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VICE PRESIDENT'S OFFICE



TOURISM INVESTMENT FORUM

ENVIRONMENTAL CONSERVATION  
AS RELATED TO TOURISM DEVELOPMENT  
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**ENVIRONMENTAL CONSERVATION  
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E. K. MUGURUSI**

**1.0 Introduction**

The state of the environment has limiting implications to social and economic development. Human welfare is ultimately based upon the products and services that nature provides. The state of the environmental wealth, that is the stock of natural assets such as forest resources, soil and minerals, freshwater and marine resources, constitute the limiting factor for human existence. Humankind is completely dependent on nature, from breathing to producing.

Human activities impinge pressure on the environment essentially through the use that humankind makes of the environment, firstly as a source of materials for food, energy, water, air, shelter and other raw materials for production, utilization or consumption; and secondly, as a sink for wastes and side-effects. None of us can imagine life of a society, which has exhausted all its minerals, cut down all its forests, eroded all its soils to the ocean and lakes, polluted its aquifers, hunted all its wildlife and exploited its fish stocks to extinction. **The linear mentality, which assumes that nature is a bottomless well of resources and a bottomless pit of our end products, is no longer tenable.**

Inevitably, the process of development will have short and long-term environmental implications even where it involves the process of fulfilling people's legitimate aspirations. Resource utilization; changes in resource availability; production, distribution and consumption of goods and services; and disposal of wastes, define the development process. Thus, the interaction between environment and development is as old as development itself. Human activities and the use of natural resources have affected the environment since time immemorial.

For the most part in the developing countries, prospects for people's income are measured in terms of the fertility of the physical environment, in the final analysis. When land and water resources deteriorate or fish stocks are threatened, or forestlands are denuded, the available livelihood system shrinks, severely affecting people's welfare. In this sense environmental degradation can, and has led to widespread poverty to a number of communities. In the same vein, to be poor is to be vulnerable. Poverty or inadequate development is a habitual cause of environmental degradation, as it undermines people's capacity to manage resources

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wisely and compels communities to take a short-term view and over-exploit resources. The poor are so bound up in the day-to-day struggle to survive, that they do not afford the time or the foregone production for the resource conserving measures. By undercutting their principal measure of livelihood, the poor entrench their poverty and the prospect of ever-tightening constraints. As people are pushed deeper into poverty, they draw many others down into poverty with them.

Two conclusions arise from the above analysis. Firstly, the imperative of conserving the environmental resource base is in itself a compelling reason for economic and social development. The human cost expressed in poverty, suffering and avoidable illness and mortality is the real price for environmental degradation, and the real justification for environmental conservation. Secondly, it follows that environmental interventions that focus exclusively on protection of natural resources as if these were beyond the sphere of human influence, without regard to the livelihoods of those who depend on them for a living, will impact adversely on poverty. Conversely, development interventions which focus only on increasing the production of goods without regard to the long-term potential of the resources on which such production is based, will sooner or later run into problems of declining productivity, which also will impact adversely on poverty. It is therefore clear that, environmental conservation cannot be isolated from the general issues of development process. The economy cannot be just the production of wealth; and the environment is not just about the protection of nature. The two are interdependent and equally relevant for the improvement of the quality of life. To improve the quality of life, economic and social development is essential, as is the continuing capacity of natural resources to sustain development for present and future generations.

## 2.0 The Environmental Challenge

Safeguarding the natural environment in the cause of economic development is one of the major challenges of global scale. **The Challenge relates as much to the effects of development on the environment, as to the ways in which environmental degradation can dampen or even reverse economic development.** Neither economic development nor environmental conservation can be compromised for the sake of each other, because their fates are linked. The challenge is made complex by the forces of globalisation.

In truth, man has always been interested in his environment, if for no other reason than the selfish motive of his survival. One can enumerate countless actions taken to protect specific environmental sectors in

different parts of the world for the past several centuries. However, it is fair to say that serious concerns for the environment as a whole has only recently emerged. At no earlier time was the totality of the environment, and its inter relationships and linkages with other areas of human activity, grasped. The understanding of the interconnection between various sectors; the awareness that actions taken in one sector invariably impacts on other related sectors; and the awareness that economic activities cannot result in sustainable forms of development if the environment is regarded as a factor separate from, and secondary to economic development process, is recent. This recent awareness and understanding is encompassed and summarized in the now popular notion of **Sustainable Development**, defined as the ability to meet the needs of present generation without compromising the ability of future generations to meet their own needs'.

