



ROLES OF LOCAL AGENDA 21 TOWARD MITIGATION OF ENVIRONMENTAL DEGRADATION BY TOURIST INDUSTRY: CASE STUDY FOR PETRA REGION-JORDAN

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REVIEW ARTICLE

ABSTRACT:

This paper studied how tourist activities deteriorate the environment, such as, tourist generate pollution discharge of untreated sewage into water resources, and air pollution components due to the increased number of vehicles used for transportation, as well solid wastes. Also, effects of tourist on local community are investigated.

Putting tourism on a sustainable path is a major challenge, requiring partnership and cooperation within the tourism industry, and among the industry, governments and tourists themselves. One of the most recent promising criteria to put the tourist industry on the sustainable track is the adoption of the Local Agenda 21 (LA21). The concepts of the LA21 are considered.

For example, individual companies can take the lead in showing how self-regulation can work by taking voluntary action to reduce pollution, initiating and abiding by codes of practice, and by educates. The role of governments is equally important, such as government can provide the strategic planning base for tourism, and can ensure that valuable and fragile habitats are identified, that baseline studies and monitoring are carried out, and that overall infrastructure needs and implications are assessed. More important government is the only organization that can establish emission standards and sitting; and design requirements, and ensure that they are enforced.

The processes to develop long-term comprehensive and sustainable local action plans that take into account all sectors of the community and create a common consensus and vision for the future are discussed in order to be applied in Petra region of Jordan.

INTRODUCTION:

The tourism industry, includes diverse activities such as transport, accommodation, recreation and catering, serves more than 613 million people each year, some traveling internationally and many more domestically^[1].

Although such a great economical benefits may be derived from tourism industry, but tourism-generated threats in many developing countries which lack the technological or financial capacity to handle tourists' resource consumption and waste generation. The use of 'natural' construction materials also often puts scarce resources at risk. Around the world, a number of sites, including natural reservation, have already been spoiled by the development of nature-based tourism, with damaging consequences for biodiversity^[2-5].

Tourist activities also generate pollution, such as discharging of untreated sewage into the sea or rivers, carbon dioxide and nitrous oxide emissions from transport, and solid wastes. Physical development of tourist facilities and infrastructures also impacts the environment^[6]. For example, three-quarters of the sand dunes on the Mediterranean coastline between Spain and Sicily have disappeared, mainly as a result of urbanization linked to tourist development^[7,8]. The people who profit from tourism are not always those who have to bear its costs. Tourists can disturb the ways of life and social structures of local communities while increasing the cost for local governments of building and maintaining the facilities, such as sewage treatment plants and roads, necessary to cater for large numbers of visitors. Therefore, putting tourism on a sustainable path is a major challenge, requiring partnership and cooperation within the tourism industry, and between the industry, governments and tourists themselves [<http://www.planeta.com/>]^[1].

Individual companies can take the lead in showing how self-regulation can work by taking voluntary action to reduce pollution, initiating and abiding by codes of practice, and by education^[6]. The role of governments is equally important. They can establish emissions standards and siting and design requirements, and ensure that they are enforced. Wherever possible environmental impact assessments should be carried out, with studies on carrying capacity and limits of acceptable change used to define the number of tourists a site can accommodate. Tourists themselves must become more aware of the environmental implications of their holidays.

The United Nations jointed with the World Travel & Tourism Council, The World Tourism Organization and the Earth Council, and UNESCO. All of these organizations launched an action entitled "Agenda 21", for sustainable development (<http://www.un.org/esa/sustdev/agenda21.htm>).

AGENDA 21 AND TOURISM:

Agenda 21 is a comprehensive action plan to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment. Agenda 21, is the primary output of the Rio Declaration on Environment and Development, and the Statement of principles for the Sustainable Management of Forests were adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3 to 14 June 1992. To ensure effective follow-up of UNCED, monitoring and reporting on implementation of the agreements at the

local, national, regional and international levels is required. The Commission on Sustainable Development (CSD) was created in December 1992. It was agreed that a five year review of Earth Summit progress to be made by the United Nations General Assembly meeting in special session. Agenda 21 consists of four sections: (see annex I).

i-Social and Economic Dimensions.

ii-Conservation and Management of Resources for Development.

iii-Strengthening the Role of Major Groups.

iv- Means of implementation.

