

Redefining the Future of Growth: The New Sustainability Champions



In collaboration with The Boston Consulting Group

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Preface

With the aim to identify, understand and relay unconventional sustainability business practices, in May 2010 the World Economic Forum's Centre for Global Growth Companies initiated the "Sustainability through Innovation" project. Working in close partnership with The Boston Consulting Group, the project explored how emerging market-based companies create innovative and profitable solutions to drive growth while exercising a positive influence on regional and global sustainability.

This report presents the project's key findings from the in-depth research and interviews conducted with experts and chief executive officers of emerging market corporations. It showcases 16 companies designated "New Sustainability Champions" and highlights their unique practices that offer new approaches, not only for doing business in resource-constrained and population-stressed environments but, more importantly, for shaping a positive vision for future growth.

We trust that this publication will provide relevant input and inspire further dialogue among business, governments and public policy-makers on how businesses in emerging markets can grow profitably while contributing respectfully to their environments and societies.

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Executive Summary

With global population expected to reach 9.3 billion by 2050 and rapid economic growth in developing countries, pressure on the planet's ecosystems will continue to increase. By 2025, Brazil, China, India, Indonesia, the Russian Federation and South Korea will account for more than 50% of the world's economic growth.

Population expansion drives increasing demand for the basic necessities of water, food and energy. Moreover, economic growth will reinforce expectations and aspirations for a better life among the world's newest consumers. Alternative approaches to growth and development will be essential to meet the basic needs and ensure a minimum of well-being for the emergent middle classes as well as to protect the environment.

The World Economic Forum and The Boston Consulting Group (BCG) set out to seek unconventional, practical solutions to the current challenges of growth, aiming to identify and support key business practices, and to relay them to the global community. This project deliberately did not look to governments, environmental organizations or multinational corporations from advanced economies – all sources of well-practiced but as yet insufficient answers. Instead, it went to agents who deal with a wide range of constraints in their daily business: rapidly growing companies originating and operating in the emerging markets, where economic prosperity and populations are growing fastest, and where environmental constraints and stresses are often highest.

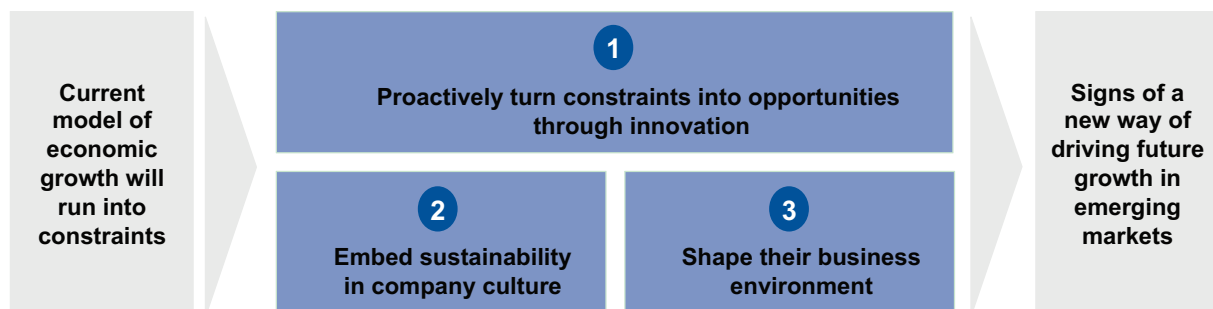
As a result of a rigorous research process, the project identified and assessed 16 emerging market-based companies that share a unique mindset and set of best practices: these are the **New Sustainability Champions**.

Based in countries such as Brazil, Costa Rica, Egypt and Kenya, these companies provide inspiring examples for any corporation around the world interested in tackling the challenges of performance, innovation, growth and sustainability. Specifically, the New Sustainability Champions:

- 1. Proactively turn constraints into opportunities through innovation**
- 2. Embed sustainability in their company culture**
- 3. Actively shape their business environments**

Moreover, they demonstrate superior financial performance when benchmarked against their peers.

The mindset, practices and business models of these New Sustainability Champions offer critical insights for emerging market-based businesses, established multinationals and governments. They could provide multiplier effects and create the basis for replication and extension among companies operating in emerging markets. They also serve as a starting point for redefining the future of growth: one that is robust and efficiently binds together all elements of sustainability – economic, environmental and social.



1. Context

Mankind is steadily exhausting the planet's natural resources. Fresh water, fossil fuels, clean air, precious metals, fish stocks, arable land – the depletion of these resources and many others is of profound concern. But, as will be discussed later in this report, there is also real cause for hope because innovation is flourishing in some unusual forms – and in some surprising places.

For now, the rise of promising innovative responses does not diminish the magnitude of the challenge. In fact, it is exacerbated by rapid population growth and surging economic expansion, particularly in emerging markets. By 2050, the world's population is expected to be about 30% greater than it is today. By 2025, Brazil, China, India, Indonesia, the Russian Federation and South Korea together will account for more than 50% of the world's growth.¹

Together, population and economic growth will reinforce expectations and aspirations for a better life among the world's newest consumers. New approaches to growth and development will be essential if the expanding requirements and wishes, as well as the basic needs of this emergent middle class, are to be met.

Clean water is one of the resources under greatest threat. By 2030, people and businesses will consume 30% more water than nature can replenish. Unless current water use and conservation practices shift dramatically, shortages will lead to increasingly severe consequences. Agriculture currently accounts for about 70% of the world's freshwater use and reports already warn of potential outcomes of this usage. For example, if Egypt lacks the access needed to water from the Nile – a real possibility – it may struggle to feed its fast-growing society.²

Farmland and forests are also at risk. Large-scale deforestation is considered responsible for climate change, threatening indigenous peoples and causing loss of biodiversity. At the same time, up to 30 million hectares (74 million acres) of agricultural land are lost each year as land becomes infertile or toxic, is ploughed under for industrial use or yields to urban expansion.³ Of that land, less is available for growing food: more than one-third of large-scale land acquisitions – which last year reached some 45 million hectares⁴ – are intended for biofuel production.⁵

Alternative food sources face challenges of their own. The United Nations Food and Agriculture Organization (FAO) report on *The State of World Fisheries and Aquaculture 2010* states that the per capita supply of fish as human food reached a new record in 2008.⁶ More than one-quarter of the world's monitored fish stocks are overexploited, depleted or slowly recovering, meaning that they are unavailable for fishing.⁷

There is little to suggest that regulation alone, or companies or governments acting in isolation, can do much to improve – let alone significantly alter – the long-term outlook. Economic health is first and foremost assessed by measures of consumption and exchange. The standards by which economic growth and progress are measured will not change quickly. There is no global balance sheet for the world.

The solutions lie with innovation and the efforts of business leaders committed to societal and environmental improvement; and it is mostly likely to be innovation driven by economic opportunity rather than by corporate conscience or regulatory fiat. Already, many large multinationals are doing much to “green” their product portfolios while satisfying shareholders' expectations.

What is most interesting, however, is that innovation of all kinds is burgeoning in emerging markets – the very regions where the pressures of resource depletion will be felt most keenly. That fact is doubly interesting given the challenges faced by companies in those countries. They must deal with multiple problems in parallel – from inadequate infrastructure and weak environmental regulatory regimes to shortages of experienced talent and underdeveloped governance practices.⁸

2. Introducing the New Sustainability Champions

This project set out to identify companies originating in the emerging markets for the purpose of researching and understanding the most effective innovative practices for driving sustainable growth. Sixteen proactive innovators were selected from an initial pool of more than 1,000 companies based on the criteria of sustainability, innovation and scalability: these companies clearly stand out as the New Sustainability Champions. For further details on the selection methodology, please refer to Annex 1.

The New Sustainability Champions are not confined to one region or continent. They are by no means unique to the fast-growth BRIC nations – Brazil, Russia, India and China – and are located across the globe and in a wide range of industries.

They tend to grow faster and have higher-than-average margins for their industries. Not only do they have a business impact – doing well by conventional financial measures – but they also have a positive effect on society around them.

The New Sustainability Champions share characteristics that enable them to balance environmental and societal contributions with steady profitability. As will be discussed in the next section of this report, they innovate and grow in ways that turn constraints into assets and opportunities. They embed sustainability in their corporate culture and proactively shape their business environments.

These Champions are more than mere symbols. Their overall performance matters because emerging markets are set to contribute more than three-quarters of global growth by 2012, and because those markets will likely be most affected by resource scarcity. They are in the forefront of the businesses working to overcome fundamental environmental and social challenges, reshaping business landscapes. Collectively and individually, they are becoming inspirational models for their emerging-market peers and companies worldwide.

Broad Group	People's Republic of China	Manufacturing
Equity Bank	Kenya	Financial Services
Florida Ice & Farm	Costa Rica	Consumer Goods
Grupo Balbo	Brazil	Agriculture
Jain Irrigation Systems	India	Manufacturing
Manila Water Company	Philippines	Infrastructure
Masisa	Chile	Forestry/Manufacturing
MTR Corporation	Hong Kong SAR	Transportation
Natura	Brazil	Consumer Goods
New Britain Palm Oil	Papua New Guinea	Agriculture
Sekem	Egypt	Agriculture
Shree Cement	India	Cement
Suntech	People's Republic of China	Renewable Energy
Suzlon	India	Renewable Energy
Woolworths	South Africa	Retail
Zhangzidao Fishery Group	People's Republic of China	Aquaculture

3. Unique Practices of the New Sustainability Champions

During the research and interview period, we focused on identifying common best practices and behaviours of the study companies and found that the New Sustainability Champions exhibit three broad sets of characteristics. They:

- 1. Proactively turn constraints into opportunities through innovation**
- 2. Embed sustainability in their company culture**
- 3. Actively shape their business environments**

Each category comprises specific behaviours and merits a closer look.

3.1 From Constraint to Opportunity

New Sustainability Champions proactively turn constraints into opportunities through innovation. Their approach involves pragmatic adaptation of existing technologies and delivery mechanisms. They eschew expensive research into new technologies to make current products cheaper, more widely available or better suited to local production processes. The Champions stand out for their ability to turn constraints in delivery channels into opportunities. For instance, they may identify alternative production methods to get products to market more directly.

To innovate effectively, New Sustainability Champions focus attention on these key points:

- **They address lack of resources.** One response to a current or future shortage of a particular resource is to find ways to reduce the amount used. While this often makes sense from an efficiency viewpoint, it also increases the longevity of the business by preserving a critical resource. Importantly, Champions recognize that the reductions need not be limited to their operations but can, and should, apply to their suppliers and users. Two noteworthy examples of Champions successfully addressing resource shortages are Shree Cement, an Indian cement producer, and Manila Water, a water utility in the Philippines.

Faced with limited access to low-cost energy, Shree Cement developed the world's most energy-efficient process for making its

products. The company has become the global benchmark: leading cement companies from around the world visit Shree to learn from its innovations. For its part, Manila Water drove down its levels of non-revenue water (NRW – water that does not reach the customer due to leaks or illegal tapping) from 63% in 1997 to 12% at the end of 2010. This was achieved partly by providing affordable supply to low-income areas, which turned probable NRW perpetrators into partners who now help prevent illegal tapping.

Another way in which New Sustainability Champions turn resource constraints into opportunities is by exploiting the by-products of other companies' outputs or processes. China offers two illustrations of this approach. For instance, Broad Group, a large producer of air chillers, uses alternative energy sources such as waste heat from buildings to power its range of non-electric air-conditioning units. This accommodates a key constraint in China: many people still live "off-grid" in China, and for those who do use electricity, grid supplies are not always reliable.

Zhangzidao Fishery Group is another example. The company practices integrated multi-trophic aquaculture (IMTA), a more sustainable form of biodiverse fish farming that uses the waste of one species to feed another. IMTA aquaculture techniques allow Zhangzidao to increase production and economic diversification while reducing waste by converting by-products and uneaten fish feed into harvestable crops, reducing the need to introduce artificial feeds into the system.

- **They educate their customers.** A new product or service, no matter how well conceived, cannot succeed unless consumers are convinced of its benefits for them. Lack of knowledge and limited awareness constitute barriers to adoption that the New Sustainability Champions must work hard to circumvent, often in creative ways. For example, Jain Irrigation uses dance and song to explain the benefits of drip irrigation to local communities. With this innovative way of marketing, the company can convince and educate potential customers about its products. Not only does this approach help Jain to sell successfully, but

it helps the company work collaboratively with local communities to improve its services and products.

- **They provide customers with appropriate financing.** Another major constraint is a lack of financial assets with which to make necessary capital investments, even when positive returns are expected in the long run. This is particularly true of the rural poor in emerging economies, where banks have limited presence. Kenya's Equity Bank uses mobile phone technology to enable it to reach small farmers in rural Kenya, something that branch-based banking cannot do economically. Equity Bank partnered with Safaricom, leveraging the Kenyan mobile-services provider's M-Pesa financial services platform to launch and provide financial services to its customers.