### **Sustainable development**

The rise of the concept of sustainable development has to do with the **growing recognition that the impact of development activities on the environment is so large that development can not be contemplated without reference to its environmental consequences, and that therefore the two concerns must be integrated.** The primary language of sustainable development is the integration of environment and development.

Sustainable development requires that the pursuits for economic growth are undertaken in ways that do not endanger the natural system that support life, and that the adverse impacts of the quality on air, water and other natural elements, are minimized so as to sustain the 'ecosystems' overall integrity. It requires the establishment of common and mutually supportive objectives that take account of the interrelationships between people, resources, environment and economic development.

Sustainability of development calls for investment in replenishing the stock that increases the productivity of natural capital, and for strategies to ensure that the rate of use remains within the limits of regeneration. It is possible to formulate the way in which a forest should be managed in order to attain a sustainable use of its functions, such that present and future uses are made possible. It is necessary for the achievement of sustainable development that the content of economic growth reflects these broad features of sustainability.

The concept of sustainable development has become a major source of insight and inspiration for the required development perspective. The quality of life is the common thread relating conservation of the environment to the concept of sustainable development. This

Interdisciplinary and visionary concept is the appropriate one for dealing with the complex problems of environment and development simultaneously.

The challenge of environmental conservation is therefore a challenge for sustainable development. It is a challenge which must cut across sectors of the economy, and groups of society; because environmental conservation is not of exclusive interest to any single, but all citizens. Perhaps even more importantly, it belongs to future generations that will some day inherit these resources. The quality of the resources they inherit is a decision that rests with all of us. There is a growing realization that effective action to address environmental problems must be undertaken through greater cooperation between the public and private sectors at all levels.

### **3.0 Environmental considerations and impacts**

Addressing tourism is, in fact, to deal with all sector of society and with inter linkages between them. Tourism is a commercial industry, ruled by the forces of demand and supply, by seasonality of demand and sometimes unpredictable changes in preferences of the consumers. It is an industry, which is involved, in a continuous process of balancing conflicting interests. The impacts of tourism on the environment may be positive or negative depending on how tourism activities are planned and managed, both at the strategic and project levels. Tourism can have various forms of polluting effects and land use impacts. The industry has experienced steady growth world-wide, stimulated by improved access to tourist destinations through the development in the transport sector. Increased mobility, by itself may give rise to a number of environmental problems. Transport associated with the growth of tourism, particularly road traffic and air travel gives rise to congestion and to noise and air pollution. Inadequate sewage and waste disposal facilities will result in the pollution of water supplies. Unspoilt nature and their ecosystems, especially outstanding scenery such as coastal areas, lakes and rivers, islands, mountain regions and historical sites and monuments, constitute the stock of natural and man-made resources for tourism and recreation. Often, such amenities are taken for granted. It is now increasingly apparent that these resources are, to a large extent, fragile, with limited resilience and carrying capacity.

Growth of tourism: brings with it the construction of accommodation facilities and accompanying infrastructure. This inevitably encroaches on previously open space, sometimes natural landscapes or agricultural or pastoral lands. The installation of modern tourism-related facilities and

infrastructure often leads to aesthetic degradation of the landscape or sites, where the style and architecture is not in harmony or on a scale with the natural environment, or with traditional or surrounding buildings. But the environmental damage which tourism or its excesses may cause is more exemplified by the pressure of numbers. The concentration in time and space of tourists can result in congestion and overloading of tourist amenities and infrastructure, and may cause considerable harm to the environment, and detract from the quality of services and visitor experience for the tourists.

These conditions can result in pollution effects, such as noise and air pollution due to motor traffic, but also due to the crowds of tourists themselves and the entertainments provided for them; discharge of waste due to the absence, inadequacy or malfunctioning of treatment or disposal facilities. These kinds of pollution, together with loss of natural landscape, and agricultural and pastoral lands can threaten plant and animal species, and occasion the disappearance of some of the flora and fauna. Excessive access to and use of natural sites can also result in the disappearance of plant and animal species through tramping, excessive picking of fruits or flowers in the absence of management controls. Wildlife may be affected by large influxes of people at the critical times of migration, feeding, breeding or nesting.

The magnitude and scale of environmental impacts of tourism depend on the size and type of tourism development, relative to the fragility of the environment. But it is clear that environmental problems can affect both tourism demand and the resources base upon which industry depends. From an environmental perspective therefore, tourism development poses a number of strategic issues.