Each section is divided into different chapters and deals with different issues related to either industry or environment. Each country can adopt strategies to reach its goals for sustainable development, and since this action is different from one country to another, it will be a local action. Thus, it is called Local Agenda 21. LA21 covers several issues in different fields of development. Our main concern here is the parts that deal with tourism and environment.

The Agenda 21 does not have a special part concerned with tourism industry, but it contains priority areas for a set of actions with defined objectives and suggested steps to be taken to achieve target in a specified aspects, i.e., tourism and sustainable development, or environment and tourism which can be extracted from the main general guidelines. The frame-work for sustainable development to be established should be based on the Rio Declaration on Environment and Development, from which the following guiding principles can be drawn:

- Tourism should assist people in leading healthy and productive lives in harmony with nature.
- Tourism should contribute to the conservation, protection and restoration of the earth's ecosystem.
- Tourism should be based upon sustainable patterns of production and consumption.
- Tourism, peace, development and environmental protection are independent.
- Environmental protection should contain an integral part of the tourism development process.
- Tourism development issues should be handled with the participation of concerned citizens, with planning decisions being adopted at local level.
- Nations shall warn one another of natural disasters that could affect tourists or tourist areas.
- Tourism should use its capacity to create employment for women and indigenous peoples to the fullest extent.
- Tourism development should recognize and support the identity, culture and interests of indigenous peoples.
- International laws protecting the environment should be respected by the tourism industry.

It is clear that the main aims of LA21, is to achieve a sustainable development in tourism industry, under the scope of the UNCED declaration.

THE NEED FOR THE LA 21 IN THE TOURISM SECTOR IN THE MIDDLE EAST REGION:

In general the Mediterranean region area today is still attractive area for tourism industry, according to the World tourist Organization (WTO), the growth in tourist arrival in 99/2000 was 19.9% in the Middle East region, 10.7% Southeast Asia, and 6% for Europe and Americas). The

richness and diversity of its natural landscape, climate, human and cultural values have made this region the most important tourist destination in the world. Its coastal countries receive one hundred million foreign tourists every year, boosting investment, employment and the material standard of living of a population that is constantly increasing^[2].

However, the Mediterranean is also a fragile region and has recently suffered from alarming degradation. In the last thirty years, the human pressure leading to the expansion of urban, industrial, port and tourist centers located on its coasts has tripled.

Ever since 1975 when the First Mediterranean Plan of Action was promoted, all international initiatives tackling the area's environmental degradation have emphasized the impacts produced by tourism and the need to integrate this activity in the new sustainability models planned for the Mediterranean basin^[3].

The problems that tourism will produce in the coming decades have come up to the horizon. On one hand, the progressive environmental explosion and the threat of decline for many of the traditional Mediterranean tourist destinations; and on the other, the legitimate aspiration of the countries in the South and East to profit from this source of wealth by means of new tourist promotions which, logically, will put further environmental pressure on the whole area^[9].

Thus, there is need for a new concept of development in the tourist sector to meet the highly environmental demand of travelers to the Middle East region as a whole and to Jordan as a part. This shall be simply demonstrated in the following concepts at regional level in order to:

- 1-Build more responsibilities of the tourist industry and environment.
- 2-Challenge the tourist industry in the region of Mediterranean.
- 3-Create a new concept of development in the Mediterranean region.
- 4-Stand with the high competition in tourism sector, sort of propaganda.
- 5-Build an international partnership with other international organization where high demand for sustainable development and protect the environment is their main vision.
- 6-Meet the increasing demand for Eco-tourism at international level by green groups.

