programme, AmeriCorps State/National. It identified five key dimensions grounded

<p>Conceptualising and measuring collaboration. <i>Journal of Public Administration Research and Theory</i>, 19(1), 23-56.</p>	<p>in past collaboration research that contribute to the construct of collaboration, these being: (1) governance (12 indicators); (2) administration (11 indicators); (3) mutuality (13 indicators); (4) norms (10 indicators); and, (5) organizational autonomy (13 indicators). Structural equation modelling was used to investigate whether these were theoretically and statistically valid measures. The results identified 17 key indicators that directly contributed to collaboration – these include: (1) I understand my organization's roles and responsibilities; (2) meetings accomplish what is necessary for this collaboration to function well; (3) there is agreement on the goals of the collaboration; (4) differences between partners are worked through to arrive at win-win solutions; (5) organizational goals are achieved better by working with partner organizations rather than working alone; (6) my opinion about key decisions is taken seriously by other partners; (7) brainstorming with other partners enables solutions to problems to be conceptualised; (8) my organizational goals are hindered by the collaboration; (9) organizational independence is affected by having to work with other partner organizations on activities related to the collaboration; (10) pulled between trying to meet both my organization's and the collaboration's expectations; (11) partners have combined and used each other's resources to mutual benefit; (12) information is shared with other partners; (13) the value of involvement is appreciated and respected; (14) tasks are well coordinated; (15) partner organization representatives are trustworthy; (16) partners are relied upon to meet their obligations; and (17) it is worthwhile to stay and work with partner organizations rather than leave the collaboration.</p>
<p>Timur, S., and Getz, D. (2008). A network perspective on managing stakeholders for sustainable urban tourism. <i>International Journal of Contemporary Hospitality Management</i>, 20(4), 445-461.</p>	<p>This study aims to examine the current network of inter-relationships of stakeholders representing government, the community and the tourism and hospitality industry, and their perceptions of critical stakeholders in destination development. While network analysis enabled examination of the interconnectedness of stakeholders, the stakeholder approach identified the critical stakeholders in destination development. These two approaches helped determine how the existing relationship structures of destination stakeholders might influence sustainable destination development. The study revealed that the destination marketing/management organizations (DMOs) and stakeholders with access to or possession of critical resources have the highest centrality in urban destinations. In all three clusters, local government and DMOs are perceived to hold the greatest legitimacy and power over others in destination development. It is also found that there is a lack of "bridges" between the three clusters of industry, government and the community.</p>
<p>Young-Ybarra, C., and Wiersema, M. (1999). Strategic flexibility in information technology alliances: the influence of transaction cost economics and social exchange theory. <i>Organization Science</i>,</p>	<p>The authors operationalized trust as a multi-dimensional construct which is both a causally antecedent of strategic alliance and flexibility, and an outcome of characteristic of alliance partners. Specifically inter-organizational communication is proposed as a relational competency that may yield strategic advantages for supply chain partners. A sample of high technology strategic alliances occurring during the 1987-1994 period were chosen where at least one of the partners was US based. They used three items in their study these being: (1) any information that might help the other partner organizations will be provided to them; (2) proprietary information will be</p>

10(4), 439-459.	shared if it can help the other partner organizations; and (3) exchange of information in this network takes place frequently and informally, not only according to a pre-specified agreement.
Arnaboldi, M., and Spiller, N. (2011). Actor-network theory and stakeholder collaboration: the case of cultural districts. <i>Tourism Management</i> , 32, 641-654.	This paper investigates the micro-level interactions amongst stakeholders during the conceptualization of a large collaborative project: a Cultural District. Drawing on Actor-Network Theory (ANT) the research shows that, though rigid sequential planning is not viable, conceptualization is facilitated by deploying three ANT rules: enrolling actors, fact-building and circulating translations. These rules are used to define a “conditional path” whereby specific actions are activated when controversies emerge.
Vernon, J., Essex, S., Pinder, D., and Curry, K. (2005). Collaborative policymaking. Local sustainable projects. <i>Annals of Tourism Research</i> , 32(2), 1321-1330.	This paper evaluates a collaboration adopted by a British district council in the formulation of a local strategy for promoting the adoption of sustainable practices by tourism businesses. It highlights the importance of the public sector's leadership role in providing strategic direction and facilitating innovations within a fragmented industry (i.e. critical role of the convenor), the task of securing equal levels of input and participation in collaboration (i.e. ability and willingness to contribute financially to such projects), role of partners does not remain static over its lifetime but will diminish and grow in relation to the ability of the different stakeholders to influence the tasks being faced, whether this is influenced by expertise, finance or commitment.
Mattessich, P., Murray-Close, M., and Monsey, B. (2001). Twenty factors influencing collaboration success. Second Edition. Amherst H. Wilder Foundation,	The authors identified twenty factors which influence collaboration success. The factors grouped into six categories include: environment (history of collaboration or cooperation in the community, collaborative group seen as a legitimate leader in the community, favourable political and social climate), membership characteristics (mutual respect, understanding and trust, appropriate cross section of members, members see collaboration as in their self-interest, ability to compromise), process and structure (members share a stake in both process and outcome, multiple layers of participation, flexibility, development of clear roles and policy guidelines, adaptability, appropriate pace of development), communication (open and frequent communication, established informal relationships and communication links), purpose (concrete, attainable goals and objectives, shared vision, unique purpose), and resources (sufficient funds, staff, materials and time, skilled leadership).
Paulraj, A., and Chen, I. (2007). Strategic Buyer-Supplier Relationships, Information Technology and External Logistics Integration. <i>Journal of Supply Chain Management</i> , 43(2), 2-14.	The authors used six items in their exploration of the impact of strategic buyer-supplier relationships and information technology on a firm's external logistics integration and agility performance. The items used include: (1) share sensitive data; (2) information might help other organizations in the alliance; (3) proprietary information will be shared if it can other members; (4) exchange of information takes place frequently and informally; (5) frequent face-to-face meetings; (6) exchange performance feedback. Drawing on data collected from over 200 firms, SEM revealed that strategic buyer-supplier relationships and information technology engendered external logistics integration which in turn affects agility performance of firms. Furthermore, information technology moderates the link between buyer-supplier relationships and logistics integration.
Krause, D.R., Handfield, R.B.,	This study attempted to identify important factors that influence a firm's involvement in supplier

<p>and Tyler, B.B. (1999). The relationships between supplier development, commitment, social capital accumulation and performance improvement. <i>Journal of Operations Management</i>, 25(2), 528-545.</p>	<p>development, to develop reliable and valid measures of these factors, and test hypotheses regarding how the factors interrelate. The antecedents to these factors include supplier commitment, expectation of relationship continuity and effective buyer-supplier communication. Multiple item scales were used to measure the factors and two specific items were chosen, these being (1) any information provided might help other partner organizations and (2) exchange of information takes place frequently and informally. A structural model that postulates the relationships amongst these factors was tested using data gathered from a cross-industry sample of high-level US purchasing executives.</p>
<p>Hoegl, M., Weinkauf, K., and Gemunden, H.G. (2004). Inter-team coordination, project commitment, and teamwork in multiteam RandD projects: a longitudinal study. <i>Organizational Science</i>, 15(1), 38-55.</p>	<p>This study utilises a multi-informant longitudinal research design on a product development project involving 39 teams during 36 months in the European automotive industry, and investigated collaboration (e.g. communication, commitment, coordination and overall performance) between and within teams. The study used five items of commitment, these being: (1) organization feels fully responsible for achieving the common goals of the network; (2) My organization has strong commitment to the network; (3) proud to be part of the network; (4) committed to goals and to the overall aim of the network; (5) values its role in the network. In addition, it used 5 items of coordination including: (1) agreed roles and responsibilities are well coordinated with other members; (2) duplicated activities are avoided; (3) no coordination problems; (4) conflicts are settled quickly; (5) constructive discussions.</p>
<p>Plewa, C., and Quester, P. (2006). Satisfaction with university-industry relationships: The impact of commitment, trust and championship. <i>International Journal of Technology Transfer and Commercialization</i>, 5(1-2), 79-101.</p>	<p>This study investigates the impact of championship, trust and commitment on partners' satisfaction with university-industry relationships drawing on relationship marketing theory. The paper uses five specific items to examine this issue these being: (1) responsible for achieving the common goals of the network; (2) strong commitment to the network; (3) proud to be part of the network; (4) committed to its goals and to the overall aim of the network; and (5) values its role in the network. A sample of 136 responses to a survey of academics involved in university-industry relationships at Australian universities reveals associations between the personal engagement of individuals (championship), trust, commitment and satisfaction.</p>
<p>Zoogah, D.B., Vora, D., Richard, O., and Peng, M.W. (2011). Strategic alliance team diversity, coordination, and effectiveness. <i>The International Journal of Human Resource Management</i>, 22(3), 510-529.</p>	<p>The authors proposed that strategic alliance team coordination moderates the relationship between strategic alliance team diversity and effectiveness. Specifically, they hypothesised that coordination strengthens the negative relationship between observable diversity characteristics of nationality and gender, and team effectiveness. They also argued that coordination strengthens the positive relationships between non-observable diversity characteristic of functional background and team effectiveness. Results from 109 team members, 44 team leaders and 34 alliance executives involved with 44 strategic alliance teams in 15 firms partially supports the study hypothesis. In their study they used 3 items of coordination, these being: (1) connected processes and activities are coordination with other members; (2) duplicated and over-lapping activities are avoided; and (3) no problems in coordinating with other partner organizations.</p>

## Appendix 4.1



PhD Questionnaire Form  
Tourism Organisations and  
sustainability livelihoods

University of Plymouth  
Plymouth Business School  
School of Tourism and Hospitality

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Actor-Network Theory, Tourism Organizations and the Development of Sustainable Community Livelihoods

By:  
**Ahmed Mohamed Elbaz Mohamed**  
[Ahmed.elbaz@plymouth.ac.uk](mailto:Ahmed.elbaz@plymouth.ac.uk)

Dear Respondent,

I am a PhD researcher at the School of Tourism and Hospitality, Plymouth Business School, University of Plymouth. I am undertaking a research project on "Actor-Network Theory, Tourism Organizations and the Development of Sustainable Community Livelihoods".

I invite your participation in this project by completing a survey questionnaire. Your completed questionnaire will enable me to explore the role of tourism organizations and associations in protecting environmental natural resources and safeguarding local community livelihoods in Egypt, particularly in Hurghada.

Your participation is crucial for the success of my research project. The information you provide will be kept confidential and will only be used for academic purposes. The research design does not involve identifying you specifically. You may obtain a summary of the research findings by contacting the researcher on the email above.

I would very much appreciate your participation in this important survey.