### **3.1 Protected Areas**

In protected area systems such as national parks, hotel developments have the potential for major adverse impacts to the environment due to their massive structures that concentrate intense use in one localized area of a park. It is understood that the area within 36 km radius of any hotel in a park is always severely adversely impacted, both from the view of visitor experience and natural resource, on account of the number of game viewing vehicles that tend to concentrate near the hotel to save fuel and maximize profits. Given this condition, huge storeyed buildings in an otherwise natural environment become permanent eyesores in the parks, which compromise the special wilderness atmosphere, sensitivities and values, and can, overtime, easily transform natural areas into mini-urban centres with their huge structures of mortar and cement. Ultimately park



resources can be sacrificed for short-term economic gains, leaving all of us in the cold. The features of the natural and socio-cultural environment that are important resources for tourism, attract tourists because of the aesthetic, recreational, educational or scientific value. However, many of the same features can be, and are particularly sensitive to disturbance by human activities.

### **3.2 Coastal Areas**

Coastal zones are among the most attractive areas for tourism. Consequently, tourism industry has the potential to contribute to development pressure in areas already heavily used for urban expansion. Too often, the tendency for developers to seek out new "unspoilt" sites, away from already congested beaches and urban centres contributes to the trend towards unplanned urbanization of entire coastlines. Because of the seasonal nature of many tourism activities, demands at peak periods may exceed the capacities of public services and physical infrastructure. In such cases environmental effects or seasonal population increases can be particularly significant along the coast. Associated typical problems are traffic congestion and demands in excess of available capacity for water supply, waste water and solid waste disposal systems.

Hotels sited on water-fronts have the potential to discharge hotel effluents offshore, thus impairing the coastal and marine environment and affecting fisheries and human health. To keep the rooms looking fresh and clean, hundreds of litres of water are used daily. From used serviettes to food left-overs, the average beach hotel generates tons of waste material on any given day. Many hotels use chemicals (chlorine, caustic soda, etc) to get rid of the odour of sewage or to dissolve fats and oils, but these chemicals are toxic pollutants which will affect marine life and the quality of water supplies when they eventually end up in aquatic systems. Substances you would give a second thought to, such as detergents can also pose environmental concerns. Most detergents used contain phosphates, which when released into aquatic ecosystems, cause a greenish algae to form on the water surface. This blocks light from penetrating the water surface, thus, cutting off oxygen supply from marine life beneath. Kitchens generate empty cans, polythene wrappers and tons of waste paper of all types. When mixed with the human waste generated by the hundreds of guests, this comes under the heading "sewage". What the hotels do with this waste makes the difference between a clean and safe environment and a polluted one. What may escape the eye is this potential waste material that is inherent in these innocent-looking features of the hotel industry.

### **3.3 Environmental Effects**

The environmental damage which tourism or its excesses may cause can be classified as follows:-

#### **(a) Pollution effects**

- (i) Air pollution mainly due to motor traffic and to the production and use of energy.
- (ii) Water pollution (sea, lakes, rivers, springs) from:-
  - ⇒ discharge of untreated waste water due to the absence or malfunction of sewage treatment plants;
  - ⇒ discharge of solid waste from pleasure boats;
  - ⇒ motor-boating (discharge of hydrocarbons).
- (iii) Pollution of sites by littering (picnics, etc) and the absence or inadequacy of waste disposal facilities (mainly household waste).
- (iv) Noise pollution, due mainly to motor traffic or the use of certain vehicles used for recreational purposes (cross-country motor cycles, motor-boats, etc), but also to the crowds of tourists themselves and the entertainments provided for them (publicity stands, beach confests, etc).

#### **(b) Loss of natural landscape: agricultural and pastoral lands**

- (i) The growth of tourism brings with it the construction of housing facilities and infrastructure for tourists which inevitably encroach on previously open spaces, i.e. natural landscape or agricultural or pastoral lands.
- (ii) Some valuable natural sites (beaches, forests) may be barred to public access because they become privately owned by hotels or individuals.

#### **(c) Destruction of flora and fauna**

- (i) The various kinds of pollution cited above, together with loss of natural landscape and agricultural and pastoral lands may result in the disappearance of some of the flora and fauna.
- (ii) Excessive access to and use of natural sites also result in the disappearance of various plant and animal species, owing to tourists behaviour (trampling, excessive picking of fruit or flowers, carelessness, vandalism, or the kind of thoughtless conduct sometimes leading to forest fires).

#### **(d) Degradation of landscape and of historic sites and monuments**

- (i) The installation of modern tourist-related facilities and infrastructure often leads to aesthetic degradation of the landscape or sites: the style and architecture of such new installations may thus not always be in harmony or on a scale with traditional buildings.

- (ii) An excessive number of visitors to historical or exceptional natural sites may also result in degradation (graffiti, pilfering, etc.)