Suntech, a solar power company in China, cut the costs of its products to make them affordable to customers of limited means. Suntech also provides financial solutions that enable low-income customers to structure payments for its equipment. And when its photovoltaic cells reach the end of their life, the company takes them back for recycling.

3.2 Embedded Sustainability

The New Sustainability Champions embed sustainability in their company culture. They are aware that deep and sustained impact requires demonstrable commitment from the entire organization – not only from the top management team and certainly not solely from the chief executive. The best intentions can flounder, or be subverted, if they are implemented by a sceptical or indifferent team. Conversely, an engaged and proactive staff can be a constant source of new ideas for products, services, delivery mechanisms, talent development, supply sources and more.

New Sustainability Champions put in place the mechanisms that make sustainability an integral part of their business fabric. In particular:

- **They define a bold sustainability vision.** Champions stand out for the ways in which they define clear aspirations and goals for sustainability, and use them to galvanize

the entire organization. They move beyond incremental change to create a vision capable of inspiring their staff – and external stakeholders. Sekem, an Egyptian organic food producer, took a holistic view of environmental and social development. The company wanted to use organic farming as a way to reclaim desert land, producing food for the local market and reinvesting the profits in the community. Sekem also has a highly unusual business model. While it is a profit-making enterprise, its aim is not profit maximization. Through a profit-sharing methodology, it shares its prosperity with the smallholder farmers in its network.

In 2008, at the height of the global financial crisis, the chief executive of Florida Ice & Farm in Costa Rica announced a dramatic change in business strategy to make the food and beverage company more sustainable. The company has set the goals of becoming water-neutral by 2012, achieving carbon neutrality by 2017 (a target even more ambitious than Costa Rica's national goal of carbon neutrality by 2021) and becoming a "zero solid waste" company by 2012.

- **They integrate sustainability into operations.** At the same time, pragmatic business leaders recognize that inspiration alone is rarely enough to produce the desired outcomes, so they develop the appropriate incentives and metrics. Florida Ice & Farm exemplifies this approach. The company spent four years developing a balanced scorecard which measures non-financials such as the number of community service hours that employees spend on watershed-related activities. Remuneration is linked to such performance indicators. For example, 60% of the CEO's salary is linked to the triple bottom line of "people, planet, profit".

Masisa, a wood products manufacturer in Chile, developed a balanced scorecard on sustainability that measures performance in all dimensions, including non-financial indicators. The scorecard's inputs and outputs cascade down to each worker and are tracked over time.

In Hong Kong, train operator MTR Corporation has made a clear link between sustainability and risk management. The company built a sophisticated framework – a Sustainable Competitive Advantage model – to guide its actions. One example of the framework in practice: eight environmental impact assessment reports are mandatory for every project to develop a new rail line. MTR Corporation also measures the impact of these projects on biodiversity both before and after the construction stage – an approach that is rarely found in its industry.

- **They engage the workforce in sustainability.** Aside from setting out a bold vision and integrating sustainability into everyday operations, it is necessary to fully engage the workforce. Natura, a Brazilian cosmetics company, invests heavily in training its managers to identify socio-environmental challenges and turn them into business opportunities. Natura’s staff is also motivated by bonuses based on environmental and social performance as well as on economic measures. And Woolworths, a South Africa-based retailer, works to boost employees’ pride in their jobs, ensuring they are rewarded for contributing ideas that improve the business. The success of this approach can be seen in the fact that many of its best new initiatives do not come from senior management.

3.3 Shaping Business Environments

The New Sustainability Champions actively share their own business environment. They recognize that maximum impact cannot be achieved solely within the boundaries of their own organizations. They understand that engagement with the wider business ecosystem of regulators, competitors, suppliers, customers and other stakeholders is required. They actively engage with these entities to shape the outcomes they envision for themselves.

- **They influence policies and standards.** Companies operating in weak regulatory regimes have the opportunity – and, arguably, the obligation – to define the standards to which the industry should aspire. While it is true that such companies benefit directly from

the policies, they are also effectively using policy as a multiplier to augment the impact of higher standards across their industries. This can be achieved through direct discussions with policy-makers, or through associations and trade bodies.

One strong proponent of this approach is Brazilian organic sugar producer Grupo Balbo. The company aims to help turn the entire sugar industry into an organic sector. It is now collaborating on the creation of Brazil’s first national organic certification system. Balbo is in discussions with environmentally-minded politicians in Germany and Brazil to promote incentives such as tax breaks for organic production. The company has partnered with a governmental environmental research department to conduct more than 1,600 biodiversity field studies.

In India, Suzlon, a wind power producer, uses its knowledge and experience to educate citizens and policy-makers. The company faces the challenge of getting the right policies in place to foster the development of renewable power, particularly in the United States. Internationally, Suzlon helps shape the debate on sustainability and renewable power through organizations such as the European Union Commission, the World Economic Forum and the United Nations, as well as through an active outreach programme to the media.

- **They partner to achieve mutual goals.** Partnerships with organizations that share similar goals can potentially generate far greater impact than if each were to work in isolation. For example, depending on their mandate and focus, NGOs could be potential allies with which for-profit businesses could collaborate.

Kenya’s Equity Bank has adopted this strategy. The bank has a host of partnerships that range from links to agrochemical manufacturers such as Agmark and trade bodies such as the Eastern Africa Grain Council to not-for-profit organizations such as Millennium Promise, aid agencies such as the German government’s GTZ and the United Nations World Food Programme. Equity Bank also has strategic

partnerships with organizations such as the Alliance for a Green Revolution in Africa and The International Fund for Agricultural Development, a United Nations agency that provides cash guarantees that reduce the bank's risk when lending to smallholder farmers who have little or no collateral.

New Britain Palm Oil, operating in Papua New Guinea, worked closely with local NGOs to engage with local communities. The connections helped to smooth negotiations involving land rights – a critical issue since conflicts with suppliers and landowners are the largest barriers to palm oil operations in the region.

- **They build awareness of the importance of sustainability.** Customers are among the key stakeholders who should be engaged to maximize the impact of sustainability initiatives. By educating customers about issues such as pollution, depletion of water or climate change, companies can help put pressure on industry to improve sustainability practices and on government to improve standards and enforcement.

In Brazil, sugar producer Grupo Balbo runs awareness-building campaigns targeting grocery shoppers as well as students and local communities. The company publishes data, including its sustainability report, to increase transparency and establish confidence among stakeholders as well as to spread knowledge and understanding of the organic cultivation of sugar cane.

In China, Broad Group has developed a miniaturized device for measuring air pollution that can fit inside a mobile phone. The device can help boost awareness of air pollution issues and even empower citizens by putting knowledge about air quality in the palms of their hands.

4. Case Studies

The detailed case studies that follow provide more insights on the contexts, innovative approaches and unique practices undertaken by the New Sustainability Champions. They are based on the project's extensive research and on one-on-one interviews with the CEOs and Chairpersons of these companies. They offer in-depth insights on how these companies arrive at innovative and sustainable solutions that have direct and measurable impact on their businesses, societies and environment.

4.1 Case Study: Broad Group



Location:	Changsha, People's Republic of China
Industry:	Air Conditioning & Construction
CEO (or equivalent):	Zhang Yue
Ownership structure:	Privately held
2008 Revenues (US\$ Million):	379
Website:	www.broad.com

Context

In China, increasing affluence and rapid development of office and housing infrastructure have significantly increased demand for air-conditioning. The electricity supply, however, remains unstable in many regions and regulations for electrical air-conditioners are strict. There are also significant environmental concerns: Chinese carbon emission volumes increased by 40% between 1990 and 2007, to which electricity consumed by air conditioning is contributing.

Company

Headquartered in Changsha, in China's Hunan province, Broad Group is one of the world's leading producers of non-electric air-conditioning equipment. The company has won 50% of the Chinese market for energy-efficient air conditioners. By 2008, the company's revenues had reached US\$ 380 million, with a compound annual growth rate of 80% from 2005 to 2008. From air-conditioning units and air quality technology to sustainable building modules, Broad Group exports its products to more than 70 countries.

Practices

Broad Group invested heavily in non-electric air-conditioning technology that originated in but was not developed by US, Japanese, Korean and European companies, adapting it to local challenges. Broad Group has expanded its sustainability efforts to include air quality technology and sustainable building technology, and now runs its own research institute.

Innovate Proactively

Broad Group's non-electric coolers use natural gas and other heat sources to boil a lithium bromide solution whose vapours, as they condense, produce the cooling effect. The company states that its air conditioners – or chillers – are twice as energy-efficient as conventional electric units, releasing one-quarter of the carbon dioxide emissions caused indirectly by electric air conditioners. The units waste less energy because the natural gas is burned directly whereas the energy used to power a conventional unit's compressor has come through several stages from fossil fuel to electricity. Broad Group's equipment can also be adapted to tap into alternative energy sources such as solar power and biomass.

The company has diversified into other sustainable technologies such as air filters that reduce indoor air pollution. More recently, it has pioneered sustainable building technologies such as customizable pre-fabricated construction modules that, the company claims, can reduce electricity consumption in buildings by up to 80%, are more earthquake resistant, use fewer materials and create less waste during construction.

Embed Sustainability

The company invests heavily in professional training and development, considering talent management to be a critical tool for growth. Some 1,200 of its 2,000 employees live on a campus called Broad Town. Their accommodation is free. The company extends its sustainability principles to its talent management practices: Broad Town employees benefit from fitness training and obtain much of their food from an organic farm on the campus.

Shape the Environment

Broad Group has set up a research and development (R&D) facility – the Broad Building Energy Efficiency Research Institute – where more than 30 technical professionals research low-cost solutions for global building of energy efficiency products such as wall and window insulation and solar shading. The technologies are used at the company's headquarters and in Broad Town.

Impact – Business

Starting out in 1988 as a manufacturer of safer industrial boilers, Broad Group quickly moved into the air-conditioning industry with its patented systems. Domestic demand for the technology has been strong owing to heightened awareness of the need for energy efficiency. The company's success at home has provided a strong platform for expansion abroad – particularly in other emerging nations and regions.

Impact – Environmental and Social

Zhang Yue, Broad Group's Chairman and Chief Executive Officer, sees the company's products as a way to change attitudes towards the environment. For example, one device developed by the company to measure air pollution has been miniaturized to fit inside a mobile phone. To Zhang, this device can empower citizens to play a role in sustainable development. **“At first glimpse, it may look like a phone with added functions,”** he said. **“But, actually, it has opened up an era in which everyone has the power of knowledge.”**

This knowledge could create a collective awareness strong enough to compel companies and governmental authorities to address the challenge of pollution more thoroughly.

While Broad Group makes an impact by developing environmentally friendly products, Zhang is keen to spread sustainability further. As a vice-chair of the Sustainable Buildings and Climate Initiative (SBCI) at the United Nations Environmental Programme (UNEP), he was instrumental in drafting the agency's Building Energy Efficiency Guidelines.

Zhang contends that sustainability is not just about environmental conservation. “There are three aspects to sustainable development.” he said. “First, the earth cannot sustain emissions of carbon dioxide and other harmful gases. Second, resources are limited. Third, we must meet the basic needs of people. If this cannot be satisfied, sustainable development will mean nothing. We cannot regard sustainable development as being the first two aspects alone. At the heart of sustainable development is human development.”

Broad Group's Chairman Zhang Yue sees the company's products as a way to change attitudes towards the environment. For example, one device developed by the company to measure air pollution has been miniaturized to fit inside a mobile phone.

4.2 Case Study: Equity Bank



Location:	Nairobi, Kenya
Industry:	Financial Services
CEO (or equivalent):	James Mwangi
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	274
Website:	www.equitybank.co.ke

Context

As three-fourths of all Kenyans depend on agriculture for income, farming is a critical activity for the country's growth and well-being. Cash flows from farming can be volatile, with frequent spikes in incomes and investment requirements. The economics of branch banking make it difficult for banks to reach dispersed agricultural communities. Unable to secure loans or even basic insurance, farmers suffer not only from unstable income but also from subpar farming methods. With more resources, farmers could purchase higher-quality fertilizers and increase their yields while also improving soil quality.

Company

Founded in 1984 and headquartered in Nairobi, Equity Bank has a market capitalization of US\$ 1.2 billion. The company and its subsidiaries provide retail banking and microfinance services nationally and in the neighbouring countries of Uganda, South Sudan, Rwanda and Tanzania. It also offers conventional commercial banking products and services, development loans and trade finance services. It is Kenya's largest bank by market capitalization and the largest African majority-owned company in East and Central Africa.

