Scaling Up Business Impacts on Sustainable Living: Theoretical Framework Report

DISCUSSION DOCUMENT
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Executive Summary

Sustainable living can be described as patterns of consumption and production that enable present generations to achieve healthy and happy lives, while respecting environmental limits, and thus enable future generations to do the same. Current living and consumption patterns are clearly unsustainable around the world. There is a need for businesses to move from a production focus (e.g. controlling and optimising their existing production processes) to also include a more sustainable consumption focus (e.g. influencing and encouraging sustainable consumption patterns) in order to address the product and service needs of a sustainable society.

This report provides a theoretical baseline for scaling up business impacts on sustainable living, including introduction to relevant concepts, business model categorisation, Scaling Up Innovations Framework, scaling up strategies and success factors. Scaling up of business impacts on sustainable living requires a multi-disciplinary and multi-stakeholder approach. The Scaling Up Innovations Framework presented in this report (Figure A) is therefore relevant and can be applied to a range of stakeholders, including entrepreneurs, financial institutions, policy makers multi-national corporations, civil society organisations, and support organisations. The Scaling Up Innovations Framework is not meant to be yet another method for measuring social/environmental impacts and triple bottom line performance. It was developed as a decision-making aid to develop a scaling up plan, rather than a method.
Key conclusions from this report are:

- **Business models**: A business model describes the rationale of how an organisation creates, delivers, and captures economic, social, environmental, or other forms of value. The business models can present a range of production and/or consumption oriented solutions towards sustainable living. This report presents a categorisation of business models based on their value position (consumption versus production) and focus (production, products and services, and systems). It is not claimed that the business model types presented here are all-inclusive. Sustainable living business models are an emerging field of application and knowledge, and therefore subject to further research and development.

- **Scaling up impacts**: Scaling up business impacts on sustainable living can be achieved by increasing their positive impacts in one (primary) hotspot or by expanding their positive impacts on other (secondary) hotspots, while also considering and minimising potential negative impacts which may be created. In the context of this report, a hotspot is defined as a sustainable living issue which has the potential to be improved or strengthened. These hotspots can be local (e.g. lack of local community services), national (e.g. unemployment) or international (e.g. climate change) issues.

- **Scaling up strategies**: Scaling up strategies describe how business impacts on sustainable living could be scaled up. Depending on the focus of the efforts scaling up strategies can be grouped as:
  - *Organisations as the scaling up focus*: scaling impacts by growing the organisation (organic growth and acquisitive growth), scaling impacts beyond organisational boundaries (dissemination, joint ventures, partnerships, franchising and smart networks), and scaling impacts by reducing organisational boundaries (licensing and mergers/sale);
  - *Programmes and projects as the scaling up focus*: quantitative, functional, political and capacity scaling up strategies.
  - *Value creation as the scaling up focus*: value creation through product substitution, efficient use, shared use, longer use, and efficient end-of-life strategies.

- **Scaling up success factors**: Success factors are the conditions required to achieve scaling up of business impacts on sustainable living. The success factors have been classified into 6 categories, including partnerships, supporting governance systems, behaviour change, technology and infrastructure, financial frameworks and information. This classification provides a basis for assessing detailed success factors for specific stakeholders and scenarios in subsequent reports.

- **Case studies**: The international case studies presented in this report showcase the multiple means in which innovative business practices and different stakeholder groups can contribute to sustainable living. Furthermore, the case studies illustrate how the four steps of the Scaling Up Innovations Framework (see Figure A) translate to real-life situations and business focused initiatives.

Next steps departing from this report are:

- **Application of framework**: The Scaling Up Innovations Framework can be applied to other stakeholder groups (e.g. entrepreneurial firms, policy makers, financial institutions) to define their role and potential contributions in scaling up business impacts on sustainable living. A separate report has been prepared with the application of the framework to entrepreneurs (first stakeholder focus report).

- **Personas**: Organisational personas are distinctive organisational types that are used to describe different organisational business models. Such personas are developed to demonstrative
perspectives and contexts for different stakeholder groups and subsequent organizational characteristics (e.g. growth strategies, markets) on the opportunities and challenges for scaling up their impacts on sustainable living.

- **Success factors**: A study on success factors will be undertaken to provide learnings on the conditions required for selected stakeholder groups to scale up their impacts on sustainable living, including entrepreneurs, policy makers, financial institutions, multinational corporations, and consumer groups.

- **Final report**: The final BISS project report will bring together the theoretical, applied and practical results from the BISS project to deliver insights in sustainable living demand and developments around the world, learnings from business models for sustainable living, and policy and development recommendations to scale up business impacts on sustainable living.
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ACRONYMS

ACKNOWLEDGEMENTS AND DISCLAIMER

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1. Introduction

1.1 Background Information

Recent years have seen an increasing interest in sustainable entrepreneurship and associated business models to support and enable sustainable living. However, their uptake at global, national and local levels still occurs at a relatively small-scale\(^1\).

In order to channel efforts towards the improvement of more sustainable lifestyles and enabling a green economy, it is important to identify business and social innovations happening around the world, since they are the product of creativity, motivation and opportunities seized in a particular moment and place. Sometimes these innovations happen as a short-term solution for satisfying a basic need (a lamp made out of an empty bottle of soda), sometimes they revolutionize the way societies transform themselves (e.g. internet). Identifying sustainable innovations and their key factors for success, making them accessible and maximizing their value could represent a significant opportunity for creating functional, sound and profitable business models. Moreover, these success factors could be translated into a series of policy recommendations, initiatives and partnerships that could not only support the development of nations currently struggling to meet the Millennium Development Goals, but also strengthen and re-shape the way business operates in economically developed nations.

Knowledge-sharing and networking can act as enablers for activating entrepreneurial practices that will shift the economy into a more integrative and sustainable direction. Development organizations (such as the German Federal Ministry for Economic Cooperation and Development) play an important role for identifying and supporting the activation of new and innovative business models, since these business models may be built on similar success factors that can be scaled up, adapted and improved to go beyond providing income streams and have a long-term impact for enabling sustainable lifestyles.

1.2 This Report

1.2.1 Objective

The objective of this report is to provide a theoretical framework on scaling up the impacts of innovative business practices on sustainable living, including an introduction to underpinning concepts, business model categorisation, Scaling Up Innovations Framework, scaling up strategies and success factors.

1.2.2 Report Hierarchy

Scaling up of business impacts on sustainable living requires a multi-disciplinary and multi-stakeholder approach. The overall theoretical framework presented in this report is therefore relevant and can be applied to a range of stakeholders, including entrepreneurs, financial institutions, policy makers multi-national corporations, civil society organisations, and support organisations. A separate report has been produced by the CSCP with the application of the framework to entrepreneurs\(^2\). It is envisaged that, over time, the theoretical framework will be applied to other stakeholder groups, as visualised in the figure below.
1.2.3 Report Structure

This report is structured as follows:

- Chapter 1 ‘Introduction’ provides an introduction to this report and the Business Innovation for Sustainable Scale-Up (BISS) project;
- Chapter 2 ‘Introduction to Concepts’ presents an introduction to concepts relevant for scaling up business impacts on sustainable living;
- Chapter 3 ‘Scaling Up Innovations Framework’ presents the overall analytical framework to strengthen the link between business and sustainable living, and scale up business impacts on sustainable living;
- Chapter 4 ‘Categorisation of Business Models for Sustainable Living’ introduces a categorisation of business models to enable sustainable living;
- Chapter 5 ‘Scaling Up Strategies’ discusses the overall strategies to facilitate the scaling up of business impacts on sustainable living;
- Chapter 6 ‘Scaling Up Success Factors’ presents key success factor categories for scaling up business impacts on sustainable living;
- Chapter 7 ‘Case Studies’ presents practical examples of innovative business practices which are contributing to sustainable living;
- Chapter 8 ‘Conclusions and Next Steps’ discusses the conclusions from this report, including next steps to apply the Scaling Up Innovations Framework and supporting concepts as part of the BISS project.

1.3 BISS project

This report has been produced as part of the Business Innovations for Sustainable Scale-Up (BISS) project. The BISS project undertaken through the Collaborating Centre on Sustainable Consumption and Production (CSCP) with the support the German Federal Ministry for Economic Cooperation and Development (BMZ).

The overall objective of the BISS project is to identify and assess innovative sustainable business practices, associated strategies, and success factors for scaling up their impacts on sustainable living. Furthermore, the
project provides the foundation research and building blocks for the Global Network of Sustainable Innovation and Entrepreneurship (www.scaling-up.net).

The BISS project approach is presented in the diagram below. More information about the BISS project is available on: http://scaling-up.ning.com/page/biss-project.

**Key objective:**
Scale up impacts of business innovations and entrepreneurship on sustainable living

**Targeted impacts:**
- Increased collaboration of key actors
- Better understanding of success factors
- Policy recommendations for BMZ
- Demonstrated contributions of innovative business models to sustainable living
- Better access to tools and approaches
- Better dissemination of best practices

Figure 1-2  BISS Project Approach
2. Introduction to Concepts

2.1 Sustainable Living

Sustainable living (also referred to as “One Planet Living” and “Sustainable Well-Being”) can be described as patterns of consumption and production that enable present generations to achieve healthy and happy lives, while respecting environmental limits, and thus enable future generations to do the same (modified from 3,4).

Our current living patterns are unsustainable. The Global Footprint Network notes that today the amount of resources that we consume globally and the waste that we generate equal to 1.5 planets. This means that it takes the Earth one year and six months to regenerate what we use in a year. In other words, we are facing an “ecological overshoot situation”. Our ecological footprint has been consistently on a rise. Figure 2-1 shows that the consumption patterns are not equal across the globe. The highly industrialised and developed countries (e.g. Europe, North America, and Australia) consume significantly more than transition and developing countries in South America, Africa and large parts of Asia. Furthermore, our ecological footprint has been consistently on a rise. Consumption patterns are increasing rapidly in transition economies due to their growing middle class consumers and associated demands for supporting services and infrastructure (e.g. China, India).

![Figure 2-1 Consumption Trends: Does Better Life Require More Than One Planet?](source)

Source: Global Footprint Network
One of the consequences of an ecological overshoot are the excess greenhouse gases that cannot be absorbed by the current level of vegetation on Earth, thus causing increased global temperatures and climate change and putting additional stresses on ecosystems. While everyone depends on ecosystem services and natural assets, the world’s poorest people are the most exposed to consequences of environmental degradation. Without access to clean water, adequate food, fuel and materials, they are trapped in a vicious cycle of poverty. At the same time the ecological footprint of high-income nations, calculated by WWF has been showing an increase of 7 per cent between 1970 and 2008. As a contrast, the Happy Planet Index demonstrates that the countries with the highest levels of well-being are not always the ones with the biggest environmental impact.

The challenge is therefore to find a way in which all people could have happy and prosperous lives while respecting the natural limits of our one planet. To achieve this goal, WWF developed the following 10 principles of sustainable living:

1. **Zero carbon**: Using more energy efficient technologies and renewable energy sources;
2. **Zero waste**: Reducing waste, reusing where possible, and ultimately sending zero waste to landfill;
3. **Sustainable transport**: Using low carbon modes of transportation to reduce emissions; reducing the need to travel;
4. **Local and sustainable materials**: Using local and sustainable materials, with low energy consumption, and where possible made from renewable or waste resources;
5. **Local and sustainable food**: Encouraging low impact, local, seasonal and organic diets and reducing food waste;
6. **Sustainable water**: Using water resources more efficiently;
7. **Natural habitats and wildlife**: Protecting and restoring biodiversity and natural habitats through appropriate land use;
8. **Culture and heritage**: Reviving local identity and cultural heritage of local communities;
9. **Equity and fair trade**: Supporting fair employment (including employment of people from marginalised and disadvantaged communities) and international fair trade;
10. **Health and happiness**: Encouraging healthy consumption patterns and active, sociable, meaningful lives to promote well-being and happiness.

### 2.2 Expanding the Role of Business

Businesses traditionally focus on their production activities and processes within their operations to deliver products and services to their clients. Most business models employed by enterprises (including small and large corporations) from around the world are based on the principle on producing more goods and products to their direct clients to generate greater profits. Traditional business models that link profit to the volume of sales of products are being continuously perfected to reduce expenses on inputs (especially labour), improve production efficiency and stimulate demand and consumption levels. The emphasis on efficient process technologies has led to an enormous increase in labour productivity – on average a factor of 20 in 150 years. During the same period the levels of resource use have not reduced as drastically. Traditional technological incremental innovation has been proven to be insufficient for keeping up with the pace of growth in population, consumption and living standards.
There is a need for businesses to move from a production focus (e.g. controlling and optimizing their existing production processes) to a more sustainable consumption focus (e.g. influencing and encouraging sustainable consumption patterns) in order to address the product and service needs of a sustainable society (sphere of concern). The expanding role of business is visualized in the figure below.

The case studies presented in Chapter 7 of this report provide some practical and real life examples of how businesses can contribute to sustainable living and gain a competitive advantage by expanding their role in the local, national, or international communities and society to operate in.

![Figure 2-2 Expanding the Role of Business](image)

### 2.3 Business Models

A business model describes the rationale of how an organisation creates, delivers, and captures economic, social, environmental, or other forms of value. The essence of a business model is that it defines the manner in which the business enterprise delivers value to customers, entices customers to pay for the value on offer and converts those payments to profit. It reflects what customers want, how they want it, and how an enterprise can organise to best meet those needs, get paid for doing so.

An enterprise creates value by producing and delivering goods/services at a cost that is lower (or equal in case of non-profit organisation) than what the consumer is willing to pay for that good/service, that value flows to consumers in the form of "consumer surplus". The value created by a business changes over time, mostly due to technical and managerial innovation. Value creation increases when these innovations increase the willingness of consumers to pay more (e.g. due to improved product quality or durability), or when the innovations reduce the production and/or delivery costs (e.g. as a result of adoption of more efficient technologies or distribution channels).

A business model can be described through nine building blocks (Figure 2-3) that demonstrate the logic of how an organisation intends to develop a new business strategy or improve an existing strategy to better meet market trends and consequently increase its value creation through better (and more sustainable) products and services.
While the phenomenon and practice of environmentally- and socially oriented business models is no longer new, the idea of business models that enable sustainable lifestyles is quite novel. Truly sustainable business models must go beyond mere improvement of resource efficiency and support individuals in making more sustainable lifestyle choices. To facilitate more sustainable ways of living, the business models address unsustainable trends affecting lifestyles, including: ever shortening fashion cycles, supported by advertising and marketing; the resulting throwaway mentality of producers and consumers, based on economies of scale of both production and consumption; and the accumulation of stuff at the individual level.

2.4 Scaling Up

2.4.1 Definitional Discussion

There has been an increasing interest in the subject of “scaling up”. The term “scaling up” and many related terms (e.g. multiplication, replication) are widely used in different sectors and contexts (e.g. health, environmental, commercial, and social studies) at micro (e.g. business case studies), meso (e.g. development strategies), and macro level (e.g. policy formulations). Although literature on the subject is relatively extensive, there is not yet an internationally accepted definition of scaling up and the term is often not well defined or understood.

Very broadly, scaling up means “doing more” of something, but this “something” varies considerably between different fields. To be more precise, the objective of scaling up can be defined as: “Scaling up leads to more quality benefits to more people over a wider geographic area more quickly, more equitably, and more lastingly”. Scaling up according to this definition reflects both a concern for the extent of the impact, and for the quality of the impact in terms of sustainability and equity.

Part of the confusion with the scaling up terminology comes from the fact that the term is often used as a catchall general term to refer to a combination of different processes, which themselves have a variety of different definitions. Therefore, a tentative typology of scaling up is provided in Table 2-1.
Table 2-1  Typology of Scaling Up18,19

<table>
<thead>
<tr>
<th>Typology</th>
<th>Description</th>
<th>Alternative terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative scaling up</td>
<td>“Growth” or “expansion” in their basic meaning; increase the number of people involved through replications of activities, interventions, and experiences.</td>
<td>Dissemination, replication Scaling out or horizontal scaling up</td>
</tr>
<tr>
<td>Functional scaling up</td>
<td>Projects and programs expand the types of activities (e.g., from environmental intervention to health, credit, training, etc.)</td>
<td>Vertical scaling up</td>
</tr>
<tr>
<td>Political scaling up</td>
<td>Projects/programs move beyond service delivery, and towards change in structural/institutional changes</td>
<td>Vertical scaling up Institutionalization</td>
</tr>
<tr>
<td>Capacity scaling up</td>
<td>Project / programmes improve their efficiency and effectiveness to allow for growth and sustainability of interventions, achieved through increased financial resources, staff training, networking, etc.</td>
<td>Vertical scaling up Institutional development</td>
</tr>
</tbody>
</table>

The terms replication, streamlining, and expansion, and innovation are often used in the context of scaling up sustainable industrial development. The table below provides a brief description of these terms, including their underpinning principles, application areas, and thrust20.

Table 2-2  Scaling Up Disentangled21

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Description</th>
<th>Principle</th>
<th>Application Areas</th>
<th>Thrust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replicating</td>
<td>Large scale application of known solutions and best practices (‘widening’)</td>
<td>Applying</td>
<td>Within the same target group, sector or cluster</td>
<td>Using best practices – business development</td>
</tr>
<tr>
<td>Streamlining</td>
<td>Eliminating steps that may not be necessary to achieve similar result</td>
<td>Learning</td>
<td>Within the same target group, sector or cluster</td>
<td>Doing it effectively and efficiently</td>
</tr>
<tr>
<td>Expanding</td>
<td>Seeking new applications and markets for practices proven elsewhere</td>
<td>Adapting</td>
<td>New sectors, countries, clusters, etc</td>
<td>Making it applicable in different areas</td>
</tr>
<tr>
<td>Innovating</td>
<td>Finding new solutions that have more substantive benefits (‘deepening’)</td>
<td>Research and development</td>
<td>All areas</td>
<td>Continuous development and improvement</td>
</tr>
</tbody>
</table>

2.4.2  Scaling Up Business Impacts on Sustainable Living

In the context of this study, a hotspot can be described as a sustainable living issue which has the potential to be improved or strengthened. These hotspots can be local (e.g. lack of local community services), national (e.g. unemployment) or international (e.g. climate change) issues.

