Contribution of 3Rs in Sustainable Tourism Development and Protection of Marine Ecosystem: Win-Win Solutions through 3R as an Economic Industry

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1. LINKING TOURISM DEVELOPMENT AND MARINE ECOSYSTEM PROTECTION

1.1 Tourism Sector

- Key economic sector to the global economy
  - International tourist arrivals: 25 million in 1950 to 1.13 billion in 2014
  - International tourism receipts: US$ 2 billion in 1950 to US$ 1.25 trillion in 2014
- Identified as priority for economic development by 90% of LDCs
  - Top or second source of export earnings in 20 of the world's 48 least developed countries
  - Tourism can account for up to 25% of the GDP of developing countries
  - Tourism was key to the development of Cape Verde and Maldives

UNWTO. (2015). *UNWTO Annual Report 2014.* Madrid: World Tourism Organization.

1.2 Impacts of Tourism

- Challenges tourism development exerts on environment and society:

UNEP. (2013). *Green Economy and Trade – Trends, Challenges and Opportunities.*

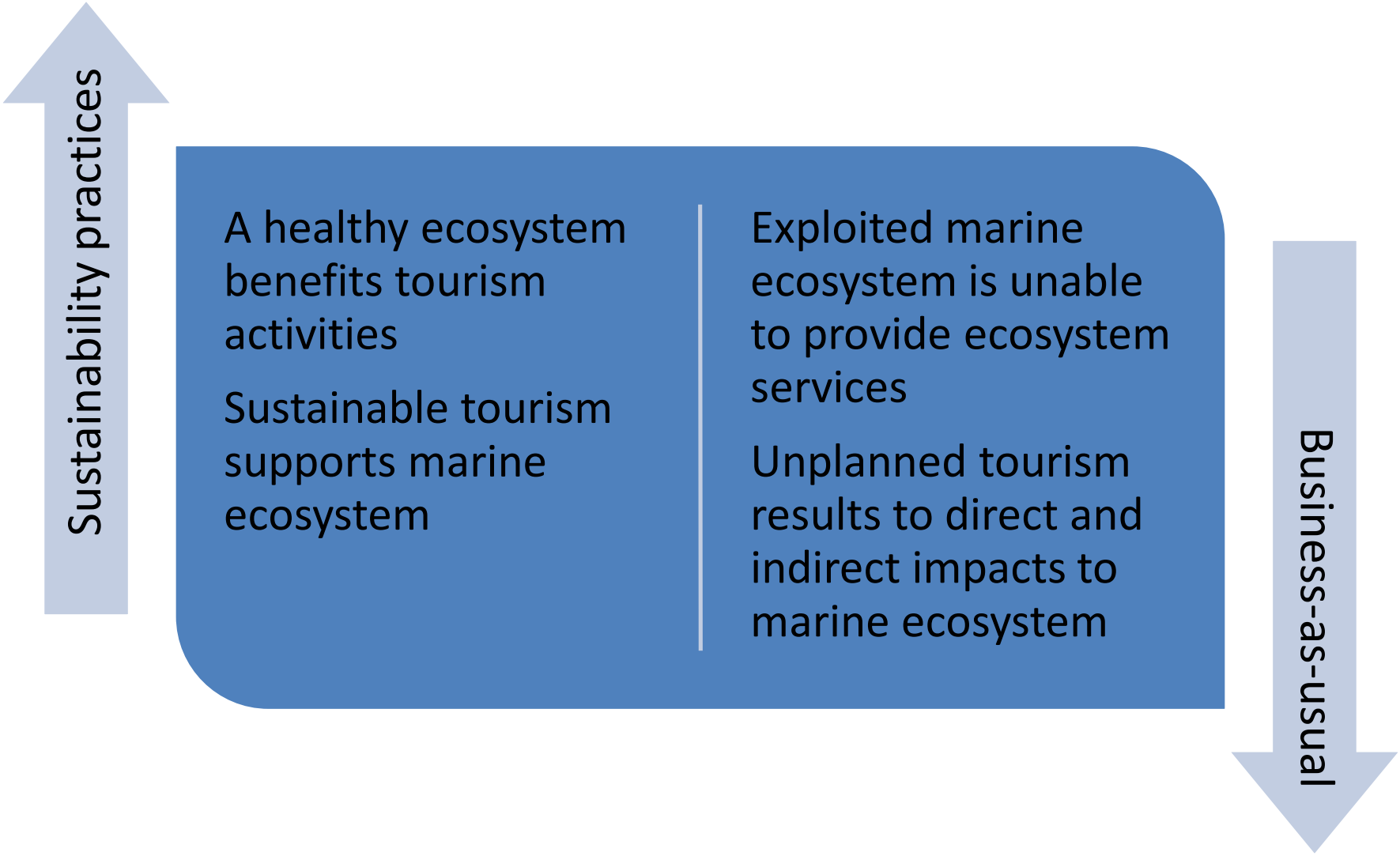
Illustration from: UNWTO. (2013). *Sustainable Marine Tourism.* Expert Group Meeting on Oceans, Seas and Sustainable Development