**Many Thanks,**

**Ahmed Elbaz**

## Part 1- The Role of the Network in Protecting Hurghada's Natural Resources:

1- What actions have been undertaken by the collaboration in which your organization is involved with, to protect Hurghada's environmental natural resources? Please circle your response with the following statements: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

### **Environmental Role**

a) Establish mechanisms for minimizing and mitigating human impact on the environment's natural resources	1	2	3	4	5
b) Provide support (financial, technical , information and research to help build and improve Hurghada's natural resources)	1	2	3	4	5
c) Increased ability of institutions to effectively monitor the natural environment	1	2	3	4	5
d) Encourage local communities in the region to participate in environmental natural resources protection	1	2	3	4	5
e) Implement solid waste management systems	1	2	3	4	5
f) Managing the coastal setback lands and other common spaces within the tourism centre to ensure public access	1	2	3	4	5
g) Prepare/enforce regulations governing pollution control, shoreline remediation and other environmental management activities	1	2	3	4	5
h) Contribute to the protection of coral reefs	1	2	3	4	5
i) Contribute to the protection of biodiversity	1	2	3	4	5
j) Contribute in maintaining the cleanliness of the environment in the city of Hurghada	1	2	3	4	5
k) Determine the carrying capacity of the coastal areas and water bodies in Hurghada	1	2	3	4	5

2- What actions have been undertaken by the protection environmental natural resources collaboration in which your organization is involved with to secure the residents' livelihoods in the region of Hurghada? Please circle your response with the following statements: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

### **Non-Environmental Role**

a) Supported the training of local community members to enter the workforce in the tourism industry	1	2	3	4	5
b) Addressed health needs of the local community in the region	1	2	3	4	5
c) Addressed educational needs of the local community in the region	1	2	3	4	5
d) Support local communities through the use of products, services and facilities of the local community in tourism	1	2	3	4	5
e) Contribute to the creation of jobs for residents of the community in Hurghada.	1	2	3	4	5
f) Work with other organizations which involved in the field of environmental protection to preserve the natural resources in Hurghada	1	2	3	4	5

## Part 2- Tourism Organisations' interactive Relationships:

3- To what extent do you think that the following factors have contributed to the success of the collaboration's goal to protect Hurghada's natural resources? Please circle your response with the following statements: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

### **TRUST**

a) My organization can rely on those whom I work in this collaboration	1	2	3	4	5
b) Overall, the other partner organizations in the collaboration are very trustworthy	1	2	3	4	5
c) we are usually considerate of one another's circumstances in the collaboration	1	2	3	4	5
d) Partner organizations' relationship in the collaboration are friendly	1	2	3	4	5

### **Commitment**

a) My organization is proud to be part of protecting Hurghada's environmental natural resources	1	2	3	4	5
b) My organization is committed not only to its goals, but to the overall aim of protecting Hurghada's environmental natural resources network(s)	1	2	3	4	5

### **Coordination**

a) Connected processes and activities are/were well coordinated with other partner organizations	1	2	3	4	5
b) Duplicated and overlapping activities are/were avoided	1	2	3	4	5
c) We had no problems in coordinating with other partner organizations	1	2	3	4	5

### **Communication**

a) Exchange of information in this collaboration takes place frequently and informally, not only according to a pre-specified agreement	1	2	3	4	5
b) We have frequent face-to-face planning/communication	1	2	3	4	5
c) We exchange performance feedback	1	2	3	4	5

## Collaboration

a) As a representative of the organization in this collaborative network(s) I understand my organization's roles and responsibilities as a member of this collaboration	1	2	3	4	5
b) Partner organization's meetings accomplish what is necessary for the collaboration to function well	1	2	3	4	5
c) Partner organizations (including my organization) agree on the goals of the collaboration	1	2	3	4	5
d) My organization achieves its own goals better by working with partner organizations rather than working alone	1	2	3	4	5
e) Other partner organizations take my organization's opinion seriously when decisions are made about the collaboration	1	2	3	4	5
f) My organization brainstorms with other partner organizations to develop solutions to mission-related problems facing the collaboration.	1	2	3	4	5

## Part 3 – Outcomes from the Tourism Organisations Network

4- Please indicate the extent to which the following statements are achieved as a result of the actions of your collaboration in protecting Hurghada's natural resources. Please circle your response which corresponds with the strength of your opinion with the following statements: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

## Sustainable Livelihood Outcomes

a) Increased Incomes	1	2	3	4	5
b) Reduced the vulnerability of households and communities to shocks AND stresses	1	2	3	4	5
c) Reduced job insecurity	1	2	3	4	5
d) Ensuring the sustainable use of natural resources	1	2	3	4	5
e) Created a heightened sense of well-being of residents in the region	1	2	3	4	5
f) Improved understanding of the values of environmental-natural resource conservation	1	2	3	4	5
g) Improved biodiversity conservation in the tourist destination	1	2	3	4	5
h) Protecting Hurghada coral reefs	1	2	3	4	5
i) Created jobs for residents of the community in Hurghada	1	2	3	4	5
j. The local community contributed and involved in maintaining the environment natural resources	1	2	3	4	5

## Satisfaction of Overall Performance

a) So far, this network can be regarded as successful	1	2	3	4	5
b) So far, all the network's goals have been achieved	1	2	3	4	5
c) So far, the network's output is of high quality	1	2	3	4	5

5- To what extent do you think that the following challenges have been encountered within the collaboration in which your organization is most involved with? Please circle your response with the following statements: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree

### **Challenges**

a) Identifying the problems related to Hurghada's destination	1	2	3	4	5
b) Identifying solutions related to Hurghada's destination	1	2	3	4	5
c) Identifying the most appropriate organizations to work with	1	2	3	4	5
d) Convincing other organizations to be involved with the collaboration	1	2	3	4	5
e) Lack of trust between partner organizations	1	2	3	4	5
f) Poor communication between partner organizations	1	2	3	4	5
g) Difficulties of agreeing roles and responsibilities	1	2	3	4	5
h) Change of leadership style	1	2	3	4	5
i) Poor participation of the local community in maintaining and protecting the natural environment in Hurghada	1	2	3	4	5

### **Part4. General Information**

#### **6) How many years have you worked for the organization?**

- A) 1 – 5 Years  B- 6 – 10 Years  C- 11 – 15 Years  D- 16 – 20 Years   
 E- More than 20 Years

#### **7) How long has the collaboration been established?**

- A) Less than a  year B) 1-2  years C) 3-4  years D) 5-6  years E) More than 6

#### **8) How long is this collaboration expected to be operational?**

- A) Less than a  year B) 1-2  years C) 3-4  years D) 5-6  years E) More than 6

#### **9) How often do your organization and the members of the collaboration formally meet?**

- A) Less than a Month  B) Every Month  C) Every three Months  D) Every six Months  E) Every Year  F) More than one year

#### **10) What means of communications do you mostly use to contact members of the network? (Please tick all that apply)**

- A) Telephone  B) Fax  C) Email  D) Video Conference  E) Face to face meeting

## Appendix 4.2

### Pilot Study Findings

#### 4.5.3.1.1 Environmental Role Construct

Table 4.1 shows the corrected inter-item correlations for the Environmental Role construct.

**Table 4.1 Environmental Role (ER) Construct Item-Total Statistics**

Formative, 14 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ER1= Establish mechanisms for minimizing and mitigating human impact on the environment's natural resources	.696	.796
ER2= Provide support (financial, technical , information and research to help build and improve Hurghada's natural resources)	.709	.793
ER3= Increased ability of institutions to effectively monitor the natural environment	.722	.792
ER4= Encourage local communities in the region to participate in environmental natural resources protection	.761	.789
ER5= Implement solid waste management systems	.745	.789
ER6= Managing the coastal setback lands and other common spaces within the tourism centre to ensure public access	.714	.791
ER7=Prepare/enforce regulations governing pollution control, shoreline remediation and other environmental management activities	.608	.797
ER8= Organised awareness campaigns for both tourists and the local community to educate them on the importance of protecting the environment's natural resources	.178	.841
ER9=Contribute to the protection of coral reefs	.535	.802
ER10=Contribute to the protection of biodiversity	.583	.800
ER11= Protecting the coastal areas and water bodies of different types of pollution such as petroleum	.090	.854
ER12= Contribute in maintaining the cleanliness of the environment in the city of Hurghada	.499	.804
ER13= Determine the carrying capacity of the coastal areas and water bodies in Hurghada	.499	.804
ER14= Maintain and control of water tourism activities in Hurghada	.174	.839

It can be shown that items ER8 (0.178), ER11 (0.090) and ER14 (0.174) were found to be redundant and had to be removed. After these three items had been removed, the Cronbach's alpha of the Environmental Role construct was improved (see Table 4.2).

**Table 4.2 Environmental Role (ER) Construct Reliability Statistics after Deleting Items**

Cronbach's Alpha	Items Mean	N of Items
.919	4.369	11

Table 4.2 indicates that the Cronbach's alpha for Environmental Role is 0.919. This Cronbach's alpha is excellent and above the advocated threshold of 0.7. Thus, it can be concluded that the Environmental Role construct employed in this study has sufficient reliability. The table also shows that the Environmental Role construct's item mean is 4.369. Table 4.3 shows the corrected item-total correlation for Environmental Role construct after items removed.

**Table 4.3 Environmental Role Construct Reliability Item-Total Statistics after item removed**

Formative 11 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ER1= Establish mechanisms for minimizing and mitigating human impact on the environment's natural resources	.762	.908
ER2= Provide support (financial, technical , information and research to help build and improve Hurghada's natural resources)	.786	.906
ER3= Increased ability of institutions to effectively monitor the natural environment	.805	.906
ER4= Encourage local communities in the region to participate in environmental natural resources protection	.855	.903
ER5= Implement solid waste management systems	.783	.906
ER6= Managing the coastal setback lands and other common spaces within the tourism centre to ensure public access	.702	.910
ER7= Prepare/enforce regulations governing pollution control, shoreline remediation and other environmental management activities	.596	.916
ER9= Contribute to the protection of coral reefs	.544	.918
ER10= Contribute to the protection of biodiversity	.624	.914
ER12= Contribute in maintaining the cleanliness of the environment in the city of Hurghada	.544	.919
ER13= Determine the carrying capacity of the coastal areas and water bodies in Hurghada	.544	.919

Table 4.3 shows that the corrected item-total correlations for the Environmental Role construct's 11 items (formative) range from 0.544 to 0.855, indicating that no item is redundant and no item needs to be removed.

#### 4.5.3.1.2 Non-Environmental Role Construct

Table 4.4 indicates that the Cronbach's alpha for the Non-Environmental Role construct is 0.904. This Cronbach's alpha is excellent and above the advocated threshold of 0.7.

**Table 4.4 Non-Environmental Role Construct Reliability Statistics**

Cronbach's Alpha	Items Mean	N of Items
.904	4.304	6

Thus, it can be concluded that the Non-Environmental Role construct employed in this study has sufficient reliability. The item mean is 4.304. Table 4.5 shows the corrected item-total correlation for Non-Environmental Role construct.

**Table 4.5 Non-Environmental Role Construct Item-Total Statistics**

Formative, 6 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
NER1=Supported the training of local community members to enter the workforce in the tourism industry	.763	.884
NER2=Addressed health needs of the local community in the region	.785	.880
NER3= Addressed educational needs of the local community in the region	.896	.863
NER4=Support local communities through the use of products, services and facilities of the local community in tourism	.871	.866
NER5=Contribute to the creation of jobs for residents of the community in Hurghada	.755	.885
NER6=Work with other organizations which involved in the field of environmental protection to preserve the natural resources in Hurghada	.359	.933

Table 4.5 shows that the corrected item-total correlations for the Non-Environmental Role construct's six items (formative) range from 0.359 to 0.896, indicating that no item is redundant and no item needs to be removed.

#### 4.5.3.1.3 Trust Construct

Table 4.6 demonstrates the corrected inter-item total correlations for the Trust construct.

**Table 4.6 Trust Construct Item-Total Statistics**

Reflective, 8 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TRUST1=Members of my partner organizations in the network show a great deal of integrity	.152	.626
TRUST2=My organization can rely on those whom I work in this network	.540	.528
TRUST3=Overall, the other partner organizations in the network are very trustworthy	.592	.519
TRUST4=we are usually considerate of one another's circumstances in the network	.628	.513
TRUST5=Partner organizations' relationship in the network are friendly	.637	.511
TRUST6=There is "team spirit" between partner organizations in the network	.279	.574
TRUST7=There is a noticeable lack of confidence among partner organizations in the network	.076	.642
TRUST8=We have confidence in one another in this network	.267	.577

Table 4.6 shows that items TRUST1 (0.152), TRUST6 (0.279), TRUST7 (0.076) and TRUST8 (0.267) were found to be redundant and had to be removed. After these four items had been removed, the Cronbach's alpha of the construct was improved (see Table 4.7).

