Chapter 11

Linking Tourism, Energy and Agriculture through Sustainable Consumption and Production in Sri Lanka

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11.1 Introduction

Sri Lanka is an island nation 65,610 km^2 in size, located off the southeast coast of India and home to a multi-ethnic population of around 20 million, according to the 2012 census [Department of Census and Statistics, 2012]. The per capita GDP of Sri Lanka is approximately USD 3,200/year with an incremental HDI of 0.715 [UNDP Human Development Report, 2013] and in the decade from 2002 to 2013, Sri Lanka achieved an average real GDP growth rate of 5.5% per year, with the national poverty rate falling from 22.7 to 6.7% [Department of Census and Statistics, 2015]. The economy relies heavily on the service sector with almost a 60% share in GDP, followed by the industrial sector with a 37% share. Sri Lanka's leading foreign exchange earners include the garment industry, foreign remittances, and the rubber and tea industries. Compared to countries of similar GDP and HDI rankings, Sri Lanka boasts a high literacy rate (91%),

sound education and health care systems, and low carbon emissions of 0.7 metric tonnes CO_2 annually per capita in 2011 [World Bank Data, 2015].

Since the end of the 30-year conflict in 2009, Sri Lanka has experienced significant changes in consumption and production (SCP) patterns influenced by unprecedented development, economic growth, and a tourism boom. A number of environmental challenges and priority concerns have emerged resulting from the fast economic development. These include key impact areas, such as urbanisation, management of solid waste, conservation of biodiversity, degradation of land, fresh water and marine resources, abatement of air and noise pollution, and energy conservation [Ministry of Environment and Natural Resources and UNEP, 2009].

SCP approaches are being adopted by the government and business to address the emerging environmental challenges. The following sections discuss Sri Lanka's evolving policy frameworks relating to SCP and the role of the SWITCH-Asia National Policy Support Component (NPSC) for Sri Lanka. This section is followed by an overview of the role of SMEs in the Sri Lankan economy, focusing on three interlinked sectors of renewable energy, agriculture and food systems, and tourism, which are presented together with SWITCH-Asia project case studies.

11.2 Policies for SCP

Sri Lanka is not without adequate national policy on environmental protection and conservation, land use and conservation, forest protection, soil conservation, wastewater treatment, and air quality — some of the policies have been relatively successful compared to other countries in Asia. The Yale University Environment Performance Index (EPI) from 2016 [Hsu *et al*., 2016] revealed that Sri Lanka had the highest performance score in South Asia. Examples are effective air quality management tools that are used in the country, including vehicle emissions testing and industrial emission control.

Sri Lanka has also developed a number of national policies and guidance documents, which are closely related to SCP, and which could be used as the basis to develop a comprehensive national SCP framework. An example is the Haritha (Green) Lanka Programme, launched by the

Ministry of Environment (MoE) in 2009, with the objective to incorporate sustainable development principles in all relevant sectors of the economy. This Programme is implemented under the direct guidance of the National Council for Sustainable Development (NCSD), set up under the Presidential Secretariat. The National Action Plan for the Haritha Lanka Programme is being implemented and aims at greening the development of all-important economic sectors, ensuring that these sectors implement their activities within the framework of sustainable development.

SCP pattern is a crosscutting theme that is mentioned throughout the Haritha Lanka Programme. In particular, under "Mission 3: Meeting the Challenges of Climate Change" the plan emphasises the strategy to "Optimise energy consumption through energy efficiency in enterprises." Under "Mission 6: Doing Away with the Dumps," the plan highlights the strategy to "Promote life cycle management in designing, manufacturing, consumption and disposal of products, based on principles of SCP." Under "Mission 10: Knowledge for Right Choices," SCP is mentioned specifically to "promote behavioural changes amongst youth towards sustainable production and consumption" and "Promote women to become change agents towards sustainable production and consumption practices" [National Council for Sustainable Development, 2009]. The MoE has taken steps to do a comprehensive forward-looking evaluation with the objective to undertake participatory refinement of the programme and to prepare the National Haritha Lanka Action Plan 2012–2022 to development vision by 2022. In addition to this development vision, a number of different policies are relevant for the promotion of SCP (see Table 11.1).

