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Demonstrating the adoption and linkages of global best available practices and technologies (BAPs/BATs) in reducing land based pollution in the Collaborative Actions for Sustainable Tourism (COAST) Project in Kenya, Mozambique and Tanzania

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ABSTRACT

The Collaborative Actions for Sustainable Tourism (COAST) Project is a five-year project funded by GEF with the UNEP as implementing agency; and the UNIDO as executing agency in partnership with the UNWTO. Its main objective is to demonstrate and support the adoption of BAPs/BATs approaches for sustainable tourism that reduces the degradation of marine and coastal environments of trans-boundary significance in its nine sub-Saharan African partner countries. The project has three interlinked themes, Ecotourism, Environmental Management Systems (EMS) and Reef and Marine Recreation Management (RMRM). The project seeks to produce BAPs/BATs adoption models that can be replicated at a national and/or regional scale that includes: measures to control Land Based Pollution, diversification of the local economy and Public Private Partnerships for efficient use of resources. These models will have a results based framework, robust baseline data, cross-cutting linkages, institutional partnerships, capacity building, knowledge sharing and monitoring and evaluation exercises. A global review was conducted to refine the COAST Project's BAPs/BATs definition, resulting to adoption of positive impact, partnership and sustainability as its main

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results criteria. Analysis of the review and initial implementation showed that Small and Medium Enterprises from local communities, informal business and civil societies are vital in promoting Ecotourism activities. While strong quantitative and scientific baseline data are important factors in implementing EMS and RMRM activities. Cross-cutting linkages includes a process based approach, utilization of science based tools, spatial mapping, prioritization of conservation management tools, participatory resource assessments and linkages to local knowledge, private sector and the government.

1. Introduction

The Collaborative Action for Sustainable Tourism (COAST) is a demonstration project with programmes being implemented in eight out of its nine sub-Saharan partner countries. The United Nations Environmental Programme (UNEP) is the implementing agency of the project, and the United Nations Industrial Development Organization (UNIDO) serves as an executing organization in coordination with the United Nations World Tourism Organization (UNWTO). Funding comes from the Global Environment Facility (GEF) and contributions from partner countries.

The objective of the project is to demonstrate and support the adoption of best practice approaches for sustainable tourism that reduce the degradation of marine and coastal environments of transboundary significance. The COAST Project expects two main outcomes: first, to demonstrate sustainable tourism approaches for reducing pollution, contamination and environmental degradation from coastal tourism in the sub-Sahara African context; and secondly, to identify national and local mechanisms supporting sustainable tourism governance and management and to enhance and facilitate the uptake of BAPs/BATs.

The project has been broken down into three thematic areas that are interlinked and which are lead by different thematic leaders: Ecotourism (led by UNWTO), Environmental Management Systems (led by UNIDO) and Reef and Marine Recreation Management (led by EcoAfrica). Partner countries in West Africa include Cameroon, Ghana, Gambia and Nigeria, where Ecotourism is a focal theme. Senegal has a focus on EMS. In East Africa, Seychelles participates through lessons and knowledge sharing. Kenya, Mozambique and Tanzania are the countries where all of the three thematic areas are being realized. Demonstration Sites include Watamu Bay in Malindi, north of Mombasa (Kenya); Inhambane, north of Maputo (Mozambique); and Bagamoyo, north of Dar Es Salaam (Tanzania).

The implementation structure of the project within each partner country is comprised of the active participation of two Focal Points (FPs) nominated by the Ministry of Environment and the Ministry of Tourism and decentralized at the Demonstration Sites through the Demo Site Coordinator (DPC). The DPC is tasked to liaise between the project site partners and to ensure synergies amongst all the thematic area activities that are ongoing. A total of 27 FP's and DPC's participate in the project's Steering Committee Meeting annually which serves as a South-to-South learning tool in experience sharing. In the Demonstration Site level, participatory management with various stakeholders is undertaken through a pro-bono Demonstration Site Management Committee (DSMC) composed of a wide-range of representatives from the local society, such as government agencies, civil society groups (NGO, CBOs), indigenous associations and the private sector.