**Table 4.7 Trust Construct Reliability Statistics after Items Removed**

Cronbach's Alpha	Items Mean	N of Items
.978	4.446	4

Table 4.7 indicates that the Cronbach's alpha for the Trust construct is 0.978. This Cronbach's alpha is excellent and above the advocated threshold of 0.7. Thus, it can be concluded that the construct has sufficient reliability. Table 4.7

also shows that the construct's items have a mean of 4.446. Table 4.8 shows the corrected item-total correlation for Trust construct after items removed.

**Table 4.8 Trust Construct Item-Total Statistics After Items Removed**

Reflective, 4 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TRUST2=My organization can rely on those whom I work in this network	.905	.981
TRUST3=Overall, the other partner organizations in the network are very trustworthy	.973	.963
TRUST4=we are usually considerate of one another's circumstances in the network	.948	.969
TRUST5=Partner organizations' relationship in the network are friendly	.948	.969

Table 4.8 shows that the corrected item-total correlations for the Trust construct's four items (reflective) range from 0.948 to 0.973, indicating that no item is redundant and no item has to be removed.

#### **4.5.3.1.4 Commitment Construct**

Table 4.9 gives the corrected inter-item total correlations for the Commitment construct.

Table 4.9 demonstrates that items COMMIT1 (0.199), COMMIT2 (0.215) and COMMIT5 (-0.014) were found to be redundant and had to be removed. After these three items had been removed, the Cronbach's alpha was improved (see Table 4.10).

**Table 4.9 Commitment (COMMIT) Construct Item-Total Statistics**

Reflective, 5 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COOMIT1=My organization feels fully responsible for achieving the common goals of the network	.199	.471
COMMIT2=My organization has strong commitment of our organization's network(s)	.215	.451
COMMIT3=My organization is proud to be part of protecting Hurghada's natural resources	.467	.269
COMMIT4=My organization is committed not only to its goals, but to the overall aim of protecting Hurghada's natural resources	.448	.300
COMMIT5=My organization values its role in this network	-.014	.537

**Table 4.10 Commitment Construct Reliability Statistics after Items Removed**

Cronbach's Alpha	Items Mean	N of Items
.910	4.108	2

Table 4.10 indicates that the Cronbach's alpha for the Commitment construct is 0.910. This Cronbach's alpha is excellent and above the advocated threshold of 0.7. Thus, it can be concluded that the construct has sufficient reliability. Table 4.10 also shows that the construct's items have a mean of 4.108. Table 4.11 shows the corrected item-total correlation for Commitment construct after items removed.

Table 4.11 demonstrates that the corrected item-total correlations for the Commitment construct's two items (reflective) are 0.594 and 0.721, indicating that no item is redundant and no item has to be removed.

**Table 4.11 Commitment Construct Item-Total Statistics after Items Removed**

Reflective, 2 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COMMIT3=My organization is proud to be part of protecting Hurghada's natural resources	.839	.
COMMIT4=My organization is committed not only to its goals, but to the overall aim of protecting Hurghada's natural resources	.839	.

#### 4.5.3.1.5 Coordination Construct

Table 4.12 demonstrates the corrected inter-item total correlations for the Coordination construct.

**Table 4.12 Coordination Construct Item-Total Statistics**

Reflective, 5 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COORD1=The network's activities are/were well coordinated with those of other partners	.607	.476
COORD2=Duplicated and overlapping activities are/were avoided	.740	.436
COORD3=We had no problems in coordinating with other partner organizations	.662	.452
COORD4=Conflicts with other partner organizations are/ were settled quickly	.116	.676
COORD5=Discussions with other partner organizations are/were conducted constructively	.219	.745

Table 4.12 indicates that items COORD4 (0.116) and COORD5 (0.219) were found to be redundant and had to be removed. After these two items had been removed, the Cronbach's alpha of the Coordination construct was improved (see Table 4.13).

**Table 4.13 Coordination Construct Reliability Statistics**

Cronbach's Alpha	Items Mean	N of Items
.887	4.333	3

Table 4.13 indicates that the Cronbach's alpha for the Coordination construct is 0.887. This Cronbach's alpha is adequate and above the advocated threshold of 0.7. Thus, it can be concluded that the Coordination construct employed in this study has sufficient reliability. The construct's items have a mean of 4.333. Table 4.14 shows the corrected item-total correlation for Coordination construct after items removed.

**Table 4.14 Coordination Construct Item-Total Statistics after Items Removed**

Reflective, 3 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COORD1=The network's activities are/were well coordinated with those of other partner organizations	.748	.867
COORD2=Duplicated and overlapping activities are/were avoided	.877	.756
COORD3=We had no problems in coordinating with other partner organizations	.721	.892

Table 4.14 shows that the corrected item-total correlations for the Coordination construct's three items (reflective) range from 0.721 to 0.877, indicating that no item is redundant and no item has to be removed.

#### **4.5.3.1.6 Communication Construct**

Table 4.15 demonstrates the corrected inter-item total correlations for the Communication construct.

**Table 4.15 Communication Construct Item-Total Statistics**

Reflective, 6 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COMMU1=We share sensitive information (financial, production, design, research, and/or competition)	.196	.615
COMMU2=It is expected that any information that might help the other partner organizations will be provided to them	.297	.559
COMMU3=It is expected that proprietary information will be shared if it can help the other partner organizations	.261	.578
COMMU4=Exchange of information in this network takes place frequently and informally, not only according to a pre-specified agreement	.543	.497
COMMU5=We have frequent face-to-face planning/communication	.587	.486
COMMU6=We exchange performance feedback	.507	.506

Items COMMU1 (0.196), COMMU2 (0.297) and COMMU3 (0.261) shown in Table 4.15 were found to be redundant and had to be removed. After these three items had been removed, the Cronbach's alpha of the Communication construct was improved (see Table 4.16).

**Table 4.16 Communication Reliability Statistics after Item Removed**

Cronbach's Alpha	Items Mean	N of Items
.878	4.484	3

Table 4.16 indicates that the Cronbach's alpha for the Communication construct is 0.878. This Cronbach's alpha is adequate and above the advocated threshold of 0.7. Thus, it can be concluded that the Communication construct employed in this study has sufficient reliability. Table 4.16 also shows that the Communication construct's items have a mean of 4.484. Table 4.17 shows the corrected item-total correlation for Communication construct after items removed.

Table 4.17 demonstrates that the corrected item-total correlations for the Communication construct's three items (reflective) range from 0.717 to 0.850, indicating that no item is redundant and no item has to be removed.

**Table 4.17 Communication Construct Item-Total Statistics after Items Removed**

Reflective, 3 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COMMU4=Exchange of information in this network takes place frequently and informally, not only according to a pre-specified agreement	.717	.870
COMMU5=We have frequent face-to-face planning/communication	.850	.750
COMMU6=We exchange performance feedback	.732	.857

#### **4.5.3.1.7 Collaboration Construct**

Table 4.18 demonstrates the corrected inter-item total correlations for the Collaboration construct.

Table 4.18 shows that items COLLA4 (0.230), COLLA8 (0.171), COLLA9 (0.156), COLLA10 (0.206), COLLA11 (0.210), COLLA12 (0.212) and COLLA13 (0.063) were found to be redundant and had to be removed. After these seven items had been removed, the Cronbach's alpha of the Collaboration construct was improved (see Table 4.19).

**Table 4.18 Collaboration Construct Item-Total Statistics**

Reflective, 13 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COLLA1=As a representative of the organization in this collaborative network(s) I understand my organization's roles and responsibilities as a member of this collaboration	.347	.581
COLLA2=Partner organization's meetings accomplish what is necessary for the collaboration to function well	.324	.584
COLLA3= Partner organizations (including my organization) agree on the goals of the collaboration	.384	.574
COLLA4= Other partner organizations (including my organization) work through differences to arrive a win-win solution?	-.230	-.604
COLLA5=My organization achieves its own goals better by working with partner organizations rather than working alone	.456	.561
COLLA6=Other partner organizations take my organization's opinion seriously when decisions are made about the collaboration	.522	.558
COLLA7=My organization brainstorms with other partner organizations to develop solutions to mission-related problems facing the collaboration.	.399	.574
COLLA8=The collaboration hinders my organization from meeting its own organizational mission	-.172	-.615
COLLA9=My organization independence is affected by having to work with other partner organizations on activities related to collaboration	-.156	-.611
COLLA10=As a representative of the organization, feel pulled between trying to meet both my organization's and the collaboration's expectations	-.206	-.604
COLLA11=Partner organizations (including my organization) have combined and used each other's resources so all partners benefit from collaboration	-.240	-.604
COLLA12=My organization shares information with other partner organizations that will strengthen their operations and programs?	-.212	-.604
COLLA13=As a representative of the organization I feel what my organization brings to the collaboration is appreciated and respected by other partner organizations	.063	.633

**Table 4.19 Collaboration Construct Reliability Statistics after Items Removed**

Cronbach's Alpha	Items Mean	N of Items
.867	4.356	6

Table 4.19 indicates that the Cronbach's alpha for the Collaboration construct is 0.867. This Cronbach's alpha is adequate and above the advocated threshold of 0.7. Consequently, it can be concluded that the Collaboration construct employed in this study has sufficient reliability. Table 4.19 also shows that the Collaboration construct's items have a mean of 4.356.

Table 4.20 shows the corrected item-total correlation for Collaboration construct after items removed. Table 4.20 indicates that the corrected item-total correlations for the Collaboration construct's six items (reflective) range from 0.500 to 0.750, indicating that no item is redundant and no item has to be removed.

**Table 4.20 Collaboration Construct Item-Total Statistics after Items Removed**

Reflective, 6 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COLLA1=As a representative of the organization in this collaborative network(s) I understand my organization's roles and responsibilities as a member of this collaboration	.740	.831
COLLA2=Partner organization's meetings accomplish what is necessary for the collaboration to function well	.684	.841
COLLA3= Partner organizations (including my organization) agree on the goals of the collaboration	.705	.837
COLLA5=My organization achieves its own goals better by working with partner organizations rather than working alone	.750	.828
COLLA6=Other partner organizations take my organization's opinion seriously when decisions are made about the collaboration	.609	.854
COLLA7=My organization brainstorms with other partner organizations to develop solutions to mission-related problems facing the collaboration.	.500	.872

#### **4.5.3.1.8 Sustainable Livelihoods Outcomes**

Table 4.21 indicates that the Cronbach's alpha for the Sustainable Livelihood Outcomes construct is 0.882.

**Table 4.21 Sustainable Livelihood Outcomes Construct Reliability Statistics**

Cronbach's Alpha	Items Mean	N of Items
.882	4.267	10

The Cronbach's alpha shown in Table 4.21 is adequate and above the advocated threshold of 0.7. Thus, it can be concluded that the Sustainable Livelihood Outcomes construct employed in this study has sufficient reliability. The item mean is 4.267. Table 4.22 shows the corrected item-total correlation for Sustainable Livelihood Outcomes construct.