As Table 11.1 demonstrates, whilst the MoE, Ministry of Agriculture and Ministry of Energy are the main drivers of sustainability in Sri Lanka, a number of other government agencies are also involved in the design and implementation of SCP relevant policies, which requires cross-coordination among ministries for effective implementation. Development plans of these ministries do have some key components addressing sustainability through SCP, but, in order to be effective, the development plans need to be institutionalised as policies and guidelines to be implemented by local authorities. Furthermore, most sustainability strategies in the country are driven by key individuals who champion the cause of

Table 11.1: Major environmental policies in Sri Lanka relating to SCP

Name of National Policy	Main Objectives of the Policy	Main Implementing Bodies	State of Implementation of National Policy
National Agriculture Policy	Implement technically sound, economically viable, environmental friendly, and socially acceptable programmes to promote sustainable agricultural development with efficient and effective utilisation of resources. Increase productivity of water and land by enhancing crop production through the application of sustainable cultivation practice. Promote production and utilisation of organic and bio-fertilisers and gradually reduce the use of chemical fertilisers.	Ministry of Agriculture; Provincial Agriculture Departments; Irrigation Department	The Divineguma scheme was partially successful in the promotion of home gardening. The Government banned the sale of two types of pesticides proved to be contributing to water contamination. The strategies on organic fertiliser production and promotion have so far failed to gain any momentum due to the policy of subsidising chemical fertilisers.
National Energy Sector Development Plan — 2015	Increase the share of electricity generation from renewable energy sources from 50% in 2014 to 60% by 2020 and finally to	Ministry of Power & Energy Sustainable Energy Authority	Good guidelines and approval mechanisms to set up renewable energy power plants

	meet the total demand from renewable and other indigenous energy resources by 2030. Reduce the technical and commercial losses of the electricity transmission and distribution network from 11% to 8% by 2020. Reduce annual energy demand growth by 2% through conservation and efficient use. Reduce the carbon footprint of the energy sector by 5% by 2025.		that feed the national grid have been established. Active engagement with industries to increase energy efficiency and renewable energy share in the sector. Tariff structure to reduce excessive usage of electricity. A counterproductive measure was to reduce the petroleum prices, which resulted in increase in usage of petrol for less productive activities.
National Land Use Policy	Land suitable for non-agricultural activities has to be identified and development plans prepared for such land. In order to improve land management and productivity through land use planning, the	Ministry of Planning and Development; Ministry of Agriculture; Ministry of Urban Development.	Since 2010, the key mash lands and water retention areas have been identified and named as protected areas. If agricultural land greater than 10 acres is to be used for habitat development, special approval has to be obtained.

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Table 11.1: (*Continued*)

Name of National Policy	Main Objectives of the Policy	Main Implementing Bodies	State of Implementation of National Policy
	laws and regulations related to land have to be reviewed and a new legal framework introduced. While adopting an integrated approach to land resources management, all stakeholders in land use will be consulted and decisions taken via a participatory process.		Laws on soil protection have not been implemented successfully; across the island, industries neglect the laws and are not penalised.
Tourism Development Plan 2010	The development plan refers to strategies of increasing numbers of international arrivals and product diversification, but does not refer to concrete strategies on sustainability or SCP.	Ministry of Tourism, Sri Lanka Tourism Development Authority, Sri Lanka Tourism Promotion Bureau	The development plan is expected to change with the new government headed by the President Maithripala Sirisena.

sustainability. However, the foremost issue for promoting sustainability at the policy level in a systemic way is to enhance strategic level knowledge and capacity within the country and administrations. The SWITCH-Asia Programme's NPSC for Sri Lanka aims to address this issue (see Box 11.1).

Box 11.1 Case Study of the SWITCH-Asia SCP-NPSC Sri Lanka

The EU-funded "SWITCH-Asia SCP-NPSC" for Sri Lanka was launched on 9th April 2015. As a cooperation between the European Union (EU) and Government of Sri Lanka, the project aims at supporting the Sri Lankan Government in selecting, adapting and implementing a suitable economic and regulatory policy framework to promote SCP, thereby enhancing the long-term SCP patterns in the country.

With a budget of EUR 1.87 million, the key focus areas of the four year project include the following aspects:

- developing an overall SCP policy framework, enhancing the economic, social and environmental benefits of SCP, and providing further direction for upgrading the national policies in Sri Lanka,
- strengthening the institutional mechanism for enhancing the capacity of the government to promote SCP (also via the establishment of an Inter-agency Working Group),
- facilitating SCP implementation in selected sectors, including fostering eco-innovation,
- providing capacity development support,
- raising awareness through a knowledge development platform and facilitating inclusion of SCP in educational programmes.