This paper will discuss the tools used by the COAST Project in addressing Coastal Tourism as a subset of urbanization and infrastructure development, a foremost driver of Land Based Pollution (LBP). Initially, this paper aims to engage the international understanding and experiences on BAPs/BATs in the field of sustainable tourism. The paper will thereafter draw out specific success indicators from the COAST Project Global BAPs/BATs review that commenced in 2009 such as: (a) Impacts of projects that have concluded or are ongoing at local and national level, (b) sustainability of activities and lessons learned during implementation and, (c) partnerships that were established that secure the transfer of knowledge and in some cases, funding to ensure continuity of activities. The paper will

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expand on how these internationally recognized BAPs/BATs contributed to the management, technological and policy/governance response of the COAST project; linking the programs currently being implemented by COAST project in its East and South African Demonstration Sites. The paper will highlight the COAST Projects thematic areas through showcasing Public Private Partnerships & market based mechanisms in Ecotourism and EMS themes; resource efficient and cleaner production in the EMS theme; applied scientific research and species, habitat, regulatory development and enforcement and; ecosystem protection/rehabilitation through the RMRM theme.

2. Materials and methods

2.1. Global BAPs/BATs review

The COAST project commissioned consultants in 2009 to conduct a study regarding the international BAPs/BATs in the field of Ecotourism initiatives tied to alleviating poverty; environmental management systems and voluntary eco-certification and labeling schemes; and reef recreation, management and monitoring and strategies (Saini, 2009). The study comprised a total of 22 case studies from finished and current projects around the world. The review was limited to mostly internet and desk research using public documents. The selection of materials was delineated geographically by projects in the tropics and sub-tropics; involvement of a COAST project partner country was not taken into consideration in the review process. Furthermore, some projects and case studies had broader scopes than the COAST Project themes; hence the review was supplemented by a variety of information sources including in-depth telephone interviews with the case studies lead personalities.

2.2. COAST project BAPs/BATs definition

The COAST Project adopted the definition of BAPs/BATs from analyzing various international published sources. Within the scope of the COAST Project, BAPs/BATs are defined as exceptional contributions to improve the living environment. These initiatives have verified and substantial impacts on improving the quality of life of people; are outcomes of effective partnerships between the civic, private and public sectors of society; and are sustainable, in its economic, environmental, cultural and social aspect. (Dubai International Award, 2008. United Nations, 1992, United Nations Conference on Trade and Development, 2001, United Nations Economic Social Council, 2006). Furthermore, BAPs/BATs are promoted and used by the United Nations Agencies and the international community as a means of improving public policy based on tested models; it increases the problem-solving prowess of decision makers at all levels regrading economic, environmental and social dilemmas. Finally, they can be used for succinct mechanism to increase the pool of knowledge of expertise through peer-t0-peer learning and other modes of lesson transfers.

3. Results and discussion

3.1. COAST project global BAPs/BATs review of ecotourism

The global review takes into account eight BAPs/BATs for Ecotourism, focusing on experiences in alleviating poverty while generating revenues for conservation. Case studies include the creation of Small and Medium Enterprises (SMEs) that make use of sustainable practices utilizing natural resources. The case study of "*Nature seekers, Matura beach, Trinidad"* and *"Bird guiding: an enterprise and a tool for conservation, Nature Kenya-East African Natural History Society, Kenya"* exemplifies the use of science research in identifying activities that supports data collection for species monitoring while providing communities with business niches and novel skill sets. An example of this are turtle protection activities and bird guiding.

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The review also focused on the exploitation patterns of SMEs with regard to local material and resources for production purposes. This includes the case study of *"Anse, La Raye Seafood Friday, Saint Lucia"* and *"Market place for Nature-based enterprise in the Arabuko-Sokoke Forest, Kenya"*. It was pointed out that these types of enterprises would need an intensive baseline and robust monitoring scheme to make sure that the carrying capacity or extraction quotas are observed. Participatory tools with scientific and social toolkits such *as "Participatory mapping of terrestrial fisheries resources, Kenya"* and *"Visioning and strategic planning for community-based tourism, Caribbean"* provided the SMEs with an environmental perspective of sustainability; shifting from purely extractive use to a sustainable use management model.