The core focus of the BISS project is on scaling up business impacts on sustainable living. Overall, business can achieve this by increasing their positive impacts in one (primary) hotspot (point a in Figure 2-4) or by expanding their positive impacts in other (secondary) living hotspots (point b in Figure 2-4).

It should also be considered whether scaling impacts in some of the hotspots may have a negative impact on other hotspots (point c in Figure 2-4) (rebound-effects). For instance, while scaling positive impacts on health & happiness by producing and selling more of a certain product that improves health, one should make sure that the increased production does not result in increased carbon emissions and waste.
Overall sustainable living hot spot categories and specific hotspots can be categorised in many different ways. Their categorisation is often subject to their application levels (macro, meso, and micro), geographic region (e.g., developed, transition, and developing countries), and preferences of stakeholders involved (e.g., entrepreneurs, policy makers, multinational corporations, financial institutions). The assessment of the business related opportunities for scaling up their impacts on sustainable living hotspots is further discussed in the Scaling Up Innovations Framework (Chapter 3).

Figure 2-4  Scaling Up Business Impacts on Sustainable Living
3. Scaling Up Innovations Framework

3.1 Overview

This chapter presents the Scaling Up Innovations Framework developed as part of the BISS project. The framework is meant to be a practical and innovative tool to strengthen the link between business and sustainable living, and enhance communication and interactions between stakeholders in the private and public sector, support organizations, and consumers.

The overall aim of the framework is to assist relevant stakeholder groups (e.g., entrepreneurs, multinational corporations, financial institutions, policy makers, intergovernmental organizations (IGOs)) with the identification and review of opportunities for scaling up business impacts on sustainable living at micro, meso, and macro levels. Specific objectives of the framework include:

1. Identify and select sustainable living impacts and hotspots in specific communities or regions;
2. Identify innovative business approaches and associated business models to address sustainable living hotspots in specific community / region;
3. Evaluate the added value and impacts of selected relevant business approaches on planet, people, and profits;
4. Define and categorize strategies and success factors for scaling up the innovative and sustainable business practices;
5. Provide practical examples of innovative and sustainable business practices from around the world, including practical case studies and their contribution to sustainable living.

The framework, as presented in Figure 3-1, consists of a 4-step process:

- Step 1: Identify sustainable living hotspots;
- Step 2: Identify innovative business approaches;
- Step 3: Review impacts and added value;
- Step 4: Scale up impacts on sustainable living.

Each step of the framework is discussed in the following sections. As shown in the figure below, the starting point of the framework is sustainable living. This way it is assured that the interests and priorities of people, communities, and civil society at large are used as the basis to identify opportunities for scaling up business impacts on sustainable living.

The Scaling Up Innovations Framework is not meant to be yet another method for measuring social/environmental impacts and triple bottom line performance. It was developed as a decision-making aid to develop a scaling up plan, rather than a method. The framework is therefore made adaptable to the needs of individual organizations and flexible to be applied at different levels (micro, meso, and macro).
3.2 Application Levels of Scaling Up Innovations Framework

As visualized in Figure 3-2, the Scaling Up Innovations Framework is designed to be applied to multiple stakeholder groups at macro (global and national), meso (regional) and micro (organizational) levels. Applying the framework organizational level by entrepreneurs will deliver specific opportunities for business development. It is envisaged that the framework application at regional level will assist with the identification and review of strategic partnerships between multi-national corporations, their supply chain partners (including Small and medium sized enterprises (SMEs) and community based organisations to scale up business impacts in a specific region (e.g. production are, industrial estate). The objective of applying the framework at country level is to deliver policy priorities and associated instruments to drive and encourage the scaling up of business impacts on sustainable living. At global level, the framework could be applied by IGOs and multinational corporations to formulate comparative global and inter-country priorities and mechanisms relevant to scaling up business impacts on sustainable living.

A separate report has been prepared by the CSCP with the application of the framework to entrepreneurs. The framework can be applied to other stakeholder groups (see Section 1.2.2 for further detail).
3.3 Scaling Up Innovations Framework in Detail

3.3.1 Step 1: Identify Sustainable Living Hotspots

The first step in the framework is about identifying sustainable living hotspots relevant to an area under investigation (e.g. local community, city, region, country). In the context of this study a hotspot can be described, as a sustainable living issue which has the potential to be improved or strengthened. These hotspots can be local (e.g. lack of local community services), national (e.g. unemployment) or international (e.g. climate change) issues.

As visualised in Figure 3-3, Step 1a includes the selection of applicable sustainable living hotspot categories and step 1b involves the selection of specific hotspots within the hotspot categories applicable to the region or stakeholder (group) under investigation.
Figure 3-3   Step 1: Identify Sustainable Living Hotspots

Sustainable living hotspots can be categorised in many different ways. Their categorisation is often subject to their application levels (macro, meso, and micro), geographic region (e.g. developed, transition, and developing countries), and preferences of stakeholders involved (e.g. entrepreneurs, policy makers, multinational corporations, financial institutions). The 10 principles of sustainable living developed by the WWF\(^23\) (Section 2.1) and CSCP projects on sustainable lifestyles (e.g. SPREAD Sustainable Lifestyles Project\(^24\)) are used as a basis in the Scaling Up Innovation Framework to categorise the sustainable living hotspots (Table 3-1). It is noted that the categorisation should be regarded as indicative and flexible to be adapted to specific situations.

Table 3-1  Sustainable Living Hotspot Categories and Specific Examples (Modified from \(^25,26\))

<table>
<thead>
<tr>
<th>Sustainable Living Hotspot Categories</th>
<th>Examples of Specific Sustainable Living Hotspots (Not All-Inclusive)</th>
</tr>
</thead>
</table>
| Communication                         | • Lack of information and communication technology (ICT) infrastructure  
                                         | • Lack of internet access  
                                         | • Costs of ICT services |
| Education & skillng                   | • Lack of educational facilities  
                                         | • Education fees  
                                         | • Quality of education |
| Employment & work conditions          | • Unemployment  
                                         | • Child labour  
<pre><code>                                     | • Stress |
</code></pre>
<table>
<thead>
<tr>
<th>Sustainable Living Hotspot Categories</th>
<th>Examples of Specific Sustainable Living Hotspots (Not All-Inclusive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy generation</td>
<td>● Low energy efficiency of existing buildings</td>
</tr>
<tr>
<td></td>
<td>● Use of energy from renewable sources</td>
</tr>
<tr>
<td></td>
<td>● Lack of access to energy sources</td>
</tr>
<tr>
<td>Governance &amp; human rights</td>
<td>● Gender inequality</td>
</tr>
<tr>
<td></td>
<td>● Rights of indigenous people</td>
</tr>
<tr>
<td></td>
<td>● Security in urban and rural areas</td>
</tr>
<tr>
<td>Health and happiness</td>
<td>● Access to low cost health services</td>
</tr>
<tr>
<td></td>
<td>● Access to low cost medicaments</td>
</tr>
<tr>
<td></td>
<td>● Perceived level of happiness</td>
</tr>
<tr>
<td>Housing</td>
<td>● Prices of land in urban areas</td>
</tr>
<tr>
<td></td>
<td>● Housing affordability</td>
</tr>
<tr>
<td></td>
<td>● Inefficient housing insulation</td>
</tr>
<tr>
<td>Leisure &amp; culture</td>
<td>● Lack of recreational facilities</td>
</tr>
<tr>
<td></td>
<td>● Acceptance of local culture and traditions</td>
</tr>
<tr>
<td>Mobility</td>
<td>● Lack of public transportation</td>
</tr>
<tr>
<td></td>
<td>● Lack of transport infrastructure (e.g. bike path networks)</td>
</tr>
<tr>
<td></td>
<td>● Traffic congestion in cities</td>
</tr>
<tr>
<td>Nutrition, food &amp; drink</td>
<td>● Children malnutrition</td>
</tr>
<tr>
<td></td>
<td>● Availability of local products</td>
</tr>
<tr>
<td></td>
<td>● Obesity</td>
</tr>
<tr>
<td>Urban &amp; rural development</td>
<td>● Lack of re-use and recycling facilities</td>
</tr>
<tr>
<td></td>
<td>● Access to clean water</td>
</tr>
<tr>
<td></td>
<td>● Growth of urban sprawls</td>
</tr>
<tr>
<td></td>
<td>● Lack of appropriate effluent disposal systems</td>
</tr>
<tr>
<td>Use of resources</td>
<td>● Availability of locally produced materials (e.g. construction)</td>
</tr>
<tr>
<td></td>
<td>● Lack of choice and demand in sustainable materials (e.g. eco-labelled products)</td>
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### 3.3.2 Step 2: Identify Innovative Business Approaches

The second step in the Scaling Up Innovations Framework is the identification of innovative business approaches to address selected and relevant sustainable living hotspots. A business model describes the rationale of how an organization creates, delivers, and captures value (see Section 2.3). Business models are applicable to any type of private and public organization, so not only entrepreneurs or multi-nationals, but also IGOs, government agencies, and financial institutions.

The framework applies the business model canvas\(^27\) to identify these innovative approaches in combination with a library of business model case studies (some of these case studies are presented in Chapter 7 of this report). This process is presented in Figure 3-4.

The Business Model Canvas was created by Osterwalder and Pigneur\(^28\) as a user-friendly framework for revision of existing business models and the development of new ones. The tool resembles a painter’s canvas - preformatted with the nine blocks - which allows you to paint pictures of new or existing business models. The canvass is a hands-on tool that fosters understanding, discussion, creativity, and analysis.

The business model consists of several building blocks, namely:

- **Customer segments**: Different groups of people or organisations an enterprise aims to reach and serve;

- **Value proposition**: Bundle of products and services that create value for a specific customer segment;
- **Customer relationships**: The types of relationships an enterprise establishes with specific customer segments;
- **Channels**: How an enterprise communicates with and reaches its customer segments to deliver a value proposition;
- **Key activities**: The most important things an enterprise must do to make its business model work;
- **Key resources**: The most important assets required to make the business model work;
- **Key partnerships**: The network of suppliers and partners that make the business model work.

The original Business Model Canvas includes two additional building blocks - revenue streams and cost structure - which were slightly modified to integrate the triple bottom line logic. Thus revenue streams are re-labelled as created value (for the organisation, environment and society) and cost structure is re-labelled as costs incurred by the organisation, environment and society.

![BUSINESS MODEL CANVAS](image)

Source: Modified from Osterwalder and Pigneur (2010) and CSCP (2012)

**Figure 3-4  Step 2: Identify and Review Innovative Business Approaches**

### 3.3.3 Step 3: Review Impacts and Added Value

After defining and describing the desired business model to address the selected sustainable living hotspot, the third step of the Scaling Up Innovation Framework is to review associated impacts and added value to people, planet and profit.

There may be multiple ways of review impacts. For instance, Geoff Mulgan identified 10 most common methods of measuring impacts: cost-benefit analysis, stated preferences, revealed preferences, social return on investment, life satisfaction assessment and others. There are also numerous guidelines such as SROI, or Social Return on Investment (by the SROI Network), and Social Reporting Standard (a joint project by a...
consortium including Ashoka Germany, BonVenture, Schwab Foundation and others). Both guidelines outline a process that can help to identify the most important impacts by engaging stakeholders and distinguishing between outputs, outcomes and impacts. While Social Reporting Standard is a qualitative tool, SROI framework goes one step further and suggests a methodology for monetising social and environmental impacts. There are also impact and performance evaluation frameworks, guidelines and standards that became popular among large corporations, including Global Reporting Initiative (GRI), SA 8000, AA 1000, ISO 26000 and a few others. Each of these guidelines, frameworks and certification schemes has advantages and disadvantages, but all require significant time investment – which is one of the key resources for a small entrepreneurial firm.

The approach of the Scaling Up Innovations Framework to review the impacts (step 3) is to define a number of hotspot categories for each of the bottom lines (people, profit, planet) and evaluate organisation’s performance using a qualitative scale from 1 to 5, with 1 reflecting a significant negative impact and 5 signalling a significant positive impact.

It is acknowledged that each organisation may come up with its own hotspot categories that are relevant for its business model and local context. An indicative and illustrative example of the impact assessment is presented in Figure 3-5. The ten sustainable living hotspot categories are mapped on a radar chart; several financial performance indicators could be added to complete the picture and provide an assessment of impacts and added value on all three bottom lines – environmental, social and financial. When defining these hotspot categories it is important to think about a business comprehensively, including the overall value chain, production contractors, end consumers and beneficiaries (if they differ from end consumers), all the logistics involved, etc.

It is emphasized that decision-makers should identify their relevant key sustainable living hotspots and conduct this quick exercise targeted at their organisation as this exercise might be very helpful to make decision-makers aware of potential inefficiencies in their business model (from social, environmental and financial point of view). It is also recommended to validate the key hot spots as well as the qualitative scale with key stakeholders to ensure accuracy and credibility.

![Figure 3-5: Step 3: Review Impacts and Added Value](image-url)
3.3.4 *Step 4: Scale Up Impacts*

The fourth step of the Scaling Up Innovations Framework is about identifying effective strategies and associated success factors to scale up the impacts on sustainable living of the selected innovative business approach.

Scaling up strategies describe how business impacts on sustainable living could be scaled up. Scaling up success factors are *the conditions required* to achieve scaling up of business impacts on sustainable living (e.g. partnerships and communications, supporting governance systems, behaviour change, technology and infrastructure, financial frameworks and information). This is visualised in Figure 3-6.

![Figure 3-6 Scaling Up Strategies and Success Factors](image)

Depending on the focus of scaling up efforts – scaling impacts of organisations or programmes/projects – the following distinction in scaling up strategies can be made (Figure 3-7):

- **Organisational as the scaling up focus**: scaling impacts by growing the organisation (organic growth and acquisitive growth), scaling impacts beyond organisational boundaries (dissemination, joint ventures, partnerships, franchising and smart networks), and scaling impacts by reducing organisational boundaries (licensing and mergers/sale)\(^30\);

- **Programmes and projects as the scaling up focus**: quantitative, functional, political and organisational/institutional scaling up strategies\(^31,32\);

- **Value creation as the scaling up focus**: value creation through product substitution, efficient use, shared use, longer use, and efficient end-of-life strategies\(^33\).

In the context of this report, the success factors are categorized as follows (listed in alphabetical order):

- **Behaviour change**: To switch to more sustainable lifestyles and living conditions, it is necessary to address stakeholder behaviours (e.g. encourage, discourage, enforce) and awareness, including consumers, business, policy makers, financial institutions, etc.

- **Financial frameworks**: The economic and financial means by which entrepreneurs and businesses can leverage the development of sustainable products, services and business models.

- **Information**: During a scaling-up process it is not intended to know everything but to connect with the right people and access to relevant and reliable data to assist in decision making.
- **Partnerships**: Partnerships and alliances are an important precondition to develop any strategy to scale up business impacts on sustainable living. Partnerships are the means by which different actors interact and enable the replication of impacts.

- **Supporting governance systems**: Governance systems permit the generation of an enabling environment for sustainable entrepreneurship and business innovations in terms of reliable rules, information stability and trust among stakeholders.

- **Technology and infrastructure**: Fit-for-purpose, practical and feasible technologies and supporting infrastructures to enable the implementation of the business innovations.

These success factors describe various forces in the external environment that influence the ability of businesses to scale up their impacts on sustainable living and are aligned with previous research on scaling up impacts. However, this is not a comprehensive classification and there may be other scaling up success factors relevant for different sectors and types of organisations.

Given the importance of this topic in the context of the BISS project and the Scaling Up Innovations Framework, the scaling up strategies and success factors are discussed in further detail in Chapters 5 and 6 respectively.

![Figure 3-7 Step 4: Scale Up Impacts on Sustainable Living](image-url)
4. Categorisation of Business Models for Sustainable Living

4.1 Overview

Based on their value position (consumption and/or production) and focus (production process, product & services, systems), business models can present a range of production and/or consumption oriented solutions towards sustainable living. Figure 4-1 presents the business model types identified and documented through the BISS project to date. It is not claimed that the business model types presented here are all-inclusive, other relevant business models encouraging sustainable living do exist. Sustainable living business models are an emerging field of application and knowledge, and therefore subject to further research and development.

Each business model type is described in the following section, including their potential contribution to sustainable living, and references to practical case studies discussed in Chapter 7.

![Figure 4-1 Categorisation of Business Model Types (Adapted and further developed from 34)](image)

4.2 Full Cost Business Models

The true environmental and social costs of products and services (e.g. water, depletion of natural resources, greenhouse gas emissions) are traditionally not embedded in company decision making processes or in the price of products or services. The aim of full cost oriented business models is to integrate the environmental and social costs into company evaluation and decision making process and/or prices.

Traditional information systems typically do not inform companies or consumers of the true costs of products and services. However there is an increased recognition and understanding of these costs among businesses...
and consumers (e.g. through improved management and accounting approaches). The inclusion of the true environmental and social costs into product/service pricing often reveals cost-effective opportunities to reduce costs, prevent pollution, eliminate wastes, and support business models that are both economically profitable and beneficial for the environment.

This full cost oriented business model may appear to be counterproductive due to resulting costs and price increases of goods and services that arise from the inclusion of the true environmental and social costs along the life cycle of a product and/or service. However, the integration of such costs still represents an unexploited advantageous business path. For example, consumers and business stakeholders (e.g. government, NGOs) increasingly require clarity on the real environmental and social footprint of companies with which they do business.

The full cost business model can assist enterprises to realise the economic potential behind environmental and social ventures, and simultaneously ensure the inclusion of resource efficiency concerns – in terms of environmental costs - into the development, management and delivery of products or services.