This can be demonstrated by adopting the Agenda 21 at different local levels, as a tool for sustainable development which has been accepted globally.

IMPLEMENTATION OF LA21:

Government departments, travel and Tourism companies, and local citizen and Visitors are the main actors to implement and set the LA 21as given in Table (1).

Government departments establish the systems and procedures to incorporate sustainable development considerations at the core of the decision-making process^[10]. Then, identifies actions to bring sustainable tourism development into being. The top priority areas for action are:

- Considering the capacity of the existing regulatory.
- Training, education and public awareness.
- Planning for sustainable tourism development.
- Facilitating exchange of information, skills and technology relating to sustainable tourism between development and developing countries.
- Providing for the participation of all sectors of society.

- Design of new tourism products with sustainability at their core, an integral part of the tourism development process.
- Measuring progress in achieving sustainable development at local level.
- Partnerships for sustainable development.

Travel and Tourism companies establishes the systems and procedures to incorporate sustainable development issues as part of the core management function, then identifies actions needed to bring sustainable tourism into being. The top priority areas for action are:

- Waste minimization, reuse and recycling.
- Energy efficiency, conservation and management.
- Management of fresh water resources.
- Waste water management.
- Hazardous substances.
- Transport.
- Land-use planning and management.
- Involving staff, customers, communities in environmental issues.
- Partnerships for sustainable development.

Table (1):Role of each sectors involved in sustainable tourism development and a responsible environmental protection

Actors	Energy	Water	Waste
Local and national governments	Promote energy resources saving concepts, promote re-newable energy resources adoption.	Promote awareness of water conservation, construction of water supply and management facilities, promoting general use of rain water and sewage water for various purpose.	Promote education and waste reduction campaigns, work to reduce amount of waste produced, enhance eco-shopping, enhance recycling and reuse of waste, promote awareness and important of separation of waste, collection of garbage.
Residents (visitors)	Adopt a low energy consumption life style.	Managing water use and try to conserve water, collect rain water.	Avoid buying things that you do not need, promote re-use recycle concept, try to adopt separation concept of garbage, avoid throwing hazardous waste with normal waste, (i.e. battery).
Enterprises	Solar water heaters; designs for open-air public spaces in hotels and resorts; motion detectors for room lighting; re-engineering of kitchen areas; replacement of appliances (e.g., refrigerators) in rooms, more energy efficient versions.	Water conservation and rationalization with emphasizing on: introducing water saving equipment, re-use of process water, use of rain water, re-use industrial waste water.	Use packing with less harmful to environment, encourage recycling, promote product which assist in reducing waste.
Visitors\ government	Try to promote energy conservation and saving in all behavior aspects.	Distribute brochures and other information about water scarcity at visitors center, enhance awareness.	Try to ensure that visitor have an eco-warness of waste.

The challenge of achieving the aims laid out in "Agenda 21 for the Travel & Tourism Industry is to identify problems and their causes from an economical and environmentally

point of view, the so-called the Key Subject Areas are:

- Local Environment.
- Tourism and Local Economy.
- Cultural Heritage.
- Population and Quality of Life.
- Region Planning System and Key Environmental Sectors.

Local citizen and visitors establish the methods of development to invest in human and knowledge resources promotions for eco-tourism. This is essential in order to refresh and diversify of local economy, to increase the activities of the training institute in collaboration with the economic and social agents. Among its new tasks would be training, promoting new entrepreneurial projects and even exploring possible actions with the essential objective of refreshing an endangered rural world. Such action will build a new generation of human and visitors that can play essential role to protect the environment while enjoying the nature.

OBJECTIVES AND TARGETS FOR TOURISM SUSTAINABLE DEVELOPMENT: CASE STUDY FOR PETRA REGION IN JORDAN:

Petra region in Jordan is one of the most attractive tourist sources not only in Jordan but also in the World. Because of its limited natural resources and local citizen population. Its environment can be deteriorated. Therefore, the mean components that should be considered are:

- 1-Long-term strategy aimed to develop local tourist according to sustainability. Considering the environmental factors .
- 2-Transfer the guidelines that emerged from the Rio Conference to Petra region.
- 3-Set the requirements for management practices which should be addressed to the

tourism industry. Including development design and maintenance facilities.