**(e) Congestion effects**

- (i) The concentration in time and space of tourists on vacation leads to congestion of beaches, resorts and overloading of tourist amenities and infrastructure, thus causing considerable harm to the environment and detracting from the quality of life.
- (ii) One major consequence is traffic congestion on roads at week-ends and at the beginning and end of peak vacation periods, leading to loss of leisure time, high fuel consumption, and heavier air and noise pollution.

**(f) Conflict effects**

During the tourist season, the resident population not only has to put up with the effects of such congestion, unknown during the rest of the year, but often has to change its way of life completely (faster work pace, an extra occupation, etc.) and to live cheek by jowl with people of a different, largely urban kind in search of leisure pursuits. This "co-existence" is by no means always easy and social tensions, particularly acute in places where there are many tourists, may occur.

**4.0 Managing Tourism**

It is clear that managing the environmental threats from tourism development and creating a sustainable tourism industry will be captured only with adequate planning and coordination. There is evidence from other countries to show that poorly planned tourism development undermines the long-term viability of the industry; where short-term objectives have resulted into a boom and bust, leaving a legacy of degraded environments and poorly planned infrastructure. A key principle for managing tourism-related environmental problems is the balance between the type and scale of tourism development in relation to the carrying capacity of different ecosystems. Assessment of such capacity, and balancing the level of tourism activity within it, has to be seen as a crucial means of preventing future environmental degradation and enhancing sustainable tourism. Without careful attention to the balancing between the volume and type of tourism activity, and the sensitivities and carrying capacities of the resources being developed, tourism industry can be, not only environmentally harmful, but also economically self-defeating. A major concern in planning for tourism development and analyzing its potential impacts is to avoid foreclosing options for the future by degrading well-suited tourism development alternatives. Strategic environmental assessment and land use planning

are useful tools of general scope for identifying options and balancing single and multiple use objectives.

Facility siting is a principal factor, not only for the process of tourism development, but also for addressing attendant adverse environmental problems. Location of a facility should not be based on "best-looking" beach, or most majestic scenic view; rather it should be the result of a critical examination of a number of factors. Frequently, considerations such as the likelihood of beach or soil erosion; salt water intrusion; protection of coastal vistas, landscapes and sensitive ecosystems; protection of natural habitats for populations of sensitive, rare, endemic threatened or endangered plants and animals that are particularly vulnerable because of their small population sizes or genetic isolation, are never made in the siting of tourism facilities. This results in the loss of outstanding natural, scenic and recreational values, and the loss of "free" environmental services from natural systems and their unique biodiversity.

With respect to national parks, there are several advantages of locating tourist hotels as near the periphery of park boundaries as possible. This decreases adverse impacts on park resources because it reduces the frequency of incidental contacts. It also reduces the cost, time, length and tear and wear of the access roads required to haul development equipment and supplies; and the cost and adverse impacts arising from accessing distant utilities. Where villages and services for park personnel are located outside parks, this reduces impacts of permanent park staff, their dependants and their visitors, with protected park values. This also provides for increased levels of staff welfare, in the way of access to village shops, schools for children, places of worship, etc. When this approach is coupled with the setting of limits of acceptable use, protected areas can offer the desired wilderness experience, the real sense of isolation and remoteness, and guarantee the opportunities for which tourists get away from crowded scenarios, to where the imprint of mankind is kept to the minimum. The impact of tourism infrastructure on resources valued for their aesthetic view should be specifically forecasted and addressed. Lack of planning with respect to what can and cannot occur within boundaries of any park can lead to arbitrary decision making. It is in the very nature of developments within protected areas to grow and expand, gradually converting more and more of the protected natural environment into man-made landscapes. Outside boundary siting of tourist hotel facilities should be the option of choice, except of course where approved strategic management plans determine that such facility is appropriate within the park boundary.

As in the case of protected areas, environmental damage caused by coastal tourism infrastructure may be mitigated if facilities are carefully sited, taking account of the visual as well as the physical impacts of structures, and where the ease of construction and efficient design are tempered by considerations of harmony with surrounding natural environment. At the minimum a land use management plan and a pollution control plan would enable environmental objectives to be incorporated early in the development process. In all cases, the primary mechanism for managing the environment in tourist areas is by controlling the number of visitors.