**Table 4.22 Sustainable Livelihood Outcomes Construct Item-Total Statistics**

Formative, 10 items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ASLs1= Increased Incomes	.573	.874
SLAs2=Reduced the vulnerability of households and communities to shocks AND stresses	.627	.869
SLAs3=Reduced job insecurity	.636	.869
SLAs4=Ensuring the sustainable use of natural resources	.661	.867
SLAs5=Created a heightened sense of well-being of residents in the region	.695	.865
SLAs6=Improved understanding of the values of environmental-natural resource conservation	.714	.863
SLAs7=Improved biodiversity conservation in the tourist destination	.712	.863
SLAs8=Protecting Hurghada coral reefs	.654	.867
SLAs9=Created jobs for residents of the community in Hurghada	.485	.881
SLAs10=The local community contributed and involved in maintaining the environment natural resources	.426	.885

Table 4.22 shows that the corrected item-total correlations for the Sustainable Livelihood Outcomes construct's ten items (formative) range from 0.426 to 0.714, indicating that no item is redundant and no item needs to be removed.

#### 4.5.3.1.9 Satisfaction with Overall performance Construct

Table 4.23 illustrates the corrected inter-item correlations for the Satisfaction of Overall Performance construct. Table 4.23 shows that items PERFM4 (0.240) and PERFM5 (0.251) were found to be redundant and had to be removed.

**Table 4.23 Satisfaction of Overall Performance construct (PERFM) Construct Item-Total Statistics**

Reflective 5 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PERFM1=So far, this network can be regarded as successful	.586	.443
PERFM2=So far, all the network's goals have been achieved	.571	.450
PERFM3= So far, the network's output is of high quality	.482	.478
<del>PERFM4=The network(s) is satisfied with its performance to this point</del>	<del>.240</del>	<del>.627</del>
<del>PERFM5=So far, the network's main actors are satisfied with overall performance</del>	<del>.251</del>	<del>.582</del>

After these two items had been removed, the Cronbach's alpha for the construct was improved (see table 4.24).

**Table 4.24 Satisfaction with Overall Performance Construct Reliability Statistics**

Cronbach's Alpha	Items Mean	N of Items
.910	3.831	3

Table 4.24 indicates that the Cronbach's alpha for the Satisfaction of Overall Performance construct is 0.910. This Cronbach's alpha is excellent and above the advocated threshold of 0.7. Thus, it can be concluded that the construct has sufficient reliability. The item mean is 3.831. Table 4.25 shows the

corrected item-total correlation for tourism-related organizations' Satisfaction with Overall Performance construct after items removed.

**Table 4.25 Satisfaction of Overall Performance Construct Item-Total Statistics after Items Removed**

Reflective, 3 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PERFM1=So far, this network can be regarded as successful	.779	.905
PERFM2=So far, all the network's goals have been achieved	.910	.793
PERFM3= So far, the network's output is of high quality	.775	.908

Table 4.25 illustrates that the corrected item-total correlations for the Satisfaction of Overall Performance construct's three items (reflective) range from 0.775 to 0.910, indicating that there is no item redundancy and no item has to be removed.

#### 4.5.3.1.10 Challenges Construct

Table 4.26 demonstrates the corrected inter-item total correlations for the Challenges construct.

Item CHALL5 (0.263) shown in Table 4.38 was found to be redundant and had to be removed. After this one item had been removed, the Cronbach's alpha for the Challenges construct was improved (see Table 4.27).

**Table 4.26 Challenges Construct Item-Total Statistics**

Formative, 9 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CHALL1=Identifying the problems related to Hurghada	.558	.827

CHALL2=Identifying solutions related to Hurghada's destination	.621	.823
CHALL3=Identifying the most appropriate organizations to work with	.622	.824
CHALL4=Convincing other organizations to be involved with the collaboration	.700	.814
<del>CHALL5=The lack of commitment by partners to the assigned roles and responsibilities</del>	<del>.263</del>	<del>.881</del>
CHALL6=Lack of trust between partner organizations	.698	.813
CHALL7=Poor communication between partner organizations	.646	.820
CHALL8=Difficulties of agreeing roles and responsibilities	.690	.815
CHALL9=Change of leadership style	.496	.832
CHALL10=Poor participation of the local community in maintaining and protecting the natural environment in Hurghada	.471	.834

**Table 4.27 Challenges Construct Reliability Statistics**

Cronbach's Alpha	Items Mean	N of Items
.881	4.338	9

Table 4.27 indicates that the Cronbach's alpha for the Challenges construct is 0.881. This Cronbach's alpha is adequate and above the advocated threshold of 0.7. Thus, it can be concluded that the Challenges construct employed in this study has sufficient reliability. The construct's items have a mean of 4.338. Table 4.28 shows the corrected item-total correlation for Challenges construct after items removed.

**Table 4.28 Challenges Construct Item-Total Statistics after Items Removed**

Formative, 9 Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CHALL1=Identifying the problems related to Hurghada's destination	.581	.871

CHALL2=Identifying solutions related to Hurghada's destination	.655	.865
CHALL3=Identifying the most appropriate organizations to work with	.597	.870
CHALL4=Convincing other organizations to be involved with the network	.695	.861
CHALL6=Lack of trust between partner organizations	.721	.859
CHALL7=Poor communication between partner organizations	.668	.864
CHALL8=Difficulties of agreeing roles and responsibilities	.731	.858
CHALL9=Change of leadership style	.507	.878
CHALL10=Poor participation of the local community in maintaining and protecting the natural environment in Hurghada	.494	.879

Table 4.28 demonstrates that the corrected item-total correlations for the Challenges construct's nine items (formative) range from 0.494 to 0.731, indicating that no item is redundant and no item has to be removed.

## Appendix 4.3

### Non-Response Rate T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
ER1	Equal variances assumed	.180	.673	.788	98	.433	.080	.102
	Equal variances not assumed			.788	86.362	.433	.080	.102
ER2	Equal variances assumed	3.097	.082	.000	98	1.000	.000	.109
	Equal variances not assumed			.000	83.807	1.000	.000	.109
ER3	Equal variances assumed	9.806	.002	-.896	98	.372	-.100	.112
	Equal variances not assumed			-.896	79.934	.373	-.100	.112
ER4	Equal variances assumed	26.352	.000	-2.155	98	.034	-.220	.102
	Equal variances not assumed			-2.155	76.598	.034	-.220	.102
ER5	Equal variances assumed	21.284	.000	-2.624	98	.010	-.320	.122
	Equal variances not assumed			-2.624	67.663	.011	-.320	.122
ER7	Equal variances assumed	11.383	.001	-2.078	98	.040	-.280	.135
	Equal variances not assumed			-2.078	69.505	.041	-.280	.135
NER1	Equal variances assumed	.970	.327	-1.120	98	.266	-.180	.161
	Equal variances not assumed			-1.120	96.033	.266	-.180	.161
NER2	Equal variances assumed	.264	.608	.000	98	1.000	.000	.155
	Equal variances not assumed			.000	94.112	1.000	.000	.155
NER6	Equal variances assumed	.156	.694	-.326	98	.745	-.040	.123
	Equal variances not assumed			-.326	97.954	.745	-.040	.123
Chall1	Equal variances assumed	1.718	.193	-4.942	98	.000	-.660	.134
	Equal variances not assumed			-4.942	97.582	.000	-.660	.134
Chall2	Equal variances assumed	.791	.376	-6.093	98	.000	-.800	.131
	Equal variances not assumed			-6.093	97.441	.000	-.800	.131
Chall3	Equal variances assumed	.488	.487	-6.548	98	.000	-.860	.131
	Equal variances not assumed			-6.548	90.116	.000	-.860	.131
Chall4	Equal variances assumed	.045	.832	-5.667	98	.000	-.820	.145
	Equal variances not assumed			-5.667	97.679	.000	-.820	.145
Chall6	Equal variances assumed	.123	.727	-4.242	98	.000	-.660	.156
	Equal variances not assumed			-4.242	94.774	.000	-.660	.156
Chall7	Equal variances assumed	7.979	.006	-2.853	98	.005	-.460	.161
	Equal variances not assumed			-2.853	79.684	.006	-.460	.161
Chall8	Equal variances assumed	3.849	.053	-1.688	98	.095	-.280	.166
	Equal variances not assumed			-1.688	85.101	.095	-.280	.166
Chall9	Equal variances assumed	3.308	.072	-1.594	98	.114	-.260	.163
	Equal variances not assumed			-1.594	86.500	.115	-.260	.163
Chall10	Equal variances assumed	2.810	.097	-.713	98	.478	-.120	.168
	Equal variances not assumed			-.713	90.166	.478	-.120	.168
Trust2	Equal variances assumed	2.696	.104	-.435	98	.665	-.060	.138
	Equal variances not assumed			-.435	86.635	.665	-.060	.138
Trust3	Equal variances assumed	3.229	.075	-.582	98	.562	-.080	.137
	Equal variances not assumed			-.582	86.009	.562	-.080	.137
Trust4	Equal variances assumed	.690	.408	.722	98	.472	.100	.139
	Equal variances not assumed			.722	89.288	.472	.100	.139
Trus5	Equal variances assumed	2.320	.131	.000	98	1.000	.000	.144
	Equal variances not assumed			.000	82.625	1.000	.000	.144
Commit3	Equal variances assumed	20.264	.000	-1.334	98	.185	-.260	.195
	Equal variances not assumed			-1.334	83.296	.186	-.260	.195
Commit4	Equal variances assumed	12.240	.001	-1.110	98	.270	-.240	.216
	Equal variances not assumed			-1.110	90.267	.270	-.240	.216
Colla1	Equal variances assumed	2.290	.133	.000	98	1.000	.000	.117
	Equal variances not assumed			.000	79.744	1.000	.000	.117
Colla2	Equal variances assumed	3.963	.049	-.330	98	.742	-.040	.121
	Equal variances not assumed			-.330	79.754	.742	-.040	.121
Colla3	Equal variances assumed	9.582	.003	-1.136	98	.259	-.140	.123
	Equal variances not assumed			-1.136	76.418	.260	-.140	.123
Colla5	Equal variances assumed	21.675	.000	-3.255	98	.002	-.400	.123
	Equal variances not assumed			-3.255	68.978	.002	-.400	.123
Colla6	Equal variances assumed	6.560	.012	-2.491	98	.014	-.300	.120
	Equal variances not assumed			-2.491	85.961	.015	-.300	.120
Colla7	Equal variances assumed	1.208	.274	-.156	98	.877	-.020	.129
	Equal variances not assumed			-.156	89.920	.877	-.020	.129
Coord1	Equal variances assumed	.614	.435	-.938	98	.351	-.100	.107
	Equal variances not assumed			-.938	97.989	.351	-.100	.107
Coord2	Equal variances assumed	10.848	.001	-2.389	98	.019	-.240	.100
	Equal variances not assumed			-2.389	96.305	.019	-.240	.100
Coord3	Equal variances assumed	2.402	.124	-1.260	98	.211	-.140	.111
	Equal variances not assumed			-1.260	97.530	.211	-.140	.111

Commu1	Equal variances assumed	1.914	.170	-.759	98	.450	-.100	.132
	Equal variances not assumed			-.759	93.336	.450	-.100	.132
Commu2	Equal variances assumed	.179	.673	.309	98	.758	.040	.129

