

Sustainability through Eco-entrepreneurship: Analyzing the opportunities and challenges for micro and small-scale eco-enterprises in Sri Lanka

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Abstract

The 17 Sustainable Development Goals (SDGs) adopted at the UN Sustainable Development Summit in 2015 place a greater importance on Green Economy. These goals acknowledge that economic growth without social and environmental considerations will not contribute to sustainable development. Thus, the key aim for a transition to a Green Economy is to enable economic growth and investment while increasing environmental quality and social inclusiveness. In this context, eco-entrepreneurship plays an important role. Green or 'eco' entrepreneurs are those consciously seeking business opportunities to provide, or support, profitable yet resource-efficient products and services. Therefore, eco-entrepreneurship lies at the nexus of innovation, environment, and entrepreneurship. This paper focuses on three case studies of eco-enterprises in Sri Lanka, the impact they are achieving and the challenges and opportunities they face. The eco-enterprises selected for the study are 1. Katana Upcycles from Negombo 2. Paalam Products from Jaffna and 3. Yaal fibre from Neerveli. These social enterprises achieve a mix of social, economic and environmental impacts through their businesses, including waste reduction, creating job opportunities and introducing eco-friendly alternatives to the market. The study also identifies that the eco-enterprises face numerous challenges to sustain their growth and scale up. Challenges include limited access to funds, lack of business and marketing skills and access to suitable markets. The study suggests that by providing networking opportunities and creating platforms for dialogue will support eco-enterprises to connect and build partnerships that will help in innovation, productivity enhancements, and unlocking new market opportunities.

Key words: Eco-entrepreneurship; innovation; eco-enterprises; small-scale; sustainable development

INTRODUCTION

The 17 Sustainable Development Goals (SDGs) adopted at the UN Sustainable Development Summit in 2015 place a greater importance on Green Economy. In particular, Goal 8 (Decent Work and Economic Growth); Goal 9 (Industry, Innovation, and Infrastructure); Goal 11 (Sustainable Cities and Communities); Goal 12 (Responsible Consumption and Production); Goal 13 (Climate Action) and Goal 17 (Partnerships to achieve the SDGs) recognize the importance of inclusive economic growth and development (United Nations, 2015). These

goals acknowledge that economic growth without social and environmental considerations will not contribute to sustainable development. Thus, the key aim for a transition to a Green Economy is to enable economic growth and investment while increasing environmental quality and social inclusiveness.

Eco-entrepreneurship also known as, social and environmental entrepreneurship, could play an important role in achieving a Green Economy. Green or 'eco' entrepreneurs are those consciously seeking business opportunities to provide, or support, profitable yet resource-efficient and environmentally friendly products and services(Steurer, 2013). Therefore, eco-entrepreneurship lies at the nexus of innovation, environment, and entrepreneurship. Researchers have identified a list of characteristics as inherent to eco entrepreneurs(McEwen, 2013, Gibbs, 2009, Dean and McMullen, 2007). They act as entrepreneurs with a strong internal motivation related to environmental problems. They strive to address socio-environmental problems or needs consciously. This is at the core of their business activity. Their business activities have a net positive effect on the natural environment and at the same time aiming for financial sustainability.

Eco-enterprises are living proof that entrepreneurial drive can create innovative and novel solutions for delivering sustainable development at the grassroots level(Bymolt et al., 2015). While the value of eco-entrepreneurship is increasingly recognized, there is still very little data available on the overall impact of these enterprises and their contribution to sustainable development in Sri Lanka. This paper aims to bring together findings from three local case studies to help fill that gap by generating insights for policy and decision-makers on the role of eco-enterprises in achieving sustainable development and discuss enabling factors that can help them overcome barriers.

BACKGROUND

Over the last few decades, Sri Lanka has experienced many changes to its predominantly agriculture-based economy. Rapid urbanization and the pressure to provide economic opportunities for an increasing population has also given rise to new problems related to energy consumption, solid waste generation, water and air pollution and unsustainable lifestyles. Adding to these, in recent years, extreme weather events such as severe droughts and floods triggered by climate change have negatively impacted the country.

One of the most problematic environmental issues in the country is the waste problem. Managing waste has become a serious environmental concern, particularly in the urbanized areas of Sri Lanka with high population densities and the unavailability of suitable lands for waste disposal sites (Bandara, 2008). Open dumping in vacant lands and open burning still remains the most common waste disposal practices in the country. The failure to manage solid waste, particularly non-degradable waste such as plastics, metallized films and Styrofoam has resulted in widespread damage to the environment. Open dumping has been identified as a primary cause of vector borne diseases such as Dengue and Malaria in Sri Lanka (Sirisena and Noordeen, 2014, Environmental Foundation LTD., 2007).