### **Heritage Conservation**

Protected Area Systems in Tanzania is a major land use of international significance, and tourism has unsurpassed potential here. This is reflected in the designation of four World Heritage sites: The Kilimanjaro and Serengeti National Parks, the Ngorongoro Crater, and the Selous Game Reserve, more than any other country in Africa. **There are twelve gazetted National Parks** covering a range of habitats, from forests to mountains and Rift Valley lakes. Areas of open grassland and montane forest have particular national and international significance for wildlife. The Park system contains unique and exceptional biodiversity and centers of endemism such as the Udzungwa Mountains; vast wilderness and undisturbed areas—the home of many threatened and endangered species (such as the African hunting dog—endangered; the African elephant—vulnerable; the Black Rhinoceros—endangered; the Cheefah—vulnerable). The Parks contain spectacular geological structures associated with the Great Rift Valley, and include important areas of mountain ecosystems of great importance in maintaining the productivity and water balance of adjacent agricultural lands. Archaeological sites in some of the parks contain fossil evidence dating to the earliest evolution of mankind. The Kilimanjaro, the highest mountain in Africa, and one of the World's largest free standing mountains, contains superlative natural phenomenon, and is an area of exceptional beauty. Its volcanic massif is one of the world's largest volcanoes. Outside the continent, the Kilimanjaro represents the worldwide image of Africa. Climbing the Kilimanjaro is the adventure of a lifetime to many.

The challenge for us is to maintain the characteristics wilderness of our protected area system, its unspoilt view of the dramatic scenery and generally undisturbed nature through responsible tourism industry. The continued existence of well-preserved nature is the lifeline of a sustainable tourism industry. These values are largely the rationale for which the parks were originally established. The objective then must continue to be the preservation of the unique examples of the country's natural and cultural

heritage, and to provide for human benefit and enjoyment of these resources in such a manner as will leave them unimpaired, for the benefit of future generations.

### ***Enforcement and Monitoring***

Tourism is very sensitive to social issues. Tourists do not have to travel and will quickly avoid an area if there are safety, behavioural or deprecatative concerns. Proper regulation development and enforcement are essential to sustain tourism.

Policies and programs come to naught if an effective enforcement and monitoring system is not in place. It is possible for a small percentage of the visitor population to have a large and negative impact on the natural and social environment. Specially trained personnel with police powers are needed to enforce the rules. In some countries the naive assumption that rule enforcement decreases visitor use levels results in low levels of enforcement. The opposite is the case. The lack of enforcement of environmental rules results in environmental degradation, thereby removing the key travel motive factor for the tourist. Since the single largest source of a tour destination and program information is a word of mouth, a low level of visitor satisfaction is quickly transmitted to potential tourists. This stifles future travel.

### **5.0 Conclusion**

As discussed above, tourism may be planned and managed to enhance environmental quality. More importantly, tourism can, and has provided the commercial rationale for conserving natural and man-made environments, which would otherwise have been destroyed in many parts of the world. We can think of examples where refusal or permission for development can or has been justified on the basis that such development would or would not damage tourism and the local economy. Likewise, the conservation of monuments, natural areas, the establishment of national parks, the pedestrian areas in urban environments, and the conservation of buildings, all can be and often are justified on the basis that the long-term interest of the tourism economy demands that they be conserved. By resolving the conflicts between competing requirements of the present and the legitimate claims of the future in this way, tourism can be and has been a very positive environmental force, in this general frame.

The primary mechanism for managing the environment in tourist areas is by limiting the number of visitors. Planners can also use mitigation strategies. While any strategy will be highly site-specific, some

generalizations can be made. Ecological damage caused by tourism infrastructure can be mitigated if facilities are carefully sited and appropriate treatment mechanisms are used. For example, by diversifying the location of viewing trails, park management can reduce both congestion and disturbance of flora and fauna. Education also plays a role, by informing tourists of proper behaviour towards plants and animals and perhaps even by influencing their desire to see certain flora and fauna. For example, if told that human presence in a specific instance would decrease the cheetah's hunting success, some tourists may forgo cheetah viewing. Similarly, educating tourists on damage caused by litter will likely reduce the waste disposal problem.

A key principle for managing tourist-related environmental problems should be to strive for a balance between the type and scale of tourism development, which is related to the carrying capacity of different ecosystems. Planning for tourism must also consider other factors as social and economic. The ecological carrying capacity therefore has to be complemented by other considerations. Assessment of such capacity and balancing the level of tourism activity within it has to be seen as crucial means of preventing future environmental damage.

Once again, managing environmental threats caused by tourism will be captured only with adequate planning and coordination. Furthermore, by generating revenue tourism provides the opportunity for investment in environmental conservation. Many studies indicate that tourists will pay more if they know that the extra money helps conserve the environment they have come so far to enjoy.

## REFERENCES

1. Ministry of Natural Resources and Tourism (URT),  
National Tourism Policy (1999).
2. Vice President's Office (URT),  
National Environment Policy (1997).