### Interview questions

	Equal variances not assumed			.309	95.063	.758	.040	.129
Commu3	Equal variances assumed	1.828	.179	-.1393	98	.167	-.180	.129
	Equal variances not assumed			-.1393	97.732	.167	-.180	.129
SLA1	Equal variances assumed	1.990	.162	-.1236	98	.219	-.180	.146
	Equal variances not assumed			-.1236	96.489	.219	-.180	.146
SLA2	Equal variances assumed	6.644	.011	-.1994	98	.049	-.300	.150
	Equal variances not assumed			-.1994	90.383	.049	-.300	.150
SLA3	Equal variances assumed	4.801	.031	-.2012	98	.047	-.260	.129
	Equal variances not assumed			-.2012	94.845	.047	-.260	.129
SLA4	Equal variances assumed	2.958	.089	-.1569	98	.120	-.220	.140
	Equal variances not assumed			-.1569	92.113	.120	-.220	.140
SLA5	Equal variances assumed	.660	.419	-.430	98	.668	-.060	.139
	Equal variances not assumed			-.430	94.340	.668	-.060	.139
SLA6	Equal variances assumed	3.164	.078	-.759	98	.450	-.100	.132
	Equal variances not assumed			-.759	95.760	.450	-.100	.132
SLA7	Equal variances assumed	5.502	.021	-.1263	98	.210	-.180	.143
	Equal variances not assumed			-.1263	95.981	.210	-.180	.143
SLA8	Equal variances assumed	3.074	.083	-.827	98	.410	-.120	.145
	Equal variances not assumed			-.827	95.922	.411	-.120	.145
SLA9	Equal variances assumed	3.882	.052	-.979	98	.330	-.140	.143
	Equal variances not assumed			-.979	91.871	.330	-.140	.143
SLA10	Equal variances assumed	4.848	.030	-.1738	98	.085	-.240	.138
	Equal variances not assumed			-.1738	94.280	.085	-.240	.138
PERFM1	Equal variances assumed	6.657	.011	-.131	98	.896	-.020	.153
	Equal variances not assumed			-.131	92.026	.896	-.020	.153
PERFM2	Equal variances assumed	7.811	.006	-.142	98	.888	-.020	.141
	Equal variances not assumed			-.142	87.704	.888	-.020	.141
PERFM3	Equal variances assumed	16.145	.000	-.747	98	.457	-.100	.134
	Equal variances not assumed			-.747	79.298	.457	-.100	.134

### Appendix 4.4

1. What plans have you currently in place to encourage and/or maintain the sustainable use of Hurghada's natural resources? Over what time period do these plans cover?
  2. What steps/plans have you undergone to put these plans into practice?
  3. To date, what have these plans achieved? How have been achievements been ascertained/measured?
  4. What (if any) difficulties or obstacles have been encountered while putting these plans into practice?
  5. What are your organization's plans for protecting Hurghada's natural resources in the future? Over what time period will this plan cover?
  6. What stages/phases do you envisage going through in order to put these future plans into practice?
7. Has your organization formed and/or been involved in any network that seeks to protect Hurghada's natural resources? How is your organization involved?
  8. How long has this network been in operation?
  9. Who are the main and peripheral players of the network? Who do you work most closely with?
  10. Do you think this network is active or passive? Why?
  11. Are the main aims of the network? Why has your organization formed/been involved in this network?
  12. How often does this network meet?
  13. What role (s) does your organization play in the protection of the natural resources?
  14. To what extent do you think that your organization involvement with other partners contributes to the protection of natural resources in Hurghada?
  15. What is your organization precise role in the network?
16. What are your organization responsibilities towards protection of natural resources?
  17. Does your organization have legal, economic, political and/or social obligations to the protection of natural resources in Hurghada?
  18. To what extent do you think that your organization is responsible for the protection of natural resources in Hurghada, Egypt?
  19. To what extent does your organization fulfil its responsibilities?
20. How successful do you think the network is? Why?
  21. How do you view the relationships which exist between you and other organizations within and across the network?
  22. To what extent is there:
    - Trust between the organizations involved.
    - Trust within the organizations involved.
    - Commitment between the organizations involved.
    - Commitment within organizations involved.
    - The ability of the key actor to convince organizations to be involved in the network.
    - Are you able to give any example to illustrate your answers?
  23. How and to what extent do you think that the interrelationships between/within the network helps to protect Hurghada's natural resources
    - a) Increase community well-being,
    - b) generate income,
    - c) Increase the sustainable use of natural resources
- To what extent do you think that your network's outcome (s) is achieved?
24. To what extent do you think that the network (s) has achieved / or is achieving its goals? What are the barriers?
  25. What is the importance of protecting Hurghada's natural resources?
26. In relation to the protection of Hurghada's natural resources, how does your organization identify the problems that have occurred/or are currently occurring?
  27. Describe the procedures/steps that your organization follows to encourage other organizations to be involved in the network?

30. How are roles assigned and agreed between actors?
31. How are responsibilities agreed between actors?
32. What initial difficulties has your network encountered along the way
33. What medium term problems has your network encountered along the way?
34. What (if any) long-term problems has your network encountered along the way
35. To what extent were these problems resolved?
36. How do you evaluate the networks successful?
37. Can you please tell me if you are trying to continue the work begun in protecting Hurghada's natural resources? Why? What do you see as the main difficulties or challenges to be overcome to sustain this project?

#### **Appendix 4.5**

Q: What is the role of your organization regarding the realization of preserving the environment and its impact on the local community?

A: Our organization has both a co-ordinating and supervisory role. In order to establish cooperation for best achievement of the ends, the organization coordinates work amongst the non-governmental bodies such as preserve areas, and governmental bodies such as municipal councils; the Ministry of Agriculture And Irrigation; and the Ministry of Health and Environmental Affairs Department.

Q: Do you have another role?

A: Yes, our organization has, also, the power of controlling and supervising the preservation of the environment. For example, if a given field witnesses some inefficacy and flaws, it notifies the concerned bodies for radical treatment of the problem. In this way, the department manages to establish, simultaneously, mutual partnership based on more than one role as in:

- 1- Planning.
- 2- Coordination amongst all state bodies along with cooperation with governmental bodies.
- 3- Controlling implementation.
- 4- Recognizing the positive and negative aspects of the problem.
- 5- Treating the problem.
- 6- Attaining ends.

The Environmental Affairs Department aims continuously to maintain the environment by all means.

Q: Unlike what occurred in Hurghada, how do you interpret preservation of the natural resources, upon which tourism in Sharm Al-Sheikh is based, in order to control natural resources and sustainable tourisms?

A: Sham Al-Sheik used to procure much higher rates of touristic products than those in Hurghada. Development in Sharm Al-Sheikh covered natural areas such as in Ras Mohammed, the oldest protected area, Taba and Abu Glum. There was the Act 102/1983, on preserving areas and, also, Act 4/1992: Articles 102 and 103.

Q: How important are these regulations?

A: These are very important since these Acts enabled the government to protect such preserves and to attain sustainable development thanks to the protection of law and control and supervision of the government bodies.

Q: What about Hurghada?

A: As for Hurghada, upon, there was no act to control it following its construction. Up to the late 1990s, there were no Acts to control non-environmental actions. This entailed random action. However, currently, the rate of the touristic product is almost equal.

Q: Why are they equal?

A: I can say that, thanks to the existence of control bodies such as:

- 1- Red Sea island preserves.
- 2- Governorate Environment Office.
- 3- Environmental Affairs sub-Department.
- 4- Environment Management and Tourism Development Body.

Q: With regard to the protection of Hurghada's natural resources for, how do your organizations identify problems which have occurred or occur at present?

A: We have conducted researches to discover any problems; test samples in laboratories; and identify the suitable solution to deal with any problem. We also:

- Ask for help or, if needed, we can say ask for support from other governmental or non-governmental bodies; and
- Negotiation

Q: Do relationships between tourism organizations have a negative influence on your role and outcomes?

A: I can say that there is poor level of relationships and a poor level of commitment and communication, [I can say that, on many occasions, the absence or lack of urgent communications had a negative influence on relationships between tourist organizations.]

Q: Does this means that there is no positive relationship between your own and other partner organizations?

A: No, not all organizations, for example in Hurghada, the governmental organizations, which operate in the field of protecting natural resources and communities, do enjoy positive relationships and these have played positive roles in the preservation of the natural resources and the foundation of the tourism industry.

Q: Does this means that those relationships have two sides with regard to the strengths and successes of the relationships amongst tourist organizations?.

A: Certainly, this is the case with respect to the side of relationships amongst governmental tourist organizations. In contrast, the second side is concerned with general relationships including the network of tourist organizations in their entirety. I can say that the governmental organizations enjoy good relationships.

Q: Why?

A: The governmental organizations, operating in the field of tourism, enjoy, to some extent, good relationships due to their own natures. However, these

relationships need to be organized so that their weaknesses may be addressed whilst their strengths are reinforced.

Q: Do you see your partnership with other organization as being helpful?

A: Yes, of course, working with other partners is better than working in Isolation.

Q: Have you achieved what you agreed beforehand?

A: We are satisfied to some extent but we need to handle and overcome difficulties and strengthen our relationships with each other.

Q: That means you have the intention to work on these partnerships in the future?

A: Yes, as this will help to improve our role and outcomes.

Thanks

#### Interview: GOV (2)

Q: What are the roles and responsibilities of your organization in the management of the environment and the development of sustainable community livelihoods in Hurghada?

A: With our partner organizations, our organization is involved in protecting the nature resources and the development of sustainable community livelihoods in Hurghada and the surrounding areas. Our actions have contributed to the local community by providing:

- Health and education services;
- Clean water;
- Electricity to some remote areas, and
- Providing jobs to some people in this area.

Consequently, these services have led to some improvements in the living conditions of some residents.

Q: What is your role in protecting Hurghada's environment?

A: We conduct, also, researches that help to protect Hurghada's coral reefs and biodiversity. In turn, these support the environmental role played by the tourism-related organizations; this is indispensable to achieving sustainable livelihoods

Q: How do you evaluate the achieved role?

A: To some extent, it is OK; these exerted efforts led somewhat to the improvement of some of the residents' living conditions.

Q: How do you evaluate the relationships between your organization and other partner organizations involved in environmental protection and the development of sustainable community livelihoods?

A: Frankly, some members are truly less devoted since the government has a strong influence on our role. Individuals and governmental organizations do have a less effective role, will and desire.

Q: Do you mean that the governmental organizations' roles affect your role negatively?

A: Yes, sometimes, since, in many cases, decisions are down to the government and governmental bodies. Consequently, this leads to a negative influence on tourism organization' relationships, roles and outcomes.

Q: To what extent respectively, is there trust, commitment, coordination and communication between the organizations?

A: In general, the relationships between tourism-related organizations, which are involved in the management of Hurghada's environment, are affected negatively by some key factors such as:

- Commitment;
- Trust;
- Coordination; and
- Poor communication and exchange information

Q: What is the reason for less committed partners?

A: The reason for weak commitment is due to the non-implementation of the rules and laws adopted by the government associations and organizations, for example, Environmental Law No. 4 in 1994

Q: To what extent, do you think the collaborations have achieved or are achieving their goals, and what about the barriers to success?

A: Reasonable achievements

Q: Such as?

A: For example:

- The quality of environment is becoming better.
- Boom of tourism in Hurghada - the number of tourism is increasing.
- People and families have good awareness about tourism and its importance to them.
- Increased awareness about natural resources protection.
- The dangers of environmental degradation – lost jobs – unemployment.

Q: What about the barriers which have a negative influence on your success?

A: Yes, it is normal to encounter difficulties that limit the success of any role.

Q: What are the key barriers?

A: Interested actor agreed to be involved and, also:

- Commitment to agreed role and responsibilities;
- Working only to obtain funding;

- Working at their jobs as governmental organizations;
- Trustworthiness;
- Difficulty in exchanging information;
- Instability of leadership;
- Funding; and
- Bureaucracy – decision maker

Q: Despite barriers and, to some degree, tense relationships, to what extent do you think your organization's involvement with other partners contributed to the protection of Hurghada's natural resources?