**Illustrative Examples**

Principles of the full cost business model and their contribution to sustainable living are demonstrated in the following case studies (Chapter 7):

- **Cadbury** - Promoting Sustainable Livelihoods and Cocoa Production (Ghana): To secure a steady supply of cocoa, Cadbury is helping farmers improve cocoa production and maintain decent livelihoods to support families and villages (see Section 7.3.1);

- **Advivinize (USA)**: development of sustainable promotional products from discarded advertising materials (see Section 7.5.1);

- **Chemical Leasing (e.g. Egypt, Mexico, Russia)**: The customer pays for the benefits obtained from the chemical, not for the substance itself. Consequently the economic success of the supplier is no longer linked with product turnover (see Section 7.8.1).

- **Unilever** – helping small holder farmers (e.g. Ghana, Tanzania, Nigeria): multi-partnership approach to cultivate a new tree crop as a sustainable and profitable crop for African mining communities (see Section 7.8.2).

### 4.3 Collaborative Production Business Models

Companies (in particular SMEs) often lack resources, capabilities, and experiences (e.g. human, financial, technical) to improve their production processes, products, services and systems on their own. This is especially relevant to businesses in developing and transition economies. However, significant knowledge and experience typically exist in other parts of the supply and value chains. This is particularly the case for large international corporations which often have dedicated departments and associated facilities to explore collaborative opportunities in their value and supply chains.

The collaborative production business model encourages organisations (e.g. in the supply/value chain) to work together on the development of production processes, products, services and systems with a smaller ecological footprint.

The collaborations in the supply chain can occur at different levels, including:
- Between various company departments in medium sized enterprises (e.g. sales, production, purchasing);
- Between SMEs themselves (e.g. through sharing of resources and experiences);
- Between SMEs and larger/international organisations (e.g. supply chain initiatives driving by customer demand or the larger industries).

Illustrative Examples

Principles of the collaborative production business model and their contribution to sustainable living are demonstrated in the following case studies (Chapter 7):

- Cadbury - Promoting Sustainable Livelihoods and Cocoa Production (Ghana): To secure a steady supply of cocoa, Cadbury is helping farmers improve cocoa production and maintain decent livelihoods to support families and villages (see Section 7.3.1);
- Association of Private Water Operators (Uganda): A private public partnership to enhance access to water in townships with poor water supplies (see Section 7.3.2);
- Ouro Verde Amazonia (Brazil): Production and sale of Brazil nut products while promoting sustainable land use (see Section 7.6.1);
- Chemical Leasing (e.g. Egypt, Mexico, Russia): The customer pays for the benefits obtained from the chemical, not for the substance itself. Consequently the economic success of the supplier is no longer linked with product turnover (see Section 7.8.1). This is the concept of “Product Service System”;
- Unilever – helping small holder farmers (e.g. Ghana, Tanzania, Nigeria): multi-partnership approach to cultivate a new tree crop as a sustainable and profitable crop for African mining communities (see Section 7.8.2).

4.4 Disruptive Business Models

The poorest segments of the population in developing and transition countries represent a vast market niche. These people cannot afford the products and services offered at the lower-end of the traditional consumer market. Nonetheless, there is a business opportunity to identify and develop economically appropriate products and services to better meet the needs of these potential consumers market in developing and transition economies. Economically appropriate products and services would represent genuine value to these consumers rather than simply the development and delivery of additional low-end products or services.

Many companies (including those in developing and transition countries) have been tempted by the promise of profits of selling “low-end” products and services in high volume to the poorest market segments. Experience has shown that this business approach is not successful, neither in the short or medium term. To better meet tailored consumer segments and gain strong competitive market advantage, there is an opportunity for SMEs to reshape their existing business model to include technologically disruptive innovation processes.

A disruptive technology or innovation helps create a new market and value network, and eventually goes on to disrupt an existing market and value network (over a period of a few years to decades), eventually completely displacing an earlier technology or business model.
Disruptive business models represent a business strategy that combines the process of de-materialisation – a process, which is crucial to meet consumer needs in developing and transition economies – with innovative disruptive products and services. However, disruptive technology models have not been extensively implemented to date. One possible reason behind this fact is that they do not yet appeal to entrenched market leaders because of perceptions that disruptive technologies under-perform existing technologies and serve a less-profitable consumer demographic. Also, many existing (less resource efficient) technologies are “locked in” because of significant sunk capital investments.

Illustrative Examples
Principles of the disruptive business model and their contribution to sustainable living are demonstrated in the following case studies (Chapter 7):

- Cosmos Ignite Innovations (India): First global company to bring Solar Light LED lighting and micro-energy for domestic use, focused on the poor (see Section 7.2.3);
- Sustainable Feedstocks for Aviation Fuels (Australia) Collaborative programme of Boeing and CSIRO to identify and trial new fuel sources that are compatible with existing land uses with the ultimate goal of developing commercially-viable feedstock (see Section 7.7.2).

4.5 Societal Business Models

The societal business model employs social criteria as key components in determining stakeholder relationships and engagement and in influencing consumer habits.

This business model can be described as an “affecting model”. Forming partnerships is an essential part of this process and a critical success factor. To effectively develop a societal business model a company should seek to move beyond the optimisation of products and services in resource efficiency terms and include the concept of societal values (e.g. local business development, improved living conditions of local communities, employment creation, poverty reduction, education).

The societal business model may demand a fundamental restructure of a company’s existing business model as well as the establishment of relevant collaborative models with partners from business, politics and civil society.

A societal business model applied to benefit low income consumers specifically and reduce poverty can be regarded as an inclusive business model. An inclusive business is all about including the poor in the business process be it as producers or consumers. However, the difference is that a societal business model can also relate and benefit medium and higher income consumers and society at large.

Illustrative Examples
Principles of the societal business model and their contribution to sustainable living are demonstrated in the following case studies (Chapter 7):

- BASIX Financial and Business Development Services (India): Promotion of sustainable livelihoods, including rural poor and women, through provision of financial and technical assistance (see Section 7.2.1);
- Association of Private Water Operators (Uganda): A private public partnership to enhance access to water in townships with poor water supplies (see Section 7.3.2).
4.6 Multi-Functional Product & Service Business Models

The multi-functional product/service business model facilitates the multi-functional and simultaneous use of products and services to better meet consumer demands and create additional business value.

The economic potential of this business model lies with reduced capital and operational costs to meet multiple consumer needs (e.g. through increased material, energy, water efficiencies). This model simultaneously impacts behaviour in the consumption phase and minimises negative social impacts by reshaping customer behaviour in sustainability terms.

The business model can help entrepreneurs to reach larger market segments and reduce their environmental footprint as it often requires reduced use of raw materials and embeds resource efficiency gains along the entire product life-cycle.

Illustrative Examples

Principles of the multi-functional product and service business model and their contribution to sustainable living are demonstrated in the following case studies (Chapter 7):

- Andhikhola Hydel Rural Electrification Scheme (Nepal): Innovative design features in the energy distribution system and tariff structure, enabling very low income subsistence farmers to access electricity. In addition to hydropower benefits, the scheme also provides water for gravity irrigation of 280 ha. of land. (see Section 7.2.2);
- Peepople (Kenya): Single use, self-sanitising and fully biodegradable toilets for people without access to dignified sanitation, and their use as fertiliser in agricultural production (see Section 7.3.3).

4.7 Collaborative Consumption Business Models

The term collaborative consumption is used to describe an economic model based on sharing, swapping, bartering, trading or renting access to products as opposed to ownership. Technology and peer communities are enabling these old market behaviours to be reinvented.

Key characteristics and foundations of collaborative consumption can be summarised as follows:

- **Redistribution markets**: A system of collaborative consumption is based on used or pre-owned goods being passed on from someone who does not want them to someone who does want them.
This is another alternative to the more common ‘reduce, reuse, recycle, repair’ methods of dealing with waste. In some markets, the goods may be free and in others, the goods are swapped.

- **Collaborative lifestyles:** This system is based on people with similar needs or interests banding together to share and exchange less-tangible assets such as time, space, skills, and money.

- **Product service systems:** This system is based on users paying for the benefit of using a product without needing to own the product outright. Product service systems are disrupting traditional industries based on models of individual private ownership. Goods that are privately owned can be shared or rented peer-to-peer.

The benefits of collaborative consumption include: reducing carbon footprint by sharing transportation and assets, saving costs by borrowing and recycling items, and increasing happiness and contentment due to positive social interactions.

Collaborative consumption is a relatively new concept. A number of innovative business ventures and business models to support collaborative consumption are emerging, including collaborative workspaces, book swapping, carpool/ride sharing, bike sharing, garden sharing, clothes swapping, peer-to-peer renting.

### Illustrative Examples

Principles of the collaborative consumption business model and their contribution to sustainable living are demonstrated in the following case studies (Chapter 7):

- **Association of Private Water Operators (Uganda):** A private public partnership to enhance access to water in townships with poor water supplies (see Section 7.3.2);
- **ECF Efficiency City Farming (Germany):** A company that designs urban farms to produce healthy vegetables and fish within the city environment (see Section 7.4.3).

### 4.8 Product Service System Business Models

Product service systems are characterised by the integration of technical products and services along the value life cycle. They consider both the use of physical products and the relative services necessary to satisfy evolving market trends and customer needs.

Product service systems introduce resource efficiency business strategies without fundamentally restructuring entire business models. For instance, the majority of product-oriented service business models do not imply any change in the technological system of an enterprise. The service provider enterprise advises consumers during the consumption and renewal phases of different products, thus improving usage and end-of-life stages in resource efficient terms.

The wider application of the product service system concept is restrained by a number of avoidable factors. These factors relate primarily to a lack of knowledge, inertia in ways of working and difficulties in communicating new and complex business models. Providers of product service systems sometimes need to invest in change while at the same time facing uncertain future conditions respecting policies and regulation that might - or might not - encourage reductions in resource consumption.
Illustrative Examples

Principles of the product service system business model and their contribution to sustainable living are demonstrated in the following case studies (Chapter 7):

- Opower (USA): Privately held company partnering with utility providers to promote energy efficiency through Home Energy Reports for utility customers. It analyses the usage of energy and offers recommendations on energy saving by making small changes in energy consumption (see Section 7.5.2);

- CarboNZero programme (New Zealand) A corporate business which offers a low-cost carbon certification scheme to SMEs and global corporations (see Section 7.7.1).

- Chemical Leasing (e.g. Egypt, Mexico, Russia): The customer pays for the benefits obtained from the chemical, not for the substance itself. Consequently the economic success of the supplier is no longer linked with product turnover (see Section 7.8.1).
5. Scaling Up Strategies

5.1 Overview

As discussed in Chapter 3 (Section 3.3.4 specifically), the fourth step of the Scaling Up Innovation Framework focuses on scaling up strategies and success factors. The aim of this chapter is to provide further detail the potential strategies for scaling up business impacts on sustainable living.

Scaling up strategies can be defined as mechanisms that describe how business impacts on sustainable living could be scaled up. Depending on the focus of the scaling up efforts – i.e. scaling impacts of organisations or programmes/projects – practitioners and academics tend to distinguish between the following scaling up strategies (Table 5-1):

- **Organisations as the scaling up focus**: scaling impacts by growing the organisation (organic growth and acquisitive growth), scaling impacts beyond organisational boundaries (dissemination, joint ventures, partnerships, franchising and smart networks), and scaling impacts by reducing organisational boundaries (licensing and mergers/sale)\(^7\);

- **Programmes and projects as the scaling up focus**: quantitative, functional, political scaling up strategies and capacity building\(^8,9\).

- **Value creation as the scaling up focus**: value creation through product substitution, efficient use, shared use, longer use, and efficient end-of-life strategies\(^10\).

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<tr>
<th>Table 5-1 Scaling Up Focus, Strategies and Success Factors(^{11, 12, 13})</th>
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<td>Projects &amp; programmes</td>
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### Scaling Up Focus

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<tr>
<th>Scaling Up Type</th>
<th>Scaling Up Strategy Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>Functional scaling up</td>
<td>Projects and programmes expand the types of activities (e.g., from environmental intervention to health, credit, training, etc.)</td>
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<tr>
<td>Political scaling up</td>
<td>Projects/programmes move beyond service delivery and towards institutional change</td>
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<tr>
<td>Capacity scaling up</td>
<td>Project/programmes improve their efficiency and effectiveness through increased financial self-sufficiency, diversification of funding sources, staff training, etc.</td>
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#### Value creation

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<tr>
<td><strong>Product substitution</strong></td>
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<td><strong>Efficient use of products and services</strong></td>
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<td><strong>Shared use of products and services</strong></td>
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<td><strong>Longer use of products and services</strong></td>
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<td><strong>Efficient end-of-life strategies</strong></td>
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### 5.2 Organisation as Scaling Up Focus

#### 5.2.1 Scaling Impacts by Growing the Organisation

This strategy involves scaling up impacts by growing an organisation. This can be achieved either by growing the organisation organically or by acquiring other firms:

- **Growing organically** means increasing the range and distribution of products and services (including expanding geographically and opening new subsidiaries) by relying on internal resources and capital. Organic growth is the least risky scaling up strategy as it allows the highest degree of control over the firm. However, there are limitations as to how long a firm can grow organically, particularly in saturated markets.

- **Acquisitive growth** is the opposite of organic growth as it involves growing by acquiring other firms, rather than relying on internal resources and capital. Acquisitive growth allows acquiring new skills or technologies more quickly or at lower cost than they could be built in-house, creating market access for existing products, removing excess capacity from an industry and improving the performance of the target company. Very importantly, acquisitions allow eliminating important sources of competition, especially in saturated markets. However acquisitive growth entails many challenges which often lead to poor post-acquisition performance of both acquirer and acquired firm.

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1 In the original text this type of scaling up is referred to as “organisational/institutional scaling up”. However, it was relabelled here to avoid confusion with scaling up strategies on the organisational level discussed in sections 5.2, 5.2.2, and 5.2.3.
Illustrative Example
An example of a business that scaled up its impacts by growing organically is Freitag (http://www.freitag.ch/) – a Switzerland-based company that produces bags and accessories made of old truck tarpaulins and used car seat belts, thus giving a second life to materials that would otherwise have ended up in a landfill. Freitag bags have always been placed in a high price segment (CHF 200-400) as luxury goods. Such a pricing strategy meant that the business has been financially successful most of the time and has not borrowed a single Swiss franc to finance its development. All growth came from reinvesting profits. And the growth has been considerable: since 1993, Freitag expanded internationally and, as of 2010, it operated two online shops and five flagship stores (in Zurich, Davos, Hamburg, Cologne and Berlin). Such growth also meant considerable increase in the use of recycled materials, thus scaling Freitag’s impacts on sustainable living.

5.2.2 Scaling Impacts beyond the Organisation
Scaling impacts beyond the organisation includes dissemination and a range of collaborative strategies (joint ventures, partnerships, franchising and smart networks):

- **Dissemination** is achieved by sharing ideas with others using advocacy, open-source change-making and movement creation. Dissemination is both easy and difficult to implement: it does not require any contracts or other formal arrangements but it requires re-thinking organisational attitude to the ownership of ideas and exclusivity.

- **Collaborations** involve formal and informal arrangements between several organisations that can take a form of joint ventures, partnerships, franchising and smart networks.
  - **Joint ventures**: the most formalised form of collaboration and it involves creation of a separate legal entity. Forming a joint venture benefits both sides in a variety of ways, including shared capital expenses, human resources, faster access to new technologies or new markets and reduced financial risks of independent project implementation. However, as in all types of collaborative relationships, joint ventures open door to opportunistic behaviour of partners (free-riding, leakage of proprietary knowledge, etc.).
  - **Partnerships**: Also a formalised form of collaboration but on a contract- rather than equity basis. In a partnership, all parties remain legally independent and no new entity is created. In terms of challenges, partnerships are very similar to joint ventures and have the same risks of opportunistic partner behaviour.
  - **Franchising**: Another form of contract-based collaboration which involves establishment of a contract between a trademark owner (franchisor) and a local user (franchisee). The main advantage of franchising is that it can lead to economies of scale and facilitate acquisition of new capabilities and the knowledge of local markets. However, similar to joint ventures and partnerships, franchising has relatively high levels of business risk related to opportunistic behaviour of franchisees (e.g. reduced product quality for the sake of increased profitability).
  - **Smart networks**: Involve creation of well-coordinated networks which are centred around a mission, rather than an organisation. Focusing on the mission requires forsaking interests of individual organisations that compose the network; and coordination involves a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication and a backbone support organisation.
Illustrative Example

An example of scaling business impacts on sustainable living beyond organisational boundaries is the chain of CAP-Märkte in Germany (http://www.cap-markt.de/). The CAP-Markt concept was invented and implemented by GDW SÜD (Genossenschaft der Werkstätten für behinderte Menschen eG), a charitable cooperative providing employment for disabled people (handiCAPed). A CAP-Markt shop is typically a medium-sized neighbourhood supermarket which is run by a local integration enterprise. In addition to employing handicapped people, CAP-Märkte also benefit local communities. CAP-Märkte stores are opened in premises that were left empty by the flight of main supermarket chains to out-of-town locations, thus creating neighbourhood shops that are accessible on foot and provide a friendly service. Since the founding date in 1999, the number of CAP-Märkte shops has been growing steadily and reached 90 shops in 2011. These 90 shops provided employment to 1,200 people, of which 700 are disabled employees. Such scaling up was achieved by using the social franchising scheme. Each franchisee pays GDW SÜD a fee for the franchise, as well as 0.6% of turnover. No specific financial package is offered to franchisees; however, the fact that CAP-Märkte is now an established brand with a proven concept increases investor confidence63.