SME's have the potential impact to play an important role in shaping tourism services, products and destinations. They also produce significant amount of pollutants through raw materials, production and trade. They also provide venues for partnerships in developing Ecotourism products and skills within marginalized sectors which are the most affected in coastal tourism. Applied science such as baseline data collection and analysis of carrying capacity assists in the sustainability of these small scale economies and their environment. SME's are flexible in a way that they can test and implement economy-environment linkages because of their size and easy of start up; which also increases the replication value of BAPs/BATs models.

3.2. "ST-EP" program as a COAST project BAP for ecotourism

The Sustainable Tourism-Eliminating Poverty (ST-EP) program by UNWTO has seven pro-poor mechanisms. These include: employment of the poor in tourism enterprises; supply of goods and services to tourism enterprises by the poor or by enterprises employing the poor; direct sales of goods and services to visitors by the poor; establishment and running of tourism enterprises by the poor (SME's) or community based enterprises; taxes or levies on tourism revenues or profits with proceeds benefiting the poor; voluntary giving of resources (money, goods, time) by tourists and enterprises in ways which benefit the poor; investment in infrastructure which provides livelihood benefits to the poor. A robust value-chain-chain analysis with quantitative and qualitative data is conducted to identify and prioritize activities (United Nations World Tourism Organization, n.d.).

In Kenya and Tanzania the ST-EP project focuses on intensifying the economy-environment linkage through diversifying the livelihood of local communities through a series of training and provisions of small initial investment for SMEs. In Mida creek, part of Watamu Bay in Kenya, activities include: improving the mangrove board walk to increase bird watching by visitors, canoe excursions around the creek, crab and fish farming and improving apiculture. Bagamoyo, which is a cultural hub in Tanzania, has designed activities through the ST-EP program to increase awareness to the tourism-environment linkage and using this as a platform to create new enterprises and increase the number of visitors. The ST-EP program in Mozambique follows a similar track but with more emphasis on capacity building of tourism in academic institutions. In formulating these ST-EP activities, emphasis is given to the DSMC to promote partnership across different sectors.

The potential for developing and fostering sustainable practices is high because of the streamlined focus on developing each marginalized sector (boat operators, women's groups, youth and private owners) that feeds into the larger picture. Currently, the continuous economic improvement and the increase in environmental awareness have proven to alleviate the negative extractive pressure on the environment and reduced the offloading of pollutants in areas near the coasts.

3.3. COAST project global BAPs/BATs review of EMS

Initially, the COAST Projects' focus on this thematic area was EMS and voluntary eco-certification and labeling schemes. The global review primarily focused on the successful certification programmes available in the global market, elucidating the processes and general criteria for implementation. The second focus of the global review was to provide an information database of resources for both EMS and certification.

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Among the schemes that were highlighted in the global review are the *"Blue Flag"* and *"Ecotourism Kenya eco-rating scheme"* which emphasized collective action in a coastal destination; to achieve a positive consumer rating. This scheme takes into account environmental and tourism elements including water quality, signage, and formulation of a management committee. *"Fair Trade in Tourism South Africa (FTTSA)"* is a certification scheme that focuses more on social criteria based on the FTTSA's principles of fair share, democracy, respect, reliability, transparency and sustainability. The *"Beach protection and management in Australia's Gold Coast"* focused on beach erosion and *"The Caribbean hotel energy efficiency action program"* centered on energy efficiency. Two implemented projects in the BAPs/BATs global review highlighted the processes of environmental conservation efforts to sustain the viability of a high capital-investment destination. These identified schemes relied on the importance of detailed research, baseline data, impact assessment, modeling and long-term monitoring. Two databases were covered in the global review, including; the *"EMS for hotels"* and the *"Voluntary ecotourism certification"* toolkits which provide further information on these topics.

EMS with certification schemes is the most direct theme in the COAST Project that shows quantitative data on reduction of pollutants from industries in the coast. It relies on the robust collection of baseline information, continuous monitoring and monetizing the value of certain environmental schemes for businesses. Often cost-benefit analyses and environmental accounting are needed to facilitate sensitization to environmental issues and uptake of clean production/environmentally sound processes or technologies. Partnerships with the private sector and government policies that promote these schemes are important in order for replication to proceed.