A: Of course, working in collaboration with other partner organizations is helpful; we can exchange information; support each other; and complement each other. I think, each, separately, has a will to work better.

Q: Are you satisfied with what have been exerted and achieved?

A: Yes:

- Price is the same as Sharm.
- More jobs are available.
- The coral reefs are stable.
- There is the reputation of the Hurghada brand.

Q: Is there an intention to continue to protect the environment and to help local communities?

A: Yes, of course. This is because we believe that we offer duties and we have to continue; this is our role.

Many thanks

### Interview GOV (3)

Q: What is the role played by your organization in the protection of Hurghada's environmental resources?

A: Protection of Hurghada's coastal beaches— this is through:

- (1) The maintenance; and
- (2) Periodic follow-ups to these beaches

Q: What is the nature of the role played by your organization?

A: - Monitoring of adverse changes which may appear on the beaches:

- Follow-up maintenance work which is necessary for beaches;
- New coastal protection;
- Protecting beaches from erosion (coastal erosion).

Q: Is there joint cooperation between your own and international organizations and other non-governmental organizations?

A: Yes; there is. Examples are International (USAID) and other NGOs

- Governmental organizations.

Q: Do you see the role of the Joint actions contributing to the achievement of the goals which are set?

A: Certainly, the exchange of experiences and exchange resources; these help to achieve the association's goal

Q: What are the consequences of this cooperation for the protection of the environment and the safeguarding of the local community's livelihood?

A: Maintaining Hurghada's coastal beaches; this is the mainstay of Hurghada's tourism industry. This involves:

- Protecting tourism itself; and
- Sustaining people's livelihoods; protecting people's income; and keeping jobs.

Q: Are there plans for future projects?

A: Yes, there is both now and, in the future, cooperation with other organizations with expertise in protecting beaches

Q: Are there problems as a result of cooperation?

A: No, a collective action is good

Q: Are you satisfied with the outcomes of your collaborations?

A: Yes, we are satisfied; however, we desire the best outcomes.

Q: Are there frequent communication with other organizations, whether governmental or non-governmental organizations, to coordinate roles and responsibilities?

A: Yes, there is continuous contacts and coordination to facilitate cooperation between each other.

Q: Does your organization initiate coastal shore protection projects?

A: Yes, often.

Q: Do this require a request for contributions from other bodies and organizations?

A: Yes, GOV

- NGOs: Funds – human skills – expertise
- Negotiations to convince them be involved

Q: Is there a mutual trust between your own and other organizations?

A: Yes; and this is the main basis of any collaboration

Q: Are there any other problems?

A: Yes, for example, the destruction of beaches during construction – the use of concrete blocks; this requires strict control.

Q: How do you evaluate the role of this cooperation in the protection of both the beaches and the local community's livelihood?

A: The role is good and satisfactory

Thank you very much

Interview: GOV (4)

Q: What is the role and responsibilities of your organization within the network of tourist organizations?

A: Our role with other partner organizations varies according to each organization's main goals of and its purpose for joining that partnership.

Q: Such as?

A: For example; the Agency for Environmental Affairs preserves natural environmental resources in the Red Sea Governorate, including Hurghada. In coordination with non-governmental societies, the Agency lays down specific and scheduled plans which settle environmental conditions .

Q: Which plans help to achieve your role?

A: The Egyptian government has set the following two plans:

(A) An annual plan whereby newly-emerging natural phenomena are monitored and which produces annual reports on achievements. In addition, there are:

(B) Five-year plans which draw on the state budget and need a longer duration.

Q: May I have an example?

A: Yes, of course, we have examples which include of sanitary sewage projects at the "Hurghada city" governorate level where environmental problems are found directly due to the dumping of sewage into the Red Sea. This was why it was so necessary to lay down a five- year plan to treat such environmental pollution and to preserve the natural environmental resources.

Q: With regard to the protection of Hurghada's natural resources, how does your organizations identify problems which have occurred or occur at present ?

A: We have previous projects with other different organizations; we have the initiative to detect problems or to be involved in an existing project.

Q: Why are you involved in such projects?

A: Our organization's mission is to work to protect our environment and, in turn, to sustain people's livelihoods.

Q: Have relationships between tourism organizations had a negative influence?

A; The relationships between governmental organizations and non-governmental ones witnessed some difficulties and there were contractual problems in respect of the relationship with our governmental one.

Q: May I have an example?

A: Yes, for example, the tourist development organization, which is governmental, and the HEPKA , which is non-governmental, have filed cases against each other before the judiciary.

A: For example, if you try to ask or to have an interview with representatives from the HEPKA organization, they will inform you that cases are being pursued against us by the HEPKA .

Q: What are the reasons behind such a clash between the TDA and the HEPKA?

A: The reasons were the fact that some investors did not commit to construction rules and encroached on the protected area of Hurghada's shore, Egypt; this is the thing which has a negative effect on coral reefs. This was the reason for the HEPKA organization's displeasure.

Q: Why does this happen?

A: This is because non-governmental organizations, including HEPKA, have one major goal. This is non-encroachment, on the part of investors, some hotels and businessmen, against the wild and aquatic life relating to tourist activity, and the local community's means of life. In contrast, the goal of the TDA is to sell lands to investors and launch tourist projects, as well as monitoring them later.

Q: In your opinion, what is the main reason behind this?

A: The non-commitment of investors is behind all such problems between us along with the governmental bodies' weak supervisory role.

Q: Are there any other factors influencing these relationships?

A: Yes, of course, relationships suffer tension, though, to some extent, not with all organizations since our relationships with other governmental organizations are excellent.

A: For example, if you talk to representatives from HEPCA, they will inform you that their organization has filed cases against us.

Q: Is this harming your relationship?

A: These tension-suffering relationships or the weak ones, lead somehow to negative impacts on trust between tourist organizations. Certainly, such problems affect our mutual trust; as regards trust within the organization, we work

in full confidence between us; in other words, we work as a team whose members trust each other. This tense or poor level of relationships can lead to negative impacts on the trust between tourist organizations.

Q: From your point of view, what are the causes of these problems?

There are some problems and hurdles which cause tension in the relationships between some organizations, but not all of them. In Hurghada, relationships, between HEPICA and the tourism development authority are not good due to the TDA's weak control of the process of tourist development in Hurghada.

Q: May I have an example?

A: Yes, there is failure to do what has been agreed upon previously or, in other words, a weak commitment from these organizations to achieve what has been agreed.

A: Also, some investors did not follow the construction rules and encroached on the protected area of Hurghada's beaches; this affected the coral reefs harmfully. This was behind HEPICA's displeasure, as well as the failure of the governmental bodies to do their duties in controlling tourism development activity

Q: Do you see these problems affecting your collaborative role and the desired outcomes?

A: Yes, poor levels of commitment affect tourism-related organizations negatively in accomplishing their roles effectively.

Q: Why?

A: This is because, frankly speaking, on some occasions, we are not accustomed to cooperation; participation; and joint operation.

Q: Why?

A: This is because of the weak transparency and poor corporate governance between the tourism-related organizations

Q: I asked some of your partner organizations and they claimed that there are problems, why?

A: Yes, this is a fact. For example, in my opinion, the political will lies behind these problems. In fact, the weakness of the political will and the lack of transparency bring about bad relationships between governmental and non-governmental organizations.

Q: Do you regard your collaboration as being successful?

A: Yes, to some extent; however, we still need to improve our role and outcomes by overcoming some bad relationships.

Q: What do you mean by a bad relationship?

A: Frankly, we can stay without any means of communication for a long time; we meet only rarely. This has a negative influence on coordination and, in turn, in achieving our aims and objectives.

Q: Why is there poor communication?

A: Organizations, especially governmental ones, think keeping information for their use will support and strengthen their position against other organizations and this is the main problem, [keeping information secret].

Q: Are you satisfied about what your organizations have achieved?

A: Yes; however, our organizations need to deal with such difficulties and to strengthen our relationships with each other. We need, also, to improve coordination and we need to be trustworthy.

Q: Do you have the intention to work on these partnerships in the future?

A: Yes, since this will help to improve our role and outcomes.

Thanks

Interview: GOV (5)

Q: What is your organization's responsibility within the partnerships to protect Hurghada's environment?

A: TDA, with the Environmental Affairs Department and in cooperation with the other governmental bodies and some NGOs, attempt to overcome the negative impacts on the marine environment through the reduction of pollution in the Red Sea arising from factories and ships dumping oil and grease.

Q: Do you have other roles?

A: Yes, our organizations, with other partner organizations, monitor, also, and follow up the Red Sea coast since the Red Sea Environment Department, in cooperation with non-governmental organizations and societies, conducts scientific researches to detect the natural phenomena relating to the natural environmental touristic resources. The Department examines the causes of such problems such as the detection of the phenomena of proming which has affected marine creatures negatively and poisoned them.

Q: May I have an example?

A: Yes, damage to the coral reefs was identified and they are now monitored and attempts are being made to restore them.

Q: To what extent, do you think your organization's involvement with other partners contributes to the protection of Hurghada's natural resources?

A: Our organization, with other partner organizations, has worked on the detection of coral reefs and to monitor their rarity along with attempts to restore them or help them to grow again. Also, we conduct researches.

Q: What is the reason behind the negative effects which coral reefs have encountered in Hurghada?

A: There are many causes behind the reduction of those coral reefs including the negative effects on the touristic sector through the tourists' diving property having increased sharply in ruining coral reefs. This takes place when tourists lower the anchors of their boats and destroy coral reefs. Tortoises have almost vanished due to overfishing and there are the negative impacts of sea constructions on the coastline. They occupied the habitat of tortoises which used to feed on starfish. In turn, these have multiplied due to rarity of tortoises. Starfish began to feed on coral reefs and reduce them.

Q: What is your role in overcoming these problems?

A; Our role is to propagate awareness as regards the risks and harms resulting from over pollution of the environment (land, air and sea).

Q: Does your organizations face any difficulties which hinders your role?

A; Our partnership has confronted difficulties in recognizing the more important problems since the Ministry should address four or five problems. In turn, the Ministry presents such problems to the concerned bodies.

Q: How do you address such problems?

A: OK, addressing a given problem needs a specific time because the department cannot hold production due to the given environmental violations. The problem becomes handled in association with the concerned bodies concerned and is followed up throughout a given period and schedule, as well as plans.

Q: Is there any other difficulty?

A: Yes, in most cases, the slow procedures lead to exacerbation of the problem. It becomes more difficult to control. This is why each body should do its utmost to cooperate effectively towards the achievement of their ends.

Q: What types of environmental problems have been met in Hurghada ?

A: There are diverse forms of environment pollution at the same place and time. We have land pollution due to the factories' dumping of refuse in slum areas leading to the pollution of soil along with distorting the specialty and production of soil.

- We have sea pollution due to oil factories dumping refuses (industrial sewerage) into the Red Sea.
- Air pollution is due to emissions of smoke and dust coming from cement factories.

This makes it so difficult to treat such pollution.

Q: Are you happy with what has been achieved?

A: It may be argued that the Environmental Affairs Department operates, so far, with 80% efficacy. However, it still faces hardships and management hurdles due to the lack of manpower or workers and employees who work hard enough to attain an effective management and supervisory role. The Environmental Body faces, also, financial hardship for funding and purchasing equipment through coordination with other bodies to attain their plans. For instance, detection of natural phenomena requires diving suits and equipment for the research team.

Q: Are there any other problems?