Dichotomy of Impacts of Tourism

+	−
Employment	Increase in cost of living
Appreciation of cultural heritage	Disruption of traditions and customs
Improvement in roads and infrastructure	Raise in taxes
Better recreational and cultural facilities	Overcrowding, traffic congestion, litter, vandalism and crime

UNESCAP, 2003 as cited in UNEP. (2012). *Sustainable Consumption and Production: A Handbook for Policy Makers*.

1.3 Tourism and Marine Ecosystem: The need for sustainability of society-nature interaction



Aviation Profitability and Marine Ecosystem Quality

- JetBlue ***EcoEarnings* study** links *the importance of clean, intact, and healthy beaches and shorelines to JetBlue's profitability in the Caribbean with a focus on industry revenue per available seat mile (RASM).*
- Preliminary data and result of the study model concluded: ***positive correlations among water quality, mangrove health, limited waste on shorelines, and RASM.***
- Efforts from *policy makers, the tourism industry, and tourists to protect the Caribbean's greatest natural resources—its ecosystems* are needed.

Excerpts from the Executive Summary of the report *EcoEarnings: A Shore Thing* by jetBlue, The Ocean Foundation and ATKearney. Available at: www.jetblue.com/p/ecoearnings_report.pdf

2. CHALLENGES AND OPPORTUNITIES FOR 3R IN TOURISM INDUSTRY

2.1 The 3R Approach for Sustainable Tourism

- **Sustainable tourism** is “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities.”
- Sustainable tourism should be able to:
  a. make optimal use of environmental resources that constitute a key element in tourism development;
  b. respect the socio-cultural authenticity of host communities; and
  c. ensure viable, long-term economic operations.

UNEP & UNWTO. (2005). *Making Tourism More Sustainable - A Guide for Policy Makers.*

2.1 The 3R Approach for Sustainable Tourism

- Sustainable tourism involves **resource conservation** and **resource efficiency**, cultural integrity and socioeconomic wellbeing.
- Therefore, 3R for sustainable tourism means:

Reduce Closing the (material cycle) loop to keep further resource extraction at a minimum

Reuse Keep in cycle those that are already in use by extending lifetime of materials

Recycle Finding another purpose for materials that has reached end-of-life

2.2 Challenges in Implementing 3R

- Tourism as an experience economy
- Fragmented services/ service providers
- Local skills to manage environmental pressures
- Local infrastructure
- Economy of scale
- Planning of 3R activities

2.3 Opportunities for 3R in Tourism

- Planning to identify and seize opportunities
  - Translate 3R in the local setting: determine baseline scenario and 3R activities to holistically address these
  - Human and financial requirements
  - Institutional capacity
  - Benchmarking
  - Stakeholder involvement and roles

Case No. 1: Environmentally-friendly Hotel Management

3-star Hotel Sigiriya in Sri Lanka transformed from an old resort hotel to a more energy-efficient and environmentally-conscious business.