5.2.3 Scaling Impacts by Reducing Organisational Boundaries

The aim of this strategy is to scale up impacts by licensing products, services or technology to another organisation or by fully merging with/selling to another organisation:

- **Licensing** involves establishing a legal contract between a product / technology owner (licensor) and a local user (licensee) to produce the products / technologies that were initially developed by a licensor. The main advantage of licensing, particularly for small entrepreneurial firms, is an opportunity to commercialise their innovations, even if they do not have resources to launch manufacturing independently. Also, comparing to collaborative types of scaling up strategies (such as joint ventures where both parties become responsible for finances and management), licensing is much cheaper and it allows avoiding potential disputes arising from joint decision-making. However, similar to franchising, licensing has relatively high levels of risk related to opportunistic behaviour of licensees (e.g. leaking proprietary information)64.

- **Merger/sale** involves selling the ownership of the firm to an acquirer. This is not only a strategy for founders to exit the firm but it may also be a proactive approach to overcoming strategic difficulties, getting access to valuable resources, scaling impacts and influencing sustainability performance of the acquirer. Despite these benefits, there are also considerable organisational and reputational risks associated with mergers/sale. One could argue that selling a firm borders “selling out”, particularly if the sale deal is arranged between a socially-innovative entrepreneurial firm and a multinational corporation with contestable sustainability reputation. This may further lead to the “mission drift” of the acquired firm, rather than positively influence sustainability practices of the acquirer65, 66.
Illustrative Example

Increasingly socially innovative entrepreneurial firms choose to scale their impacts by reducing organisational boundaries, and specifically by selling firm ownership to larger corporations with more extensive distribution and marketing capabilities. Ben & Jerry’s, The Body Shop, Tom’s of Maine, Stonyfield Farm Yogurt, Green & Black’s, Burt’s Bees, Innocent Drinks, and Honest Tea are only some of the examples of entrepreneurial firms sold to large corporations – Unilever, L’Oréal, Colgate, Danone, Cadbury Schweppes, Clorox, and Coca-Cola, respectively. As suggested by Innocent Drinks (http://www.innocentdrinks.co.uk/), a UK-based company offering healthy, natural smoothies, “having Coke as an investor brings big advantages: we can leverage Coke’s route to markets in countries we wouldn’t otherwise be able to operate in, and they help us access better rates on everything from media to oranges... This deal will help us get our little bottles of healthiness to many more people”.

However, not all stakeholders perceive mergers with large corporations as an appropriate strategy for socially innovative entrepreneurial firms who are often accused of “selling out”. In addition to reputational challenges, some acquired companies struggle to survive at all. On the other hand, some mergers do help scale impacts: for instance, since receiving its first investment from Coca-Cola in 2008, Honest Tea (www.honesttea.com) has increased the distribution of its healthy and organic beverages from about 15,000 outlets in 2008 to more than 75,000 in 2011. Furthermore, it has introduced a ground-breaking Honest Tea plastic bottle that uses 22% less material – something which would not have been possible without financial help and organisational support from Coca-Cola.

5.3 Projects and Programmes as Scaling Up Focus

5.3.1 Quantitative Scaling Up of Project and Programs

Quantitative scaling up means expanding the size of project/programme by increasing its membership base. This can be achieved using the following mechanisms:

- **Spread**: increasing the number of people who support/participate in the project/programme;
- **Replication**: a successful project/programme is repeated elsewhere;
- **Nurture**: a third party (well-staffed and well-funded) “nurture” the project/programme and helps it reach a larger scale;
- **Horizontal aggregation**: several projects/programmes combine their resources or merge into a larger project/programme;
- **Integration**: a project/programme is integrated into larger project/programme structures after it has demonstrated its potential.

This strategy is very similar to scaling impacts by growing or reducing organisational boundaries (discussed above in Sections 5.2 and 5.2.3); spread and replication are similar to organic growth; horizontal aggregation reminds acquisitive growth; integration is analogous of merger/sale; and nurture is somewhat similar to licensing (see Table 5-1).
Illustrative Example

The Grameen Bank Replication Programme (http://www.grameentrust.org/replication.html) was launched in 1989 by Grameen Trust with the objective to contribute to the eradication of poverty worldwide and to bring the knowledge about Grameen Bank operations to as many people as possible. Under this programme, Grameen Trust supports Grameen Bank replication projects all over the world. Promising individuals and institutions are invited to Grameen Bank to get a hands-on experience about what Grameen Bank does and how it does it. In addition, various types of financial, technical and informational support are provided to the selected promising projects. Grameen Trust closely monitors these projects and assists them through subsequent expansion stages with the goal of eventually achieving financial viability.

5.3.2 Functional Scaling Up of Projects and Programs

Functional scaling up involves diversification of projects/programmes and expansion into new types of activities (e.g., from environmental intervention to health, credit, training). Again comparing this strategy to scaling up strategies on the organisational level, it is similar to organic growth via diversification of products and services. In terms of specific mechanisms, functional scaling up can be achieved in one of the following ways:

- **Horizontal (sectoral) integration**: unrelated new activities are added to existing projects/programmes;
- **Vertical (factoral) integration**: new activities (related to the same project/programme activities) are added to existing projects/programmes.

Illustrative Example

An example of functional scaling up through vertical integration is Essilor International’s project to provide glasses to the bottom of the pyramid (BOP) market. Visual impairment is not only a health (or discomfort issue) but it also has economic, educational and public safety implications. A pair of glasses could dramatically improve the lives of poor people by increasing their employment and educational chances and therefore improving their well-being. Essilor International (http://www.essilor.com) is a global market leader in the ophthalmic lens industry that designs, manufactures, and sells plastic optical lenses in more than 100 countries. Essilor entered the BOP market in India in 1998. Initially its glasses were sold only through optical shops in urban centres, which meant that 70 percent of India’s rural population did not have access to Essilor’s products or services, whereas addressing rural poor could not only contribute to Essilor’s growth but also allow it to achieve a wide-scale impact. Being confronted with poor roads and the lack of other essential infrastructure in rural areas, in 2005 Essilor teamed up with two Indian eye hospitals (Aravind and Sankara Nethralaya) to launch a new project – a tele-ophthalmology van and a refraction van, which visited rural communities to provide eye care and distribute glasses. This project expansion turned out to be a commercial success with considerable impact potential.

5.3.3 Political Scaling Up of Projects and Programs

Political scaling up refers to the extent that a project/programme moves “beyond service delivery towards empowerment and change in the structural causes of underdevelopment – its contextual factors and its socio-political-economic environment. This will usually involve active political involvement and the development of relations with the state.” Political scaling up of projects/programmes is thus reminiscent of scaling impacts beyond organisational boundaries (Section 5.2.2) and specifically dissemination and smart networking. Political scaling up of projects/programmes can be achieved with the following mechanisms (based on):
- **Information and mobilisation**: project members are encouraged to participate in public campaigns designed to create general awareness and increase sympathy of particular problems and thus put pressure on politicians (e.g. through letter writing, organisation of meetings, conferences and workshops, distribution of documents and brochures);

- **Networking**: non-permanent collaboration (with varying degrees of structure) on political issues of joint interest.

**Illustrative Example**

An example of political scaling up is Social Enterprise UK (http://www.socialenterprise.org.uk), a national body, whose members are social enterprises, private businesses, charities and public sector organisations that support the vision of a world where social enterprise is the usual way of doing business. One of the key activities of Social Enterprise UK is to promote the benefits of social enterprise to decision-makers. By influencing political decision-making, Social Enterprise UK aims to remove barriers to social enterprises and create a business environment that encourages their growth and success. Through political engagement, over the past 10 years Social Enterprise UK contributed to the establishment of the Big Society Capital – the first social investment wholesale bank in the UK with more than £600 million; creation of more than 20 different support programmes; as well as the establishment of the Community Interest Company (CIC) legal form for social enterprises, among other achievements77, 78.

5.3.4 **Capacity Scaling Up of Projects and Programs**

Scaling up via capacity building occurs when projects/programmes improve their effectiveness and efficiency. It can be done by diversifying funding sources or creating activities that generate income; by improving the capacity of staff through training; by developing links with other projects/programmes, both in the public and private sector, among other mechanisms. Capacity building, thus, can be seen as a basic requirement for all other scaling up strategies79.

**Illustrative Example**

An example of scaling up by building capacity is Water Health International projects on providing access to safe, clean and affordable water for people in developing countries. WaterHealth International (http://www.waterhealth.com) is a US-based for-profit, social-purpose venture. Water Health International installs UV Waterworks (UVW) technology for disinfecting water with the help of ultraviolet light in the so-called Water Health Centres (WHCs) in rural villages in developing countries. To scale the number of WHCs, Water Health International was actively reaching out to potential investors and succeeded in raising capital from multiple financial sources, including banks, venture capital firms, local governments and International Finance Corporation (IFC). With this funding, Water Health International installed over 600 WHCs in many countries around the world, including India, the Philippines, and Ghana, thus providing safe water to more than one million people (as of mid-2009)80. As commented by Dr. Tralance Addy, Chairman and CEO of WaterHealth International: “We are pleased by the confidence exhibited in WaterHealth by our current investors. As we move to rapidly expand the number of communities we serve and achieve unprecedented scale, access to capital is critical to our continuing success”81.

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2 In the original text this type of scaling up is referred to as “organisational/institutional scaling up”. However, it was relabelled here to avoid confusion with scaling up strategies on the organisational level discussed in sections 5.2, 5.2.2, and 5.2.3.
5.4 Value Creation as Scaling Up Focus

5.4.1 Product Substitution

A company can scale up its value for consumers by supporting sustainable lifestyles through offering better choices in increasing the availability of more eco- and socio-efficient products, or by substituting them directly with services (smart metering of individual consumption, green car washes, ecological hairdressers).

Consumers are also looking increasingly for the added value of services and experiences rather than simply purchasing goods. The emergence of the experience economy is confirmed by the growing interest in services such as spa sessions or massage treatments, cinema tickets or cooking courses as opposed to products. This shift in spending in favour of areas with a low environmental impact, such as education, communication, or recreation and culture (barring activities that involve intensive use of transport) has the potential to reduce the current environmental pressures of consumption.

Business models and their scaling up strategies in this area focus on the development of products or services, which help to reduce the consumer’s environmental impact by substituting more resource and energy intensive products with less-impact products or services that serve the same or similar purpose. This does not refer to the production of the product or service but emphasises the use phase, thus, helping the consumer to change toward a more sustainable lifestyle without having to abandon certain habits completely.

Illustrative Example

WeGreen enables a dialogue between consumers and corporations. Its users can rate the sustainability of companies themselves and the companies can reply to those evaluations. WeGreen collects all substantial, factual and credible ratings about the Corporate Social Responsibility (CSR) of companies in Germany. Thereby, producers are enabled to make more sustainable choices and to substitute one product against another.

5.4.2 Efficient Use of Products and Services

For many products, especially those using consumable materials (e.g. water or electricity), some 80% of environmental impacts are associated with the “use phase”. For example, 75% of the energy consumption linked to a pair of trousers arises from washing, drying and ironing. Improving the efficiency of the use phase therefore is vital.

An organisation’s strategy to scale up its value creation is to support more efficient use of products and services by providing additional services to the customer, such as procurement, maintenance, upgrading, and reuse/recycling of products. The value of this scaling up strategy for consumers is that the organisation provides advice during the consumption phases, thus improving the efficiency of product use and end-of-life stage and reducing e.g. overconsumption.

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3 This section has been extracted and adapted from: ETC/CSP (2012). The Role of New Business Models for Sustainable Living. Background paper for the WBCSD / EEA Workshop “Visions to Actions – Fostering New Business Models to Shape More Sustainable Ways of Living”, 2-3 May 2012, Copenhagen, Denmark. Authors: Oksana Mont (Lund University), Francesca Grossi (CSCP), Nora Brüggemann (CSCP), Justus von Geibler (Wuppertal Institute), Julia Nordmann (Wuppertal Institute) with support of Cheryl Hicks (CSCP), Alexandra Palzkill (Wuppertal Institute) and Nadine Pratt (CSCP).
Illustrative Example

Demand side management and least cost planning: Driven by market deregulation, many electricity suppliers for example have in recent years reformulated their business strategies and now sell packages of efficient use of energy and lighting, including information and education. This is a case of a win-win solution for both producers-providers and consumers – as well as for the environment and future generations since efficient use and decreased consumption results, in the long run, in fewer power plants built and, thus, less resources extracted 87.

5.4.3 Shared use of Products and Services

An organisation can scale up its value creation by enabling their consumers to get access to, engage with or use of their products and services through shared use. The common denominator here is that consumers do not necessarily own products, but products are rather shared among users in different ways. This can contribute to shift the habit of owning many rarely used goods - such as repair tools and garden equipment – toward a shared access to them.

The strategy of service providers – retaining the ownership of the tangible product – can be to sell the functions of the product, via modified distribution and payment systems, such as sharing, pooling, leasing and renting, allowing several individuals to use the product consecutively or in parallel. This strategy or business model often creates a spill-over effect on other lifestyle areas as people realize that they do not necessarily have to buy and own private products in order to get access to them.

Illustrative Example

Communal washing centres in Sweden offered by Electrolux, a producer of washing equipment. In collaboration with local service providers, tenant associations and housing companies it provides equipment and service for running communal washing centres in Sweden. Tenants are paying a monthly fee for using the washing centres, but do not have to take care of the machines. The servicing, upgrading and replacement of machines are done by local service providers. Electrolux assists them with equipment installation, training, suggests layout of equipment location, supports with environmental permits, market surveys, contracts for maintenance and repair, guarantees, and financial schemes. Besides local providers, producers also closely cooperate with housing companies. The collaboration starts already at the design stage of the washing centre when producers of equipment, housing company and tenant associations together develop guidelines for building companies regarding washing centres and special rules for households regarding the use of machines.

5.4.4 Longer use of Products and Services

Experts opposing the “throwaway idea” claim that many products are designed with unjustifiably short life span, requiring consumers to repurchase too frequently, which leads to increasing volumes of waste in society and to increasing resource consumption and pollution from production facilities 88. Value can therefore by generated through organisation’s strategies and supporting activities to extending the lifespan of their products and counter planned obsolescence.

Longer use of products can also be supported by swapping goods, which are no longer needed by the first owner. The underlying idea is that a single individual can monetise high value of own products or assets that one does not use through micro-transactions in a peer-to-peer non-profit network. The growth of such schemes is facilitated by the emergence of new technologies that connect haves with have-nots 89. High value items like apartments, rooms and cars, but even clothes, are finding their way into peer-to-peer online
networks (that can often also be facilitated by entrepreneurs). This is an example of how swapping enables individuals to get access to goods and satisfy their needs without resigning to purchasing new products.

**Illustrative Example**

Repair Network Vienna - Companies offering mobile maintenance and repair stations for consumer goods collaborate with a network in Vienna. Different repair and service companies collaborate to make repair services more attractive. The aim is to improve the competitiveness of repaired goods compared to buying new goods. As a result, higher resource efficiency and reduction of waste could be achieved.

5.4.5 **Efficient End-of-Life Strategies**

End-of-life, the last phase of a product's life cycle, offers a vast array of opportunities for reducing products environmental impact if disposed of responsibly. Either efficient re-use or recycling strategies or so-called up-cycling strategies can form the baseline for innovative business models generating economic and consumer value.

Up-cycling is a new, still rather small, circular business model and strategy that contributes to more efficient end-of-life. It represents a process of recycling waste materials or other discarded products to create new products of a better or higher quality, which reduces volume of resources used to create new products and waste that would otherwise be disposed off.

Up-cycling can also take place on a not-for-profit basis. Some entrepreneurs capitalise on emotional attachment of consumers to certain products and invent new ways to extend the products life or to turn old products into new ones thereby contributing to sustainable norms and lifestyles.

**Illustrative Example**

Many companies are now moving into the up-cycling market, led by early pioneers like Patagonia and Royal Robbins. Up-cycling has even become chic with luxury brands such as Hermes that uses recycled material in their Birkin bags. Up-cycling has a major presence online where entrepreneurs are inventing new ways to turn waste into usable products and market them.

The UK-based company Worn Again up-cycles corporate waste materials into new, design-led products. For example, it turned the raincoats, jackets and train seat antimacassars of high-speed train service company Eurostar into bespoke train managers' bags for Eurostar staff. Other consumer products produced by post-consumer materials include the up-cycled lightning from Relevé Design.
6. Scaling Up Success Factors

6.1 Overview

Scaling up success factors are the conditions required to achieve scaling up of business impacts on sustainable living. In the context of this report, the success factors are categorized as follows (listed alphabetical order):

- **Behaviour change**: To switch to more sustainable lifestyles and living conditions, it is necessary to address stakeholder behaviours (e.g. encourage, discourage, enforce) and awareness, including consumers, business, policy makers, financial institutions, etc.

- **Financial frameworks**: The economic and financial means by which entrepreneurs and businesses can leverage the development of sustainable products, services and business models.

- **Information**: During a scaling–up process it is not intended to know everything but to connect with the right people and access to relevant and reliable data to assist in decision making.

- **Partnerships**: Partnerships and alliances are an important precondition to develop any strategy to scale up business impacts on sustainable living. Partnerships are the means by which different actors interact and enable the replication of impacts.

- **Supporting governance systems**: Governance systems permit the generation of an enabling environment for sustainable entrepreneurship and business innovations in terms of reliable rules, information stability and trust among stakeholders.

- **Technology and infrastructure**: Fit-for-purpose, practical and feasible technologies and supporting infrastructures to enable the implementation of the business innovations.

Based on our research and practical work experience to date, detailed reasoning for each success factor is provided in this chapter. Each success factor is discussed separately in the following sections, including their justification as a success factor for scaling up business impacts on sustainable living, and illustrative examples.

6.2 Behaviour Change

6.2.1 Justification of Success Factor

Sustainable living practices in fields like mobility, food & drink, housing and leisure, are the result of changing behaviours of consumption. However, mainstreaming sustainable living behaviours is a complex task and cannot be analysed in a linear way. Sustainable living depends on two aspects; on the one hand, the willingness to adopt a specific behaviour (e.g. to avoid long distance trips) and on the other, the accessibility of products and infrastructure that permit to practice a sustainable behaviour (e.g. leisure alternatives at local level).