3.4. "TEST" methodology as a COAST project BAP/BAT for EMS

The COAST Project EMS theme has adopted the UNIDO Transfer of Environmentally Sound Technology (TEST) Methodology (Bernaudat and Pavon, 2012 and De Palma and Dobes, 2004). This Methodology has been successfully implemented in industries in Honduras, Mexico, Russia and the Mediterranean region and is currently being expanded to other countries globally. It is an integrated approach for sustainable entrepreneurship that builds capacity for skills development in resource efficiency and industrial environmental management. The Methodology works with the private sector and in the context of this project, specifically the hotel industry along the coastline in the respective COAST Demonstration Sites. This strengthens the Public Private Partnership (PPP) models in the international waters frameworks for LBP, wherein most PPP projects have strong affinity to waste management issues.

TEST is an integrated methodology consisting of five elements: Cleaner Production Assessment (CPA); Environmental Management Accounting (EMA); Environmental Management Systems (EMS); Environmentally Sound Technology (EST); and Corporate Social Responsibility (CSR). The implementation of TEST will result in some demonstrable best practices and strategies for sustainable tourism in the hotel industry within the COAST Project's demonstration sites.

Priority is given to Cleaner Production (CP) in the production process at the operational level. CP techniques are used to optimize the existing systems through low cost or no cost measures with a short payback period (PBP). This includes optimizing the use of raw materials in the hotel industry to reduce the amount of waste that is produced or release to the environment. The Transfer of Environmentally Sound Technology (EST) increases the efficiency of the system followed by an End-of-Pipe (EOP) solution as a last option for pollution control.

Environmental Management Accounting (EMA) is the tool used to reveal the real costs of production to influence proactive exchange and learning at the management level. Through the collection of production data, this process serves as a cost-benefit analysis that will monetize the waste in the production process, pollution and the management of pollution. Environmental Management Systems akin to the ISO 14001 standard are used to provide a framework to adopt the CP, EST and EOP through the implementation of: (a) environmental policy, (b) setting targets and objectives, (c) operational and procedural controls and (d) environmental audits. Through the adoption of these tools, TEST influences the strategic level of an enterprise by acknowledging values for inclusion into the wider environment and for Corporate Social Responsibility (CSR) strategies.

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Currently, the form of TEST Methodology that is being implemented in Kenya, Mozambique and Tanzania is through partnering with the national government, hoteliers on site and the countries' respective National Cleaner Production Center (NCPC). NCPC's are institutions that are autonomous or in the process of attaining autonomy, have been set up by the UNIDO and UNEP to lead the country's Resource Efficient and Cleaner Production goals. They will be looking into the hoteliers "Cost Centers" through CPA and will help the each enterprise optimize their production. This is supported by findings of and EMA expert and will be operational with CSR through an EMS scheme. The EST that are currently being collaboratively considered onsite are EOP solutions to help both the enterprises and the communities clean-up the site and produce recycled materials. This includes technologies such as bio-digesters, high speed composters, biogas collectors and chipping machines.

3.5. COAST project global BAPs/BATs review of RMRM

The global review highlighted the importance of partnership in reef conservation. Wherein, "Community-based management of whale shark tourism in Mexico" and "Mediterranean Hippocampus mission: scuba tourism for the environment" impressed the importance of local communities as an instigator of change. Reef recreation users such as scuba divers and snorkelers played an important role in the success of the latter. Both groups of stakeholders served as a cornerstone in raising awareness and collecting vital scientific data that elevated the status of the whale shark and sea horse (Hippocampus) to a flagship species and ultimately raised the conservation efforts to these coastal areas. The "Toolkits and manuals for reef recreation and management" provide tools such as Reef Check, wherein local communities can be trained to gather scientific data that will feed into the reef management plan.