The discussion of these categories tends to stress the elimination of negative impacts, and at the same time the positive effects may be identified too.

Actions to be taken to Implement LA 21 for tourism Sector in Petra region:

In general there are no specific steps to implement the LA 21, each region has its own idea to implement the agenda. However here is some ideas how such agenda can be implemented by:

- Establishing town, region, citizen Council, in which the debate will be initiated to promote a new overall and long-term strategy aimed to develop tourist according to sustainability considering the environmental factors.
- Applying the guidelines of Rio Conference on the Petra region.
- Presenting the documents of two long years of intensive scientific work and social verification, with the participation of municipal officers, experts and people representing the local society. It is a commitment and a design for a future viable setting and working framework for the next ten years. It is confirmation that it is possible to preserve and improve the residential and tourist attractions and to overcome the risks of local decline, although innovative and more sustainable development is a vital requisite.
- Defining certain project that LA will come up with the best opportunities towards conserving natural heritage, modernizing tourist sector, stimulating the appreciation and restoration of its existing heritage and on the determined pledge to enrich human and knowledge resources.
- Translating the objectives into a set of lines of Action, some will be initiatives and others will

be immediate actions. These have been agreed with society and will allow significant objectives. These lines of actions will be established by the certain commissions and will be formed by the citizen forum after discussion among municipal representatives, experts, economic agents and citizens.

Local Agenda And Sustainable Tourism Development: Environmental Issues:

The main concern in LA 21 for the tourism is the environment, some behavior for unsustainable tourism and environment can be summarized as follows (*see annex II*): There is no doubt that transport, water, energy or waste is the heart of the environmental problem and link key aspects of local sustainability to the main environmental problems at planetary level. Research reveals that these aspects are of minor importance to institutions and society, which makes the problem even more acute. This is so because of the old logic of always giving in to the ever-increasing demand for road traffic, water or energy. Which sooner or later can only lead to hasten the crises of these environmental commodities. The importance of good management of such these commodities will lead to best practicing otherwise these defect will be demonstrated.

Transport deficiencies and their ecological impact:

The lack of a good public transport service (the bus or automobiles) has important social and economic repercussions. It restricts the mobility of many people who have no other forms of transport (youth, people without cars, the elderly). It also encourages an "over-motorisation" of the area and results in unnecessary congestion of the road infrastructures.

However, alarming due to fuel consumption and the amount of CO₂ produced and the other pollutants (SO_x, NO_x, Pb). These pollutants produced without no doubt a serious impact on local resident and global atmospheric impact.

Water a limited commodity:

Like other region in the kingdom, Petra region has or will have an obvious shortage of water and in recent years. As a result the efforts should be focused on making all waste water undergoes double depuration treatment. Thus there should be a real planning aimed at the sustainable saving and administration of water.

Energy and the environmental impacts:

Efforts need to meet the fast-growing demand for energy supply, i.e., the increasing number of hotels. Measures should be taken for improving and saving energy supplies planning, such as design of buildings and installations. This also applies to the systems administering energy demand in the hotel sector rationalizing the energy consumption.

The excess of urban waste:

Constantly improving the "cleaning" service, without introducing any ambitious plans for selective collection, treatment and recycling of urban waste and debris should be adopted. Undesirable effect is found in three ways: (a) municipal rubbish dumps are being filled and there are no reasonable alternatives, (b) organic material is not being recovered for use as compost, and (c) the lack of options is forcing the implementation of less advisable environmental systems, such as the recently inaugurated incinerator.

Tourism and sustainable development under the LA 21 and WTO concepts:

Tourism contributes the sustainable development with effective management and sensible regulation. Agenda 21 for the Travel & Tourism Industry can provide sound direction. It should be widely distributed as the core document and all parties encourage the use of it as their blueprint when addressing Travel & Tourism.