Changing behaviours are a driver for scaling up business innovations. For instance, consumer’s demands give a signal to business to rethink their business models and offers and in consequence, design and implement strategies that result in impacts on sustainable living.
6.2.2 Description

Adopting sustainable lifestyles has become a challenge and a common goal in our societies. To change behaviours and adopt patterns of sustainable consumption is not a process that happens from one day to the another. The limits of the earth’s natural resources have been gradually reached and under the current consumption and production patterns it will not be possible to satisfy everybody’s needs or desires. In order to find out the most relevant changes to switch into more sustainable lifestyles, it is necessary to encourage, discourage and enforce consumers to adopt sustainable consumption patterns. In order to provide insights with this regard, the European Commission developed the SPREAD Sustainable Lifestyles 2050 Project. It comprises a research effort to understand consumption behaviours, how these can become more sustainable and which good entrepreneurship practices have already begun to impact common lifestyles.

Nowadays, changing consumer behaviours is unavoidable. It is not new, that the consumption habits of a single person has a direct impact on climate change effects and can put pressure on the way natural resources or raw materials are used. But in order to motivate the change, it is important to understand the drivers of unsustainable consumption patterns and provide tools to reach quality of life without having a negative impact on the planet.

A sustainable attitude can be motivated by a delayed or an immediate gratification or it can be influenced by a high or low sense of personal agency. Human perceptions, values, education and particular motivations represent key elements that define a specific behaviour. Whether business people, policy-makers, research institutions or civil society: all stakeholders have to get involved in order to achieve successful outcomes in the long-term.

Some key factors about encouraging behaviour change and enforcing it in the long term have a relation to:

- The way the proposed changes meet needs of individuals;
- The strategy to “unlearn” old behaviours;
- The feedback and positive reinforcement.

Some types of behaviour changes that support sustainable living are related to daily consumption patterns of an average citizen. These are mainly related to:

- **Awareness when purchase decisions are made**: Whether buying organic vegetables, a low emissions refrigerator or locally produced clothes are choices that are associated to more sustainable decisions since they are environmentally friendly. Reducing unnecessary purchases is also a key element for significant behaviour changes.

- **Consciousness when natural resources are used** (e.g. water or energy sources): Lowering the amount of water consumption in a household replacing baths by showers or using energy saving bulbs are some examples of better resources use. The use of fewer resources is intrinsically related to less waste produced, a lower carbon and water footprints and the conservation of water sources and ecosystems.

- **Reduction of waste production in households and companies**: One of the pillars of these behaviour changes is related to the 3 R’s: reduce, reuse and recycle. This is also related to frugalism and the philosophy of using “the little as possible” taking into account the scarcity of raw materials and the excessive consumption habits that encourage the supply of different products.
More efficient mobility choices (transportation): Using a bicycle instead of a car or traveling by means of public transportation represent some examples of personal choices for more sustainable transportation. This also applies to a reduced amount of flights per year in a company or the use of a corporate bus for the transportation of its employees.

Illustrative Example

Unilever has started a communicational campaign called the “Five Levers for Change” to encourage their consumers to adopt sustainable patterns of consumption:

Initially, the company identifies the barriers that hinder its customers adopt a sustainable behaviour and the triggers and motivators to get consumers start a new behaviour and stick with it. All those insights are processed in the Five Levers for Change to inspire consumers to leapfrog towards sustainable consumption. The first lever is called “make it understood” and it aims to raise awareness and encourage acceptance on the importance of adopting new patterns of consumption (e.g. Health benefits of having clean hands); the second lever is known as “make it easy” and it provides tips to establish convenience and confidence around new behaviours; “make it desirable” is the third lever and it gives suggestions on how individual sustainable behaviours are really accepted by the society; The fourth lever is called “make it rewarding” and it demonstrates that adopting new consumption patterns really pays off; Finally, the last lever “make it a habit” looks for providing strategies to help consumers stick on their sustainable behaviours.

In this case, Unilever was inspired by future trends of consumption behaviours to develop the strategy, in order to mainstream sustainable consumption among its costumers. Furthermore, the company understands future consumption trends as a motivator to innovate its business models and products to make them coherent with sustainable living scenarios.

6.3 Financial Frameworks

6.3.1 Justification of Success Factor

One of the key challenges among investors, entrepreneurs, experts and academicians lies in the identification of strategies that lead to close the financial gap between entrepreneurs and investors. A consistent financial framework that not only pays attention to the financial resources as such, but also that focuses on other relevant conditions like quality information, innovative financial services and closer interaction between entrepreneurs and investors is the way through which money can be accessible and affordable for achieving market transformations towards sustainable living.

6.3.2 Description

Financial resources, communication instruments and supportive mechanisms are often needed to start-up and scale up sustainable enterprises and business innovations. Financial frameworks are the means by which entrepreneurs can leverage the development of sustainable products, services and business models. The conceptualization and achievement of an appropriate financial framework is a constructive process where not only financial institutions and investors, but all actors have a role to play.

Three aspects comprise a successful financial framework:

1. Developing the business case: The goal of sustainable finance and investment is to support entrepreneurs to growth sustainably, while also expecting a revenue or return on investment that could be redirected to other entrepreneurs alike. To do so, more information on sustainable entrepreneurship
best practices should be created and disseminated to display the business opportunities around this market and consequently, decrease the perception of risk around sustainable enterprises, which nowadays is still too high and results as a burden to enable the flow of financial resources between entrepreneurs and investors.

2. **Financial products and services**: Tailored-made financial products and services are a paramount condition to enable access for entrepreneurs and sustainable business innovators to resources to start-up, strengthen and expand sustainable business practices (e.g. debt and equity financing, public grants and other mechanisms like leasing and factoring). It demands the consideration of the following aspects:
   a. Higher understanding of short-, middle-, and long-term financial needs of entrepreneurs with regard to challenges related scaling up business impacts on sustainable living (e.g. capacity building, technology upgrade, sustainable raw materials procurement, etc).
   b. The return on investment and pay-back expected around sustainable business should be projected for the long term. To reinforce this premise, a new movement among investors called “Patient Capital” is gaining adepts while explaining that investors should re-think the way of doing business with entrepreneurs by avoiding short-term business relationships that would just bring about short-term impacts.

3. **Non-direct financial support**: Financial institutions and investors are most interested in doing business with entrepreneurs and sustainable businesses that expose operational and market consistency and of course a lower risk of default/return on investment. Basically, to succeed in getting financial resources, businesses need to communicate the business case to financial institutions by demonstrating that they are able to implement sustainable business measures and consequently respond with the pay-back conditions of the financial instrument agreed. Hence, entrepreneurs and businesses need support to increase capacities to design SCP strategies and approach financial institutions more efficiently.

This financial framework is essential to attend to the needs of entrepreneurs for achieving sustainable consumption and production. For the short-term, entrepreneurs need working capital for the:

- Development of capacity building activities for selected members of the staff (director of the production department and product design department, responsible for waste management activities)
- Acquisition of and maintenance of adequate stock of sustainable inventories (specially unprocessed raw materials)
- Purchase of efficient office appliances (lamps, computers, etc.)

In the middle-term, entrepreneurs need financial resources for acquiring equipment and machinery for SCP measures. Even though the purchase, maintenance or reparation of industrial equipment and machinery could be some times very expensive, substantial cost savings can be achieved when investing in efficient equipment that reduce energy, water and other inputs consumption.

Finally, long-term finance is important when the enterprise aims to a) expand the facilities to increase its production volume, or b) open new subsidiaries in other regions. Typically, the magnitude of such investments is high and the returns on these investments are –in most of the cases- long-term projected and risky.

The following figure shows the type of financial instrument that addresses the specific financial need of the entrepreneur.
Figure 5-2  Financial Needs and Instruments for Entrepreneurs

Table 6-1  Potential Contributions from Stakeholders

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>The Business Case</th>
<th>Financial Products and Services</th>
<th>Non-direct Financial Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial institutions &amp; Investors</td>
<td>Cooperating with service providers, in order to develop and disseminate benchmarks.</td>
<td>Developing tailor-made products with regard to each entrepreneur’s operational need.</td>
<td>Developing units within the institution to outreach and interact with entrepreneurs</td>
</tr>
<tr>
<td>Universities &amp; Academia</td>
<td>Analyzing and disseminating best practices on entrepreneurship would decrease the perception risk among investors</td>
<td>Conducting research with entrepreneurs to identify customer’s satisfaction and impact of existing financial products and services</td>
<td>a) Increasing financial literacy among entrepreneurs</td>
</tr>
<tr>
<td>Business Member Associations</td>
<td></td>
<td>Assisting financial institutions &amp; investors to develop tailor-made financial products and services</td>
<td>b) Capacity building for designing and implementing SCP strategies (e.g. design for sustainability, sustainable marketing, cleaner production, etc.)</td>
</tr>
<tr>
<td>Civil Society Organisations</td>
<td></td>
<td>Assisting public sector in ensuring customer’s protection</td>
<td></td>
</tr>
<tr>
<td>Policy makers</td>
<td>Enabling the institutional environment for the correct flow of information to create best practices</td>
<td>Creating economic and policy incentives for the further development of financial instruments.</td>
<td></td>
</tr>
</tbody>
</table>
Illustrative Example

Asobancaria is the largest member organization of commercial banks in Colombia. Under its coordination, the banking sector in the country is developing a strategy to promote SCP within the industrial and business sector called the Green Protocol. The Protocol is a process where the Colombian financial sector aims to come up with strategies to address four aspects and in consequence, fulfill the conditions of a successful financial framework: 1) Development of environment and social risk instruments; 2) Development of specific financial products and services to address SCP needs of entrepreneurs; 3) Increase of internal eco-efficiency in financial institutions; and finally, 4) Improvement of communication channels and instruments\(^{101}\).

With this strategy, Asobancaria is addressing the aspects that comprise a successful financial framework. Of course, in order to achieve real impacts among entrepreneurs and consumers, partnerships with other institutional actors are needed to extend the benefits of the strategy. For instance, just having a green credit instrument will not bring about energy efficiency within the enterprise. If the capacities of the manpower are not enhanced to operate efficiently the machine that was acquired, the loan as such is not a guarantee for impact achievement. Hence, in this example, capacity-building programs in cooperation with universities or service providers is needed for a complete success.

6.4 Information

6.4.1 Justification of Success Factor

Information contributes to making easier interaction between different stakeholders. A coherent communication flow not only strengthens trust among partners, but also enables the achievement of a common agenda and understanding among different actors. Table 6-2 presents and ranks four types of information that different stakeholders need to prioritize to engage with other actors.

- Legal information provides the components that actors need to take into consideration for interacting and attending the institutional rules;
- Financial information accelerates the identification of resources to leverage and undertake SCP strategies;
- Technical information helps entrepreneurs identify the best instrumental options to make happen innovation at work place;
- Product/service information is the channel by which entrepreneurs can identify promising partners, raw materials and market demands to run their business.
Table 6-2  Information for Stakeholder Groups

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Stakeholder Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Entrepreneurs</td>
</tr>
<tr>
<td>Legal Information</td>
<td>✓</td>
</tr>
<tr>
<td>Financial Information</td>
<td>✓</td>
</tr>
<tr>
<td>Technical Information</td>
<td>✓</td>
</tr>
<tr>
<td>Product/Service Information</td>
<td>✓</td>
</tr>
</tbody>
</table>

6.4.2 Description

According to the Sustainable Entrepreneurship Manifesto published under the frame of “Create Impact!”102, a handbook for sustainable entrepreneurship, “information is power!... you got it all, for free, use it, share it, filter it, mix it, reflect on it”. Nevertheless, it is mandatory to identify good quality information and use it in the right way and moment in order to consider it a scale-up success factor. The ability to identify causal links and categorize information, to see relationships and patterns among it, understand how processes work and evaluate assumptions and information accurately, correspond to the entrepreneurial discovery process103. Whether technical, financial or legislative information, it has to be recognized and used on time in order to become the main engine and success factor. During a scaling-up process it is not intended to know everything but to connect with the right people and access reliable data from the market, the institutions or the sector.

Connectivity and networking also constitute two important aspects that can empower a sustainable business innovation. Recognizing that the expertise and knowledge from others can benefit the core business avoiding failed attempts to reach stability. A good information flow is one of the key issues to enable an appropriate environment for sustainable business innovations.

Another important scope of information has to do with the way in which products and services are being offered and purchased in a particular segment of the market. This communication strategy should provide clear and sincere information to customers to help them identify and analyse the best options in the market and consequently, in order to make better consumption decisions and adopt new behaviours. The availability and feasibility of information is crucial in order to be persuasive and convince others to change a habit. It is mandatory to know which audience is being addressed and how much they currently care about the consequences of their consumption choices.

However, it is essential to note that sustainable choices have to be easy and affordable to implement. A continuous information flow in the stakeholders’ networks can lead to fulfill consumer needs and expectations in a better way. Even a good business idea can fail if there is no empathy and effective communication with
the stakeholders that interact with the entrepreneur. In fact, entrepreneurs are very important agents to move their local communities towards sustainability. As they have a closer relation to specific consumers, the interaction and information about the advantages of their products or services could get across easily. If entrepreneurs considered local communities as partners rather than merely customers, the opportunities to scale up their business to other communities (where the entrepreneur has lower outreaching and influence capacity) would increase. For instance, the power of “mouth to mouth” advertisement is very strong, not only because it works very well in communities that lack communication channels like internet or radio, but also because people tend to believe in new products and services that were already experienced by others in a positive way.

As previously explained, information can become a success factor under the following premises:

- It has to be available, feasible and timely disseminated / provided;
- It should target the appropriate audience and be communicated smartly and innovatively;
- It has to be credible and of good quality;
- It can become a channel to join different stakeholder groups, share interest and generate a synergy for sustainable initiatives.

Taking into account the last point, information is the means to connect different stakeholders in the scaling-up process and the basis for long-lasting partnerships and cooperation.

**Illustrative Example**

Ecolabels are powerful communication instruments to engage with consumers and promote sustainable consumption patterns. However, they have to be developed and communicated correctly, in order to achieve this goal. Nowadays, ecolabels are becoming trendy in the mass market sector (e.g. food, retail, textiles) because companies consider them as a marketing tool to increase market share. This trend is creating confusion among the consumers and also bad practices of green washing by enterprises. Thus, acknowledging these facts, the REWE Group in Germany developed a different ecolabel that on the one hand, addresses environmental and social impacts of products along their lifecycle, and on the other, communicates in a sincere way to the consumers the type of impacts that were really addressed. This ecolabel is called Pro-Planet.

For instance, if you were going to go to a REWE supermarket and you would like to buy tomatoes with the Pro-Planet label, you could learn the type of sustainability strategy adopted by the company to address unsustainable production patterns. It is communicated through a legend that names the type of work done (e.g. “less water consumption”, “local products”, “fair salaries for local producers”, etc.) and also through a code that contains the details of the work for the specific product. Thus, the consumers can enter this code in the label’s website: http://www.proplanet-label.com/de/ and become aware of the real facts and processes behind each product. This helps them definitively decide whether they want to buy it or another one with no label on it or with a label that does not mean anything concise.

### 6.5 Partnerships

#### 6.5.1 Justification of Success Factor

Partnerships are a key success factor for scaling up business impacts on sustainable living. There are four reasons that testify this argument:

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Partnerships serve to **pool competencies and experiences** from different actors. The nature of challenges for entrepreneurial initiatives for development requires diversity in expertise experiences and resources;

- **Partnerships increase problem-solving capacity.** This is because working systems that represent different views on a perceived challenge are more likely to find intelligent and feasible solutions;

- **The learning ability of the partners is increased** through partnerships. The involvement of different sectors helps to better understand the ‘whole picture’ and respectively learn how to act more effectively;

6.5.2 **Description**

Partnerships and the availability to generate alliances are a paramount precondition to develop any strategy to promote sustainable entrepreneurship and scaling up business impacts on sustainable living. Partnerships should be built based on trust, common values and goals of the different actors.

How to create a partnership? The Seed Initiative and the Collective Leadership Institute (www.empowering-partnerships.org) point to a framework that comprises four main phases of development of successful multi-stakeholder partnerships:

1. **Starting up, exploration and consultation**: Explore the circumstances of the planned project taking into account people and context. It is about testing the idea, thinking together, learning to keep a process going without forming premature structures. Stakeholders start building trust by sharing their ideas, experiences and visions towards the proposed project.

2. **Building the partnership**: Establish the entrepreneurial partnership to give it a formal structure and to agree jointly on goals and planning. Initial structures can be developed, project teams defined and regular meetings planned. The different actors realize opportunities to cooperate based on the analysis of their individual capacities, expertise, in order to conceive potential synergies.

3. **Implementing the partnership**: The key to a result-orientated implementation of entrepreneurial partnerships is to create joint measures of success; achievable milestones are also important. Design the implementation strategy and monitoring systems. Good and transparent communication among stakeholders is essential to achieve success.

4. **Sustaining, replicating and scaling up**: concentrate on building appropriate organisational and management structures without losing sight of the crucial role of people and process. It is also about creating the next level core team by inviting and integrating new participants. This often requires building more formal structures and developing partnership governance systems. Partnerships need at certain point to be institutionalized by conceiving governance structures in order to engage new partners and achieve greater outreach and impacts.

In addition to these phases to create partnerships, it is widely recognized that there is a need to enable spaces and channels to promote the interaction of different stakeholders (e.g. conferences, networking events, social and traditional media, etc.). The SEED Initiative provides some tips for building partnerships:

- A clear and sustained mission statement;

- Building successful partnerships requires considerable patience;

- True partnership involves a shared definition of problems and joint design of solution;
- Flexibility is vital - there is no single approach;
- Bring in new partners as necessary;
- Empower communities.
- As trust is established among partners, the likelihood of implementation of real actions towards sustainable living is also increased. Partnerships create broader ownership of solutions and increase the readiness to implement agreed upon plans.