Conserving Energy & minimizing air pollution

- Card key controls fixed to air-conditioners
- Gasifier using carbon-neutral energy

Conserving Water

- Sewage treatment plant
- Reuse treated water

Minimizing solid waste

- Cloth laundry baskets
- Shampoo dispensed in ceramic bottles

Minimizing other chemical pollution

- Biodegradable cleaning agents
- Natural pesticides

PATA, SNV & gtz Case brochure

Case No. 2: Saint Lucia exports recyclable wastes

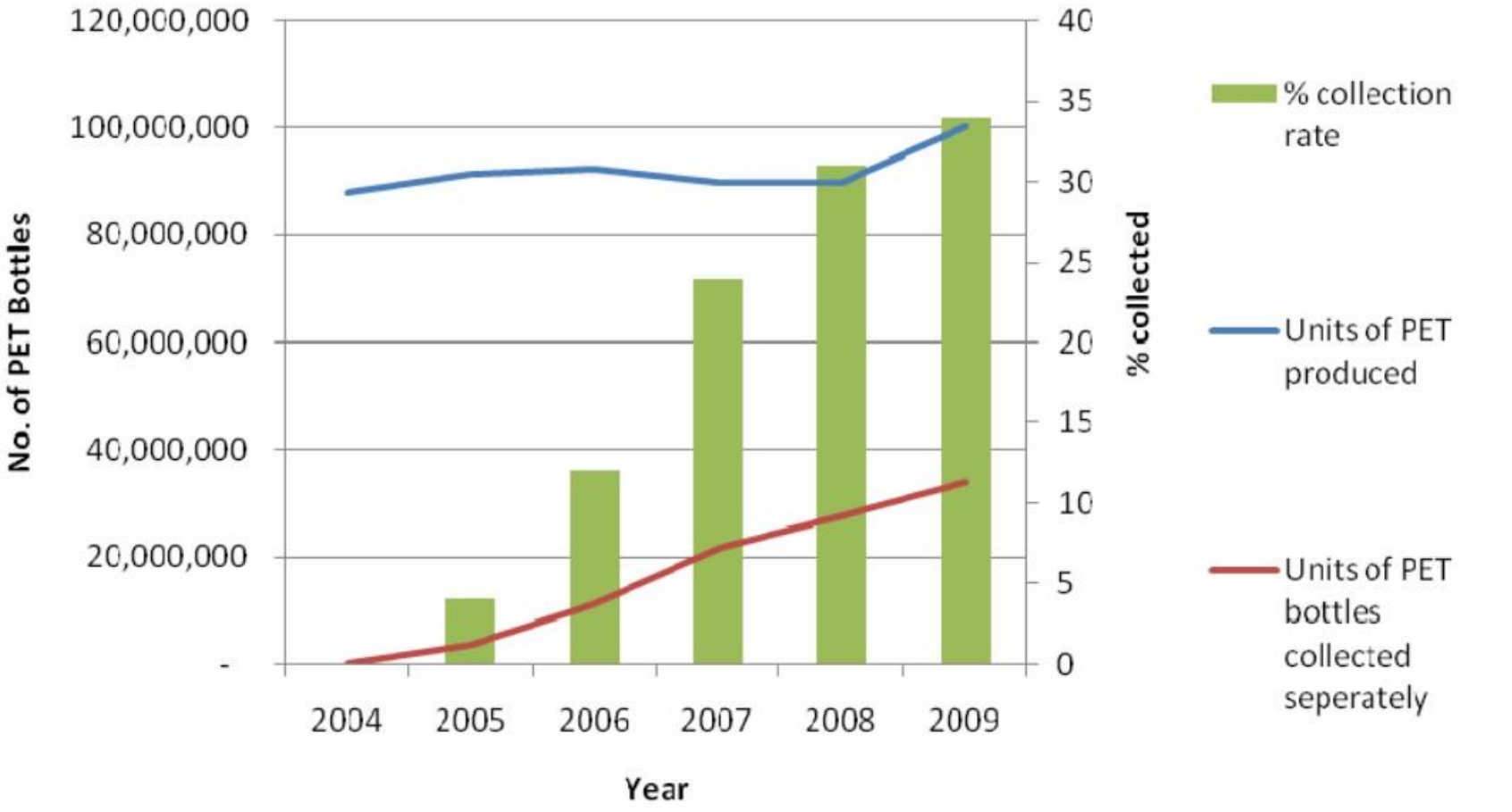
Significant reductions in waste disposal in landfills have been achieved through waste recovery, recycling and exporting recyclable waste materials.

UNEP. (2014). *GEO Small Island Developing States Outlook.* Nairobi: United Nations Environment Programme

Case No. 3: Reducing carbon emissions from air travel

Image from: http://newsroom.united.com/fulcrumbiofuels

Case No. 4: EPR in Mauritius – PET bottle recovery



Collection rate of PET bottles increased since the privatization of collection, processing and recycling of PET in 2005.