Environmental policies fall into three basic types: those that result in cost savings, those that appeal to the consumer and make products more attractive; and those that promote sustainability. However there is no commercial advantage because the latter two may take longer time to implement. Governments and tourism companies should concentrate their efforts in these policy areas^[11,12].

Close cooperation is required and should be stimulated between the public and private sectors: voluntary action is preferable for regulation, in areas such as land-use, waste management, etc. Codes of conduct at industry level are valuable (see annex III).

There should be more measurement of progress towards environmental goals. Standards for good practice, such as WTO's, Sustainability Indicators, destination and Certification criteria need to be more widely applied.

Environmental fees, where applied, should be fair and non-discriminatory. They should be carefully considered to minimize their impact on economic development and revenues must be allocated to travel and tourism associated environment improvement programs. In addition to all these measures, the proposal to study the convenience of establishing regional rules is to be allocated to the environment. With these fees it would be possible to make

considerable progress in two complementary fields: extra resources would be available to repair the principal damage and impacts produced on the environment in recent decades and it would serve to make citizens, the tour operators themselves and visitors aware of the responsible environmental policy in the region.

International, national and local funding budgets should include sustainable development as part of their criteria, so that in time, all funding would be dependent on sound environmental practice.

Environmental education and training should be increased, particularly in schools, for hotel and tourism staff.

Publicity is important to make the industry and consumers aware of the need for sustainable policies and to motivate the travel trade to work for this objective. In the case of travelers, consideration should be given to videos for aircraft and airports, and in-flight magazine articles.

SUSTAINABLE MANAGEMENT INTO WATER, ENERGY AND WASTE:

The Local Agenda aims to reduce demand and improve efficiency in the use of available resources. The proposal is to work in this field with an overall vision of the "*water cycle*" and with a set of interrelated objectives in order to:

- Minimize the use of natural resources.
- Meet the demand, maintaining quality and service regularity.
- Adapt user costs by stimulating saving and efficiency.

As regards energy, due to limited municipal competency in this field, the LA 21 concentrates its proposals on promoting measures which mainly target saving and a more efficient power supply from the local installations. The objective is to encourage

citizen collaboration, demonstration experiences and specific building regulations at local level. All of this is intended to contribute towards rationalizing energy consumption and minimizing the emissions of gases involved in climatic change.

As far as solid urban waste is concerned, the LA proposes to improve cleaning systems, recycle useful materials and reduce the environmental impact caused by the unsustainable increase and management of solid waste. It is a question of working with an overall picture of the cycle in order to reduce the amount of the end waste-product; to agree their re-use, compost production or recycling.

CONCLUSIONS:

Jordan government established Petra Region Authority (PRA) in order to build a better relation between the government and citizens. The main driving force behind this action is to led this region to control it self by sort of decentralization. This is one of the main idea behind LA 21. One of the out coming of this authority was the establishment of the ecotourist constructing a new sewage plan aiming for a re-use of treated water for irrigation. Apply new technologies to treatment of surface water for drinking water. Augment the efficiency of supply systems for industry and irrigation. Achieve reduction of excessive demand by households, enterprises, public services and irrigation where such demand exists.

In April 2003, Petra region used Geographical information system (GIS) in order to have a reliable and consistent information base for successful urban management and strategic decision-making in the Petra Region. The underlying premise is that this Region is a distinct socio-economic and high-exposure physical location in Jordan which

requires careful planning and information-based decisions to help in sustaining its environment and attractiveness.

In Petra region local citizens have witnessed various factors such as, improved infrastructure and tourist facilities both within the ancient site and the Petra region in the recent years. After establishing the PRA, bearing in mind this would not be able to noticed under the process of centralization. This includes upgrading and increasing the number of public gardens, sun-protected rest benches, pedestrian pathways as well as public health facilities and utilities and improved supervision by tourist police.