**Illustrative Example**

The SEED Initiative of UNEP in collaboration with Collective Leadership Institute elaborated a toolkit to assist organisations to develop multi-stakeholder partnerships. The toolkit provides practical recommendations to organisations to increase their capacities to identify their competences and share practical experiences, in order to achieve synergies between different\textsuperscript{107}. The guidelines of the toolkit and other sources from the Collective Leadership Institute have served to achieve best practices on partnership generation.

For instance, a basic sustainability standard for green coffee production called the “Common Code for the Coffee Community (4C)\textsuperscript{108}, was developed through a partnership between a group of international stakeholders: coffee producers from all major coffee-producing countries, trade and industry in coffee and international NGOs. These groups came together as a steering committee to develop the standard and to decide on the conditions of its application. The impact of this standard is traduced in better working, trade and product development conditions for local coffee growers and in consequence major benefits for the final consumer.

### 6.6 Supporting Governance Systems

#### 6.6.1 Justification of Success Factor

Strong governance systems contribute to enabling an environment for actors to cooperate and commit themselves with individual actions towards sustainability. With accretive economic incentives, clear rules and strategic programmes, the public sector provides the set of conditions that permit to the market players innovate and replicate impact. Of course, laws are just effective, if a culture of legalism realms in the country, region, city. Therefore, in order to take advantage of a visionary governance system for scaling up sustainability impacts, cultural mindsets have to be aligned with values such as justice, honesty and respect to the rules.

#### 6.6.2 Description

The United Nations Conference on Trade and Development (UNCTAD) developed the Entrepreneurship Policy Framework and Implementation Guidance\textsuperscript{109}, which aim is to support developing policy makers in the design of initiatives, measures and institutions to promote entrepreneurship. According this guiding framework, policies to foster entrepreneurship need to be designed in a holistic manner from a macro-, to a specific-dimension perspective. Initially, the need to set out an overarching pool of general economic policies to improve the business climate is fundamental. It permits the generation of an enabling environment for sustainable entrepreneurship in terms of reliable rules, information stability and trust among all economic and social players that influence the success of entrepreneurship development.

Within the scope of an enabling environment for sustainable entrepreneurship and sustainable business innovations, policies to reinforce industrial and business development have to be conceptualized in
accordance with the contexts defined by present and future market trends (e.g. consumer demands, sustainable supply chains, international trade agreements, etc). To be more specific, the policy framework identified six priority areas for policy focus that have a direct impact on entrepreneurial activity. According to UNCTAD, these are:

1. **Formulating national entrepreneurship strategy**: Enabling market integration and collaboration along supply chains; developing real market demand for sustainable products (e.g. sustainable public procurement policies and economic incentives for green market development); development of national support programs like competitions or sector-oriented programs; defining indicators and monitoring systems to measure results.

2. **Optimizing the regulatory environment**: Minimizing regulatory hurdles to start-up (e.g. procedures, administrative fees, licenses, etc.); enhancing the benefits for formalization; improving information channels and systems; property rights protection policies.

3. **Enhancing entrepreneurship education and skills**: Development of a platform of service providers with a SCP mindset (e.g. legal, accounting, marketing, mentoring and technical advisors, etc.); integrating SCP in formal and informal education systems; engaging with the private sector to sponsor sustainable entrepreneurship education.

4. **Enabling environment**: Promoting awareness and partnerships, improving access to finance and facilitating technology exchange and innovation (see Sections 6.1 to 6.7).

**Illustrative Example**

The SWITCH-Asia Network Facility developed the SCP Policy Toolbox. It aims to enhance knowledge on SCP policies. It provides concrete input to SCP policy-making to ensure optimal and long lasting impacts of the SWITCH-Asia programme. For the sake of sustainable entrepreneurship, the tool provides policy suggestions for developing sustainable markets, in order to ensure that entrepreneurs can survive overtimes (e.g. increase demand for sustainable products, creation of economic incentives for specific market sectors like food and drink, housing, mobility, tourism, clothing, as well as promotion of sustainable business practices)\(^{110}\).

The toolkit has been widely disseminated since 2010 among Asian policy makers. It, for instance, is being considered by local policy makers in Malaysia, Thailand, Philippines and Indonesia to identify policy alternatives to mainstream SCP collaborations and in consequence strengthen the governance and institutional systems in their respective countries\(^ {111}\).

### 6.7 Technology and Infrastructure

**6.7.1 Justification of Success Factor**

Technology and infrastructure development is a substantial precondition to foster innovation, and therefore, achieve sustainable products, services and processes that lead to changes of current patterns of consumption and production in the market.

Experts agree that, in order to achieve research-based eco-innovations, technologies and infrastructure for sustainable development, it is necessary to reinforce the development of national and local policies which\(^ {112}\).

- Strengthen the relationship between universities, research institutes and the industry, in order to enable a proper knowledge transfer system. It could happen via a) orienting the development of
research activities towards industrial needs and b) by increasing the participation of industries into commercially-oriented research activities (e.g. more investment).

- Foster the development of university spin-offs by enabling institutional support policies, research infrastructure like laboratories, etc.
- Increase the management and entrepreneurial capacities of academicians and researchers.
- Take advantage of current platforms of innovation and growing markets such as information and telecommunication technologies (ITC), biotechnology and other life sciences research areas.

6.7.2 Description

It is widely accepted that technology and infrastructure are essential drivers for innovation. Every actor of the entrepreneurial ecosystem plays a role to promote technology and infrastructure innovation. Enterprises for instance, should be open to embrace partnerships with research centres and universities to co-develop breakthroughs that reflect positive environmental and social impacts in the market. Furthermore, as the development process of technologies is a long term effort, financial institutions are requested to provide risk-oriented financial instruments (e.g. equity capital) to enable developers invent, test and commercialize innovations. Likewise, policy makers definitively define the set of conditions to increase capacities among technology developers and provide the incentives to channel physical, financial and human resources from international actors (e.g. investors, institutional cooperation systems), in order to promote technology development and transfer. All these contributions create local structures of innovations, which are mainly embraced by local universities and research centres.

Universities and research centres play an important role in providing structures for development of innovations, technologies and infrastructure for sustainable entrepreneurship. It happens not only through the type of education systems employed to form graduates with sustainability-oriented mindsets, but also by enabling the transfer of research-funded knowledge and technology to the economic system, specially to the industry. However, as innovation cannot be easily transferred to the society via patent and licensing systems, one alternative way out is to convey knowledge and technology via academic entrepreneurship.

Currently, there is still a gap between industrialized and emerging/developing countries when it comes to conceive strategies to make out of research and development (R&D) activities a driver for sustainable entrepreneurship and business innovations. Therefore, it is important at early stages to present and visualize the opportunities behind these types of ventures, in order to empower local universities and research centres to promote high-impact entrepreneurship and innovations. The benefits can be summarized as\textsuperscript{114, 115, 116}:

- Research-based enterprises are source for technology transfer and therefore a pivot to leverage a knowledge-based economy.
- They impulse regional economic development by favoring the development of local industrial clusters.
- This kind of ventures enable a strategic change in the university because, on the one hand, skilled professionals with master and doctoral degrees get inserted in the labor market in enterprises and, on the other hand, research outcomes are diffused and therefore its value recognized.
- These enterprises are a source of incomes for the universities, which could be reinvested to enlarge R&D capacities.
Illustrative Example
EXIST is a support program of the Federal Ministry of Economics and Technology (BMWi) in Germany that aims at improving the entrepreneurial environment at universities and research institutions and at increasing the number of technology and knowledge based business start-ups. The EXIST program is part of the German government’s “Hightech Strategy for Germany” and is co-financed by funding of the European Social Fund (ESF). The support component addresses three milestones:

1. How to increase culture of entrepreneurship at universities and research institutes, in order to develop commercially-oriented research outputs;
2. How to develop business start-up grants. The grants aim to help scientists, university graduates and students develop their business ideas into business plans and to advance their ideas for products and services;
3. How to promote structures for transfer of research. Research teams at universities or research institutes are encouraged and supported to proof the technological feasibility of their product idea and to prepare the business start-up.117

The program certainly responds to the vision of enabling sustainable living for German and international citizens. It understands that as long as technology and new science-based outputs will be generated, consumers will be able to take advantage of innovative and sustainable processes, products and services developed by enterprises. Special focus should be given to areas like life sciences, renewable energies and environmental technologies and innovations.

6.8 Relevance of Success Factors to Scaling Up Strategies
Table 6-3 and Table 6-4 present a tentative attempt to link scaling up strategies with scaling up success factors. Please note that further research is required to verify the proposed importance of scaling up success factors for different scaling up strategies.

Table 6-3 Relevance of Scaling up Success Factors for Scaling Up Strategies on the Organisational Level
## Scaling Up Strategies

### Scaling Impacts by Growing the Organisation

<table>
<thead>
<tr>
<th>Organic Growth</th>
<th>Acquisitive Growth</th>
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<tbody>
<tr>
<td>High Relevance</td>
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<td>Low relevance</td>
<td>Moderate Relevance</td>
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<td>Low relevance</td>
<td>High Relevance</td>
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### Scaling Impacts beyond Organisational Boundaries

<table>
<thead>
<tr>
<th>Dissemination</th>
<th>Collaboration</th>
<th>Licensing</th>
<th>Merger/ Sale</th>
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<td>Low relevance</td>
<td>High Relevance</td>
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### Scaling Impacts by Reducing Organisational Boundaries

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### Table 6-4 Relevance of Scaling up Success Factors for Scaling Up Strategies on the Programme/Project Level

<table>
<thead>
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<th>Scaling Up Success Factors</th>
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<th>Functional Scaling Up</th>
<th>Political Scaling Up</th>
<th>Capacity Scaling Up</th>
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<td>Behaviour Change</td>
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<td>Information</td>
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<td>Financial Frameworks</td>
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<td>Technology &amp; Infrastructure</td>
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<td>Governance Systems</td>
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7. Case Studies

7.1 Overview

This chapter presents some practical and real-life examples of innovative business practices and entrepreneurial ventures which are contributing to sustainable living. These examples (two to three illustrative case studies from each continent) are presented in the graph below.

Each case study is discussed separately in the following sections, including brief description, reference for further reading, and review against the four steps of the Scaling Up Innovations Framework (1. Sustainable living, 2. Business model, 3. Impacts on people, planet and profit, and 4. Scaling up success factors).

Figure 7-1  Overview of Case Studies

As discussed in Section 3.2 of this report, the Scaling Up Innovations Framework is applicable to a wide range of stakeholders at micro, meso, and macro level. The case studies presented in this chapter have been selected based on their geographical area (as shown in the figure above) and also based on their relevance to the different stakeholder groups (Table 7-1).
Table 7-1  Stakeholder Involvement in Case Studies

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Entrepreneurs &amp; SMEs</th>
<th>Multinationals &amp; large corporations</th>
<th>Supply chain actors</th>
<th>Policy-makers</th>
<th>Service providers</th>
<th>Financial institutions</th>
<th>Civil society organisations</th>
<th>Consumers &amp; local community</th>
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<td>BASIX Financial and Business Development Services</td>
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<td>Unilever: Allanblackia project</td>
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7.2 Asia

7.2.1 BASIX Financial and Business Development Services

Description

BASIX was established in 1996 as a livelihood promotion institution. It works with over a 3.5 million customers, over 90% being rural poor households and some 10% being urban slum dwellers.

Through the integrated provision of financial services and technical assistance BASIX’s mission is to promote a large number of sustainable livelihoods, in particular for the rural poor and women. BASIX strives to yield a competitive rate of return for its investors so as to be able to access mainstream capital and human resources on a continuous basis. BASIX’s strategy is to provide a comprehensive set of livelihood promotion services which include livelihood financial services, agriculture/business development services, and institutional development services under a single umbrella.

Since its founding, BASIX has expanded its services to 100 districts across some 14 states in India. It is widely known for its innovation and partnership approach. Specifically, BASIX works in partnership with mainstream insurance companies (e.g. AVIVA Life Insurance Company for the development of micro-insurance products for the poor), the World Bank (for the development of the weather insurance products for farmers), as well as with private companies (e.g. Pepsico for providing credit and crop insurance to farmers supplying potatoes for Frito Lays products by Pepsico). BASIX also works with other livelihood promotion organisations involved in the development of the disadvantaged and marginalised groups including 37 NGOs and community-based MFIs.

Another significant innovation implemented by BASIX is leveraging IT-platform for financial inclusion of the poor. This involves opening savings bank accounts with biometric authentication based smart cards thus allowing an increasingly large number of clients to have access to savings and withdrawal services, as well as to insurance, credit, pensions and other financial services.

To scale its service provision, BASIX set up a fund worth Rs 99 million (US$ 2.2 million) with the support of the Swiss Agency for Development and Cooperation. Alongside, BASIX has been actively engaged in policy advocacy and worked towards creating good behaviour standards for the microfinance industry, thus converting certain scaling up challenges into opportunities.

Reference

Joshi et al.118.

<table>
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<th>1. Sustainable Living Impact Categories</th>
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<tbody>
<tr>
<td>Zero carbon</td>
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<tr>
<td>Sustainable transport</td>
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<td>Local &amp; sustainable food</td>
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<tr>
<td>Natural habitat &amp; wildlife</td>
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<td>Employment &amp; fair trade</td>
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<td>Other: Equal rights</td>
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<tr>
<th>2. Business Model Type(s)</th>
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<tbody>
<tr>
<td>Type</td>
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<tr>
<td>Why</td>
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<tr>
<th>3. Impacts</th>
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<tbody>
<tr>
<td>People</td>
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<tr>
<td>Planet</td>
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<tr>
<td>Profit</td>
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<tr>
<th>4. Scaling Up Success Factors</th>
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<tbody>
<tr>
<td>Partnerships</td>
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<tr>
<td>Financial frameworks</td>
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<tr>
<td>Behaviour change</td>
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<tr>
<td>Other</td>
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</tbody>
</table>
7.2.2 Andhikhola Hydel Rural Electrification Scheme

Description

The Andhikhola Hydroelectric and Rural Electrification Project (AHREP) boasts a number of innovative and unique design features in its energy distribution system and tariff structure that enable very low income subsistence farmers in rural Nepal to enjoy the benefits of electricity.

The AHREP is a 5.1MW run of river scheme situated in the mid-hills near Galyang Bazaar, 280 km south-west of Kathmandu. The AHREP provides water for gravity irrigation and supplies power to 17,000 electricity consumers in 22 villages with this number growing by 10% annually.

The success of the project is largely a consequence of innovative technologies developed by AHREP and the influence on consumption behaviour of rural electricity consumers. Specifically, AHREP adopted a 1kV distribution voltage that resulted in significant cost savings largely because a single porter could carry transformers to areas that were not serviced by roads. AHREP also developed innovative power transmission poles consisting of tapered telescopic sections that were lightweight and could be assembled by porters on site (instead of using more traditional and more expensive pre-cast concrete poles for suspending transmission lines along roads).

In addition, AHREP introduced an innovative tariff structure that allowed managing peak demands: instead of electricity meter reading, AHREP introduced a power-based tariff thus enabling customers to subscribe for 25-400W usage at a fixed tariff. The usage above the subscribed demand is charged at a significantly higher rate, thus influencing electricity consumption patterns and reducing peak demands.

Reference

Sustainable Hydropower19.
7.2.3 **Cosmos Ignite Innovations**

**Description**

Cosmos Ignite Innovations is a social enterprise using a disruptive technology solution to resolve two key sustainability challenges at the same time, specifically access to lighting by the poor and climate change. Cosmos Ignite products are based on the work of Stanford University. It offers solar-powered LED-based portable home lighting system (MightyLight).

LED lamps are believed to produce nearly 200 times more useful light than a kerosene lamp and almost 50 times the amount of useful light of a conventional bulb. The light is water- and break-resistant, low cost, requires virtually no maintenance and is environment-friendly. The light can be delivered at a high-volume price point of Rs 1,000 (US$ 25) including the lamp and solar panel, thus opening up a previously unserved segment of the market.

Cosmos Ignite provides the foundations for the developing world to “leap frog” to the next generation of lighting, which is even more efficient than incandescent lighting, while avoiding the pitfalls of dangerous mercury vapour in fluorescent bulbs. The MightyLight systems are used in India, Afghanistan, Pakistan, Kenya, Nigeria, Guatemala, Panama and many other regions with almost 100,000 people being impacted (as of 2008).

Such a success in scaling the delivery of lighting systems results from the fact that Cosmos Ignite offers a product that is not technology- or state-dicted, but driven by customer needs. However, even with significant cost reductions offered by innovative technologies, it was clear for Cosmos Ignite that the poorest could not afford the up-front acquisition costs and therefore it developed alternative financial mechanisms to achieve scaling up: microfinancing and carbon credits. In addition, to ensure a wider distribution of its lighting systems, Cosmos Ignite has been proactively forming partnerships with multilateral institutions such as the United Nations, the World Bank and other donor institutions and not-for-profit projects, including MFIs (Micro-Finance Institutions) and rural co-operatives.

**Reference**

Joshi et al[^120].