Case No. 5: Local Agenda 21 for Sustainable Tourism development – Calviá, Spain

Short-term interests, unlimited building out of tune with local conditions, and an unsustainable exploitation of exceptional natural resources

1960s to 80s

Deterioration of environment and landscape, gross overcrowding of the tourist zone, difficulties of updating installations, a steady decline of the allure of the region and the threat to local development

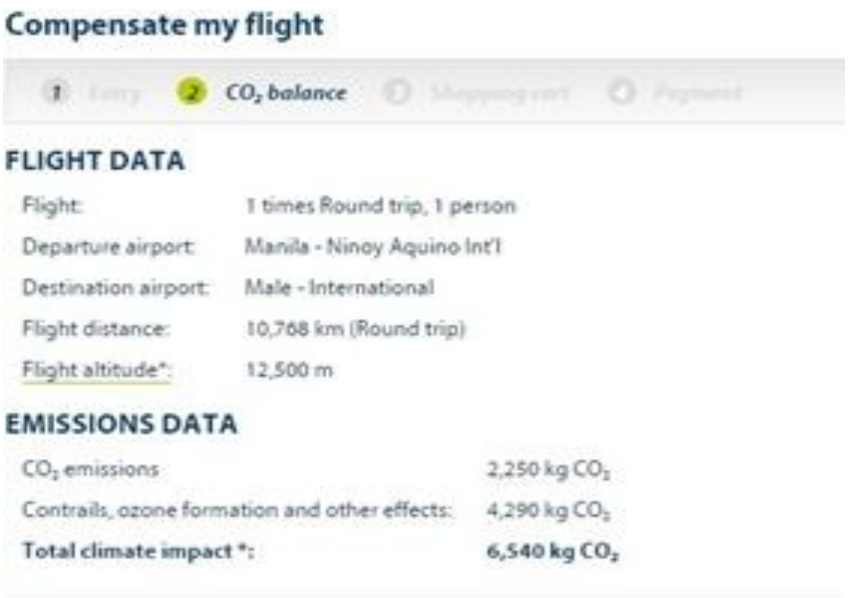
Late 80s

"Calvià for Excellence," a Local Agenda 21 programme was launched to reorganize tourist and local development on a sustainable basis, with 10 strategic action lines

90s

www.Calvia.com

Case No. 6: Carbon offsetting to compensate flights



- Atmosfair offers travelers a means of compensating greenhouse gas emissions from flights taken.
- An online flight calculator at their website calculates for emissions from the flight data and the cost for offsetting it.
- Travelers can choose how much they would like to compensate for the flight. Climate protection projects of the organization are located in developing countries.

Simpson, Gössling, Scott, Hall, & Gladin, 2008; www.atmosfair.de

3. POLICY AND TECHNICAL OPTIONS FOR 3R IMPLEMENTATION

3.1 Lessons learned from 3R Cases

- Tap into the concerns of the community
- Public-private partnership can provide the skills, technology, funding and efficiency
- Plan, rethink and choose 3R initiatives wisely
- Lifecycle perspective is important in designing 3R initiatives
- Sustainability initiatives need not be technology-intensive or capital-intensive. Learn and apply proven simple solutions yet be open to applying appropriate technological developments.
- Waste is resource, but this should not deter sustainable consumption
- Collaborative effort

3.2 Other Policy Approaches and Solutions

- 3R Policy Approach
- Holistic/ dynamic planning (to balance what and when to implement each components of 3R)
- Business model for social enterprise
- Sustainable tourism for sustainable development
- Diversifying economic interests
- Combined sustainable tourism and ecosystem-based management approach
- Use of market-based mechanisms (tax, incentive, subsidy, valuation)
- Sustainability indicators

Case No. 7: Pearl farming in the Pacific

Cultured pearl farming in the Pacific offers an economic activity in which sound environmental management and conservation are prerequisites to economic success.

Laurent Cartier and Saleem Ali, from http://www.thesolutionsjournal.com/node/1139; & www.sustainablepearls.or; Photo from Tahiti Tourisme, available at: http://www.gototahiti.com/discover/tahitianpearls.asp

Case No. 8: Shark tourism & shark sanctuaries growth

A single reef shark in Palau contributes around US$ 179,000 to the country's economy every year, compared to a one-time value of US$ 108 if caught and sold on the market.