Practices

Chief Executive Officer James Mwangi sees the bank "not only be the most sustainable bank in Africa and the Middle East, but that it will also become the undisputed champion of socio-economic transformation in Africa." It seeks to do this by offering financial products to small farmers in Kenya and in neighbouring countries to facilitate sustainable agricultural practices.

Innovate Proactively

To extend its reach beyond the conventional branch network, Equity Bank worked with Safaricom, the Kenyan mobile telecoms provider, to build on the well-known M-Pesa platform. They created a pioneering mobile banking system, M-Kesho, that offers full financial services to users. "We're using technology to be able to cover the last mile in financial access," said Mwangi. But even with the mobile phone connections, farmers are often unfamiliar with the benefits of formal financial services, preferring instead to rely on informal, community-based services. Equity Bank and its partners now provide financial management training for farmers.

Equity Bank has developed an innovative value chain approach to agricultural financing whereby farmers are supported throughout the various stages of production, transport, processing and marketing. The bank offers credit for inputs through a network of agricultural suppliers. It also helps to link farmers directly to markets and buyers, greatly increasing the range of potential options for its customers.

Embed Sustainability

To secure the investment needed for this activity, the bank's management needed to convince the bank's owners that a sustainability strategy was in the long-term interest of the business. Mwangi admits that he had to work hard to overcome initial perceptions of incompatibility between long-term and short-term objectives. "Equity's shareholders and management have target objectives, and sometimes they see the passage of sustainability as competing for resources," he said. "Building acceptance in the organization that those two are not mutually exclusive was the biggest challenge."

Also, Mwangi said, "policy guidelines have been such that sustainability is mainstreamed, and is part and parcel of the business." Scenario planning

now allows the bank to pay immediate attention where needed without sacrificing its commitment to long-term goals. “During scenario planning, we are able to separate our immediate goals from our medium- and long-term goals, and allocate resources appropriately,” he added.

Strategic partnerships with organizations such as the Alliance for a Green Revolution in Africa (AGRA) and The International Fund for Agricultural Development (IFAD) help to make these strategic decisions. These organizations provide cash guarantees that reduce the bank’s risk when lending money to smallholder farmers with little or no collateral.

Shape the Environment

To implement these and other initiatives, the bank has worked with a variety of organizations, including agrochemical manufacturers such as MEA; trade bodies such as the Eastern Africa Grain Council and Kenya’s National Cereals and Produce Board; not-for-profit organizations such as Millennium Promise; and aid agencies such as the German government’s GTZ, the United States Agency for International Development (USAID) and the World Food Programme (WFP) through Purchase for Progress project (P4P) saving initiatives.

The bank has recognized that it can make a substantial impact on the environmental sustainability of the farming industry through its lending practices. Besides enabling farmers to improve the quality of their soil, the bank withholds funds from projects that are environmentally destructive. It also contributes to a sustainable power infrastructure by lending for solar power projects. **“We are the biggest player in the Kenyan market in terms of financing this,”** said Mwangi. **“So we’re mobilizing our customers, now numbering over 6 million, to participate in green energy development.”**

Impact – Business

Despite the investment required to build programmes for the low-income segment, Equity Bank has achieved strong financial results and rapid growth in recent years. The company’s revenues have quadrupled since 2006, reaching US\$ 274 million in 2010. The profit margin has remained stable over the same period, at an average of 38%.

Success in Kenya has led not only to expansion to neighbouring countries, but also to develop plans to serve all 19 countries in the Common Market for Eastern and Southern Africa (COMESA) by 2020. “We have been consolidating our dominant banking position in the country and seeking prudent regional entry points,” noted Mwangi.

Impact – Environmental and Social

Equity Bank’s growth has come chiefly from underserved communities. Some 78% of its new customers have never had a bank account. The bank helps these smallholders to expand and become small-scale commercial farmers.

Through its own activities and the leverage gained through its partnerships, Equity Bank now plays a significant role in advancing sustainable farming and the African agricultural revolution. “In partnership with IFAD and AGRA, we are the biggest financier of transforming peasant farming into small-scale commercial farming, and advancing the African green revolution,” said Mwangi.

To reach dispersed small farmers, Equity Bank worked with Safaricom to create a pioneering mobile banking system that offers full financial services to users. “We’re using technology to be able to cover the last mile in financial access,” said Chief Executive Officer James Mwangi.

4.3 Case Study: Florida Ice & Farm



Location:	San José, Costa Rica
Industry:	Food and Beverage
CEO (or equivalent):	Ramón Mendiola Sánchez
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	571
Website:	www.florida.co.cr

Context

One of the most ecologically diverse countries in the world, Costa Rica is ranked third in the world and first in the Americas in the Yale/Columbia 2010 Environmental Performance Index. Yet, widespread land clearance for cattle ranching and agriculture has led to deforestation, which threatens biodiversity and erodes the soil. The population is also concerned about water conservation, though Costa Rica is not immediately faced with water scarcity.

Company

Florida Ice & Farm, a Costa Rican food and beverage company with revenues of over US\$ 570 million in 2010, is one of Central America's largest organizations. The company operates in three sectors: alcoholic beverages, non-alcoholic drinks and food. It produces beer under such brands as Imperial, Pilsen, Heineken, Tropical juices, Pepsi and Gatorade. With a large share of the domestic beer market, it also distributes imported beers such as Corona and Tona. Through its subsidiary Florida Capitales, the company invests in overseas beverage and packaging companies, and through Florida Inmobiliaria it operates in the domestic tourism and real estate sectors.

Practices

At the height of the financial crisis in 2008, the company decided to merge its business strategy with its social responsibility strategy to become a triple bottom line company, one that measures its success by social and environmental, in addition to economic indicators. This decision is fuelled both by expectations of future customer and government demands, and philanthropic values. To succeed in reaching this goal, the company has had to leverage both its innovative strength and its ability to improve processes.

Innovate Proactively

As a beverage company, Florida Ice & Farm's environmental priority is water conservation. The company is moving aggressively: not only does it invest in the latest technology and introduce process innovations, but it also benchmarks its environmental performance with leading global companies – and then pushes its own goals even higher.

Exacting standards now govern the amount consumed per litre of beverage produced. In 2009, the company's Pepsi bottling plant, acquired only two years earlier, was the world's most water-efficient, with 2.2 litres of water per beverage. **“When I joined the company,” explained Ramón Mendiola Sánchez, Chief Executive Officer of Florida Ice & Farm, “we were at 12 litres of water for every litre we produced. We’re now at 4.9 litres in 2011 – we’re very proud of that, and our goal is to go to 3.5 litres.”**

Florida Ice & Farm has set the goal of becoming water neutral by 2012. The company offsets water usage in factories with improvements that it helps to engineer in the overall national water supply.

Embed Sustainability

None of this would have been possible without the approval of the company's board of directors, who were initially sceptical of the triple bottom line. A series of intensive discussions conducted by Mendiola Sánchez eventually won the board's support. “At the end of it,” he said, “they were convinced that we needed to move forward if we wanted to sustain the business. In a few decades, the most successful companies will not be the ones that create economic value for their shareholders but those visionary companies that work in alliance with their stakeholders to create economic, social and environmental value.”

Sustainability is not an add-on. Florida Ice & Farm has recognized that, unless it sees all its activities through a sustainability lens and benchmarks them with those of top global companies, it cannot maintain its growth. Performance measurement is therefore critical. Some 60% of the CEO's salary is linked to triple bottom line performance. The company has also delved beyond legal requirements by developing a sustainability balanced scorecard that measures such non-financials as the number of hours spent on watershed-related activities.

Shape the Environment

In the political arena, Mendiola Sánchez is lobbying the national government to shift from a penalty-based environmental policy to one based on positive incentives to promote environmental and social responsibility. Florida Ice & Farm is leading by example. In order to offset its water use, it pays local communities to replant trees and other activities aiming to protect watersheds.

Payment for these ecosystem services – which give communities an incentive to protect water resources, biodiversity and scenic beauty, as well as reduce carbon emissions – is not a new concept. But few companies have found ways to make these payments. Florida Ice & Farm has done so since 2001 by working with a Costa Rican government agency (FONAFIFO) and a non-governmental organization that developed standards and monitoring techniques.

Impact – Business

Moving toward a Triple bottom line has not slowed the company's growth. Florida Ice & Farm achieved a compound annual growth rate of 25% between 2006 and 2010, with an average EBITDA margin of 30%, both figures being twice the industry average.

Looking to expand rapidly outside its national borders, the company intends to compete with the world's leading companies. Sustainability strategies are helping the company gain a place on the global stage. Its balanced scorecard has attracted international attention, with major industry players in the beverages sector approaching the company and, in some cases, visiting company sites to view processes in action.

Impact – Environmental and Social

Ecosystem services not only help to offset water usage. Paying communities to protect natural resources today provides assurance that those resources will still be available in the future. The company also contributes by making employees available to help build the infrastructure for water delivery to underserved communities. Florida Ice & Farm has thus gone the extra mile to find a new economic model for mitigating the true environmental cost of its operations.

Besides water conservation, the company aims to achieve carbon neutrality by 2017 – a target even more ambitious than Costa Rica's national goal of achieving carbon neutrality by 2021. It plans to reach this goal through process efficiencies such as biogas generation and changes to its distribution fleets, as well as by offsetting activities such as the investments in reforestation projects.

The company has already achieved the third prong of its environmental drive, eliminating solid waste from its operations. Less than 0.6% of its solid waste now goes to landfills. It was also the first company in Costa Rica to establish a recycling plant for all its post-consumption containers, both plastic and aluminium. By recycling its own bottles and those of other companies, it recovers the equivalent of 40% of the bottles it places on the market.

Florida Ice & Farm “offsets” its water consumption by paying communities to conserve watershed, and by making employees available to help build the infrastructure for water delivery to underserved communities. It has gone the extra mile to find a new model for mitigating the environmental cost of its operations.

4.4 Case Study: Grupo Balbo



Location:	São Paulo, Brazil
Industry:	Sugar Production
CEO (or equivalent):	Leontino Balbo
Ownership structure:	Privately held
2010 Revenues (US\$ Million):	350
Website:	www.nativealimentos.com.br

Context

The sugar industry has long been associated with the intense use of fertilizers, insecticides and other chemical compounds. A World Wide Fund for Nature report suggests that sugar production is responsible for more biodiversity loss than any other crop, partly because of this heavy application of agricultural chemicals and the polluted wastewater it generates.

Company

Grupo Balbo is a century-old, family-owned sugar company based in Brazil, selling domestically and to major Western food and beverage companies. Crushing six million tons of cane annually, it generates 293,000 tons of sugar along with 318 million litres of ethanol. Annual revenues exceed US\$ 350 million, of which organic products contribute US\$ 85 million.

The group moved some of its production to an organic production model 20 years ago, with an initial output of 1,600 tons in 1997. It is now the largest provider of organic sugar in the world, with total production at over 85,000 tons – 40% of the worldwide supply. Selling under the brand “Native”, Balbo plans to convert another of its mills to organic production and increase the total to 140,000 tons by 2015.

Practices

Leontino Balbo, a trained agronomist and Board Member of Grupo Balbo, has strong views on how sugar should be produced. He states that, contrary to common belief, sugar cane plants are in fact ideal for organic growth.

Innovate Proactively

Switching to organic sugar production was not easy as there was no clear template to follow. The transformation meant “learning by doing,” says Balbo, as well as taking something of a leap of faith. “Twenty years ago, we decided to change the production model and we went very deep,” he says. “We had to not just break with agronomical industrial beliefs of that time, but also put aside the analytical science.” The company received no financial incentives to implement its move to organic production, and had to survive several years of low yields. Investment was required to transform the harvesting process, including re-purposing a harvester originally designed to burn canes so that it could be used for organic harvesting. Through perseverance and smart adaptation of existing techniques, Grupo Balbo was ultimately able to grow sugar without chemical pesticides or fertilizers.

Embed Sustainability

Leontino Balbo’s intense enthusiasm has been the primary driver of sustainability at the group. “Sustainability is to preserve and improve the resources for the next generation,” he points out, and he has staked his family business to achieve his vision. For instance, 20 years ago the company introduced cultivation of microorganisms that could protect the cane plants. The result of the initiative is that the cropland today is self-sustainable, eliminating the need for insecticides, herbicides or chemical fertilizers.

Shape Environment

Grupo Balbo wants to help turn the entire sugar industry into an organic sector. The company is now collaborating on the creation of Brazil’s first national organic certification system. It is also engaged in discussions with Brazilian and German environmentalist politicians to promote tax incentives and other policies favouring organic production.

It has partnered with a governmental environmental research department to conduct hundreds of biodiversity field studies, and has initiated discussions with a variety of organizations and government agencies to increase knowledge of the impact of organic sugar cane production.