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<thead>
<tr>
<th>1. Sustainable Living Impact Categories</th>
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<tbody>
<tr>
<td>Zero carbon</td>
<td>Zero waste</td>
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<td>Sustainable transport</td>
<td>Local &amp; sustainable materials</td>
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<td>Local &amp; sustainable food</td>
<td>Sustainable water</td>
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<tr>
<td>Natural habitat &amp; wildlife</td>
<td>Culture &amp; heritage</td>
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<tr>
<td>Employment &amp; fair trade</td>
<td>Health &amp; happiness</td>
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<tr>
<td>Other</td>
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<table>
<thead>
<tr>
<th>2. Business Model</th>
<th></th>
</tr>
</thead>
</table>
| Type              | • Disruptive technology business model  
|                   | • Societal business model              |
| Why               | Social enterprise providing Solar Light Emitting Diode (LED) lighting and micro-energy (disruptive technology) for domestic use, focused on poor communities |

<table>
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<th>3. Impacts</th>
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<tbody>
<tr>
<td>People</td>
<td>Access to low cost lighting and improved living conditions</td>
</tr>
<tr>
<td>Planet</td>
<td>Lower greenhouse gas emissions and reduced deforestation</td>
</tr>
<tr>
<td>Profit</td>
<td>Expanded consumer market</td>
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<table>
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<tr>
<th>4. Scaling Up Success Factors</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Partnerships</td>
<td>Supporting governance systems</td>
</tr>
<tr>
<td>Financial frameworks</td>
<td>Technologies &amp; infrastructure</td>
</tr>
<tr>
<td>Behaviour change</td>
<td>Information</td>
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<tr>
<td>Other</td>
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</tr>
</tbody>
</table>
7.3 Africa

7.3.1 Cadbury: Promoting Sustainable Livelihoods and Cocoa Production

Description
Cocoa is grown and harvested under the tropical forest canopy near the equator, often miles from existing infrastructure. Living and working in this environment poses a number of economic, social, environmental, and labour challenges for farmers, their families and communities. As a result, the production of cocoa in Ghana (where Cadbury, now owned by Kraft, sources most of its cocoa) has been gradually declining.

To secure a steady supply of cocoa, Cadbury launched in January 2008 the Cadbury Cocoa Partnership – a £45 million ($73 million) programme intended to support cocoa farmers in Ghana for over a decade. This programme is carried out in partnership with the United Nations Development Programme, the Fairtrade Foundation, farmers, governments and NGOs. Its aim is to promote sustainable livelihoods for one million cocoa farmers; increase cocoa crop yields 20% by 2012, and 100% by 2018; and create new sources of income in 100 cocoa farming communities.

As of 2010 Cadbury/Kraft has invested over £3 million ($4.6 million) in the Partnership thus benefiting ten thousand farmers and their families in 100 cocoa-farming communities, as well as 55,000 members of the Kuapa Kokoo farmer’s co-operative in Ghana. Apart from doubling cocoa production and improving incomes, Ghana farmers also benefit from education and empowerment programmes that aim to increase awareness of key issues such as child labour and gender equality.

Key success factors of the Cadbury Cocoa Partnership include multiple partnerships with government officials, donor organisations, NGOs and the farmers themselves, as well as the local engagement with cocoa farmers and farmer organisations in the identification of resources, training, and development initiatives which would be the most beneficial to the local communities.

References
UN Global Compact121, Cadbury122, Business Call to Action123

<table>
<thead>
<tr>
<th>1. Sustainable Living Impact Categories</th>
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</thead>
<tbody>
<tr>
<td>Zero carbon</td>
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<tr>
<td>Sustainable transport</td>
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<tr>
<td>Local &amp; sustainable materials</td>
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<tr>
<td>Local &amp; sustainable food</td>
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<tr>
<td>Sustainable water</td>
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<tr>
<td>Natural habitat &amp; wildlife</td>
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<tr>
<td>Culture &amp; heritage</td>
</tr>
<tr>
<td>Employment &amp; fair trade</td>
</tr>
<tr>
<td>Health &amp; happiness</td>
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<tr>
<td>Other: Education &amp; skilling</td>
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<table>
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<th>2. Business Model Type(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Collaborative production business model</td>
</tr>
<tr>
<td>Full cost business model</td>
</tr>
<tr>
<td>Societal business model</td>
</tr>
<tr>
<td>Why</td>
</tr>
<tr>
<td>In collaboration with governments, NGOs and international development organisations, Cadbury assists farmers in improving cocoa production and maintaining decent livelihoods</td>
</tr>
</tbody>
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<thead>
<tr>
<th>3. Impacts</th>
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<tbody>
<tr>
<td>People</td>
</tr>
<tr>
<td>Improved living and working conditions for cocoa farmers</td>
</tr>
<tr>
<td>Planet</td>
</tr>
<tr>
<td>More sustainable cocoa production</td>
</tr>
<tr>
<td>Profit</td>
</tr>
<tr>
<td>Secure a steady local supply of cocoa</td>
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<tr>
<th>4. Scaling Up Success Factors</th>
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</thead>
<tbody>
<tr>
<td>Partnerships</td>
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<tr>
<td>Supporting governance systems</td>
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<tr>
<td>Financial frameworks</td>
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<tr>
<td>Technologies &amp; infrastructure</td>
</tr>
<tr>
<td>Behaviour change</td>
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<tr>
<td>Information</td>
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<tr>
<td>Other</td>
</tr>
</tbody>
</table>
7.3.2 Association of Private Water Operators

Description

Of Uganda’s 21 million people, more than 2 million live in small towns with poor water supplies. Most people in these towns have low income and water shortages aggravate poverty and encourage the spread of disease.

In 2003 eight founding companies formally established the Association of Private Water Operators (APWO) of Uganda with technical and financial assistance from the German Technical Corporation (GTZ). The mission of APWO is to promote the common interests of private water operators through representation, advocacy and lobbying for policy improvement; coordinate the operations of private water operators; realise economies of scale and efficiency gains in the management of water and sanitation services; and to build capacity of private water operators.

The essence of APWO is a private public partnership among government, development partners, local councils and private water operators. The government identifies sites, drills boreholes, facilitates community land purchase and subsidises instalments. The private operators distribute the extracted water, check safety and capture the profits. The community water board owns assets and sets tariffs and policies.

In 2010-2011 there were over 34,000 connections that helped deliver around 3.8 million m³ of safe water to APWO customers, which is a 7 times increase in the number of connections and the volume of provided water since 2003. This model has allowed many Ugandans to spend their time in ways other than collecting and purifying water and reduced the incidence of many infectious diseases. Moreover, it inspired the start-up and expansion of many small-scale businesses such as poultry farming, vegetable stalls, food sellers and car-wash businesses, thus creating the ripple effect on the local economy.

Despite these successful outcomes, some challenges remain, including the growth of the population in urban areas and insufficient funding of the water sector to meet the increasing demands. APWO strives to find solutions to these challenges and continue providing services to low-income customers.

Reference

Karugu & Kanyagia (2007)\textsuperscript{124}, Association of Private Water Operators\textsuperscript{125}
7.3.3 **Peepoople**

**Description**

Roughly 2.5 billion people across the world do not have access to dignified sanitation. Absence of basic sanitation leads to water contamination – a primary cause of typhoid, diarrhea and other intestinal diseases. Moreover, much of agricultural production in the developing countries is dependent upon imported chemical fertilisers rather than natural local fertilisers.

Peepooples addresses both of these problems with the offer of single-use, self-sanitising and fully biodegradable toilets which are rendered harmless in two to four weeks and can be used as a natural fertiliser. The Peepoos are distributed through kiosks and local micro-entrepreneurs. A refund is given for each used Peepoo brought back to the collection points. In addition, Peepoos can be used as an emergency solution in humanitarian response missions and refugee camps.

Peepoo toilets are currently sold, used and collected in the Kibera slum in Nairobi (Kenya) where they serve 4,500 people and 2,500 school children. The goal is to increase the reach to two million people in urban slums over the next five years. According to Peepoo, key scaling up success factors include the provision of information when entering new slums, as well as new grants to help build demand for the product and to reach the tipping point.

**Reference**

Siemens Stiftung (2007)\textsuperscript{126}, Peepoople\textsuperscript{127}

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### 1. Sustainable Living Impact Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero carbon</td>
<td></td>
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<tr>
<td>Zero waste</td>
<td></td>
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<tr>
<td>Sustainable transport</td>
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<tr>
<td>Local &amp; sustainable materials</td>
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<tr>
<td>Sustainable water</td>
<td></td>
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<tr>
<td>Natural habitat &amp; wildlife</td>
<td>Culture &amp; heritage</td>
</tr>
<tr>
<td>Employment &amp; fair trade</td>
<td>Health &amp; happiness</td>
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<tr>
<td>Other: Sustainable agriculture</td>
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### 2. Business Model Type(s)

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Societal business model</td>
<td>The Peepoos improve sanitation and hygiene thus reducing the incidence of disease outbreaks. Sanitised Peepoos are also used as a high-value, natural fertiliser.</td>
</tr>
<tr>
<td>Multi-functional business model</td>
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</table>

### 3. Impacts

<table>
<thead>
<tr>
<th>People</th>
<th>Creation of job opportunities for micro entrepreneurs for sale and collection of the Peepoos. Reduction in sanitation-caused disease outbreaks.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planet</td>
<td>Increased farm productivity from the use of natural (rather than chemical) fertilisers from Peepoos.</td>
</tr>
<tr>
<td>Profit</td>
<td>The aim is to achieve self-sustaining social business.</td>
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</table>

### 4. Scaling Up Success Factors

<table>
<thead>
<tr>
<th>Partnerships</th>
<th>Supporting governance systems</th>
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<tr>
<td>Financial frameworks</td>
<td>Technologies &amp; infrastructure</td>
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<tr>
<td>Behaviour change</td>
<td>Information</td>
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<tr>
<td>Other</td>
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</table>
7.4 Europe

7.4.1 Green-Works / London Re-use Commercial

Description
Green-Works (as of mid-2011 London Re-use Commercial) was founded in 2000 with the aim to divert waste from landfill by collecting old office furniture and selling it at low cost to small businesses, charities and social enterprises. Specifically, Green-Works collaborates with big banks and large corporations that are interested in donating their old furniture as part of their corporate social responsibility activities. Green-Works charges its corporate clients for clearing the furniture and transporting it to the nearest Green-Works depot.

Green-Works operates as a limited company and holds the Social Enterprise Mark. In addition to its environmental mission, the social enterprise aspect of Green-Works is contained within its employees, a large number of which are long-term unemployed, as well as people from marginalised and disadvantaged communities. Green-Works also works with job centres and prisons to recruit people and give them basic skills and paid training/part-time employment. Moreover, Green-Works partner processing centres are located in deprived areas to facilitate the creation of real jobs and training opportunities for disadvantaged people.

Green-Works/London Re-use Commercial has a large geographical presence in the UK due to the large network of franchisees. It estimates that over 10 years of existence, it redirected re-use office furniture from landfills to over 16,000 organisations and saved the UK government over £500,000 in social benefit through its social benefit programmes. As a result of these efforts, Green-Works/London Re-use Commercial has saved around 60,000 tonnes of CO₂e from being emitted into the atmosphere and created over 800 training opportunities.

Reference
Mavra (2011)\textsuperscript{128}, London Re-use Commercial\textsuperscript{129}
7.4.2 AETES Environnement

Description
AETES Environnement was started in 2009 in France with the mission to provide high-quality and environmentally-friendly cleaning services to businesses and municipalities while employing long-term disabled and unemployed, thus promoting social integration and environmental consciousness.

Since its start in 2009, AETES Environment has expanding geographically by establishing social franchises and partnerships with other cleaning companies in Limoge (with 5 employees) and in Strasbourg (with 18 employees). AETES plan to continue scaling up at a rapid pace with six new partners per year.

AETES defines the following as key success factors for scaling up: low-employee turnover (which is valued by clients who appreciate meeting the same cleaning personnel every day), as well as clear procedures that are taught to franchisees (including the “AETES Environment Quality Control” framework).

Reference
European Social Franchising Network Case Study 8130.

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1. Sustainable Living Impact Categories

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<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tr>
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<td>Sustainable water</td>
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<td>Natural habitat &amp; wildlife</td>
<td>Culture &amp; heritage</td>
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<td>Employment &amp; fair trade</td>
<td>Health &amp; happiness</td>
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2. Business Model Type(s)

<table>
<thead>
<tr>
<th>Type</th>
<th>Societal business model</th>
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<tbody>
<tr>
<td>Why</td>
<td>Creating employment for disadvantaged people</td>
</tr>
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3. Impacts

<table>
<thead>
<tr>
<th>People</th>
<th>Employment for disadvantaged people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planet</td>
<td>Environmentally-conscious cleaning</td>
</tr>
<tr>
<td>Profit</td>
<td>Sustainable revenue source from fees paid by corporate clients and municipalities</td>
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</table>

4. Scaling Up Success Factors

<table>
<thead>
<tr>
<th>Partnerships</th>
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<td>Technologies &amp; infrastructure</td>
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<td>Behaviour change</td>
<td>Information</td>
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<td>Other</td>
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</table>
7.4.3 ECF Efficiency City Farming

Description

ECF is a German company that designs urban farms to produce healthy vegetables and fish within the city environment. This idea is thought for small and middle consumers that can become potential city farmers such as supermarkets, restauranteurs, hoteliers, architects, schools and universities. One of the assets of this model is the CO2-neutral production with no pesticides, zero transportation miles, and with a reduced water footprint. The ECF Farms seek to revolutionize the food production in the cities and provide a significant contribution to climate protection in urban environments.

This presents a sustainable solution for macro food consumers that want to adopt a more sustainable supply chain and want to promote healthy, regional, and sustainable diet.

The company assists with the planning, development and construction of the urban farms in specific locations, including feasibility studies, crop yields estimations. An urban farm can be delivered in a period of three to four months. The users of the urban farmers can choose the desired operational model for the urban farm (e.g. owned and operated by EFC or by themselves).

Reference

ECF City Farms\textsuperscript{131}.

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<th>1. Sustainable Living Impact Categories</th>
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<td>Local &amp; sustainable food</td>
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<td>Sustainable water</td>
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<tr>
<td>Natural habitat &amp; wildlife</td>
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<td>Culture &amp; heritage</td>
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<td>Health &amp; happiness</td>
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<th>2. Business Model Type(s)</th>
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<td>Type</td>
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<th>3. Impacts</th>
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<tbody>
<tr>
<td>People</td>
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<tr>
<td>Planet</td>
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<tr>
<td>Profit</td>
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<th>4. Scaling Up Success Factors</th>
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<tr>
<td>Partnerships</td>
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<tr>
<td>Financial frameworks</td>
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<tr>
<td>Behaviour change</td>
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<td>Other</td>
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\textsuperscript{131}
7.5 North America

7.5.1 AdVinylize

Description

AdVinylize was founded in 2007 with an aim to create sustainable promotional products from discarded advertising materials. Billboard vinyl commonly used for outdoor advertisements is repurposed into durable, high-quality goods (e.g. totes, wallets, coolers, beach slings and messenger bags) that are both highly useful and provide an option to keep the material out of landfills.

AdVinylize business model is based on close collaboration with large corporations that use billboard vinyl for advertising. AdVinylize offers billboard removal and re-design into promotional products that can be used by the same corporations as luxury gifts or give-away conference/promotional materials (branded with the corporation’s logo). In addition to close partnerships with corporations, AdVinylize entered in 2011 into a strategic partnership with MetroMedia Technologies (MMT) – the industry leader in large format printing, outdoor advertising graphics and billboard printing.

AdVinylize work helps not only reduce waste from the outdoor advertisement industry but also to change environmental practices in this industry, including refitting bulletin structures with LED lighting and using alternative energy sources to power billboards at night.

Despite this success in scaling impacts, AdVinylize remained so far a small company with just one employee. It plans to continue expanding geographically by targeting advertising agencies and their clients in Southern California and Arizona.

Reference

AdVinylize\textsuperscript{132}, Smart Girls Way\textsuperscript{133}, Opportunity Green\textsuperscript{134}.
7.5.2 Opower

Description
Opower (Positive Energy until 2009) is a privately held company founded in 2007. It partners with utility providers to promote energy efficiency through Home Energy Reports for utility customers developed with Opower’s software. This software analyses the usage of energy and offers recommendations on energy saving by making small changes in energy consumption. Through this service, Opower helps protect the environment, boosts energy security, saves money for utility customers and influences their energy consumption behaviour.

Opower’s software uses statistical algorithms to perform pattern recognition analysis from electricity consumption data without any devices installed in the home. This is achieved by using behavioral science techniques developed by Opower’s chief scientist and the author of “Influence”, a 1984 book on persuasion, Robert Cialdini. The company has recently (November 2012) launched a new offering – Opower4 which is a customer engagement platform to promote consumer participation in a variety of utility programmes that support energy efficiency, smart grid and customer satisfaction.

As of 2012, Opower managed energy data from over 15 million homes around the world serving more than 75 utilities, including 8 of the US's 10 largest. It delivered more than $75 million in savings for utility customers, saved 750 gigawatt hours of energy and abated 1 billion pounds of CO₂. And it had 250 employees and two offices (in San-Francisco and Arlington County, Virginia).

In June 2012 for the first time Opower made its services available for non-US customers by partnering with First Utility (UK) and launching a new service – my:energy. Opower was also successful in raising venture capital finance from large VC firms, with the third round in 2010.

The company received a number of high-profile awards and endorsements, including the Global Tech Pioneer by the World Economic Forum on 1 September 2010 and the Green Jobs Award at the end of 2010. Its services were praised by the US President Obama who said that the company’s growth is “a model of what we want to be seeing all across the country.”

Reference
Opower135, First Utility136, EarthTechling137, The White House138

1. Sustainable Living Impacts

<table>
<thead>
<tr>
<th>Zero carbon</th>
<th>Zero waste</th>
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<tbody>
<tr>
<td>Sustainable transport</td>
<td>Local &amp; sustainable materials</td>
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<td>Local &amp; sustainable food</td>
<td>Sustainable water</td>
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<tr>
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<tr>
<td>Employment &amp; fair trade</td>
<td>Health &amp; happiness</td>
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<td>Other</td>
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</table>

2. Business Model Type(s)

<table>
<thead>
<tr>
<th>Type</th>
<th>Product service system business models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why</td>
<td>Introduces resource efficiency without fundamentally restructuring the entire business model</td>
</tr>
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</table>

3. Impacts

<table>
<thead>
<tr>
<th>People</th>
<th>Job creation, reduction in energy costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planet</td>
<td>Reduction in energy consumption and CO₂ emissions</td>
</tr>
<tr>
<td>Profit</td>
<td>Financially successful and growing business</td>
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</table>

4. Scaling Up Success Factors

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<thead>
<tr>
<th>Partnerships</th>
<th>Supporting governance systems</th>
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<td>Behaviour change</td>
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7.6 **South America**

7.6.1 **Ouro Verde Amazonia**

**Description**

Ouro Verde Amazonia (founded in 2002) produces and sells products made from the Brazil nut while promoting sustainable land use. Ouro Verde provides an alternative to the common notion that high impact lumber exploitation and deforestation are the best economically viable use of the land.