A: Yes, improving and building a strong relationship is required urgently; we need to build trust and commitment and, also, the absence of communication is influencing negatively the coordination in such jobs.

Q: Do relationships between tourism organizations have a negative influence on negatively influencing your relationships with each other, and what is the factor?

A: Yes, there is a poor level of communication.

Q: Why?

A: Weak communication or on many occasions lack of communication between members of tourist organizations is due to the weakness and the absent will of tourist organizations exchanging information amongst themselves .

Q: Is there any other reason?

A; Yes, of course, the problem of communication is ascribed to both a lack of trust and a lack of exchanging information....They lack clear and continuous communication since they contact each other only out of necessity.

Q: Do you see these problems, for example poor communications and poor level of trust, influencing the success of your partnership?

A: Yes, certainly; however, our role is appreciated. Nowadays, you can notice that the price of Hurghada's tourist product is nearly equal to that of Sharm's.

Q: How and to what extent do you think the interrelationship between/within the network helps to protect Hurghada's natural resources and to sustain the local community's livelihood?

A: For example, our efforts, exerted to protect Hurghada's natural environment, help coral reefs, in particular, and help to safeguard the increasing number of tourists and the increasing income which helps to increase community well-being; to generate income; and to increase the sustainable use of natural resources.

Q: Are you satisfied about what your organization has achieved?

A: Yes, I am satisfied despite some difficulties which had to be dealt with in order to achieve the best results.

Q: Do you intend to work in these partnerships in the future?

A: Yes, a commitment to the local community has to be done, whether through the protection of environmental resources or, with other partner organizations, providing different services to the local community.

Thanks

#### Interview: NGO (6)

Q: What is the role played by the Abuo Salama Association in maintaining the integrity of Hurghada's natural resources?

A: Different projects separately and/or with other organizations:

- Governmental organizations (Facilitating procedures)
- Non-governmental (Funding) and researches.

Q: May I have an example?

A: Yes, the Samadi project dedicated to the protecting of dolphins:

- Monitoring the sea grass meadows;
- Numbers Researchers – other partner organizations; and
- Supporting indigenous people (Bedouin community) – collaboration – USAID

Q: Are there difficulties facing the Abou Salam Society through cooperation with other organizations?

A: Yes, there are organizations just looking for funding !

- Missing the monitoring role
- Negative relationship on some occasions

Q: Does this mean that your organization prefers to work in an individual capacity rather than collective action?

A: Not in all cases, but I think that the collective action, which is linked with trust and commitment, is better than working alone. However, in some cases, our organization prefers to do its work directly, in order to ensure that this work is conducted perfectly

Q: Are there any other problems?

- Non-involvement of local community;
- Local fishers' awareness; and
- Poor coordination and communication

Q: Do you have a future project to protect the natural environment?

A: Yes; conducting researches – collaborations with local- government-or international organizations.

Q: Are you, as a representative of your organization, satisfied with what has been accomplished?

A: Yes

Many thanks

#### Interview: NGO (7)

Q: Can you please tell me about your organization's role in protecting Hurghada's natural resources and the development of sustainable community livelihoods?

A: Currently, 94%, of those working in Hurghada, work in the field of tourism as fishing suffers decline due to overfishing and the ruining of coral reefs. This was why the Environmental Affairs Department had to develop tourism in Hurghada because their decline meant a negative impact on the standard of living and affected the continuity and development of tourism.

Q: Many thanks; do you have other role towards the local community?

A: Yes, along with other partner organizations in this field, our organization has played a central role in providing financial and real and education and research-based support for the local community. This has helped the local inhabitants greatly.

Q: Can you please give me an example?

A: Sure, we have lots of projects, some finished and other still on-going. For example, there is the LIFE project which provides educational assistance for the inhabitants of remote areas; the organization supports research in the field of protecting the natural environment in the Red Sea Governorate, especially Hurghada, along with health assistance and some basic environmental projects.

Q: Are there other roles?

A: Yes, in cooperation with other organizations, our organization takes part in some projects oriented to the local community. These are such as constructing hospitals and schools, along with maintaining the environment.

Q: How do you evaluate this role in the development of sustaining the livelihoods of the local community?

A: These activities (e.g. financial support, electricity etc.) support the environmental role played by the tourism-related organizations; this is indispensable in achieving sustainable livelihoods.

Q: Please, do you see your role having satisfactory outcomes in the protection of natural resources and the development of sustainable community livelihoods in Hurghada?

A: In fact, there is satisfaction as regards the joint performance of the Network of Touristic Organizations in protecting environmental natural resources and providing a means of sustainable living for the local community in Hurghada and the Red Sea Governorate as a whole. However, this does not mean full satisfaction since some problems still distort such cooperation.

Q: Why, are there barriers influencing your role?

A: Yes, whilst carrying out their roles and tasks, the partnerships of touristic organizations still have some problems which we have confronted and continue to confront.

Q: Such as?

A: Funding – skills, equipment – availability of information

Q: Can you please give an example:

A: Yes, sure, for example, I can enumerate these problems and obstacles since communication; assessment; and coordination are weak amongst those organizations.

Q: What are the reasons behind these problems?

A: These difficulties are due to the ineffective political administration regarding preservation of Hurghada's natural wealth in. In addition, there is the investors' non-commitment in terms of the environment; this is the most serious obstacle.

Q: In your opinion, what effect do poor communication and a poor level of commitment have on the functioning of your roles?

A: First of all, our organizations must cooperate to avoid such obstacles and treat them before they become aggravated. Besides, such cooperation helps to attain most ends of preserving Hurghada's natural environment in along with sustainable living for its local community and the governorate as a whole.

Q: How do you see the impact of these factors?

A: Poor level of relationships such as poor communication or poor commitment which influence our role negatively and prevent our achieving our role perfectly.

Q: Are you satisfied with what your organization has achieved?

A: As regards ends and satisfaction, the collaboration has played a central role in keeping, sustaining and creating Hurghada's tourism industry, in particular, and the governorate generally. It has taken part, also, in preserving the means of sustainable living for the local community

Q: Are you fully satisfied?

A: Like that, there was some permissiveness which called for more efforts to reinforce relationships between organizations. These were besides, solving problems and overcoming hurdles which affected the roles and ends of the network of Hurghada's touristic organizations.

Thanks

Interview: NGO (8)

Q: How and to what extent do you think the interrelationship between tourism-related organizations helps to protect Hurghada's natural resources?

A: Our organization supports research in the field of protecting the natural environment in the Red Sea Governorate, especially Hurghada. This collaboration, with other partners, helps the quality of Hurghada's environment in and, to some extent, protects the coral reefs from degradation.

Q: What about other roles which can support protecting and safeguarding the livelihoods of the local community?

A: In cooperation with partner organizations, our organization takes part in some projects, such as constructing hospitals and schools, and offering support with electricity and water, which are aimed at helping the local community, along with maintaining the environment.

Q: How can you assess your role?

A: In turn, these aspects support the environmental role played by tourism-related organizations and are indispensable, also, in achieving sustainable livelihoods.

Q: Through my previous meeting with other partner organizations they demonstrated that the organizations' poor level of commitment influences your role in protecting Hurghada's natural tourist resources. May I have your comment please?

A: Sure, yes I can confirm that commitment is a reason behind the salient role of governmental organizations in taking decisive and effective decisions to solving many problems. However, most governmental and non-governmental organizations proved their commitment to their duties towards the tourist environment.

Q: What is the reason behind the poor level of commitment?

A: Some factors affected and distorted such commitment towards the tourist environment upon construction on beaches or resorts. This is followed by the

volatile supervisory role of governmental organizations; which some observers attribute this to the weakness of the tourist administration's supervisory role.

Q: Do you mean that the governmental organizations influence negatively the relationships between tourism-related organizations?

A: Yes, I can explain that, all organizations are truly devoted since the governmental touch is dominant in our role. In other words, in many cases, decision making is ascribed to the government and governmental bodies.

Q: For the success of the network of tourist organizations regarding their mutual relationships, there must be a desire to handle and exchange information for decision - making. Do you exchange information with each other?

A: A little, in rare circumstances, this is why commitment, communication and, in turn, coordination between members of the tourist organizations' network requires ample understanding and mutual devotion for such mutual relations to be maintained.

Q: Is there any example of tense relationships?

A; Yes, there are some difficulties and hurdles which result in tense relationships between some organizations but not all of them. Relationships between HEPKA and the tourist development association (TDA), Hurghada, are not good ones due to the TDA's weak control regarding the process of tourist development in Hurghada.

Q; Yes, I knew about this, what is the reason?

A: HEPKA and TDA suffer from a tense relationship due to non-commitment to environmental standards and control over activities related to tourist development.

Q: How do you evaluate the role of collaboration?

A: Omm, yes, I can claim that we exerted efforts which help to sustain the local community's livelihoods?

Q: How can the local community feel that?

A: Protecting the local community's main livelihood capital which is the natural resources on which tourism is based and which play a crucial role in the continuity of tourism in Hurghada,

Q: As non-governmental organizations, do you intend to work in these partnerships in the future?

A: Yes, sure as we have been working in Hurghada from a long time and we intend to be here, supporting tourism and biodiversity.

Thanks

Interview: GOV (9)

Q: To what extent, do you think your organization's involvement with other partners contributes to the protection of Hurghada's natural resources?

A: In collaboration with other partner organizations, our organization plays a crucial environmental role because it represents a key element of Hurghada's tourism industry.

Q: Besides the protection of Hurghada's natural resources in, do you have any other role toward the poor people in remote areas?

A: At the same time, we provide non-environmental factors such as basic infrastructure which is, also, crucial.

A: For example; we help to offer to the local community jobs, electricity and health services.

Q: How do you see the importance of protecting Hurghada's natural resources?

A: I can assure you, almost, that the tourism industry cannot continue in the region without the environmental management of natural resources; this is the main stake of Hurghada's tourism industry.

Q: How do you view the relationships which exist between your and other organizations within and across the network?

A: I find this relationship is good. However, there are some problems relating to the poor level of communication which, in turn, influences the coordination between our efforts?

Q: What did you do to overcome such problems of communication and coordination?

A: We exerted efforts to validate and to enforce coordination between members of the network responsible for protecting environmental resources.

Q: Do you mean that coordination is available?

A: Yes, to some extent. However, there are other factors which affect negatively coordination between tourism organizations.

Q: Like what?

A: For example: weak communication and exchange of information between organizations have affected negatively coordination amongst those organizations. Thus, we try to exert the best efforts to coordinate many issues, especially between

governmental organizations and NGOs, since they enjoy, to some extent, the ability to take decisions relating to many joint issues.

Q: Despite some difficulties which you encountered, do you see your partnership with other organizations as being helpful?

A: Yes, of course, working with other partners is helpful and I think overcoming such poor relationships and strengthening trust and commitment with good communication will help to avoid these problems in the future.

Q: Have you achieved what you agreed beforehand?

A: We are satisfied to some extent. However, there are still many ambitions which we want to achieve to improving livelihoods and sustainable development of tourism, not only in Hurghada but, also, in the whole of Egypt

Q: Do you have plans to work in these partnerships in the future?

A: Yes, since a new project will be starting to increase the community's awareness about the importance and value of protecting the environment for the present and future generations.

Thanks

Interview: GOV (10)

Q: What are your organizations' roles and responsibilities in the development of sustainable community livelihoods in Hurghada?

A: The governmental organizations, such as EEAA, MOT, RSG and TDA, play the role of coordinating monitoring and supervision. They, and especially the TDA, orchestrate work, such as preservation areas, between the non-governmental bodies and

governmental bodies such as municipal councils, the Ministry of Agriculture and Irrigation and the Ministry of Health and Environmental Affairs.