The project has commenced the national SCP policy formulation, which was expected to be completed by mid-2016, followed by provision of training and capacity development for the main beneficiary: the staff of the Sustainable Development Division of the Ministry of Mahaweli Development and Environment, and the Project Steering Committee members. Additionally, the development of a knowledge platform and e-learning 'training of trainers'

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Box 11.1 (*Continued*)

tools and courses, as well as media campaigns will support public awareness raising on SCP.

The project is implemented by a consortium led by Application Européenne de Technologies et de Services (AETS) in partnership with the Ministry of Mahaweli Development and Environment selected as the key national agency. The consortium brings together local and international organisations, including the Industrial Services Bureau (ISB), Global Sustainability Solutions (GLOSS), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Regional Environmental Centre for Central and Eastern Europe (REC), and the BIO Intelligence Service (BIO).

Formulation of an overarching national policy on SCP is one of the major objectives of the SWITCH-Asia NPSC Sri Lanka. A search was initiated to collate existing national policies and related materials that had some relevance to the SCP policy to be formulated. During the process of collecting the policy documents, it was realised that there was an urgent need for a central depository system. To date, the project team has collected nearly 80 policy documents.

To formulate a national SCP policy, a three-pronged strategy has been adopted:

1. review of existing national policies that have some relevance to the SCP policy to be formulated,
2. align the national SCP policy with Sustainable Development Goals (SDGs) of the 10 Year Framework of Programmes on SCP (10YFP) and other multinational agreements, treaties and covenants,
3. learn from similar experiences in the region and EU countries.

Sri Lanka does not have a standardised policy formulation process and hence different policy proponents follow different procedures. A deficiency in the process often results in suboptimal policies and eventually weaker implementation. Therefore, it is important to adopt a standardised process of policy formulation and make it mandatory so that policy proponents have to follow a unified system. This would make the task easy for the Ministry of National Policies & Economic Affairs, which is responsible for assessing policy proposals while ensuring the adoption of robust and effective policies. Once this has been established, the SCP policy framework will be developed using this process.

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Box 11.1 (*Continued*)

The SWITCH-Asia NPSC Sri Lanka has also developed a comprehensive tool for the selection of sectors for deeper project interventions. Accordingly, the three sub sectors of dairy processing, tea manufacturing and rice processing of the food and beverages industry have been selected; baseline conditions shall be established shortly before SCP policy tools are applied to these sectors.

11.3 Sri Lanka's Industry Structures and Current State of SMEs

Small- and medium-sized enterprises (SMEs) contribute significantly to Sri Lanka's economy, accounting for 80% of all businesses [Secretariat for Senior Ministers Sri Lanka, 2012]. According to the Sri Lanka Industry Survey from 2008, over 18,000 companies were operating in the country, of which about 91% are SMEs [World Bank, 2011]. SMEs provide employment for the skilled, semi-skilled, unskilled, and the differently abled. SMEs are found across the primary, secondary, and tertiary sectors of the Sri Lankan economy. No unified definition of an SME exists in Sri Lanka; the Department of Small Industries defines an SME as an enterprise with fewer than 50 people and capital investment less than LKR 5 million (USD 34,400). For the Export Development Board, an SME is an enterprise with less than LKR 8 million (USD 55,000) investment and less than LKR 50 million (USD 344,000) annual turnover [Jayasekara and Thilakarathna, 2013]. The SME sector is a core segment of economic development in the country. SMEs account for 70% of enterprises in the plantation sector, 85% of rubber producers are SMEs, 100% of paddy cultivators, and 90% of coconut smallholdings. SMEs' contribution to Sri Lanka's total GDP is growing and has increased to 52% in 2011 from 40% in 2010 [Jayasekara and Thilakarathna, 2013].