Grupo Balbo also publishes data both online and offline, including its sustainability report, not only to increase transparency and establish confidence among stakeholders, but also to spread knowledge and understanding of organic cultivation of sugar cane. This also enables the group to distinguish itself from “greenwashers”, particularly given the current lack of organic certification standards.

The dissemination of information extends further. The company has run awareness-building campaigns targeting consumers in supermarkets and stores, as well as students and local communities. **“We are a small company, but we are deeply engaged – a small boat making a big wave,”** said Leontino Balbo.

Impact – Business

Grupo Balbo’s organic farms now achieve yields 20% higher than the average for farms in their region, even while using fewer inputs. At the same time, demand for organic sugar from the major consumer goods companies is rising rapidly, and already exceeds Grupo Balbo’s current production capacity. As its large global customers face the public’s growing focus on organic products and sustainable value chains, Grupo Balbo will benefit from being the first sugar producer to receive the Rainforest Alliance Certified label for its products.

Impact – Environmental and Social

Organic production has yielded significant environmental gains, such as improved soil and increased biodiversity. “In our organic farms, we have greater biodiversity than in half of the Sao Paulo State National Park,” said Balbo. “Its soil now holds three times more water than conventional soil. And our plants are actually becoming more resistant to plagues and diseases,” he added.

Balbo also points out that “We release 35% fewer carbon emissions than conventional sugar plants, which are already carbon neutral.” The lower emission levels, as monitored by Unicamp State University, have allowed the company to sell carbon credits for the past eight years.

Today, Balbo looks beyond the environmental impact of the cane cultivation itself. The company co-generates energy from sugar cane bagasse (the fibrous matter left after the stalks are crushed), allowing it to be self-sufficient in electricity. It is also engaged in a joint venture to develop a biodegradable plastic from sugar.

Grupo Balbo’s shift to organic sugar has transformed the land. Its farms have achieved greater biodiversity than in half of the Sao Paulo State National Park. Its soil now holds three times more water than conventional soil. And its plants are actually becoming more resistant to plagues and diseases.

4.5 Case Study: Jain Irrigation Systems



Location:	Jalgaon, India
Industry:	Manufacturing and Agriculture
CEO (or equivalent):	Anil Bhavarlal Jain
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	820
Website:	www.jains.com

Context

Historically, India has had large freshwater reserves. Increasing population and overexploitation in the last few decades, however, has resulted in water scarcity in some regions. With farming consuming almost 90% of water resources – which is much higher than the global average of 70% – resolving the water scarcity challenge means working with local farmers.

Three-quarters of India's farmers are smallholders who, collectively, cultivate half of the total agricultural land in the country. They often use wasteful flood irrigation due to lack of financing and the knowledge needed to run modern irrigation systems, which are expensive and designed for large farms.

Company

Jain Irrigation is India's largest producer of micro-irrigation systems, with about half of the total market share. Its products sell to 2.5 million small farmers, 90% of whom have less than one hectare of land. A family-owned business, Jain Irrigation makes a range of drip and sprinkler irrigation systems, as well as plastic pipes and wood-substitute plastic sheets. The company also sells dehydrated vegetables, tissue culture banana

plants, and hybrid and grafted plants, not to mention greenhouses and bio-fertilizers. Total sales were US\$ 820 million in 2010.

Practices

Sustainability is a fundamental philosophy of the company, according to Chief Executive Officer Anil Bhavarlal Jain. His mission – to “leave this world a better place than you found it” – dates from when his father built an agriculture input business. The business has moved on considerably since then, but the family philosophy and commitment remain the same – to make a positive impact on both the environment and on farmers' livelihoods.

Innovate Proactively

The company has developed a drip irrigation system designed specifically for smallholder farmers. Tailored to smallholder incomes and farming conditions, it reduces water usage considerably. Then, recognizing that technology is only part of the answer to water conservation, the company works closely with customers to teach “precision farming”, which optimizes the balance between fertilizers, pesticides, water and energy in order to increase output. Farmers learn that using less water can actually increase yields.

To encourage customers to purchase its products, the company helps them apply for government subsidies as well as bank loans. It has also pioneered contract farming, buying produce at a guaranteed floor price. This helps smallholders not only apply for loans, but also plan investments more easily. Farmers are now able to buy higher quality farm inputs, as well as irrigation systems.

Before installing its drip irrigation systems, the company carefully studies soil, climatic and water conditions, as well as the potential for improved water use and crop productivity. It measures and monitors all use of materials, water and energy, as well as the generation of emissions, effluents and waste. This exacting monitoring measure improves sustainability while increasing transparency and facilitation the setting of environmental goals by the company. “We are incorporating sustainability into the entire ecosystem of water security, the farming community and the rural economy,” said Jain.

Embed Sustainability

The company focuses on hiring local talent, for they know the local challenges and issues best. Yet the family continues to own the largest share of the company, so Jain Irrigation Systems has achieved a consistency of management that is critical to maintaining its commitment to sustainability. It has built a strong company culture through the power of leading by example.

Shape Environment

The 1,000 employees travel widely to teach farmers the benefits of sustainable farming, even to those who are not currently customers. To demonstrate the effectiveness of their products, the company also has several showcase farms. A highly local approach means Jain Irrigation Systems can design marketing campaigns which appeal directly to customers, including singing and dancing events at local bazaars, which would be difficult for a large multinational to imitate.

Still, said Jain, "India is a large country. There are hundreds of millions of farmers, so we need more people to convey knowledge to them." The company runs training programmes for stakeholders such as governments and lenders, to promote micro-irrigation and to facilitate their use deeper into rural communities.

To help smallholders sell their products in export markets, Jain Irrigation has developed Jain Good Agricultural Practices, a version of the Global GAP standards for certifying agricultural products. Smallholders in India were previously unable to participate in this certification. Jain Irrigation System customers are now able to participate in the global economy with the alignment of these two certifications.

Impact – Business

With its products customized to local conditions, the company can outperform large agricultural suppliers. "It's financially beneficial and it brings sustained relationships with customers," said Anil Bhavarlal Jain. Company results are well above industry averages, with annual revenue growth of 40% and an EBITDA margin of 18% from 2006 to 2010. Half of total revenue comes from micro-irrigation equipment, another 30% from other inputs such as pipes, and the remaining 20% from agricultural products bought from customers.

The company gains an advantage even in selling that produce. With the benefit of detailed knowledge about the supply chain, it can appeal to large multinationals looking to demonstrate their sustainability credentials. Jain Irrigation Systems' transparency has earned an A+ rating from the Global Reporting Initiative. **"Customers know that when I sell a product to them, I know which farm it came from, what that farmer did with it, and how it is environmentally sustainable,"** said Jain. **"This allows us also to charge a premium for our products."**

The company's innovative business model is now allowing it to expand overseas. It recently partnered with the Kenyan and Rwandan governments to develop irrigation solutions for African farmers.

Impact – Environmental and Social

Given the high percentage of smallholders in India, the company's impact is far-reaching. "Because we are helping the farmer change the way he does agriculture, he is using less energy and less water, and he makes the soil better and uses less fertilizer," explained Jain.

Those using the products of Jain Irrigation Systems have recorded increases in yield of between 30% and 200%, and water savings of up to 50% compared to when they were using flood irrigation systems. In addition, crops are healthier and mature more quickly, generating higher and faster returns on investment. Savings on inputs are another benefit, with increases in fertilizer efficiency of 30%.

The company's land and water conservation measures have paid off in larger ways. Already, 1,000 acres of previously barren terrain are under cultivation. The Jain Watershed Project has demonstrated the viability of large-scale rainwater harvesting systems. The company's research and development activities have yielded a method of growing rice using drip, rather than flood, irrigation. Smallholders having made the transition have seen their annual income rise by as much as US\$ 1,000.

Ultimately, Jain is helping to ensure not only water and food supplies, but also social well-being. Its customers are gaining income security through sustainable farming even with small landholdings.

New technology is only part of the answer to water conservation. Jain Irrigation works closely with customers to teach "precision farming", which optimizes the balance of fertilizers, pesticides, water and energy to increase output. Farmers learn that using less water can actually increase yields.

4.6 Case Study: Manila Water Company



Location:	Manila, Philippines
Industry:	Water Utility
CEO (or equivalent):	Jose R. D. Almendras
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	415
Website:	www.manilawater.com

Context

In 1997, three-quarters of households in the eastern half of Manila lacked 24-hour water service. Many people were paying up to seven times the municipal rates from vendors who had illegally tapped the water system. With a rapidly rising population, cities such as Manila have been served by some of Asia's oldest, most inefficient water and sewage systems, with large amounts wasted through leakage. Floods, droughts and other extreme weather events, driven partly by climatic changes, put further pressure on the supply.

Company

That same year, the Manila Water Company won a 25-year concession to provide water, sewage and sanitation services to about 6 million people – residential, commercial and industrial customers – in 23 cities and municipalities in the eastern part of Metro Manila and the adjacent Rizal Province. As of December 2010, the company supplies more than 400 million cubic meters of water through 1.1 million household connections. In 2009, the company was granted an extension of its concession agreement for an additional 15 years to the 25 years previously granted.

The Manila Water Company is also one of the world's most successful examples of a public-private partnership. Although the Philippine government is indirectly its largest shareholder, the company is listed on the Philippine Stock Exchange and a majority of the shares are held by private actors.

Practices

To bring affordable water to the urban poor communities it serves while shoring up water resources and cutting losses, Manila Water uses an innovative combination of physical pipeline and sewage infrastructure, natural resources conservation, and micro-businesses through the "Tubig Para sa Barangay" (Water for the Community) Programme.

Innovate Proactively

Manila Water collaborates with local government units and community-based organizations in order to engage customers. Through these area-specific formal partnerships, tasks and responsibilities are shared among the company and the local communities. For instance, the communities are often responsible for monitoring use and maintaining the infrastructure, in addition to preventing pilfering. The practice makes the system transparent, while increasing collective responsibility and the sense of local ownership. Especially in low-income areas, the initiative has been welcomed as an additional source of income. This alone reduces the incentive to resort to illegal tapping.

Physical infrastructure is an important part of the strategy, but the company has gone beyond upgrading its pumping and piping systems. Taking a wide view of the system, Manila Water works to protect groundwater sources by halting the use of deep wells and encouraging customers to use only surface water. Careful watershed management is another focus, as is the development of new water sources. Funding from the International Finance Corporation (IFC) and the World Bank has helped make this possible.

To tackle the challenge of waste treatment services for people living on narrow streets in densely populated areas, the company uses a combination of sewage lines and drainage-based systems.

Access to water is improved via connection subsidies and flexible payment options, arranged through the IFC's Global Partnership on Output-Based Aid (GPOBA), as well as with the help of a socialized rate plan. Through its "We Care" programme, the company brings drinkable,

affordable water to a variety of public places, including jails, orphanages and other facilities ignored by many providers.

Embed Sustainability

The company culture has been a key element in the success of such initiatives. Regardless of rank or designation, all employees are expected to embed sustainability and social responsibility into their manner of doing business. Managers are the main drivers of this effort. Rather than establishing a department dedicated to sustainability, they work throughout the enterprise engaging in extensive employee training and monthly meetings with middle managers to discuss environmental issues. "When the entire organization sees that you and the rest of the company's leaders are serious about this, it becomes easier for everyone to follow suit," said Gerardo C. Ablaza Jr, company President.

The company also recognizes the importance of monitoring and measuring performance. In a country where few companies have embarked on benchmarking practices, Manila Water has made this a strong focus. The company is compliant with the OHSAS 18001 standard on occupational health and safety.

Manila Water monitors and measures its energy use and greenhouse gas emissions closely. It conducts energy audits at its facilities, has replaced all lighting with energy-efficient LED technology, and is piloting a solar lighting system.

Shape the Environment

Robust internal quality, environmental, and health and safety management systems have given the company a head start in meeting external standards. It was the first Philippine company to come up with a climate change policy and to produce a sustainability report.

Manila Water believes in the importance of extending the impact of its own economic activities to the broader community. More than 80% of its equipment and materials are purchased from local suppliers and the company invites the participation of local entrepreneurs. These provide water management infrastructure such as meter protectors and the site board-ups used during the construction phase.

To promote broad participation in water education, it offers interactive programmes as well as water

and wastewater treatment plant tours to the public and private sector, including schools, NGOs, corporations and local government agencies. **"We also assist our suppliers on the improvement of their environmental performance by conducting training, audits and recommendation exercises,"** said company President Ablaza.

Impact – Business

The company's comprehensive approach to social and environmental sustainability has helped expand its business. Non-revenue water (supply that does not reach the customer owing to leaks or illegal tapping), has fallen from 63% in 1997 to 11% in 2010. The savings is equal to the supply from a medium-sized dam, which would cost an estimated US\$ 750 million to construct today. The Manila Water Company was recognized as one of the world's most water-efficient enterprises by the International Water Association Project Innovation Awards and the Global Water Awards for 2010.