The case study of "Using local knowledge for monitoring, protection and management of reef fish spawning aggregation " and "A management plan for snorkel based tourism as a form of alternative livelihood: Sian Ka'an, Mexico" emphasized the importance of taking into consideration the local knowledge when designing management plans. The former elucidates the importance of having the local community visualize their pattern of use of the ocean resources. The latter impressed the use of scientific data as a decision making tool for managers, especially in a case where there is no legal conservation status in place and reef recreation potential is high.

There are two case studies centered on technology transfers in the global review. The "Baseline data for monitoring and assessing the effectiveness of mooring buoy programmes to control anchor damages at diving sites in Egypt" provides an important collation of tools in assessing "hotspots". These hotspots where most damage has occurred should be targeted for restoration and management activities. The "Mooring buoys toolkits and examples" provides a simple design and installation of such systems.

Solid waste in forms of oil spillage and waste water release, solid waste generated through reef activities and destructive activities to reef and coastal areas stemming from touristic activities are focal areas of RMRM. The success of RMRM based on the global review ties in with the use of good science collected in practical exercises with local communities and reef recreation users. Technology transfers such as mooring buoys or restoration tools have been successfully implemented through local community initiatives, as a result of increased environmental literacy, decision making ability and positive correlation to their livelihood. Government backing is also crucial in propagating these practices.

3.6. Hot spot mapping and mooring buoys as COAST project BAPs/BATs for RMRM

The crosscutting theme for all countries includes the assessment of RMRM governance, looking into institutional regulatory frameworks. Policies and standard practices of diverse reef and marine recreation area users will be looked into to provide a platform for harmonization. Mapping exercises of reef and marine recreation areas will be conducted to strengthen these recommendations and prioritize management interventions. Mooring and demarcations buoys are also being looked into as a potential transfer of technology, wherein maintenance will be done through the local stakeholders.

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These will serve as a preventive tool against anchoring accidents in reefs and management of reef and other areas by authorities.

In Watamu Bay, Kenya, where different kinds of land classification for protection exist such as Protected Areas, multi use zones, and buffer zones. The DSMC identified the use of ecological zones to streamline the identification of potential BAPs/BATs. In partnership with the local government, local communities and dive shops, a process of identifying "hot spots" for conservation priority is currently on-going within the demonstration site. This exercise is advantageous in identifying the current and potential roles of the stakeholders in reference to the RMRM. Potentially, the Reef Check methodology (Hodgson et al., 2006) is to be implemented to train local communities to sustain their monitoring. In Mozambique and Tanzania, support for the identification and assessment of reefs has been identified as a priority in order to strengthen the regulatory measures for recreation activities and subsistence fishing; and to ensure that conservation efforts are underway.

4. Conclusion

Linkages from global review of BAPs/BATs to the programmes currently being implemented by the COAST Project in its Demonstration Sites includes: (a) strength of process from the project inception onwards through a robust participatory road mapping exercises of the thematic areas (i.e. thematic project briefs, activity proposals and planning exercises); (b) strong governance and institutional mechanisms through the projects structures involving a regional Steering Committee and a local Demonstration Site Management Committee; (c) the importance of "champions" and leaders in the projects through capacity building and skills training and; (d) cost-benefit analysis for monetary investment to emphasize environment-economy linkage through baselines studies (i.e. value chain analysis in Ecotourism prior to ST-EP implementation, Environmental Management Accounting and Cleaner Production Assessment in the TEST Methodology and reef check and reef recreation activity survey).

It is also important to note that a long term focus for the case studies were evident. Sustainability for case studies with private enterprises was increased by linkages to markets. This is being address through a tripartite partnership with the government, civil society and private sector involvement and networking within the COAST Project. Induction of BAPs/BATs through practical examples is also important in facilitating consultative collation of potential activities for implementation. Visualization and defining the possible impacts, partnerships and sustainability within local perspectives have been vital in engaging stakeholders to participate in successful case studies. This is being addressed through the mapping component of the RMRM theme.

However, further monitoring and evaluation needs to be done to be able to replicate these BAPs/BATs within each country, where local realities greatly affect the success of a practice. Also, through the completion of the COAST project in 2014, more valuable information will have been gathered as lessons learned and results that may contribute to strengthen the linkage between the three COAST thematic areas and the reduction of LBPs.

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