SMEs play an important role in promoting inclusive and economic growth, developing entrepreneurial skills and innovation, as well as promoting social cohesion. SMEs in agri-business engage in growing spices, fruits, and vegetables, whilst SMEs in the manufacturing sector engage in numerous industrial activities accounting for about 20% of industrial

establishments. Sri Lanka has recognised the importance of a healthy SME sector and vibrant industry for ensuring competitiveness of the economy internationally. An SME Task Force was established in 2002 with the goal of strengthening the institutional framework for SME development. In order to create an enabling environment for globally competitive SMEs, inter-institutional coordination, developing staff and institutional capacities, and reforming and restructuring existing SME development institutions are all required. The SME Task Force recommended the establishment of an apex agency to undertake the institutional reforms required for SME development. Accordingly, in 2006 the National Enterprise Development Authority (NEDA) was established to promote, support, encourage and facilitate enterprise development within Sri Lanka, with special emphasis on SMEs [Ministry of Environment, 2012]. Also, the Science, Technology & Innovation Strategy for Sri Lanka (2011–2015) proposed a mechanism to support SMEs to innovate and transfer technologies, giving priority to high-end technologies [Secretariat for Senior Ministers Sri Lanka, 2012].

Furthermore, the National Human Resources and Employment Policy of Sri Lanka in its website states that there is room for improvement in the operating environment of SMEs in the following key areas [Secretariat for Senior Ministers Sri Lanka, 2012]:

- Gender bias — Workers employed in SMEs are predominantly men. Good gender balance in employment practice is required to correct this bias and attract, recruit, retain, and promote women in SME employment.
- SME entrepreneurs lack knowledge and experience in good personnel management practice. Most entrepreneurs do not like to provide training, health, and welfare facilities for employees due to the resulting increase in the cost of production.
- A common feature found in SMEs is the high degree of absenteeism among SME workers. This leads to loss of productivity and staff morale. Attendance improvement policies and programmes require implementation.

The following sub-sections will introduce the three sectors of renewable energy and energy efficiency, agriculture and food, and tourism, highlighting

challenges and opportunities for SCP and case studies from SWITCH-Asia projects.

11.3.1 *Renewable energy and energy efficiency*

Energy independence is seen as a key contributor to Sri Lanka's national security; around 50% of Sri Lanka's electricity is generated from imported fossil fuels such as oil and coal, and the transport sector is almost fully dependent on petroleum imports. At present, Sri Lanka's energy mix of approximately 3,600 MW is made up of 51% thermal, 37% large hydro and 12% renewables [Samarasekara, 2014]. With ambitious targets of achieving 100% electrification by 2015 (over 95% has been achieved; the balance may not be possible solely via national grid expansion due to technical reasons, hence the need to use standalone renewable options) and achieving a target of 30% of non-conventional renewable energy in the country's energy mix of wind, solar, and biomass by 2030 [Daily Mirror Sri Lanka, 2015]. The cost of energy in Sri Lanka is rapidly increasing and with it the dependence on imported fossil fuels. Rural communities on the island still use biomass as the main cooking fuel; this resource is fast depleting which is a major concern for rural households. Not surprisingly, given the statistics above, the most common issue facing SMEs is the increasing cost of energy. Progress in the SME sector has also been hampered by the lack of appropriate technologies to overcome the challenges posed by climate change.

The EU-funded SWITCH-Asia project on "*Promoting Renewable Energy as a Driver for Sustainable Development and Mitigation of Climate Change in Sri Lanka*," is a timely and necessary intervention. The project focuses on up-scaling biogas technologies for sustainable development, responsible tourism, economic growth contributing to poverty reduction, and climate change mitigation in Sri Lanka. The project targets tourism SMEs, households and public authorities in the country while building the technical capacity of manufacturing and construction SMEs in biogas technologies. The project also supports micro-finance institutions to develop financial schemes providing loans for biogas installations to SMEs and households. Furthermore, the training and capacity building component of the initiative assists local construction sector to enhance its technical and entrepreneurial competences regarding manufacturing and installation of biogas systems (see Box 11.2).

Box 11.2 Case Study of the SWITCH-Asia Sri Lanka Renewable Energy

In 2014, SWITCH Asia launched the "*Promoting Renewable Energy as a Driver for Sustainable Development and Mitigation of Climate Change in Sri Lanka*." The three-year project implemented by People in Need (PIN), Czech Republic, and local partner, Janathakshan, aims to create an enabling environment for the large-scale dissemination of biogas as a reliable source of clean energy for the hospitality industry and households in Sri Lanka. With this project, SWITCH-Asia Programme continues its focus on the hospitality industry, highlighting the significant role the hospitality industry plays in contributing to economic growth and poverty reduction through a shift to energy efficiency, renewable energy, and environmental practices in the tourism sector.