Still in this region the LA 21 not fully adopted but if so, we can conclude that sustainable tourism development is expected to minimize its negative impacts upon the natural and socio-cultural environment and to support the maintenance of natural areas which are used as ecotourism attractions by generating economic benefits for host communities, Also, the organizations and authorities which manage natural areas for conservation purposes. Equally importantly, it is expected to provide alternative employment and income opportunities for local communities that live in and around the natural areas visited by tourists.

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Recommended URL:

International Eco-tourism Organizations:

- 1-Eco Travels in the Americas, Web: <http://www.planeta.com/>
- 2-The Ecotourism Society, Web: <http://www.ecotourism.org/>,
- 3-Rethinking Tourism Project :<http://www.planeta.com/ecotravel/resources/rtp/rtp.html>
- 4-Tourism Concern, <http://www.gn.apc.org/tourismconcern>,
- 5-World Tourism Organization: [http://www.world-tourism.org/United Nations Environment Programme](http://www.world-tourism.org/UnitedNationsEnvironmentProgramme): <http://www.uneptie.org/>

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AGENDA 21

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Annex II: Issues arising from tourism sector

Management Practice:	Pollution	Physical Processes	Biological Systems
Energy Systems	Toxics released or spilled Air quality Petroleum Noise or odors	Soil removed or disturbed	Altered/destroyed habitat Altered/destroyed vegetation Road kills Reef impacts
Water Systems	Toxics released Noise, air, vehicles Hot water	Soil disturbed Water flow disrupted	Altered/destroyed habitat Altered/destroyed vegetation Reef impacts Exotic species supported Food chains altered
Waste Disposal	Odors Noise Air quality Petroleum Spills Vehicle pollution Toxic releases	Soil disturbed Water flow disrupted Groundwater used	Diseases introduced Altered habitat Altered vegetation Roadkills Exotic species supported Food chains altered
Communication	Toxics released	Soil disturbed	Altered vegetation Diseases introduced Altered habitat Roadkills Life cycles disrupted
Operations and Maintenance	Noise Toxics released Petroleum released	Erosion Sedimentation Water flow disrupted	Altered/destroyed habitat Altered/destroyed vegetation Reef impacts Exotic species supported Life cycles disrupted

Source: United States Department of the Interior, 1993.

Annex III: ISO 14000

Within the past decade the so-called "quality movement" has achieved major international recognition with the establishment of international standards for documenting management and quality concerns. This activity has been coordinated by the European-based International Organization for Standardization (ISO), and resulted in the ISO 9000 series of standards for quality management. This standard provides a process by which a firm may be certified as complying with relevant management and quality auditing considerations, across all international boundaries.

Perhaps most significantly, the ISO 14000 process requires setting *sector-specific* guidelines or guidance standards. Petra region be studied to develop and apply guidelines for tourism, in order to assure that the special environmental conditions of the region are covered by all of the guidance terms. By studying the certification standards of ISO 14000, states of the region will be able to secure guidance for information and reporting standards that developers should be expected to apply to tourism developments. National authorities should require firms to meet ISO 14000 certification standards to be able to participate in development and management of the project.

دور أصحاب الشركة نحو التخفيف من التأثيرات البيئية لصناعة السياحة من مفهوم أجندة 21 دراسة تطبيقية لمنطقة إقليم البتراء محمد حمد "أبو دية معتوق"

قسم الهندسة الكيميائية - كلية الهندسة التكنولوجية - جامعة البلقاء التطبيقية - عمان - الأردن