Whilst, economic development is important, improving peoples' livelihoods, protecting the environment, and addressing climate change should be given equal attention. As such, waste management in developing countries need to adopt different strategies that focus on low-cost technology and community participation (Medina, 2005). Waste is a valuable resource in emerging economies such as Sri Lanka as virgin raw materials are generally expensive. Using waste as raw materials and its potential to create economic opportunities need careful attention. Industries in Sri Lanka generate a large volume of plastic waste in the form of packaging materials. Similarly, textile industries generate large volumes of textile wastes as offcuts (Park, 2017). A part of this is recycled or co-processed. However, a considerable volume is dumped in vacant lands and waterways or openly burnt. To reduce the negative environmental impacts, these wastes can be processed using machines that can be easily sourced to create excellent upcycled products thereby generating income opportunities for small entrepreneurs and social enterprises.

Findings from author's three-year Sri Lankan feasibility study (Jayasinghe, 2015) indicate that recycling waste to address these issues also offers opportunities for local economic development. Product design, prototyping and manufacturing are sparse due to the absence of affordable machinery, technological skills and knowledge of manufacturing processes and design protocols. As a result, the project, "Australia-Sri Lanka university partnerships to develop community-based waste recycling businesses" supported by DFAT Australia was initiated in 2015 to support local universities to set up waste upcycling training facilities. The University of Western Australia, together with the Universities of Moratuwa and Sri Jayewardenepura in the Western province of Sri Lanka, the University of Jaffna in the post-conflict Northern province, and the organization Waste for Life (WFL), developed a unique capacity building educational program that supports development of novel community-based

waste recycling and manufacturing businesses. The aim of the project was to support local communities to process waste into useful products – building materials, furniture, lifestyle products etc. Through the project two waste plastic processing and resource facilities were set up at the University of Moratuwa and at the University of Jaffna. With the help of the implantation partner, Waste for Life, three community-based eco-enterprises were successfully incubated namely; Yaal fibre, Katana upcycles and Paalam Products.

METHODOLOGY

There is a boom in community-based enterprises in Sri Lanka. It is crucial to report on the impact created by eco-enterprises and learn lessons from their successes, but also on the challenges they face and how they try to overcome those. For this study the above-mentioned eco-enterprises were taken as case studies. Data were collected through in-depth interviews, focus groups discussions and a simple questionnaire survey with all three eco-enterprises. Interviews were conducted in their workspaces.

A SWOT analysis (Table 1) was performed to identify the strengths, weaknesses, opportunities and threats. This was followed by an overall Triple Bottom Line (TBL) Impact assessment to identify the social, environmental and economic impacts created by these eco-enterprises. The Triple Bottom Line is a concept that was coined by John Elkington in the late 1990s (Elkington J., 1997). This sets out the range of values that enterprises should adopt to attain a more sustainable business: the social impact, environmental impact and economic impact. The economic impact is measured through indicators such as revenue, profit and employment. The environmental impact is calculated based on resource efficiency, waste management, energy consumption, emissions, recycling and water and land use. The social impact focusses on issues such as networking, social relations, fair trade, ethics, education and governance.

SWOT Analysis	
Strengths	Weaknesses
What advantages does your enterprise have?	What could you improve?
What do you do better than others?	What should you avoid?
What do people in your market see as your strengths?	What do people in your market likely to see as weaknesses?
What do you see as your strengths?	What do you see as your weaknesses?

What is your organization's Unique Selling Proposition?	
Opportunities	Threats
What good opportunities can you spot?	What obstacles do you face?
What interesting trends are you aware of?	What are your competitors doing?
What new technology are available?	Are opportunities available for your enterprise or products changing?
What new market opportunities are there?	Do you have financial debt or cash-flow problems?

Table 1: SWOT Analysis questions

CASE STUDIES: WASTE-TO-VALUE ECO-ENTERPRISES

One of the key aims of the aforementioned project has been to provide education and training in developing waste-based upcycling businesses and for participants to begin to create a real start-up by the end of their training. Three successful community projects have emerged which manufacture domestic products such as books, file folders, coasters, placemats, decorative sheets and panels. These community groups were trained in materials and products development. Subsequently as the community groups perfected the production processes and as the products were ready to enter the market, brand names and logos were developed for each business.