Biogas technology has had a presence in Sri Lanka since the 1970s, reaching a peak in the early 1980s when electricity was scarce and costs associated with the construction of biogas units was affordable due to low cost of labour involved. Regrettably, the adoption of biogas technology has remained more or less stagnant since the late 1980s. Biogas technology in itself is an ideal solution with benefits to three pertinent issues currently facing Sri Lanka, that of energy security, sustainable waste management, and the overuse of chemical fertiliser, which has contributed to environmental pollution and a rise in kidney disease. Biogas technology converts waste into sustainable clean energy improving environmental stewardship by reducing greenhouse gas (GHG) emissions, energy costs and dependence on imported fossil fuels and producing organic fertiliser as a bi-product.

The SWITCH-Asia project aims at developing biogas as an industry focusing specifically on improving the availability of technical knowhow and skilled personnel; developing financial tools and resources to disseminate biogas units; improving the policy and regulatory framework for dissemination and increasing public awareness and acceptance of the technology. After two years in operation, the project reached the following milestones:

- A training manual on the construction of the *SiriLakUmaga* biogas unit.
- Training workshops across five provinces where 35 masons received a comprehensive scientific training on the construction of a biogas unit.
- 20 SMEs trained and capacitated to provide services to install biogas units in five provinces.

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Box 11.2 (*Continued*)

- Set up Provincial Biogas Promotion Committees in three provinces with the inclusion of key government institutions, banks, and private associations.
- Developed long term Biogas Promotion Plans for three provinces.

A collective effort by various stakeholders in the industry has seen the development of a Nationally Appropriate Mitigation Action Plan for Biogas, under which around 1,000 biogas units will be constructed across the country at all levels but mainly focusing on four provinces; Uva, Central, North Western, and Southern. Additionally, the Sri Lanka Sustainable Energy Authority (SEA) is currently in the process of developing a national programme for biogas development. The relatively high cost of construction is one of the major obstacles for the up scaling of biogas at the domestic level, with progress further restricted by a recent government reduction in the price of liquid petroleum gas (LPG), which is sure to be short-lived. These are a few of the challenges that lower middle-income countries such as Sri Lanka face when addressing issues of SCP practice. Awareness of sustainable development and responsible tourism is key to thwarting short-term benefits that could jeopardise sustainability in the long term.

More information about the project is available at: http://www.switch-asia.eu/projects/sri-lanka-renewable-energy/.

11.3.2 *Sustainable agriculture and food systems*

SCP practice can play an important role to change current unsustainable practices in Sri Lanka's agriculture and food sector. This section will look at two particular issues: On the production side, the overuse of agrochemicals and fertilisers in food production, and on the consumption side, the growing trend towards consumption of unhealthy fast foods.

The Sri Lankan food industry is very diverse: small-scale farmers produce primary goods, 80% of distribution and sales is handled by medium and large-scale institutions, with small scale entities accounting for about 20% of the market share. The processed food sector is mainly driven by large companies and multinationals achieving growth from exports and local market expansion. Rice continues to be one of the main

agricultural crops in Sri Lanka and accounts for about one fifth of total agricultural output. Excessive use of chemical fertiliser and pesticides in agriculture has resulted in contamination of ground water and deteriorating soil conditions. Starting in the mid-1960s, successive governments and the agricultural department have encouraged Sri Lankan farmers to use chemical fertilisers and pesticides by giving heavy subsidies. Instead of the natural methods farmers have been using for centuries, they were encouraged to use chemical fertilisers and other agrochemicals. As a result, green and sustainable agricultural methodologies employed in the past, such as cascade tanks and the use of compost and animal dung as organic fertilisers, have diminished rapidly in rice cultivation. According to Wimalawansa and Wimalawansa [2014], Sri Lankan farmers currently use around 600,000 tonnes of solid fertiliser and 250,000 tonnes of liquid fertiliser annually. Fertiliser use in the three largest provinces in Sri Lanka is as follows: North Central Province, 130,000; North Western Province, 96,000; and Eastern Province, 100,000 ha (see Figure 11.1).

Although fertiliser consumption has been on a steady downwards trend over the last decade (see Table 11.2), current usage levels are still unsustainable and Sri Lanka uses more phosphate fertilisers and certain other toxic agrochemicals than any other country in the Southeast Asia [Wimalawansa and Wimalawansa, 2014].

Notorious environmental pollutants, these agrochemicals and petrochemicals are key contributors to soil infertility and have been linked to the steep rise in the incidence of chronic kidney disease in Sri Lanka.