تتضمن النسيطة متنوعه كنفل وإسكان وإستجمام وخدمات الطعام لها والتأثيرات السلبية المحتملة عديدة ومختلفة على البيئة. يستهلك المصادر الطبيعية وتلوث الطبيعة والمساحات ذات النباتات العالية. تؤثر الورقة على التدهور البيئي الناتج عن النشاطات السياحية، فعلى سبيل المثال السائح يستهلك الكثير من المياه، كما أنه يترتب على هذه الأنشطة كميات كبيرة من ملوثات الهواء بسبب العدد المتزايد من عربات للقل إضافة إلى ذلك زيادة كميات النفايات الصلبة. ومن الجدير بالذكر أن تطوير قطاع السياحة يتطلب، تطوير طبيعي لوسائل السياحة والبنى التحتية، والتي لها تأثيراتها الهامة على البيئة. وهناك عامل مهم آخر تركز الورقة عليه هو ما ذكر أن يزجوا طرق الحياة والهياكل الإجتماعية من الجاليات المحليين، زيديون الكلفة للحكومات للإمداد من حيث الحفاظ على البنية التحتية للديمومتها وتطويرها، مثل مواقع معالجة المياه والطرق الرئيسية حتى يتم استيعاب الأعداد الكبيرة من زوار.

ولا شك أن وضع السياحة على طريق التنمية المستدامة يعتبر رئيسي، يتطلب شراكة وتعاون بين السياحة، وبين الصناعة وحكومات وسياسيين. الواعدة الأحداث لوضع صناعة السياحة على المسار المستمر هو تبني الأجددة المحلية 21 (A 21) هذه الورقة ستتناول الى مدى تطبيق مفهوم الأجددة المحلية 21 في مجال السياحة والتي ستركز على الفصل الذي يوثق السياحة والسفر، ووثائق العمل التي تم تعريفها في ذلك الفصل وكذلك الأهداف والاقتراحات التي يجب تطبيقها للوصول الى مفهوم السياح المستدامة في ظل النمو المستمر، وأهمية الشراكة بين الحكومة والصناعة والمنظمات غير حكومية. وهناك دور لكل قطاع في طريقة النمو المستمر من منطلق مفهوم الأجددة المحلية وعلى سبيل المثال فإن هنالك الكثير من سلطات الفردية من دق أخذ مركز الصدارة في التقيد بالانظمة والتعليمات بشكل تطوعي لتخفيض التلوث والبدء بالتزويد من المؤسسة، وبالتعمد.

إن فعول طريقه حكومات كهم أن تزود قاعدة التخطيط الإستراتيجية للسياحة، ويذكر أن تضد من بأن العادات السيئة والتمنية يمكن تمثيل ذلك دراسات ومراقبة دائمة للأساسيات ومقذدة، وبأنات الحاطلنتائج للبنية التحتية العامة مقيمة. إن هنالك أهمية كبرى للملتفطع الوطني التي يذكر أن تؤسس المعايير للغازات المنفوتة في الجو وتضمن المتطلبات، وتضد من بأنها مفروضة وبشكل صارم.

ستركز هذه الورقة على الالية اللازمة لاتباعها للوصول الى الآثار البيئية السلبية المحتملة الناتجة عن زيادة عدد السياح والأماكن التي سيقطنونها وتقدير مقلتة طيئة للجب أن تنفذ، بالدراسات على دمل القدرة وحدود التغيير المقبول. وختاماً سنتطرق الورقة الى لعمليات المتبطور خطط العمل المحلية المستمرة والشاملة وعلى المدى الطويل التي تأخذ في الحسبان كل القطاعات اللد وخذ لجماع مشترك وتصور للمستقبل. الحكومات الوطنية من الضروري أن يدعم كل هذه العملية مثل المساهمة في نشر التوعية اللازمة لعمال الأدوات البيئية لتبدي سياحة المسؤولة والملائمة للبيئة، التدقيق البيئي، والملصقات الصديقة للبيئة، وجوائز تشجيعية. كل هذه الآليات سيتم مناقشتها للعمل على وضع تصورات خاصة لمنطقة إقليم البتراء التي تعتبر اهم مركز جذب سياحي في الاردن وعلى مستوى الشرق الاوسط استعمال هذه الأدوات المؤثرين والمقيمين في الاقليم نؤشر المنافع العملية على نحو واسع بقدر الإمكان.