Case study 1: Yaal fibre - This is a group of women belongs to an Agriculture cooperative that processes Banana in Neerveli, Jaffna. The cooperative was using a simple machine, donated by a German NGO to extract fibre from discarded banana trees after harvest. The women were making baskets, hats and other small household items from banana fibre, but were struggling to find a reliable market in tourist-poor Jaffna. To turn around the prospects of the cooperative, a simple technology was introduced, which combined banana fibre with waste plastic to create different upcycled products such as books, placemats, coasters and clipboards. Since its inception in 2016, Yaal fibre has successfully developed a range of commercial products that have been well received across different markets resulting in several large orders from travel companies and gift shops. Waste plastics such as LDPE, HDPE, and PP packaging materials are collected from different industries in the area including bakery shops and a motorcycle spare parts store. The new eco-enterprise has provided an income source for around 14 women from nearby villages.

Case study 2: Katana Upcycles – This eco-enterprise was developed as the domestic product manufacturing arm of a recycling business run by a small entrepreneur in Katana, Negombo. He has provided employment for about 8 to 10 women from neighboring houses and villages. The women were preoccupied with their own financial situation and reported that was their main reason for working at Katana Upcycles. However, they see their involvement with the enterprise as being a valuable contribution to the environment. They convert plastic packaging materials, gunny bags, old sarees, curtains and metallized food wrappers into value added products. A range of commercial products made from discarded materials has been developed including file folders, wallets, purses, bags etc. Katana Upcycles run a weekly stall at Good Market; a market place for social and eco enterprises in Colombo which takes place every Saturday.

Case study 3: Paalam Products – This eco-enterprise consists entirely of women, supported by an existing charitable organization, the Paalam Project. Paalam Project works with war-affected communities in the Northern Province to support livelihood development and promote social responsibility in the local community. Currently 6 women, mostly single mothers from the area, work to upcycle fabric waste and plastics into products such as pencil cases, file covers, and folders. Products are sold both locally and abroad.

DISCUSSION

TBL Impacts

The case studies show that locally driven eco-enterprises can and are achieving TBL impacts and that scaling up or replicating them can contribute to greener and more inclusive growth. These three eco-enterprises address all three pillars of sustainability: economic, environmental and social, at different levels.

Addressing environmental issues is fundamental to reducing poverty and improving the quality of life. The environmental benefit of waste reduction and a cleaner environment is an indivisible benefit as all citizens will benefit from a cleaner environment. There is a direct positive impact on the environment by promoting the use of waste as a sustainable resource to generate income. These eco-enterprises help reduce the use of virgin materials needed for production, thereby conserving natural resources and energy while reducing air and water pollution.

One of the most significant social impact of the three eco-enterprises is improving livelihoods by providing training to women from low-income communities, helping them gain skills for life and improving their household incomes. Further, these eco-enterprises provide women a dignified place to work.

All three eco-enterprises have created a positive impact by encouraging large manufacturing industries that generate wastes to support eco-enterprises by providing clean waste as part of industries' CSR initiatives.

Environmental impacts	Social impacts	Economic impacts
Climate change mitigation by reduction of greenhouse gas emissions.	Increase of income and job opportunities for marginalised groups.	Encouragement of local business development.
Diverting waste from open dumps and reducing risk of open burning.	Education, training and skill development in local communities.	Reduction of community costs and increase of purchasing power.
Waste reduction through waste management, upcycling and development of value-added products.	Women empowerment and improvement of gender equality.	Creation of innovative value chains that are eco-friendly and inclusive.
Promotion of biodiversity and conservation.	Provision of basic services in local communities.	Support promotion of local crafts and tourism.
	Improve self-esteem, confidence and autonomy of members of the eco-enterprises.	

Table 2: TBL impacts created by the eco-enterprises

Identifying Challenges and Opportunities

Upcycled products made from discarded materials are gaining popularity in Sri Lanka, particularly among tourists (Jayasinghe and Baillie, 2017). The increasing amount of waste generated in Sri Lanka and the significant potential for resource recovery are the primary triggers for waste-to-value based business models. Simple products such as notebooks, document folders, pencil cases, bags, coasters and placemats made out of laminated textile and plastic materials have a good demand in local gift shops (Barefoot, Laksala, Podi Kade), eco-friendly market places (Good Market, the Colombo Flea Market) and in hotel gift shops. Upcycled products also has a demand as corporate gift items and conference gifts. Decorative panel boards and simple light fittings made from waste-based composite materials has a value as interior design element.

All three enterprises operate on a financially profitable basis, primarily because they procure the raw materials for their products free of cost. They convert waste into useful products such as artistic and utility products which is sold to a wider customer base at market prices. Since the enterprises incur cost mostly in operational expenses, their profitability depends on keeping these costs low and achieving competitive prices, scale and reach for the upcycled products. However, concerns regarding the fair distribution of revenue from the sale of items is an issue that needs attention. Further, the financial viability of these enterprises is heavily dependent on availability of good quality plastic packaging materials. Lack of good quality plastics in the Northern province is a huge challenge faced by both Yaal Fibre and Paalam Products.