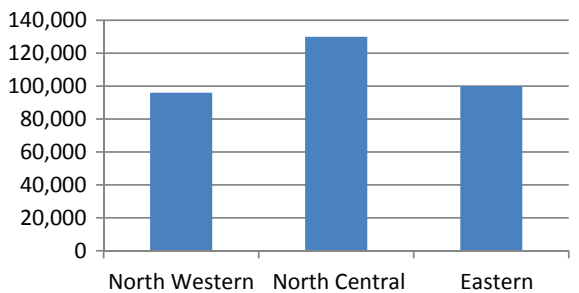

Figure 11.1: Geographic distribution of fertiliser use in Sri Lanka (tonnes per year)

Source: Wimalawansa and Wimalawansa [2014].

Table 11.2: Fertiliser consumption in Sri Lanka [World Bank Data, 2013]

Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Kg per hectare of arable land	291.3	288.5	311.7	281.4	229.0	256.1	198.4	160.0

The number of affected people in the country has grown to an estimated 450,000 [Handunnetti, 2013]. This has posed a major threat to farming communities and many leave rural areas looking for alternative livelihoods and opportunities [Daily Mirror Sri Lanka, 2014]. Some producer groups have made efforts to grow organic and eco-friendly produce. However, the lack of awareness about organic produce among consumers, the lack of standards for organic labels, limited certification systems at affordable prices and the lack of third party verification [Ranaweera, 2008] have so far hindered the switch to environmentally sustainable and healthy practices in the agriculture sector.

Sri Lanka is also an example of how fast food is becoming part of developing countries' diets. Sri Lanka's food consumption pattern is gradually shifting to a more processed food consuming market. In the early 1980s, processed food consumption was limited to powdered milk and a few items purchased at the local bakery such as bread, a daily staple. The common practice was to purchase fresh produce and prepare everything at home. Increasing urbanisation and the introduction of global fast food chains such as Mac Donald's, KFC, and Pizza Hut are beginning to change consumer patterns as people are more likely to opt for items that are ready to eat off the shelf or can be prepared with minimal time and effort. The seemingly appealing nature of junk food including its time-saving factor, attractiveness in packaging, advertising and addictive taste all play a key role in causing negative impacts to an individual's health. The health risks twofold: first, there are the more pronounced health risks, such as cholesterol from the consumption of high fat content and obesity from high sugar. Second, there is the incidence of dental cavities, type 2 diabetes and certain ingredients that negatively impact pregnancies and existing health conditions, like asthma [Ashakiran and Deepthi, 2012].

These changes have created varying structures across the entire food supply chain. The production pattern of raw food items remains unchanged;

from rice to vegetable and fruits, the majority of producers are smallholder farmers. A few large companies engage in the production of these items, however, the overall share remains low. Dominated by SMEs only a few decades back, the sourcing and processing sectors have seen a major shift now equally shared by large companies. Large multinationals and their Sri Lankan agents dominate the support service sector, comprising fertiliser, chemicals, and equipment.

11.3.3 *Sustainable tourism through SCP*

As trends in consumption and production are changing in the country along with economic development, sector-specific government policy and industry regulation need to be implemented to ensure a balance is struck between development and preservation of natural resources. This is especially significant in the tourism sector, which has over the last three years experienced exponential growth, putting increasing pressure on natural resources and energy consumption, an issue which needs to be remedied urgently. A blueprint document, the '*Sri Lankan Tourism Development Strategy 2011–2016*,' whose objectives are to distribute national economic benefits through tourism to economic development and national social cohesion, is at the time of writing guiding tourism development for the country's tourism sector.

The 26-year civil war conflict was evidently unfavourable for tourism. Prior to the end of the conflict in 2009, the average volume of international tourist arrivals into the country remained stagnant at around 400,000–500,000 per year. Post-conflict, dividends of peace resulted in a tourism boom with 1.5 million tourist arrivals recorded in 2014 alone. The Central Bank of Sri Lanka Annual Report [2013] states that total tourist earnings increased from USD 1,039 million in 2012 to USD 1,715 million in 2013. Cashing in on the huge potential of its tourism sector, Sri Lanka is aiming to make it the largest foreign exchange earner increasing total room capacity to 35,000 and attracting 2.5 million tourists in 2016 [Wickramasinghe, 2012], by launching tourist development zones in Kalpitiya, Kuchchaveli, and Yala. Both international hotel chains and medium and small-scale hotels are clamouring to cater to the increasing demand for services. The unprecedented demand for services, however, is not without teething

problems, as it struggles to deal with the lack of support services such as uninterrupted supplies of quality food, transportation, community-managed tourism such as day tours and other activities, training, supplier development, and environmental restoration and protection.