In 2010 the company delivered a total shareholder return of 24% and return on equity rose 20%. Manila Water registered an annual growth rate of 20% from 2005 to 2010, well above the industry average of 15%.

Impact – Environmental and Social

The Manila Water Company has made an impressive increase in access to clean water, doubling the numbers from 3 million people in 1997 to 6.1 million today, with 1.6 million of the poorest citizens among those served. Nearly all residents of eastern Manila now have 24-hour access to water even during adverse weather. By offering affordable water to low-income households, the company has seen less contamination in the system as well as fewer illegal connections.

Going beyond water supplies, the company's sustainability efforts include reforestation, where it has planted 15,000 seedlings and is reforesting 25 hectares as part of its Adopt-a-Watershed programme. It has also worked to turn human biosolid waste into an alternative fertilizer, enabling farmers to reduce their use of chemicals.

Manila Water's micro-business model enables low-income communities to become part of the system, turning residents from customers into partners in the provision of water. Not only do the communities gain an additional source of income, but there is less incentive to resort to illegal tapping.

4.7 Case Study: Masisa



Location:	Santiago, Chile
Industry:	Forestry and Wood Board Manufacturing
CEO (or equivalent):	Roberto Salas Guzman
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	1,080
Website:	www.masisa.com

Context

Deforestation is a well-known threat to biodiversity and climate stability. In Latin America, forests throughout the continent risk overexploitation, and even monoculture forestry reduces biodiversity. While deforestation has multiple drivers, the need for wood to produce furniture has been identified as a major culprit.

Company

Masisa is a Chilean wood-based board producer and forestry company. With total revenues of US\$ 1 billion in 2010, Masisa has more than ten industrial sites in Chile, Argentina, Brazil, Mexico, and Venezuela, and employs over 7,000 people. The forestry unit provides the raw material from the plantations it owns or manages – primarily pine and eucalyptus, covering 225,000 hectares. The board unit manufactures, processes, markets and distributes wood boards for furniture and interior architecture.

Practices

A commitment to sustainability was made early on in its history. “We started talking about eco-efficiency in the 1990s,” said company Chief Executive Officer Roberto Salas Guzman. “So our sustainability way of thinking came with the founding of the group.”

Innovate Proactively

Masisa stands out mainly for how it creates and manages a pool of demand for its wood boards. In the most far-reaching of its efforts, the company is training local carpenters who tend to be isolated and poorly paid workers in Latin America. Then it helps them organize into networks, to reach underserved markets of furniture buyers, aiming to create a connected association of 30,000 carpenters by 2013.

The initiative has produced many benefits. It assures the carpenters a more reliable source of income, and it enables lower-income households to purchase high-quality furniture made from sustainable raw materials at an affordable price. **“It’s a big opportunity to create this kind of community connected with a brand and a formal value chain,”** said Salas. **“It’s not only improving their work capability, but also their quality of life.”**

Embed Sustainability

Stephan Schmidheiny, the founder of Masisa’s majority shareholder Grupo Nueva, aimed to bring an entrepreneurial spirit to sustainable development, and it is this spirit that forms the crux of the culture at Masisa. All staff is tapped for ideas: in 2003, the company launched a contest called “Todos Ganamos: imagine negocios inimaginables” (“Everybody wins! Imagine unimaginable businesses”). All staff members were invited to submit business plans for innovative businesses targeting lower-income customers. Two hundred and forty-six entries were submitted, three were selected for implementation, and all are still running. For Masisa, the business plan introduced a target of 10% revenue share from the low-income segment, which was reached in 2010.

For Salas, “It’s not enough to achieve reasonable profit or manage positive or negative impact on the environment and society – you must also have good governance practices.” One example of this is the development of a scorecard to measure performance in all dimensions, which is cascaded down to each worker and tracked for three years.

Shape the Environment

Masisa uses its influence as a business to push for positive change. In the countries in which it operates, Masisa has consistently lobbied for improved environmental legislation and higher standards. “Encouraging better regulation on sustainable management of native forestry is the biggest opportunity we have as an industry,” said Salas. “Next, with respect to regulations, is to promote the use of biomass as energy in a sustainable way”.

Beyond the regulatory arena, the company works closely with the World Wide Fund for Nature (WWF) to promote biodiversity and the protection of forests. It was also the first Latin American company to participate – voluntarily – in the Carbon Disclosure Project, which asks companies to disclose their climate change-related risks (more than 3,000 now participate).

As well as forming external relationships, Masisa wants to help other companies adopt similar principles, particularly in the area of sustainable building and construction. It does this by creating new standards for green building policies as well as classifications within the standards. And, the environmental certifications of its products help customers establish their green credentials.

Impact – Business

Masisa's governance standards are attractive to investors, as is the commitment to transparency. In 2002, it was one of the first companies in Latin America to publish a sustainability report. Its certification and standards give it access to markets. "In Japan, for example, you cannot sell if you do not have FSC (Forest Stewardship Council) certification," said Salas. FSC is a market-based standard ensuring that forest products come from responsibly harvested and verified sources.

At times, the company goes far beyond what is required by legislation – and occasionally sacrifices profits to do so. "On the American continent, we adopted the E1 European standard limiting the amount of formaldehyde in furniture," said Salas. "We accepted a higher cost for doing this because we want to lead markets in a sustainable way."

Masisa's focus on human capital also benefits the bottom line. Its attention to health and safety has actually reduced costs, while sustainability commitments generate increased productivity and a high level of employee engagement. Also, by building a network of low-income carpenters, the company has established a new distribution channel for its wood products. "With our initiative in inclusive business, we have created products and markets that are promising an important contribution to our profitability" said Salas.

Impact – Environment and Social

With natural resources at the heart of its business, Masisa's early commitment to minimizing the negative impact of its forestry operations has intensified. It started to measure its environmental footprint in 2003 and it now rigorously assesses the impact of its operations on biodiversity, an

issue few companies have begun to address, even in mature economies. In addition to the fact that all of Masisa's plants are FSC-certified, the company's board unit only uses wood from certified forests.

Masisa operates a comprehensive waste management programme and recently began to measure its water footprint. An airborne emissions-monitoring programme allows Masisa to minimize production of greenhouse gases, as does the use of biomass for fuel. The company has also fulfilled its climate change commitment: in 2010 Masisa reduced its direct CO₂ emissions by 7.5% under the 1998-2002 baseline.

Masisa stands out for the manner in which it creates and manages a pool of demand for its wood boards, providing training for local carpenters, who tend to be isolated and poorly paid in Latin America. Then it helps them organize into networks to reach underserved markets of furniture buyers.

4.8 Case Study: MTR Corporation



Location:	Hong Kong SAR
Industry:	Transport, property
CEO (or equivalent):	Chung-kong Chow
Ownership structure:	Publicly quoted (majority-owned by government)
2010 Revenues (US\$ Million):	4,316
Website:	www.mtr.com.hk

Context

In a region as densely populated as Hong Kong, sustainable land use is essential to both residents and the environment. Companies in the transportation sector have to balance business objectives, stakeholder interests, community development and environmental management.

Company

MTR Corporation, the major rail operator in the area, has achieved this balance by integrating rail and real estate operations. The company opened its first rail line in Hong Kong over 30 years ago. MTR Corporation is listed on the Hong Kong Stock Exchange, yet the Hong Kong government holds a majority of the shares. In its core market of Hong Kong, the company operates a predominately rail-based transportation system, comprising domestic and cross-boundary services, a dedicated high-speed airport express service and a light rail system (total 218.2 km, 84 stations and 68 stops). It leverages these assets and expertise into a variety of businesses at its stations. But it goes further by holding development rights along the rail network, which it uses to build residential properties.

Practices

The company considers a railway system not merely as a physical infrastructure, but as an asset with social, environmental and economic implications. Properly designed and integrated with property development, a railway enables more effective use of land, contributing towards sustainable urban development and benefiting the environment.

Innovate Proactively

In developing new rail lines, the company works to minimize its impact on the natural environment. In addition to the mandatory Environmental Impact Assessment for rail project approvals, several initiatives are being implemented to educate, communicate and build consensus on how to avoid or mitigate impacts during construction and operations. The company has also pioneered a carbon assessment initiative that attempts to predict and measure the carbon footprint when building and operating a railway.

In property developments, MTR Corporation considers the wider environmental and social benefits to the urban landscape. It focuses on people-oriented designs such as seamless connectivity between transport modes and properties, green and open living spaces, and stringent environmental and resource management in the planning, construction and maintenance of its developments. LOHAS Park, a 330,000 square metres estate situated above a dedicated MTR rail station and train depot, demonstrates the continuous improvement of such design as new environmental technologies, innovative features and socially-focused amenities are considered as each new development package is planned.

Embed Sustainability

MTR Corporation has developed a sophisticated business model known as Sustainable Competitive Advantage, which combines risk management and stakeholder engagement with its corporate strategy. The model drives business decision processes, integrating the business case for sustainability into day-to-day operations.

Besides introducing new lines, the company recently retrofitted a rail station with the participation of the Clinton Climate Initiative's Building Retrofit Programme. Targeting the station's building service equipment, it seeks to improve the energy efficiency of the station and, importantly, to establish and share the model for future projects.

Shape the Environment

For a community to thrive over time, public transport must be effectively connected with town planning. Sustainable rail transport redistributes land use through expansive networks that create broad connectivity in a system of centres and sub-centres. This combination of high regional connectivity and distant station spacing translates into more compact, nodal urban development along with high-quality open spaces between centres.

In a parallel development approach, MTR Corporation controls the strategic land uses of its rail network while encouraging private financing alternatives. Low carbon, environmentally productive open spaces between centres respond to community aspirations and promote further uses such as those devoted to long-term climate change adaptation and mitigation strategies.

In a parallel development approach, MTR Corporation controls the strategic land uses while encouraging private financing alternatives for the rest. The low carbon, environmentally productive open spaces between centres respond to community aspirations and promote further uses such as those devoted to long-term climate change adaptation and mitigation strategies.

Impact – Business

MTR Corporation's success has enabled it to compete for rail operations beyond Hong Kong. The company has invested in urban rail networks in mainland China (Beijing, Hangzhou, Shenzhen), and is now pursuing "asset-light" operating concessions in London, Melbourne and Stockholm.

Impact – Environmental and Social

The company has published annual sustainability reports since 2001 and was the first company in China to produce such reports. It has since worked closely with the Global Reporting Initiative to increase the scope and sophistication of these efforts.

The company also recognizes the importance of playing a role in broader sustainability debates. As one of the founders of CoMET or Community of Metros, a consortium of 13 metropolitan metros, MTR Corporation has contributed to the creation of a benchmarking and knowledge-sharing platform for the international railway sector. The company also actively supports UITP, the International Association of Public Transport, and its Sustainable Development Commission in developing the sector-specific Climate Change Policy, and the sustainability reporting framework.

“A successful rail line must nurture local communities and consider local aspirations, during design, construction and operations,” said Raymond K.F. Ch'ien, the company Chairman. **“We have developed ongoing relationships with local communities to maximise the benefit of our long-term infrastructure, drawing on stakeholder views throughout.”**

4.9 Case Study: Natura



Location:	São Paulo, Brazil
Industry:	Cosmetics
CEO (or equivalent):	Alessandro Giuseppe Carlucci
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	3,047
Website:	www.natura.net

Context

Rapid economic development in Brazil has increased pressure on the country's rich trove of ecological resources. The Brazilian Amazon comprises a mosaic of ecosystems and vegetation types including rainforests, seasonal forests, deciduous forests, flooded forests and savannas. Deforestation threatens to destroy the natural capital that flows from this renewable treasure.

Company

Founded in 1969 by Luiz Seabra, Natura Cosméticos manufactures, markets and distributes cosmetic products based mainly on natural and organic ingredients. Under the brand name Natura, these include deodorants, sunscreens, lotions, creams, lipsticks and perfumes. From one small store in São Paulo, Natura has grown into a business of more than 7,000 employees and has been listed on the São Paulo Stock Exchange (Bovespa) Novo Mercado since 2004. Adopting a direct sales model, the company has grown rapidly, operating both at home and abroad, in countries such as Argentina, Chile, Colombia, France, Mexico and Peru. It now sells more cosmetics in Brazil than any other company.

Practices

Remarkably for such a successful, fast-growing enterprise, the company is built and has remained environmental and social sustainability-based. According to company founder Seabra, embracing sustainability was not just a matter of being a responsible business. He believes that social and environmental challenges bring with them opportunities to innovate and prosper.