Pew Environment Group. (2012). *Ocean Earth: How Rio+20 can and must turn the tide.* Washington D.C. : The Pew Environmental Group, Policy Recommendations; Photos by Olivia Trombadore from Scientific American blog (2013) & Andrew Ross/ Agence France-Presse (Getty Images)

3.3 Implementing 3R as an Economic Industry

- Baseline assessment of the problem of waste is needed.
- Planning 3R activities should be seen in light of related policies to complement and avoid duplicating efforts.
- Fragmented services require specific, targeted and focused measures.
- Innovative use of market instruments can enhance uptake of 3R.
- Investment in institutional and human capacity is needed.
- Clear objectives, targets and activities provide measures to track results and progress.
- Co-benefits in implementing marine ecosystem-based management and sustainable tourism can encourage 3R and sustainability practices.

Case No. 9: Collaboration and innovation - Adidas recycles ocean waste into shoes

- adidas supports the Ocean Plastic Program of Parley for the Oceans that aims to end plastic pollution of the ocean.
- adidas created a world first with a shoe upper made entirely of yarns and filaments reclaimed and recycled from ocean waste and illegal deep-sea gillnets.

adidas (2015, June 30). adidas news stream excerpt: *adidas and Parley For The Oceans Showcase Sustainability Innovation At UN Climate Change Event*.