One of the most critical challenges cited by enterprises in this study is business sustainability challenges. They encounter challenges because of customer perception and inadequate demand for recycled products. Customers attach higher value for products made from virgin raw materials, than from recycled items. This is specifically relevant when the price of upcycled products is at par or higher than normal products. The three eco-enterprises promote their products with an “eco-friendly” or a “green” tag to a niche market impacting scale.

Strengths (S)	Weaknesses (W)	Opportunities (O)	Threats (T)
Use of simple low-cost technology to process materials.	Gaps in business and marketing skills.	Availability of a wide spectrum of good quality waste in urban areas.	Limited access to finance for working capital or investments for scale up.
Partnerships and community engagement that provide access to various resources and networks.	Lack of TBL planning and monitoring.	Increasing interest on sustainable consumption and production.	Lack of sustainable market opportunities.
Capacities for innovation to address problems and needs in local communities.	Flexible working hours that often lead to members not committing to work efficiently.	Tourist-rich niche-market that values eco-friendly products.	Customer acceptance and willingness to pay for waste upcycled products.
	Lack of understanding and attention on branding and quality standards.		Lack of support from large industries to provide a continuous supply of clean waste.

Table 3: SWOT Analysis of the eco-enterprises

Way forward for eco-enterprises in Sri Lanka

To support the growth and long-term sustainability of eco-enterprises, the following recommendations were drawn from this study.

1. Recognition and promotion of eco-enterprises as a viable business model

Governments, donors and investors should give proper recognition to the importance of eco-enterprises in an emerging economy like Sri Lanka. Policy makers should develop policies conducive to the success of these grassroot enterprises as they help to drive local economic

development, address local social and environmental challenges and can inspire other entrepreneurs and start-ups to make steps in this direction. Government needs to create supportive bureaucratic processes and protect intellectual property to promote innovation and support new developments in eco-enterprises.

2. Create platforms for eco-entrepreneurs to share their stories

Eco-entrepreneur support innovation and job creation and should be invited to participate in policy development discussions. Creating platforms for discussions also provide opportunities for enterprises to connect and build new partnerships which is vital for innovation, product and process enhancements, and unlocking new market opportunities.

Partnerships make a real difference to eco-enterprises in pooling and accessing resources. Networks can facilitate joint learning and knowledge sharing. Policy makers should see themselves as indirect stakeholders and seek out the views of SMMEs to understand and address the specific barriers they face in each sector.

3. Provision of training in business development

Eco-enterprises require business development support to become financially sustainable while scaling up their business activities. A special attention should be given to women-led eco-enterprises which are essential contributors, especially in rural economies.

4. Facilitation of access to finance

Access to start-up and scale-up funds is one of the biggest obstacles identified by all three eco-enterprises. Financial institutions need to develop products and approaches that are responsive to micro and small enterprises' requirements.

5. Impact monitoring and evaluation

It is important for eco-enterprises to define and monitor the positive impacts they create, and to be able to communicate these impacts – both qualitatively and quantitatively. For example, how much waste is diverted from landfills, the number of jobs created, monthly/ annual income and profit needs to be recorded. Donors are willing to support eco-enterprises, particularly those that have a stated mission to improve the quality of life of local communities and address environmental pollution. Further, when TBL impacts are clearly visible, it is easy to materialize collaborations with large industries.

CONCLUSION

Waste upcycling not only addresses environmental pollution due to untreated waste, but also reduces consumption of virgin raw materials, and energy for production processes. In the process, it also creates job opportunities for low income communities. Considering the diversity and volume of waste produced in Sri Lanka, the simplicity of operations and availability of low-cost technology, waste-to-value eco-enterprises have a huge potential to expand in Sri Lanka. Eco-enterprises, however need to invest in creating awareness in source separation of waste, value addition, marketing upcycled products and brand positioning to firmly establish their business model.

Eco-enterprises, through waste-to-value innovations generate high value products, minimize waste disposal issues, and provide employment opportunities for local communities. The increasing amount of waste generated in Sri Lanka and the significant potential for resource recovery are the primary triggers for waste-to-value based business models. However, Sri Lanka needs more independent studies that quantifiably measure the positive impacts of eco-enterprises. Indicators such as number of jobs created for people from low income communities, amount of waste diverted from open dumps, amount of greenhouse gases and carbon emissions prevented need to be measured. These results then could be fed back into policy, particularly in reviewing the implementation of the Sustainable Development Goals (SDGs).

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