Innovate Proactively

Natura recognized early on that rural communities, local governments and NGOs can be a source of a wealth of information about the natural resources which provide the company's raw materials. These stakeholders also have considerable knowledge about how to extract these materials sustainably and how to foster positive social and economic development. By adopting a novel approach featuring transparency with these communities, Natura was able to win their trust and leverage that knowledge. In turn, the company has helped to strengthen this local expertise by educating suppliers in sustainable sourcing and production practices.

Natura's base products are derived from Brazilian plants. These are extracted according to the principles of environmental sustainability, using a model developed with local communities, governments and NGOs. Several of the raw materials used by Natura have, as a result of incorporation of the model, received the FSC (Forest Stewardship Council) certificate – a standard confirming that forest products come from responsibly harvested and verified sources. The company's approach to sustainability has thus allowed it to foster economic development in poor communities by creating jobs and upgrading the qualifications and capabilities of the workers, while also protecting biodiversity.

Natura's approach to sustainability is demonstrated not only in its products. Packaging is another sustainability focus for the company, which promotes re-use, refill and recycling. It is also developing new forms of packing in partnership with Brazilian companies such as Braskem. A new "green" plastic is being adopted, made of polyethylene from sugar cane, the use of which the company said could eventually reduce its greenhouse gas emissions by more than 70%.

Embed Sustainability

The unique feature in Natura's approach – and the reason for its remarkable commercial success – is something other companies would find hard to imitate: a deep-rooted company culture in which every employee is motivated to seek innovations on an ongoing basis while also promoting resource efficiency and conservation. Strong employee commitment has resulted in an extremely low turnover rate among sales staff, a key factor which makes it possible for Natura to compete with some of the world's leading cosmetic companies.

The company also invests heavily in the development of its managers, training them to identify socio-environmental challenges and turn them into business opportunities that promote sustainable development. In 2009, approximately US\$ 1.5 million was spent on sustainability-related leadership programmes. Natura also plans to extend the programme to include external stakeholders in addition to managers. The staff is further motivated by bonuses awarded not only on the basis of economic performance, but also on environmental and social performance. **“We see the social and environmental challenge that society is facing today as a source of inspiration for our innovations,”** said Chief Executive Officer Alessandro Giuseppe Carlucci.

Shape the Environment

Natura engages with the world outside its direct business operations to spread its message and philosophy. A project focused on the Amazon brings scientific exploration and innovation as well as education to communities around the river. Considering education to be a key driver of societal transformation, initiatives at the Natura Institute, a not-for-profit that manages Natura's private social investments, include a *Crer Para Ver* (Believing is Seeing) programme, which fosters literacy.

Impact – Business

Natura's focus on sustainable development has won it a strong brand image as an eco-friendly company and allowed it to compete with large multinationals in a way that would not have been possible through conventional R&D investments. Its rate of innovation (the gross revenue arising from products launched or improved in the previous 24 months divided by Natura's total gross revenue for the past 12 months) has risen higher than industry norms, giving the company its core strength and point of differentiation. Natura believes that they are

on the cutting edge of a new, emerging business model and a new economy that is more inclusive, conscious, green and fair.

This strategy has given Natura a compounded annual growth of 26% in 2005-2010, leading to revenues of about US\$ 3 billion in 2010. During the same period, the EBITDA margin has been stable at around 24%.

Impact – Environmental and Social

Natura's sustainability initiatives are definitively showing results. In 2009, the company reported an all-time high of 79.2% material use from renewable sources. The company has further set itself a goal of a 33% reduction in carbon emissions by 2011 compared to 2007 levels, as well as minimizing waste generation and water usage. To do so, the company uses strict key performance indicators, with everything from waste to carbon emissions measured in detail.

On a social level, Natura has actively invested in local community education. For instance, the company worked together with a local primary and secondary school for ten years, contributing both financial investment and knowledge. Natura also strives to measure the benefits to society arising from its activities, such as local wealth creation. And while CEO Carlucci said that “to be very honest, we are at the beginning of quantifying it”, this generates further loyalty among stakeholders.

Natura recognized that rural communities, local governments and NGOs are the source of a wealth of information about the natural resources that are a company's raw materials. They also have deep knowledge about how to extract these materials sustainably and how to foster positive social and economic development. Transparency with these communities enabled Natura to win their trust and leverage that knowledge.

4.10 Case Study: New Britain Palm Oil



Location:	Mosa, Papua New Guinea
Industry:	Food
CEO (or equivalent):	Nicholas Thompson
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	470
Website:	www.nbpol.com.pg

Context

In the last 10 years, the production of palm oil has grown by 7% annually while prices increased 15%, indicating a supply-constrained market. Yet, large-scale production of the raw material at the base of this industry has the potential to devastate the environment and wildlife, as well as damage local communities. Palm growers are traditionally associated with clearing forests, and in major producing countries such as Indonesia and Malaysia, also with the draining and burning of peat lands – processes that can release significant carbon emissions. The external pressure for sustainable palm oil production now comes from many quarters, including, and increasingly, consumers in the West.

Company

New Britain Palm Oil (NBPOL) and its subsidiaries operate in the palm oil, sugar and beef cattle industries in Papua New Guinea (PNG), with palm oil operations also in the Solomon Islands. A vertically-integrated producer, the company raises, harvests and processes oil palm fruits in PNG before exporting the oil. It has supplied countries within the European Union for over 40 years. Separately, it also sells palm oil seeds globally. Sugar and beef cattle are sold domestically in PNG.

Practices

Owing to the characteristics of the regions in which NBPOL operates, it has long had to think innovatively about the way it clears land to cultivate palms.

Innovate Proactively

To promote sustainability, the company devised new techniques of palm cultivation. It adopted a no-burn policy as early as 1963, and avoids planting on the peat lands and primary rainforest which are found in abundance in the biologically diverse islands of PNG. Instead, it develops plantations on degraded forests and grasslands. Carbon budgeting is another discipline that encourages the organization to limit its greenhouse gas emissions.

Well before other companies started to embrace such practices, NBPOL worked to preserve soil fertility and prevent erosion of land under its control. It maintains the quality of ground and surface waters, and limits use of chemicals through integrated pest management and the breeding of hardier strains of palm. When clearing land, it minimizes impact on natural habitats such as reefs, wetlands, estuaries, rivers and streams, and takes into account biodiversity and traditional land use by local communities.

These innovative practices are not restricted to the physical landscape alone; the company has developed new ways of engaging landowners, including small farmers, who account for one-third of the company's supply of palm fruits. Since the late 1960s, the company has emphasized the leasing, not ownership, of land, seeking arrangements that benefit both the company and the community. Close ties with its growers and sensitivity in developing the business have not only helped to reduce poverty among palm growers, they have also enabled the company develop one of the world's first sustainable and fully traceable palm oil supply chains.

Embed Sustainability

For NBPOL, sustainability began inside the company. Leaders recognized that developing a sustainable source of palm oil was not only essential to mitigating risks to profitability, but also a way of fostering environmental and community development. The company maintains that sustainability, productivity and efficiency cannot be separated, and implements this approach to sustainable development by applying the triple bottom line of people, planet and prosperity.

The resulting certification processes helped the company set ambitious goals and establish robust assessment tools. “We developed the first ever self-assessment kit, not because we believed that self-assessment was the way to go, but because so many people were reluctant to even join the Roundtable for Sustainable Palm Oil.” said Simon Lord, Director of sustainability at the company. Now NBPOL engages third party, independent audit teams to uphold the Principles and Criteria of the RSPO standard, acknowledging the value of such a strong sustainability standard in maintaining company environmental and social values, as well as profitability.

Shape the Environment

Early on, the company appreciated the value of working with civil society and non-governmental organizations (NGOs). It engaged NGOs during negotiations over native land rights, to avoid conflicts that have historically hindered development in other palm oil-producing countries. Working with extension services as well as NGOs, the company trains farmers in practices that promote sustainable cultivation and increased productivity. It makes a point of supplying these farmers with environmentally sustainable inputs.

Innovative use of technology helps the company map its operations and communicate with its supply chain. For the future, the company is working actively with NGOs to develop spatial planning for future expansions, using satellite imagery to minimize impact and exclude intact forest landscapes. “Maps are incredibly important when you talk about high conservation value areas, assisting us to delineate them as part of a precautionary strategy to mitigate the negative impacts of development,” said Lord.

Close communication with suppliers made it possible for NBPOL to trace the origin of its palm oil and assure customers that the oil has been sustainably produced – an assurance that wins more business as leading companies start to pay higher prices for sustainably-sourced raw materials. The company has now become so confident in the ability to track its supply chain that it recently opened a refinery in the United Kingdom that will process only certified, sustainable and fully traceable palm oil. **“Traceability is the biggest issue now,”** explains Lord. **“You want to be able to trace your supply to a particular plantation and know that there are assurances in place that the plantation is a sustainable operation.”**

In 2004, the company achieved ISO 14001 certification for its own plantations. Four years later, its operations were first in the world to achieve Roundtable for Sustainable Palm Oil (RSPO)

certification for plantations and the smallholders associated with them. It also pioneered the integration of ISO 14001 and RSPO standards into a single procedure.

NBPOL has been involved with the RSPO since its inception in 2003, helping to shape the standard and pioneer many of its values (such as advocating a working group on greenhouse gases). But it has also contributed beyond RSPO standards in some areas. In 2009, it was the first palm oil company to produce a sustainability report to the Global Reporting Initiative standard, disclosing environmental, social and governance issues in a transparent and meaningful way to all its stakeholders. A year later it introduced accountability for carbon foot printing.

Spreading the word is important to the company – and not only among its smallholder suppliers. It does this through Global Sustainability Associates, a development consultancy it set up to promote sustainable development through changes in company policies and practices.

Impact – Business

These innovations and relationships have given NBPOL a strong competitive position locally. A fully traceable supply chain of palm oil also boosts the company’s global position. Its compound annual growth rate for revenue between 2005 and 2009 was almost 30%, significantly outpacing the industry. Its average EBITDA margin was 34% in 2009, compared with an industry average of 19%.

Impact – Environmental and Social

According to Lord, the company’s breeding programme and other techniques allow farmers to use 50% less pesticides while achieving a 1.6% increase in yields per annum over the last 30 years. The company also captures the methane released when processing palm fruits into oil, and converts it into electricity. This not only saves energy costs but allows the company to accrue World Wide Fund for Nature (WWF) Gold Standard carbon credits.

New Britain’s innovation extends beyond the physical landscape, as the company has developed new ways to engage small farmers, who provide one-third of the company’s supply. These close ties have not only helped to reduce poverty, but also enabled the company to develop one of the world’s first fully traceable palm oil supply chains.

4.11 Case Study: Sekem



Location:	Cairo, Egypt
Industry:	Agriculture
CEO (or equivalent):	Ibrahim Abouleish
Ownership structure:	Privately held
2009 Revenues (US\$ Million):	34
Website:	www.sekem.com

Context

In 2009, the United Nations reported that deserts had spread to more than two-thirds of the total land area of the Arab region. The Nile Valley of Egypt is one of the most strained areas, partly due to the unsustainable use of fertilizers introduced after the Aswan Dam stopped the natural flooding of the Nile. Egyptian agriculture has already suffered greatly, and ongoing desertification now threatens one-fifth of the Arab countries.

Company

Sekem, derived from the Egyptian hieroglyph for “vitality,” is Egypt’s leading producer of organic food. Founded in 1977 by Ibrahim Abouleish, it was the first organic producer in the region and can be considered a pioneer in Egypt and the surrounding areas. Products range from health foods and natural medicine to dairy products, honey, fruits and vegetables, as well as organic cotton and textiles. While two-thirds of these products are sold locally, they are also exported to health food shops and supermarkets across Europe. Global success has been achieved for some product lines: the company commands a large percentage of the international herbal tea market, competing with global brands.

Practices

Sekem took a bold, comprehensive and holistic view of environmental and social development from

the beginning: reclaiming desert land by means of organic farming while also producing food for the local market and reinvesting the profits in the community.

Innovate Proactively

Organic farming involves eliminating chemicals, and in this, Sekem has achieved remarkable results. In cotton production – a substantial part of company business – Sekem has succeeded not only in reducing synthetic pesticides in its own operations but, more broadly, in cutting chemical use by more than 90% on Egyptian cotton farms.

To replace chemicals, Sekem cultivates microorganisms that serve as a natural form of pest control. As a result, the average yield of raw cotton has increased by almost 30%, while its elasticity and overall quality is superior to that of conventionally grown cotton. Organic farming methods bring other advantages, too. Soils have higher carbon dioxide levels, meaning they absorb more CO₂ from the atmosphere, and farmers need 20-40% less water.

Recycling and renewables are another major focus for Sekem. All organic materials used are returned to the value chain as compost, providing an alternative to chemical fertilizers, while non-organic materials are recovered and re-used as paper, plastic bags and other supplies. Farms also rely on a high proportion of renewable energy.