Brazil nuts are collected from the forest floor – trees are not cut down to harvest the nuts. Only a small fraction of the Brazil nuts are collected, leaving seeds for the Brazil tree to propagate. About 1.3 million hectares of rain forest are sustainably managed by Ouro Verde supplier partners. The Brazil nuts are sustainably harvested by local community members who sell directly to Ouro Verde and receive fair prices for the nuts since the middle man has been eliminated.

The local community derives economic value from the preservation of the forest and has an incentive to protect the forest. Ouro Verde processes raw Brazil nuts into different products and distributes these products through local shops and large retail chains with nation-wide coverage.

Ouro Verde has received numerous awards, including Chico Mendes Award 2007 for Sustainable Business (awarded by the Ministry of Environment) and Local Entrepreneur Award 2009 (awarded by Núcleo de Desenvolvimento Empresarial - Incubadora de Empresas de Piracicaba).

To scale its operations Ouro Verde partnered with New Ventures – the World Resources Institute’s centre for environmental entrepreneurship which provides business development services to environmentally-focused small and medium enterprises in emerging markets. Through New Ventures, Ouro Verde entered into strategic partnership with Grupo Orsa – one of the most prominent Brazilian organisations in the forestry, pulp, paper and packaging sector. This has allowed Ouro Verde to scale up significantly with the revenues increasing ten-fold from US$ 230,000 in 2008 to US$ 2.3 million in 2010. Further expansion plans include partnerships with a larger number of local communities (to increase geographical area for collecting nuts) and export through direct importers.

**Reference**

New Ventures\(^{139}\), Business Call to Action\(^{140}\)

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<tr>
<th>1. Sustainable Living Impacts</th>
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<td>Zero carbon</td>
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<td>Sustainable transport</td>
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<td>Local &amp; sustainable food</td>
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<th>4. Scaling Up Success Factors</th>
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<td>Financial frameworks</td>
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<td>Behaviour change</td>
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<td>Other</td>
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7.6.2  CEMEX ‘Patrimonio Hoy’

Description

CEMEX is a Mexican global building materials company. It produces cement, ready-mix concrete and related building materials in more than 50 countries. CEMEX “Patrimonio Hoy” programme (launched in 1998) seeks to make the housing affordable for low-income Mexicans. The programme provides customers with access to credit as well as advice on building techniques (since most low-income customers in Mexico build or expand their homes themselves).

Would-be homebuilders pay about $14 a week, for 70 weeks. For this price they get scheduled deliveries of materials divided into building phases, as well as consultations and inspections by Cemex staff architects, during the 70 weeks period. This helps reducing construction costs by 35 per cent and building time by 60 per cent. In addition to housing, Patrimonio Hoy contributes to the improvement of local public school infrastructure, including classrooms, bathrooms, and sports facilities.

The Patrimonio Hoy programme has been recognised with multiple awards, including the World Business Award from the International Chamber of Commerce, the Prince of Wales International Business Leader’s Forum, and the Business in the Community Award.

Since the beginning of the programme, it has provided affordable housing solutions to more than 350,000 families in Mexico, Colombia, Costa Rica, Nicaragua and the Dominican Republic. The programme’s international expansion was fuelled by a partial credit guarantee of up to $10 million from the Inter-American Development Bank (IDB) in 2011. It is estimated that by 2016, more than 750,000 low-income families in Latin America will be beneficiaries of the Patrimonio Hoy programme.

One of the key challenges for the programme is customer retention, since some people drop out of the programme feeling tempted to spend the money on something else. To address this problem CEMEX encourages the establishment of support groups that help increase motivation of programme participants and thus solve the issue of customer retention.

Reference

CEMEX141, Sandoval (2005)142, IDB143, World Changing144

### 1. Sustainable Living Impacts

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<tr>
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<th>Zero carbon</th>
<th>Zero waste</th>
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<td>Sustainable water</td>
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<td>Local &amp; sustainable food</td>
<td>Sustainable water</td>
<td>Culture &amp; heritage</td>
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<td>Natural habitat &amp; wildlife</td>
<td>Culture &amp; heritage</td>
<td>Health &amp; happiness</td>
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<td>Employment &amp; fair trade</td>
<td>Health &amp; happiness</td>
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### 2. Business Model Type(s)

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<tr>
<th>Type</th>
<th>Societal business model</th>
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<tbody>
<tr>
<td>Why</td>
<td>Provision of financial and technical services to enable low-income earners to build their own houses.</td>
</tr>
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### 3. Impacts

<table>
<thead>
<tr>
<th>People</th>
<th>Low income customer get access to building materials; improvement of community infrastructure</th>
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<tbody>
<tr>
<td>Planet</td>
<td>Not known</td>
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<tr>
<td>Profit</td>
<td>Expanded consumer market, brand loyalty and reputation</td>
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### 4. Scaling Up Success Factors

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<tr>
<th>Partnerships</th>
<th>Supporting governance systems</th>
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<td>Behaviour change</td>
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<td>Other</td>
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7.7 Oceania

7.7.1 CarboNZero

Description

The carboNZero programme was established in 2001 by Landcare Research New Zealand, one of New Zealand’s leading research institutes, owned by the New Zealand government. As of 2011, it is a stand-alone business which is rapidly expanding to international markets. The company offers a low-cost carbon certification scheme to SMEs and global corporations.

CarboNZero certification provides assurance to customers, investors and other businesses that the certified company has been assessed to the most rigorous standards. As for certified companies, it provides an important tool in building their national and international reputation, and the opportunity to reduce carbon liabilities, reduce operating costs and demonstrate proactive leadership.

The carboNZero emissions calculation tool is based on a unique internet-based greenhouse gas inventory, E-Manage. Unlike other carbon calculators, E-Manage can operate across regions taking into account a variety of local and business-specific factors, thus offering an easy-to-customise, online solution for businesses. It was developed initially by Landcare Research and improved further in partnership with Intergen – one of the leading information technology companies in New Zealand and Australia. This partnership contributed to the exponential growth of carboNZero’s client base, including international clients.

Specifically, international expansion is achieved by licensing the carbon emissions calculation tool to other certification organisations, including Achilles Information in the UK and Bureau Veritas in Australia.

Reference

Landcare Research, Intergen, Sustainability Matters, Business to Business.
7.7.2 Sustainable Feedstocks for Aviation Fuels

Description

Boeing and CSIRO (the Commonwealth Scientific and Industrial Research Organisation, Australia’s national science agency) have partnered in 2012 to undertake a comprehensive study to evaluate the potential for growing new feedstocks in northern Australia and turning them into sustainable aviation biofuels.

The “Sustainable Feedstocks for Aviation Fuels” programme builds on the recommendations of the “Flight Path to Sustainable Aviation Roadmap” report by CSIRO, released in May 2011, and continues the strong research relationship developed between Boeing and CSIRO over more than 20 years. According to this report, a new Australian bio-based aviation fuel industry can generate some 12,000 clean energy jobs over the next 20 years, cut greenhouse emissions and reduce Australia’s reliance on aviation fuels imports.

The “Sustainable Feedstocks for Aviation Fuels” programme will identify and trial new fuel sources that are compatible with existing land uses with the ultimate goal of developing commercially-viable feedstock. Over the longer term, Boeing and CSIRO hope to attract further investment and partnerships to develop and commercialise the most prospective options.

Reference

CSIRO149.
7.8 Global and Multiple Countries

7.8.1 Chemical Leasing

Description
In 2004, the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) and the United Nations Industrial Development Organization (UNIDO) launched the joint project “Promotion and implementation of Closing-the-Loops cooperation and business models in the chemical industry”, later renamed the Global Chemical Leasing Project.

Traditionally, chemicals are sold to customers who become owners of the substances and therefore responsible for use and disposal. Suppliers have a clear economic interest in increasing the quantity of chemicals sold. The concept of chemical leasing is much more service-oriented. The customer pays for the benefits obtained from the chemical, not for the substance itself. Consequently the economic success of the supplier is no longer linked with product turnover. The supplier tries to optimise the use of the chemical and improve conditions for recycling in order to reduce the quantity consumed, which in turn reduces environmental impacts.

Chemical leasing forms part of UNIDO’s strategy to improve environmental performance of businesses globally. Since the launch of the programme, it has been implemented in a number of different sectors, including manufacture of electronic equipment, car manufacture, food processing, steel treatment, mineral water production, waste water treatment, textile industry, brewery, petrochemical industry, tourism and printing industry.

First demonstration projects were started and successfully implemented in close cooperation with the National Cleaner Production Centres (NCPCs) in Egypt, Mexico and the Russian Federation in 2005, followed by Sri Lanka, Serbia and Colombia in 2008. In 2010 new initiatives were started in Brazil, Croatia and Nicaragua.

Key learnings during implementation of these pilot projects include the importance of intensive cooperation and exchange of know-how between chemical users. Therefore, trust was defined as one of the major success factors for implementing chemical leasing projects.

Reference
Chemical Leasing\textsuperscript{150}, Schwager (2011)\textsuperscript{151}

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<td>Product service system business model</td>
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<td>Full cost business model</td>
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<td>Service oriented approach to chemicals supply and product development, taking into account of the real costs of resources</td>
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<th>3. Impacts</th>
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<td>People</td>
<td>Better living conditions</td>
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<tr>
<td>Planet</td>
<td>Increase resource efficiency and lower environmental impacts</td>
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<tr>
<td>Profit</td>
<td>Reduced cost associated with (inefficient) use of chemicals and their impacts</td>
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<th>4. Scaling Up Success Factors</th>
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7.8.2 **Unilever: Helping Small Holder Farmers**

**Description**

Unilever is working with the United Nations Development Programme (UNDP), the International Centre on Research in Agro-Forestry (ICRAF), the International Union for Conservation of Nature (IUCN) and international and local NGOs to help farmers in Africa cultivate a new tree crop “allanblackia”. Allanblackia fruit contains oil which is ideal for margarine and dairy cream alternatives.

After discovering the potential of the plant in 2000, Unilever played a key role in setting up private/public partnerships to support producers and help them meet demand. This work has helped create a fully operational supply chain in Ghana, Tanzania and Nigeria. It is estimated that around 11,000 farmers have already benefited from the project by generating additional revenue from allanblackia collection during the seasons when main crops cannot yet be harvested.

In January 2011 Unilever won a Biodiversity Innovation award from the Union for Ethical BioTrade, an organisation promoting sourcing with respect. Before the project, the value of the Allanblackia seeds was not fully recognised and many trees were cut down and used as timber. Unilever has invested heavily in the awareness-raising programmes for farmers to prevent cutting down of the trees and encourage replanting.

In addition, Unilever helps co-fund and co-founded local companies in Africa and develop them into independent companies capable of running the supply chain, thus also having an impact on local economies.

**Reference**

Unilever\(^{152, 153}\)
8. Conclusions and Next Steps

8.1 Conclusions

The conclusions from this report are as follows:

- **Sustainable living**: Current living and consumption patterns are clearly unsustainable. Furthermore, our ecological footprint has been consistently on a rise, in particularly in transition economies due to their growing middle class consumers and associated demands for supporting services and infrastructure. The challenge is to find a way in which all people could have happy and prosperous lives while respecting the natural limits of our one planet.

- **Role of business in sustainable living**: There is an apparent need for businesses to move from a production focus (e.g. controlling and optimizing their existing production processes) to a more sustainable consumption focus (e.g. influencing and encouraging sustainable consumption patterns) in order to address the product and service needs of a sustainable society.

- **Scaling up**: The term “scaling up” is increasingly used in different sectors and contexts at micro, meso, and macro level. Given that scaling up can mean many things to different people, it is important to clearly define scaling up in the context of its application. In the context of the BISS project the focus is on “scaling up business impacts on sustainable living”.

- **Scaling up business impacts on sustainable living**: Scaling up business impacts on sustainable living can be achieved by increasing their positive impacts in one (primary) sustainable living hotspot or by expanding their positive impacts on other (secondary) hotspots. It is also important to consider whether scaling impacts on some of the hotspots may have a negative impact on other hotspots and which scaling up strategies may be more risky in this respect.

- **Scaling up framework**: The Scaling Up Innovations Framework has been developed to assist relevant stakeholder groups with the identification and review of opportunities for scaling up business impacts on sustainable living at micro, meso, and macro levels. The framework is adaptable to the needs of specific stakeholder groups (e.g. entrepreneurs, policy makers, consumer groups, multinational corporations) and individual organisations.

- **Business models for sustainable living**: Based on their value position (consumption and/or production) and focus (production process, product & services, systems), business models can present a range of production and consumption oriented solutions towards sustainable living. Each business model type outlined in this report has the potential to contribute to the multiple facets and elements of sustainable living. Sustainable living business models are an emerging field of application and knowledge, and therefore subject to further research and development.

- **Scaling up strategies**: Scaling up strategies describe how business impacts on sustainable living could be scaled up (e.g. actions to move from the current to desired situation). Depending on the focus of scaling up efforts –scaling up impacts of organisations or programmes/projects – scaling up strategies can be grouped as:
Organisations as the scaling up focus: scaling impacts by growing the organisation (organic growth and acquisitive growth), scaling impacts beyond organisational boundaries (dissemination, joint ventures, partnerships, franchising and smart networks), and scaling impacts by reducing organisational boundaries (licensing and merger/sale);

Programmes and projects as the scaling up focus: quantitative, functional, political and capacity scaling up strategies.

Scaling up success factors: Scaling up success factors are the conditions required to achieve scaling up of business impacts on sustainable living. In this report the success factors have been classified into partnerships and communications, supporting governance systems, behaviour change, technology and infrastructure, financial frameworks and information. This classification provides a basis for assessing the detailed success factors for specific stakeholders and scenarios in subsequent reports and BISS events. It is acknowledged that the classification is indicative, and the relevance of success factors is subject to specific local conditions and stakeholder groups.

Case studies: The international case studies presented in this report showcase the multiple means in which innovative business practices and different stakeholder groups can contribute to sustainable living. Furthermore, the case studies illustrate how the four steps of the Scaling Up Innovations Framework (1. Scaling living hotspots, 2. Business model, 3. Impacts on people, planet and profit, and 4. Scaling up) relate to real-life situations and innovative business practices.

8.2 Next Steps

The next steps following this report are presented in Figure 8-1. This report represents the theoretical framework of the BISS project. A separate report has been prepared with the application of the framework to entrepreneurs (first stakeholder focus report). The theoretical framework can be applied to other stakeholder groups (e.g. policy makers, financial institutions, multinational organisation, and consumer groups) to define their role and potential contributions in scaling up business impacts on sustainable living at micro, meso, and macro levels.

The stakeholder focus reports include the development of organizational personas to demonstrate perspectives and contexts for different stakeholder groups (e.g. entrepreneurs) and subsequent organizational characteristics (e.g. culture, growth strategies, markets) on the opportunities and associated challenges for scaling up business impacts on sustainable living. It is envisaged that these organizational personas can be used as interactive and innovative tools to support a multi-stakeholder dialogue (e.g. in upcoming BISS project events) and create a better understanding of stakeholder behaviours, capabilities, and needs.

Building up on the theoretical framework outlined in this report and direct engagement with international stakeholder groups. a study on success factors will be undertaken as part of the BISS project. This study will provide learnings on the conditions required for selected stakeholder groups to scale up their impacts on sustainable living, including entrepreneurs, policy makers, financial institutions, multinational corporations, and consumer groups.
As shown in Figure 8-1, the final project report will bring together the theoretical, applied and practical results from the BISS project to deliver insights in sustainable living demand and developments around the world, learnings from business models for sustainable living, and policy and development recommendations to scale up business impacts on sustainable living.

**Figure 8-1  Next Steps from Theoretical Framework Report**
Acronyms

BMZ  German Federal Ministry for Economic Cooperation and Development
CSCP  Collaborating Centre on Sustainable Consumption and Production
CBO  Community Based Organisation
CSO  Civil Society Organisation
IFC  International Finance Corporation
IGO  Inter-governmental Organisation
NGO  Non-Governmental Organisation
SC  Sustainable Consumption
SCP  Sustainable Consumption and Production
SP  Sustainable Production
UNEP  United Nations Environment Programme
UNIDO  United Nations Industrial Development Programme
WBCSD  World Business Council for Sustainable Development
Acknowledgements and Disclaimer

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An electronic copy of this report is available from www.scaling-up.net (click on ‘BISS Project’).

Disclaimer

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References


WWF, One Planet Living, www.oneplanetliving.net.


Modified from: WWF, One Planet Living, www.oneplanetliving.net.


CSCP (2012). Inventory of Industrial Applications and Innovative Business Models for Resource Efficiency and Cleaner Production in SMEs. UNEP/Wuppertal Institute Collaborating Centre of Sustainable Consumption and Production (CSCP) Report for UNEP.


38 United Nations Environmental Programme (UNEP). Product Services Systems and Sustainability, Opportunities for Sustainable Solutions.


41 UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (CSCP), 2011.


43 www.good.is/posts/sharing-is-contagious-the-rise-of-collaborative-consumption.


85


Ressourceneffizienzatlas. www.ressourceneffizienzatlas.de (search for ‘repanet’).

ReparaturNetzwerk. www.reparaturnetzwerk.at.

Worn Again. www.wornagain.co.uk.


122 Cadbury: The Story. www.cadbury.co.uk/the-story.aspx


146 Intergen. carboNZero Gets the Green Light to Go Global. www.intergen.co.nz/Our-Showcase/carboNZero/.