The newly elected President, Hon. Maithripala Sirisena, who took office in January 2015, has shifted focus to strengthening relations with Sri Lanka's top bilateral trade partner India, which would ensure Sri Lanka's development continues and offsets any deteriorating ties with China, which has emerged as a major investor in Sri Lanka's infrastructure. An example is the USD 1.4 billion Colombo Port City project [Springer, 2014]. Sri Lanka's strategic position in the Indian Ocean and along major trade routes means it will likely remain an attractive destination for investment, including the tourism sector. As Sri Lanka experiences its tourist boom and the demand for services and infrastructure increases, regulatory mechanisms need to be bolstered to ensure transparency, accountability, and quality of service, which if ignored could pose a serious threat to the future of the industry. The Sri Lankan tourism sector is a mix of private sector and public sector entities where large-scale and small-scale service providers play an equally prominent role. The hospitality industry is widely known to be one of the most energy-intensive industries in the country. The cost of energy accounts for nearly 18% of the total cost in a hotel and the percentage would be higher for smaller entities due to low economies of scale [Wickramasinghe, 2012]. Small-scale hoteliers and related service providers such as restaurants, food suppliers, and transport service providers have long faced financial difficulties related to high operating costs owing to increasing energy prices. Not surprisingly, the main environmental management practices implemented by hotels are use of energy-efficient lighting methods (used by 88% of hotels) and use of solar power (used by 69% of hotels) [Wickramasinghe, 2015].

Tourism development also puts pressure on natural resources when it increases consumption in areas where resources are already scarce. In a country that endures annual droughts in the dry zone and certain areas still lack water piping supply, the tourism industry already overuses water resources for hotels, swimming pools, gardens, and personal use of water by tourists. Many hotels do not maintain monthly records of their water

consumption and the lack of data on water consumption remains a barrier for taking necessary water management decisions [Wickramasinghe, 2013]. Excessive water consumption could result in water shortages and degradation of water supplies, as well as generating a greater volume of wastewater.

The sustainable disposal of degradable and non-degradable waste is another serious issue, improper disposal being a major despoiler of the environment. In the last few years, numerous large and medium scale constructions without proper environment impact assessments (EIAs) have mushroomed, increasing pressure on natural resources and attractive landscapes and forcing the local population to compete for critical resources. Uncontrolled conventional tourism can put enormous pressure on an area leading to negative impacts such as increased pollution, soil erosion, water pollution, natural habitat loss, increased pressure on endangered species, and deforestation.

For the Sri Lankan tourism sector to compete with the global hospitality market and meet the Global Sustainable Tourism Criteria, a shift to energy efficiency, sustainable practice and the use of alternative energy sources needs to be a key focus. This also includes tropical alternatives such as the rattan industry for furniture and construction, which represents 30% of the world's supply along with Malaysia, the Philippines, and Bangladesh. Likewise, Sri Lanka's bamboo industry can contribute to sustainable tourism, which presently has 5,166 ha in coverage and is valued at USD 1.19 million, and aims to expand to 10,000 ha coverage by 2018 [Ministry of Industry and Commerce, 2012].

Linked closely to the tourism industry, the Sri Lankan food industry has policy and regulations on food safety but lacks the same with regard to sustainable food systems, which take into account production, processing, distribution, consumption, and waste disposal. Ambitious in its targets for infrastructure and human resource development, the current tourism blueprint falls short of ensuring sustainable tourism goals, in particular environmental and social issues such as distribution of benefits, and taking into account the interests of all stakeholders such as indigenous groups, the local population, tourists, SMEs, and local government [Kamble and Bouchon, 2014]. For instance, regarding environmental criteria, of the three areas across the country covering 1,500 acres designated

Box 11.3 Case Study of the SWITCH-Asia Project "Greening Sri Lanka Hotels"

Funded by the SWITCH-Asia Programme with key implementing partner the Ceylon Chamber of Commerce, the "Greening Sri Lanka Hotels" project was launched in 2010 and completed in 2013. The project's main objective was to support the hotel sectors in Sri Lanka to reduce their carbon footprint by implementing environmentally sound energy and waste management practices. As key implementing partner, the Ceylon Chamber of Commerce played a significant role connecting business institutions in the country to key government partners including the SEA, the Institute of Environmental Professionals and the responsible tourism partnership (a consortium set up by the Ministry of Tourism together with private sector partners).