Embed Sustainability

Sekem has a highly unconventional business model. While it is a profit-making enterprise, it does not aim for profit maximization. Through a profit-sharing methodology, it shares its returns with the smallholder farmers in its network. The company’s development foundation invests in enhancement of workers’ skills and capacities, while the medical centre provides healthcare services for over 30,000 people in their local community and employees, all funded by reinvestments of profits from Sekem activities.

Shape the Environment

The company farms much of its land directly, but its products also come from an extensive network of farmers. These farmers are members of a non-governmental organization founded by the company, the Egyptian Biodynamic Association (EBDA). EBDA provides training and support, and helps farmers certify their land to meet European Union organic standards.

Sekem has been part of the Global Reporting Initiative since 2007. The company’s laboratory conducts rigorous and detailed measurements

to assess ecological improvements and publish the results. **“Part of what we’ve done is to set an example, but the other part has been to quantify our experience and prove that organic farming is cost competitive, in addition to being environmentally friendly,”** said Martin Haagen, former Sekem Project Manager.

The company is deeply engaged in fostering the sustainability of Egyptian farming and in developing a model that is replicable throughout Africa. Through EBDA, Sekem is building a database for the exchange of information on organic agriculture. Furthermore, Sekem has been invited to help develop a national competitiveness strategy for Egypt.

Impact – Business

Fueled by success in both domestic and international markets, the company’s revenues grew by 14% annually from 2006 to 2010. Sekem sees a clear link between environmental and financial sustainability, and considers that they are interdependent: there can be no competitiveness tomorrow if resources are depleted today.

Impact – Environmental and Social

Including the Sekem farms, about 1% of Egypt’s total arable land is certified as organic. All of the company’s food products are certified as fair trade. The rapidly expanding network of farmers spreads knowledge about sustainable agricultural practices while also creating a marketplace for farmers’ products.

Today, Egypt’s agricultural sector uses 35,000 fewer tons of pesticides annually than in 1993, when Sekem launched its cotton initiative. By working with the national administration, the company has helped bring about a ban on the airborne distribution of pesticides for cotton cultivation.

Sekem cultivates microorganisms that serve as a natural form of pest control. Its average yield of raw cotton has increased by almost 30%, while elasticity and overall quality is superior to that of cotton grown with chemicals. Soils have higher carbon dioxide levels, which means that they absorb more CO₂ from the atmosphere, and require less water.

4.12 Case Study: Shree Cement



Location:	Beawar, India
Industry:	Cement
CEO (or equivalent):	Shri H. M. Bangur
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	809
Website:	www.shreecement.in

Context

As a rapidly developing country, India faces significant challenges to meet energy and water needs. Demand for energy is expected to grow annually at an average rate of 3.1% over the next 25 years whereas economic growth will likely increase 8-9%. Although India has historically enjoyed large freshwater reserves, some regions already face water scarcity. An increasing population and overexploitation will further pressure India's resources in the years to come.

In environmental terms, cement production is a high-impact business, using large amounts of energy and contributing 5% of global carbon dioxide emissions. Pollutants are often discharged in the cooling process and disposed of as run-off water, which affects ecosystems and human health. It will be crucial for Indian cement companies to find ways to improve energy efficiency and reduce water consumption. Only then can they achieve growth and support India's development without harming the community.

Company

Shree Cement, established in 1985, is today among the five largest cement manufacturers in India, with a capacity of 14 million tons in eight plants and four grinding units. Revenues reached US\$ 800 million in 2009. The company offers

a portfolio of three brands: Shree Ultra, Bangur Cement and Rockstrong Cement. Together these brands enjoy the largest market share in the north Indian markets of Rajasthan, Delhi and Haryana.

Practices

The company has challenged itself to use innovation and efficiency measures to substantially lessen the environmental impact of its cement production at every stage, adhering to "clean and green is profitable."

Innovate Proactively

When it comes to energy use, the company has introduced an intelligent system that not only protects its operations against the power interruptions that are common in areas of operation, but also ensures a higher level of energy efficiency. It was the first cement company in the world to be certified EN 16001, which is designed to continuously monitor and document energy use, identify action targets, and provide the necessary resources and employee training.

The company uses biomass in captive power plants. It also reuses bed ash waste, which contains unburned particles of carbon, as a fuel in the production of the clinker material for Portland cement.

All cement makers are challenged to lessen the impact of clinker, which must be heated to an extraordinarily high temperature. Shree Cement therefore minimizes the use of clinker, having developed processes allowing for an increase of the fly ash content in its cement as an alternative. It became the first company in the cement industry worldwide to register "Optimal Utilization of Clinker" by the United Nations Framework Convention on Climate Change (UNFCCC), resulting in 0.45 million certified emission reduction units.

Shree has developed several innovative processes to use what is normally considered waste. The company was the first to develop in-house processes for converting low-quality limestone into gypsum, which can be used in the production of cement. In addition to this, Shree makes use of lead zinc slag waste, and has thus far consumed 0.8 million tons. The company has also been able to fuel its heat power plants with petcoke.

Operating in a water-scarce region of India, Shree Cement has also made a point of reducing its water consumption. It has constructed a small artificial lake for the harvesting of water to minimize emissions as well as reduce waste. The company is currently installing a 300 megawatt power plant

that will be air-cooled instead of water-cooled, so it will use only one-tenth of the water needed in conventional power plants.

Embed Sustainability

Besides stringent infrastructure and efficiency measures, the softer elements of the business play a prominent role in promoting sustainability. The company realized that getting people involved is a key to effectiveness in the long term: it implemented two-way communication between management and employees, focusing on young talent who often have prior knowledge of sustainability.

Shree Cement seeks the contribution of ideas and engagement at every level of the company, from the board of directors, management and family members to young recruits. **According to Hari Mohan Bangur, Shree's Managing Director, "A strategy can come from the very base – from the floor level, from the lower offices or junior offices. It is hundreds and thousands of such micro strategies that give the company its edge."**

In support of this strategy, an internal culture promotes innovation by allowing for experimentation, and trial and error, particularly from the younger employees. "They have so much energy and so many new ideas that it's in the interest of everybody to make sure their voices are heard," said Bangur.

Shape the Environment

Shree engages in sustainability reporting, complying with standards such as the Global Reporting Initiative, with the highest rating of A+ for external verification of transparency and disclosure, and for management of corporate social and environmental impact. Shree also participates in the World Business Council for Sustainable Development's cement initiative. Top management invites competitors – including the major multinational cement companies – to visit their plant to share and exchange ideas on energy efficiency and environmental processes.

Impact – Business

According to Shree, sustainability is not about ticking boxes. The company views sustainability as a source of competitive advantage and sees the benefits of waste and energy reductions in cost reductions. Thanks to its investments in technology, Shree Cement has propelled itself rapidly into the position of a world-class producer in terms of input-output ratios, as well as volume and quality.

These efforts have enabled Shree to perform well financially. The average annual revenue growth between 2005 and 2009 was about 50%. The EBITDA margin has been stable with an average of 39%.

Shree Cement also enjoys one of the highest employee retention rates in India for the cement industry – reaching 95% in 2009-2010. In a survey conducted by Business Today, Mercer and TNS in 2008, Shree was classed among the 20 best employers of India – one of five manufacturing companies listed.

Impact – Environmental and Social

In addition to impressive energy efficiency achievements, the company has introduced the most extensive waste heat recovery efforts outside China. Its largest plants have a 46-megawatt heat-waste recovery system that supplements the main 260-megawatt generator. Altogether, the company's efforts have yielded carbon dioxide savings of 76,000 tons a year.

Beyond the walls of its sites, Shree Cement provides free health benefits to people living within a 20 km radius of its factories. "Being in India, we believe in inclusive growth, so including the entire neighbourhood, the whole community along with ourselves is something we believe in," said Bangur.

Shree Cement practices waste-to-wealth conversion. Beyond using biomass and waste heat to supplement conventional electric generation, it has developed ways to make use of bed ash and lead zinc slag in cement production. It was the first company to convert low-quality limestone into gypsum for use in cement production.

4.13 Case Study: Suntech



Location:	Wuxi, People's Republic of China
Industry:	Solar Power
CEO (or equivalent):	Shi Zhengrong
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	2,904
Website:	www.suntech-power.com

Context

Globally, governments and communities are discussing the future of energy and rethinking traditional patterns of meeting growing energy demands. The rapid economic growth in China, (and in other emerging markets), has spurred even faster growth in their energy demands; China has now overtaken the United States as the world's largest emitter of greenhouse gases. For security and environmental reasons, fossil fuels are increasingly unable to fully satisfy the growing energy demands, leading China to turn towards renewable sources, such as solar energy.

Company

Founded in 2001, Suntech designs, develops, manufactures and markets solar photovoltaic (PV) panels – including a range of building-integrated photovoltaic products – for residential, commercial, industrial and utility-scale purposes. It has become the largest solar panel manufacturer in the world.

Practices

In a company where culture and organizational management are as important as innovation, Suntech has focused on the sustainability and efficiency of its products.

Innovate Proactively

Suntech's R&D programmes have a clear goal – to reduce the cost of solar energy by increasing the performance of solar cells and panels on readily available substrates. The company's crystalline silicon cells are among the world's most efficient, according to Germany's Fraunhofer Institute for Solar Energy Systems, which conducts research on solar technology. Suntech has also broken records for conversion efficiency of mono-crystalline and multi-crystalline substrates.

The company has taken a global approach, employing more than 400 researchers or engineers in R&D centres in Japan, Germany, China and Australia. It has also established collaborative relationships with the University of New South Wales, Swinburne University of Technology in Australia and other photovoltaic research institutions around the world.

Technological innovation has also enabled the company to drive down production costs. Its new system for large-scale projects cut non-silicon manufacturing production costs by 10%.

In its manufacturing process, the company adheres to international environmental protocols – the facilities are ISO 14001 and OHSAS 18001 certified. It constantly seeks ways to improve production processes, shifting from traditional fossil fuel energy to solar PV energy, moving from non-renewable to renewable materials, and applying clean production methods in cell and module production. It also participates in PV Cycle, a voluntary take-back initiative that promotes recycling of end-of-life PV modules.

Embed Sustainability

Inspired by the values of its founder, Chairman and Chief Executive Officer, Shi Zhengrong, the company has embraced what it calls a "beyond business" philosophy. Its mission is to provide a sustainable energy solution for a better tomorrow.

Aside from aiming for cost and environmental efficiency, Suntech has placed the development of talent at the heart of its "beyond business" model. The company looks for talent around the globe to further its growth. Also, Shi emphasizes the importance of adapting to local cultures and hiring local staff when establishing business operations overseas. **"If you do not understand the culture, you will lose control,"** he said.

In addition, Suntech has established a leadership academy where 400 to 500 people are trained annually. “As Suntech becomes larger, we believe in involving more people to move the company forward,” said Shi. “Our exemplary multinational management team is a testament of the success we have witnessed globally.”

Shape Environment

Suntech is committed to reducing solar costs through scale-up economy, value chain development and technological innovation. It believes it can play a leading role in promoting solar power worldwide, and in helping to make solar energy more affordable and scalable.

The sharing of practices and information is therefore critical. After Suntech developed its wafer production facility in 2007, it invited industry players, including competitors, to the factory to examine the new technology.

These kinds of strategic awareness initiatives extend to the younger generation. Suntech often targets its solar power education initiatives at schoolchildren, believing that, as well as being future power consumers, they will be the next generation of social leaders and solar engineers. The company holds “Suntech Cup” youth creative competitions for teenage students. It provides the students with solar energy products and asks them to think about energy in the context of future daily life. Students can apply for a patent for their inventions, and Suntech donates and installs solar power-generation equipment at the winning schools. “We plan to roll out this initiative to cover all primary, middle, high schools and universities in the next five to ten years,” said Shi.

The company also set up a Low Carbon Museum, offering general knowledge on all energy sources with particular emphasis on renewable energy development and deployment around the world. Since June 2010, it has attracted thousands of students from around the world to learn about the close-knit relationship between energy and human civilization.

For Shi, this is all part of his ambitious mission to play a role in “recharging the earth”— a mission he believes requires industry-wide support. “Solar energy has a big role to play in all spheres of life, be it social, business, political and environmental. Although solar energy hasn’t reached its true potential yet, we remain optimistic about the growth of the industry for a bright, sustainable future,” he said.

Impact – Business

Suntech has grown rapidly and became the largest solar cell and panel manufacturer in the world, increasing its manufacturing capacity by more than an order of magnitude in less than three years. Suntech has a strong technology platform, which provides engineering, procurement and construction services to Chinese and American customers.