4. WAY FORWARD & SOME QUESTIONS TO CONSIDER

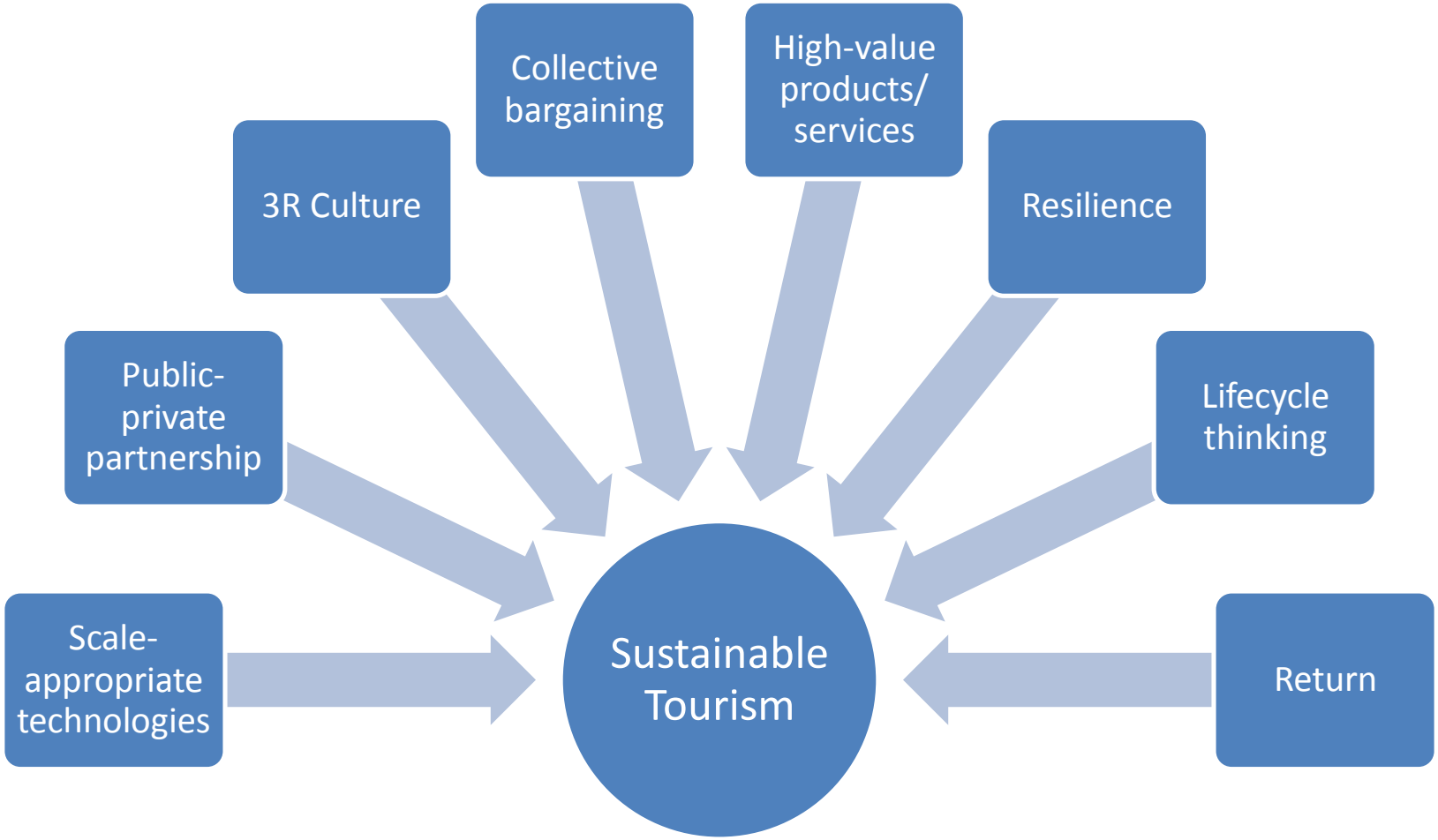
The Challenge for 3R

- The challenge for 3R as an economic industry is to **minimize resource consumption and waste generation**, while at the same time providing decent jobs, social equity and economic viability.
  - Baseline assessment
  - Integration of management strategies to overall development plan
  - Planning complete with targets, objectives, strategies, action plans and activities
  - Openness to learning and improvement of 3R initiatives

Note on 3R Implementation

- Benchmark – Policy approaches and technical solutions for 3R implementation and other sustainability measures have been widely demonstrated already.
- Global initiatives, policy recommendations and technical guidance manuals are also available as guidance documents.
- Solutions can be very basic or straightforward (e.g. switch to energy efficient appliances) to more technical or political processes (e.g. action plans).
- Integrate strategies of sustainable tourism (e.g. 3R) and sustainable development in the context of post 2015 development.
- Creativity is needed to translate knowledge of technical and policy solutions into practical, feasible and viable strategies for sustainable tourism and ecosystem management.

Framework for sustainable tourism and 3R strategy



4.1 Policy Considerations

- Perspectives in framing policy response to tourism development and related challenges factor in resource efficiency, climate change vulnerabilities and waste generation, and can benefit from adopting
  - Life cycle thinking,
  - 3R, and
  - Resiliency.

4.2 Institutional Considerations

- Institutions need to be well-equipped in implementing 3R strategies in terms of the capacity of human resources and necessary infrastructure to manage marine ecosystem and pressures from tourism, and these can be supported by
  - Public-private partnership, and
  - The use of collective bargaining.

4.3 Technical Considerations

- Research and Development and public-private partnership can support development of local skills and technical innovative capacity, and provide financial resources needed to implement, adapt and develop solutions to challenges in the sustainability of tourism, which can focus on
  - Deploying scale-appropriate technologies and
  - Diversifying economic sectors to high-value products and services.

Questions to Ponder

- Tourism development and **other priorities** – Are basic needs of the local population such as housing, mobility and food going to be met as tourism is developed?
- Institutional capacity – What **competencies** need to be developed and enhanced locally to support the necessary changes for sustainable development?
- Missed opportunities – How are sectors of society and economy going to be impacted if sustainability is not introduced in the **development plan**? What can be done to realize (missed) opportunities?

Questions to Ponder

- **Success factors** in 3R implementation – Has there been any attempts at introducing new activities locally that can be a baseline for implementing 3R and sustainable tourism and related sectors? What lessons can be taken from these projects to strengthen planning, development and implementation of 3R and sustainability programs?
- Climate change – How can planning be carried out to mainstream **climate change resiliency** and other concerns such as water availability and energy security in the development of tourism and the country in general?

5. Conclusions & Recommendations

- Tourism sector is interlinked with many other economic sectors, and identifying these interactions and how it impacts sustainability will be of importance coming into the post 2015 development agenda.
- Emphasis is given to the need for integrated sustainability approach in tourism development and marine ecosystem protection in the context of sustainable development.

5. Conclusions and Recommendations *(Cont'd)*

- Sustainable tourism policy should be able to frame the issues relevant to tourism industry, and establish strategies and changes needed for sustainable tourism sector to support a resource efficient and green economy.
- Planning strategies and development path should be dynamic to consider evolving challenges, changing priorities and urgent actions.