In an unprecedented feat, the "Greening Sri Lanka Hotels" project connected over 250 of the 358 registered hotels across the country through awareness creation workshops, technical training sessions, energy audits, and a national competition. The project was well received by the majority of hotels further bolstered by government regulation, implemented at the time, requiring high energy consuming entities to have a compulsory on-site energy manager.

Initially, it was the larger hotels that seemed to embrace the concept of the project because they could allocate the necessary resources, and the savings garnered were clearly visible. In time, the enthusiasm shown by larger hotels and awareness programmes conducted under the project attracted the interests of the small and medium hotel sector and they too began to participate actively, reaping the benefits of environmentally sound energy and waste management practices. There still remains a gap in lack of affordable technical guidance and financial tools for small and medium hotels to achieve their targets. The basic action plan of the project included initial awareness creation workshops for key decision makers in the hotel sector at identified zones, followed up with walk through site audits promoting awareness on the potential savings and preservation a hotel could achieve with minimum investment.

Walk through audit information was subsequently used to develop essential technical training programmes for delivery. Designed with the concept of an on-site "energy manager" responsible for implementing, monitoring and sustaining government-introduced renewable energy schemes and regulations, the project has helped institutionalise the majority of knowledge transferred during the project activities. A handbook on "good practice guidelines" developed

(*Continued*)

Box 11.3 (*Continued*)

under the project continues to be used by most hotels in the country for training purposes.

Additionally, the project introduced the "SWITCH-ASIA — GREENING SRI LANKA HOTELS" awards programme, which recognised and awarded the best practising hotels. An annual event held continuously for the past three years since its inception in 2012, the "SWITCH-ASIA — GREENING SRI LANKA HOTELS" awards programme has become a trademark competition in which hotels vie for the prize of best energy and environment practices in the country. At the conclusion of the project in 2013, the awards programme continues to be taken forward by the Ceylon Chamber of Commerce in partnership with other stakeholders in the tourism sector.

More information on the project is available at: http://www.switch-asia.eu/projects/greening-sri-lankan-hotels/.

for the development of resorts, the only criteria covering the aspect of sustainability was the EIA conducted prior to the pre-construction stage. There are challenges associated with using EIAs as effective conservation and sustainable development tools because they fail to take into consideration the cumulative impacts of natural resource drainage and long-term ecological damage. The tourism blueprint also does not consider any sustainability criteria for the operation of hotel and tourism facilities.

11.4 Conclusions and Recommendations

SMEs contribute significantly to Sri Lanka's economy, accounting for 80% of all businesses. Sri Lanka has experienced significant changes in consumption and production patterns influenced by unprecedented development and a tourism boom since the end of the conflict in 2009. Today, Sri Lanka is in a state of rapid economic expansion. However, integrating environment and development at the policy, planning, and management levels that account for the economic and environmental impact in the long-term, the large-scale extraction of natural resources and generation of unmanaged waste are still to be achieved. It is the households and hospitality sector in Sri Lanka that will be most affected if efficient systems

are not established for integrated environmental and economic accounting. Though the government has made some headway in addressing issues of sustainability, there remains much to be done in this regard. SCP can play an important role in guiding national development if it is included in national policy documents, such as tourism sector development plans. Furthermore, the more active involvement of international donor agencies could play a significant role in guiding local implementing organisations towards sustainable development practice. The SWITCH-Asia projects serves as key learning experiences for this sector, creating compelling case studies for the furtherance of sustainable development practice. Currently, SMEs suffer from a lack of information exchange, leading to conflict, dissonance, and other industrial relations issues. More systematic cooperation and consultation with stakeholders could be addressed through new SME policy. Taking this into account, the EU-funded "SWITCH-Asia SCP-NPSC" for Sri Lanka was launched on 9th April 2015. A partnership between the EU and the Government of Sri Lanka, the project aims at supporting the Sri Lankan Government in selecting, adapting and implementing suitable economic and regulatory policy framework to promote SCP, thereby enhancing long-term sustainability of consumption and production patterns in the country. The project recommends the development of a national level action plan, with the inclusion of government and support of donor agencies, for SCP that will contribute to environmental integrity, social justice, and economic development.

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