Q: Do you see collaborative working achieving your goals?

A: Yes, of course, working together is beneficial. Thus, the aim is to establish cooperation so as to best achieve the goals.

Q: Does your organization have other roles and responsibilities?

A: Yes, the organization supervises, also, the overall preservation of the environment.

A: For example, if one party witnesses a flaw, it notifies the other concerned partner organizations so that the problem can be treated.

Q: How do you achieve these roles?

A: Our organization manages to create mutual partnerships based on playing more than one role at the same time, namely, planning and coordination between all the bodies in the state; cooperation with governmental bodies; controlling implementation; recognizing the positive and negative aspects of the problem; and treating the problem and attaining goals.

Q: To what extent, do you think your organization, in collaboration with other partner organizations, is or was achieving its goals, and what are the barriers to success?

A: There has been a noticeable and continuous improvement in tourist activity in Hurghada.

Q: May I have an example?

A: Yes, for example, there has been a continuous increase in the number of tourists; increasing amounts of foreign and domestic investment; and an

increasing proportion of people employed in the tourism sector, either directly or indirectly.

Q: How do you see the importance of this work?

A: These exerted efforts, in turn, have led to improved well-being and the safeguarding of sustainable livelihoods for the local community.

Q: Do you see protecting Hurghada's environmental capital as being achievable?

A: Yes, the outcome, which I mentioned earlier, is because of the role which our organization and our partners play in maintaining the natural resources of tourism.

A: ....This is due to the role taken by our organization and our partners in maintaining the natural tourism resources....but, weak commitment, trust and poor communication are the main factors behind the imperfect achievement of our goals.

Q: Do you see this role helping Hurghada's local community?

A: This led somewhat to the improvement of some of the residents' living conditions.

Q: How and to what extent did they think about interrelationships in the network of tourism-related organizations?

A: In general, Hurghada's tourist organizations in the city of, operating in the field of protecting natural resources and the community, experienced, to some extent, unhelpful relationships which harmed the protection of natural resources; these are the foundation of the tourism industry.

Q: You said IN GENERAL?

A: Yes, I did mean that. This is because governmental tourism-related organizations enjoy good mutual trust thanks to the unity and commitment of the governmental administration.

Q: Why do governmental organizations enjoy, to some extent, good relationships?

A: Due to their own nature, relationships between governmental organizations, operating in the field of tourism, are good. However, these relationships need to be organized to remove their weaknesses while reinforcing their strengths.

Q: To what extent, did they think the interrelationships in the network of tourism-related organizations helped to protect Hurghada's natural resources?

A: In general, our relationships have poor levels of commitment which affect tourism-related organizations negatively in satisfactorily accomplishing their roles effectively. Therefore, these tense or weak relationships can lead to negative impacts on the trust between tourist organizations

Q: Are there any other factors influencing negatively the success of your collaboration?

A: Yes, the bureaucracy which means lots of time and procedures in exchanging information or taking a decision.

Q: Do you have problem in exchanging information with each other?

A: Yes, there is a weakness in communication and parsimony in addressing information, or we could say that communication is not available at all.

Q: Why is there a problem with these factors?

A: Just let me give you an example; the communication problem is because of the weakness in trust and being poor at exchanging information....in addition to what has been mentioned, tourism-related organizations lack clear and continuous communication since they get into contact only when necessary or when the governor visits .

Q: To what extent have the partnership's outcomes been achieved and to what extent has collaboration between tourism-related organizations achieved/or is achieving its goals?

A: It is good to some extent; the tourism-related organizations have had a positive impact and achieved some of the desired outcomes.

Q: May I have an example?

Yes, I can tell you that environmental awareness between tourists and the people of the local community is, somewhat, on the rise

Q: To what extent, do you feel satisfied about your role?

A: To some extent, there is satisfaction as regards the joint performance of the tourism-related organizations in protecting environmental/natural resources and a means of sustainable living for the local community in Hurghada and in the Red Sea Governorate as a whole...

Q: Are there any other barriers influencing your satisfaction?

A: Yes, however, this does not mean full satisfaction since there are still some problems that are hindering collaborative relationships.

Q: What types of challenges?

A: Yes, for example, there is financial and administrative weakness. Also,

- There is another important factor, which has had a negative impact on the tourism-related organizations' performance, namely the change of political leadership. That changes everything; it means that there are no specific plans followed by everyone; the officials work according to their own personal points of view

Q: Do you intend to protect Hurghada's natural resources?

A: Yes

Thanks

### Interview GOV (11)

Q: Is there cooperation between the Egyptian General Authority for natural reserves and organizations working in the field of environmental protection and the development of sustainable community livelihoods?

A: Yes; for example:

- Abou Salama Societ
- HEPKA
- EEAA

Q: What are the aspects of this cooperation?

A: Frankly, it is thanks to NGOs, such as HEPKA and USAID, since they have played an important role in the development of sustainable community livelihoods in Hurghada.

Q: May I have an example?

A: For example, HEPKA, ASS and USAID have a research team to identify problems related to Hurghada's natural environment in and, then, to identify appropriate solutions to reduce and cope with these problems. These are such as:

- Installing mooring buoys;
- Protecting coral reefs; and
- Protection of jetties

Q: Is there coordination between these bodies?

A: Yes, there is coordination between:

- The Egyptian tourism development authority; and
- The Egyptian environmental affairs agency

A: For example, there is a committee; its role is to solve quickly any disputes between organizations from the different level of governmental bodies. These consist of:

- The Ministry of Defence;
- The Egyptian General Authority for the Protection of Beaches;
- the Egyptian Tourism Development Authority;
- the Ministry of Antiquities;
- the Red Sea Governorate;
- the Ministry of Water Resources; and, finally, the Home Office.

Q: To what extent, do you evaluate this cooperation?

A: Good

Q: Are there problems which hinder this cooperation?

A: Yes, instability – no commitment from investors – no commitment or monitoring role from governmental organizations – poor communication (They keep information for their own use of power.)

Q: What is the impact of these problems and the obstacles to organizations achieving the goal of protecting the environment and safeguarding the community's livelihoods?

A: Negatively affects interrelationships – negatively affects roles and outcomes

Q: Despite these problems and obstacles, do you intend to continue to offer your role?

A: Yes, we prefer, also, to work with partner organizations and associations

Q: Are you satisfied with what has been accomplished?

A: Yes, we exerted good efforts:

- Helping to protect the coral reefs
- Biodiversity
- People awareness

Thanks

#### Interview NGO (12)

Q: What is your organization's role in protecting Hurghada's environment and the local community in?

A: Our organization offers researches related to natural and marine environment; biodiversity; and other services oriented to the local community. These include:

- Clean-up campaigns in Hurghada's residential areas and on its beaches ;
- Awareness campaigns to tourists and residents about protecting coral reefs beaches; and
- Jobs in Hurghada and in remote areas

Q: Do you have other future projects?

A: Yes, for example

- FEEL Project – youth

Q: Is there cooperation between your and other partner organizations?

A: Yes.

Q: Are there any problems which have a negative influence on this collaboration?

A: Yes, TDA and its missing monitoring role which affects the view from the beaches

- Poor level of communication - Poor level of coordination – leadership mode

Q: Despite these problems, do you still prefer working in collaboration?

A: Yes, our organization welcomes usually joint working. Therefore, it is important to avoid difficulties.

- The crucial important of joint working – commitment towards agreed roles and responsibilities
- Building trust

Thanks

#### Interview: GOV (13)

Q: What is the role played by the association in conserving Hurghada's environmental resources and the livelihood of the local community?

A: Awareness campaigns on the importance of tourism and environmental resources and the importance of its preservation

- Residents of local community – tourists

Q: Is there cooperation between your and the other organizations?

A: Yes, but little cooperation.

Q: Why is there little cooperation?

A: This is because there is random rather than continuous cooperation .

Q: Does this mean that there is a non-continuous communication process between organizations?

A: Yes, certainly; either communication happens rarely or to organize conferences.

Q: Are there problems which hinder the achievement of the role played by the organization?

A: Yes:

- Political instability;
- “Iced Land” by land which is dedicated to tourism development for someone, then this land is kept to very expensive without any real investment;
- Lack of communication; and
- Poor level of coordination.

Q: Do you see your role as being influential?

A: Yes – increasing the awareness of both tourists and residents of the local community

Q: Which is better - joint action or unilateral action?

A: Joint action, of course – however, the problems of collaborations are such as:

- Lack of information or problems in exchanging information;
- Lack of communication;
- No coordination in many cases;
- Instability – political situation;
- Changing leaderships; and
- Leadership's perception.

Q: How do you become involved or are you involved in some joint action?

A: GOV-organization: the nature of our role is to work with each other – by laws – regulations

- Non-governmental: facilitating procedures from our side or to obtaining funding – we try to convince or be convinced about the importance of such projects.

Q: Do you have any suggestions?

A: Yes, for any project or collaboration to be successful, it is important to have :

- Political Stability;
- The elimination of bureaucracy;
- Strengthening and building strong relationships between partner organizations;
- Strict controls; and
- Law enforcement

These will lead to the required roles being fulfilled efficiently and achievement of the desired results

Thanks

#### Interview: NGO (14)

Q: What is your organization's role in protecting Hurghada's natural resources and safeguarding the livelihood of the local community?

A: My organization offers funding to other partner organizations involved in the development of sustainable community livelihoods in Hurghada such as:

- Encouraging collaborations;
- Supporting governmental organizations;
- Helping the local community through providing educational and health services;
- Enhancing their lives;
- Protecting their environment; and
- Researches about the environment and their needs (e.g. remote areas).

Q: Do you see your collaborations with other partner organizations as being helpful?

A: Yes, since our role is to encourage collaboration by:

- Exchanging skills between organizations;
- Exchanging resources;
- Understanding the local community's needs and meeting their needs; and
- Our projects with organizations help to protect the natural resources

Q: Are there problems which hinder or have hindered this cooperation?

A: Yes, since our projects are/were dedicated to poor countries – the nature of developing countries the problems are/were:

- Bureaucracy - The length of the procedures to implement or even start projects;
- Political instability; and
- The absence of a culture of joint action.

Q: How do you evaluate the efforts of your role in protecting Hurghada's natural environment?

A: Our collaboration helps to stop the degradation of Hurghada's natural environment. The quality of the environment is better than before – encouraging the spirit of collaboration - helping to eliminating poverty especially in poor regions

Q: How do you evaluate your relationship in terms of communication, exchange information, and coordination?

A: To some extent, our relationship is OK, but there is:

- A lack of desire to work in a team;
- Keeping information; and
- Poor communication – poor coordination

Q: Do you have future projects regarding the protection of Hurghada's natural environment?

A; Yes, we are still available to help developing countries, for example, protecting Hurghada's natural resources – beaches – coral reefs – biodiversity.

Q: Are you satisfied with what has been accomplished?

A: Yes.

Q: On what basis do your organizations work to protect Hurghada's natural resources?

A: We conduct researches and issue reports which identify the problems and how, who, when and what goals are required to be achieved. However, unsuccessful relationships have harmed the establishment of a strong partnership to protect Hurghada's natural resources successfully.

A: Also, after roles and responsibilities have been agreed, our organization may work with other partner organizations to maintain, convince, reinforce and to offer, through negotiation, help to these other tourism-related organizations.

Q: Do you have any suggestions to help to overcome the previous problems?

A: Encouraging organizations in developing countries to undertake joint action – trustworthy – overall, strengthening relationships.

Thank you very much.