Suntech grew with a compound annual growth rate of more than 87% in 2005-2010, with an average EBITDA margin of 15%. With less than 1% of the world’s energy production coming from solar resources, the company has plenty of room to grow.

Impact – Environment and Social

By supplying commercially viable solar panels Suntech is helping craft a path to a more sustainable society. Their increasing scale helps to mitigate the increasing carbon emissions worldwide. So far, Suntech has delivered more than 4,000 MW of solar panels to more than 80 countries on all continents which may generate 5 TWh of electricity per annum on an average irradiation base. This contributes to a reduction of 110 million tons of CO₂ emission in the 25 years of product life time.

Suntech’s research and development has made its crystalline silicon cells among the most efficient in the world. The company has taken a global approach, employing more than 400 researchers or engineers in R&D centres in Japan, Germany and Australia as well as China.

4.14 Case Study: Suzlon



Location:	Pune, India
Industry:	Wind Power
CEO (or equivalent):	Tulsi R. Tanti
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	4,604
Website:	www.suzlon.com

Context

India is short on electric power. Supplies have improved since the 1990s, when frequent blackouts greatly hampered production just as the economy was taking off. But many companies still face unreliable service or remain off the grid completely. Further improvements will be difficult: the country's demand for energy is expected to grow annually at an average 3.1% over the next 25 years, leading to severe energy shortages.

Company

Originally a family textile business, Suzlon was one of those companies struggling with unreliable or expensive power. Finally it installed two wind turbines to secure its power supplies and stabilize cost. The move worked so well that in 1995, the company moved out of textiles altogether and focused on wind power.

Suzlon has since become one of the world's biggest makers of wind turbines and a major player in the renewable energy sector, with revenues of US\$ 4.6 billion in 2009. By manufacturing wind turbines and maintaining wind farms, it provides grid-connected, utility-scale wind power solutions that promote greater self-sufficiency in power.

Suzlon has grown by an average of 10% annually over the past ten years. It now has about 17,000 megawatts installed in 28 different countries, which constitutes a global windpower market share of almost 10%.

Practices

Suzlon is committed to a sustainable solution to the energy challenges in India and the world at large. To expand its customer base, the company now provides end-to-end solutions, covering everything from site selection, building the turbine, setting up the project, to finally cashing the cheque for the power generated to the customer. Also, the company has consistently focused on reducing the cost per-kilowatt-hour of electricity from wind to make it more competitive against conventional sources, and to provide accelerated payback to its customers.

Innovate Proactively

The company invests in research and development to find new solutions to local power scarcities. One project led to a prototype for a windmill that, in addition to producing electricity, taps into the humidity in the air to produce water for drinking and agricultural use. To maximize its impact, Suzlon works with high-tech companies across the world and has set up its own R&D facilities in China, Germany, India and the Netherlands. In Belgium and Denmark, countries investing heavily in wind power, it goes further by co-operating with local universities and R&D centres.

Embed Sustainability

An integrated business model has allowed Suzlon to embrace sustainability in every aspect of its business, from strategy to investments and corporate culture, and to maximize the impact of its operations in the world. **"It's the whole piece working towards sustainability,"** said Chairman and Managing Director Tulsi R. Tanti. **"That's the difference between conventional industries and our company. We are looking at the global economy and society and how we can promote affordable sustainability."**

At its headquarters, Suzlon has taken a "whole campus" approach to sustainability. It recycles all the water it uses and waste it creates, while power is supplied solely by zero-carbon wind and solar energies. Energy consumption is minimized through technologies such as low-energy air-conditioning. "The beauty of this campus is that the

capital expenditure investment was 10% less than for conventional buildings,” said Tanti. “So it’s not expensive, yet it is among the greenest campuses of its type in the world.”

Tanti believes the company’s emphasis on sustainability can also encourage employees to think and act differently, fostering innovation. In its international expansion, the company fills senior positions overseas with local hires, rather than Indian expatriates. This helps Suzlon not only to absorb new technological, engineering and management expertise, but also to build an enterprise more closely identified with sustainability as a whole rather than with its origin as an Indian company.

Building this culture of sustainability – both inside and outside the company – has not always been easy. Tanti stresses the need to change mindsets, educate people and invest heavily in human resources and talent management. “The culture should start within the company, so that the employees can bring an innovative approach to the business.”

Shape the Environment

Externally, Suzlon sees a huge challenge in getting the right policies in place to foster the development of renewable power, particularly in the United States. To address this, the company uses its knowledge and experience to inform and educate citizens and policy-makers. Internationally, Suzlon helps shape the debate on sustainability and renewable power through organizations such as the European Union, the World Economic Forum and the United Nations, as well as by talking to the media.

For Tanti, spreading the word – even among competitors – is critical. He views competitors as potential customers, and supplies many of the top wind companies in the world with Suzlon technology. In a market that Suzlon believes has room to grow, it does not fear competitors, but rather sees opportunities for all players to benefit, expanding the global market for sustainable energy.

Impact – Business

In developed markets, where Suzlon has achieved a significant brand reputation but where access to the grid is not an issue, the company provides infrastructure for a cleaner form of energy. Its acquisition of REpower Systems in 2007, the German wind turbine maker known for its leadership in offshore wind technology, has given

it a significant foothold in Europe as well as access to export markets. And, with growth recently slowing in the United States and Europe, it wants to expand in emerging markets such as China and Brazil.

Impact – Environmental and Social

By distributing power generation, increasing affordability and reducing associated emissions Suzlon directly benefits its society and customers, many of whom were previously unable to access the national grid or had unstable access to power.

This also means that Suzlon can make electricity affordable to previously excluded communities. “We are helping – directly and indirectly – to build a sustainable India,” said Tanti.

Suzlon invests in research and development to find new solutions to local power scarcities. One project led to a prototype for a windmill that, in addition to producing electricity, taps into the humidity in the air to produce water for drinking and agricultural use.

4.15 Case Study: Woolworths



Location:	Cape Town, South Africa
Industry:	Retail
CEO (or equivalent):	Ian Moir
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	3,074
Website:	www.woolworths.co.za

Context

South Africa provides some unique challenges for retailers. The country benefits from first-world infrastructure while facing both social inequities and agricultural practices which are not sustainable. The higher the proportion of own-brand products sold in a retailer's supermarkets, the greater the importance of controlling the supply chain. But this can be particularly challenging in a country like South Africa.

Company

With almost 21,000 employees and revenues of about US\$ 3 billion in 2010, the main focus of Woolworths' business is its chain of food and clothing stores. These operate in South Africa under the brand name and through franchise operations in South Africa and in several other African countries, as well as in certain parts of the Middle East. Woolworths also operates 67 retail stores and 82 concession retail outlets across Australia and New Zealand. An astonishing 97% of its products are own-brand, which provides a unique opportunity for the company to develop a leading sustainable brand.

Practices

Simon Susman, former Chief Executive and now Deputy Chairman, explains that four "pillars" have been put in place to help shape the company's "good business journey." Environmental sustainability ranks highly among the four pillars, which also include influencing government policy regarding various environmental and social challenges, supporting communities and suppliers, and eradicating racial discrimination.

Innovate Proactively

Woolworths was the first major South African retailer to offer a range of clothing with organically grown cotton. Programmes such as Farming for the Future help train farmers in organic and other sustainable practices. In these initiatives, the company goes beyond traditional sourcing techniques to establish close relationships with the farmers who supply its products. These efforts give the company's sustainability efforts a substantial scale and multiplier effect, helping to foster greener farming techniques and agricultural best practices along its value chain.

"It isn't just about reducing pesticides and herbicides, which many retailers around the world encourage their suppliers to do." Susman said. "This gives back to the soil and is a project that we co-developed with our farmers themselves."

Embed Sustainability

To reinforce the business case for sustainability, the company works to measure costs and benefits rigorously. Each business unit is rated on key performance indicators using a balanced scorecard, with the results linked to compensation.

Sustainability is treated in the same way as any other essential part of the business. The company has no separate sustainability report; it is integrated into the annual report. For Woolworths, sustainability is not a part of the business – it *is* the business.

Woolworths has promoted a staff culture of innovation, demonstrated by the fact that new initiatives have come from many levels in the organization. The company takes steps to enhance employees' pride in their jobs and to ensure they are rewarded for contributing ideas for improvement in the business.

Shape Environment

The company looks at sustainability comprehensively, seeking changes in its supply chain to broaden its impact outwards to the operations of the suppliers in its value chain.

As one of their four pillars, Woolworths try to influence the South African government through various initiatives to improve agricultural standards, labour market issues and education. This is achieved through lobbyism, research participation and consolidation of information.

Almost everything Woolworths sells carries the store's own brand name, which gives it far greater control over the supply chain than other retailers have. This enables the company to establish close ties with its farmers and to justify the investment of training them in organic and other sustainable practices.

Impact – Business

The company has worked successfully to convince shareholders and other stakeholders that sustainability is not just a cost. It has been able to demonstrate that its strategy also brings opportunities such as improved yields for their suppliers, as well as enhanced customer loyalty. "We've seen a direct correlation between our brand image and this good business journey." said Susman.

Woolworths has won outside recognition for its holistic commitment to sustainability and the community. For the second time in the past three years, the company won the "Responsible Retailer of the Year" award at the 2010 World Retail Awards.

Financially, Woolworths has been growing with an annual compound rate of 14% from 2005 to 2010. The EBITDA margin has been stable at an average of about 9% during the same period.

Impact – Environmental and Social

Besides working to reduce the use of agricultural chemicals, Woolworths has closely scrutinized its own operations to minimize undesirable environmental impact. It has developed fuel-efficient transport fleets, reducing carbon footprint. It promotes recycling, in materials (such as those used for shopping baskets and trolleys, hangers, food containers), but also in energy (heat given off in refrigeration goes to heat its buildings).

When it comes to social inequities, the company also looks outside its own walls. Community initiatives by the company range from working with education authorities to provide syllabuses for schools in poor areas through to giving away surplus food.

4.16 Case Study: Zhangzidao Fishery Group



Location:	Dalian, People's Republic of China
Industry:	Aquaculture
CEO (or equivalent):	Wu Hougang
Ownership structure:	Publicly quoted
2010 Revenues (US\$ Million):	340
Website:	www.zhangzidao.com

Context

Growing at an average annual rate of over 8%, aquaculture is one of the world's fastest-growing food production sectors. Yet, intensive fish farming depletes fish resources, generates disease and pollution, and demands an excessive input-output ratio: in some cases, it takes three pounds of fish feed to produce one pound of salmon. Lack of suitable ecologically sustainable sites means alternatives must be sought if rising demand for seafood is to be met.

Experts suggest that, by 2020, aquaculture will need to provide 120-130 million tons of food products to meet market demand – almost twice the volume of current production. And since “over-raising” leads to crowding and fish that are small in size and susceptible to disease, threats to environmental sustainability are also threats to the business.

Company

China's Zhangzidao Fishery Group breeds, processes and distributes aquatic products such as scallops, sea cucumbers, sea urchins and abalones. It manages an “ocean ranch” of 2,000

square metres in the Yellow Sea and Bohai Sea. Zhangzidao employs 4,300 people and has a market capitalization of US\$ 2.7 billion. It serves the domestic market and overseas markets through branches in the United States and Hong Kong. With annual revenues in 2010 of US\$ 340 million, the company is among the world's largest seafood multinationals. It joined the Shenzhen Stock Exchange in 2006.

Practices

Zhangzidao uses a method known as Integrated Multi-Trophic Aquaculture (IMTA), of which China is a leader. The technique creates a balanced ecosystem whereby species requiring external feeding are farmed alongside those that derive their nutrients from these “fed” species. Unlike monoculture, IMTA takes into account local conditions, operational limits and environmental quality. The aim is to increase long-term sustainability and profitability per unit of cultivation (not per species, as in monoculture farming).

Innovate Proactively

IMTA allows Zhangzidao to increase production and economic diversification while also reducing waste by converting by-products and uneaten fish feed into harvestable crops. It thereby reduced the need to introduce artificial feeds into the system.

By adopting large-scale bottom-sowing – moving scallops from areas of abundance to areas where they can be spread more sparsely – the company can achieve faster growth and increased scallop weight, improving yields. The technique also helps reduce incidence of disease, increases biodiversity and raises levels of “carbon sink” (natural systems that absorb more carbon than they release).

Innovation is at the heart of Zhangzidao's approach. It combines cutting-edge technology and aquaculture in tune with the natural conditions of the ocean. This includes the propagation of seaweeds, the creation of artificial reefs that foster the growth of marine life, and sea floor algae farms that enable more plants to thrive.

Moreover, improvements from research and development have enabled the company to harvest as deep as 40 metres below the surface, making more efficient use of the sea area and enabling it to achieve a balance of different species.

Embed Sustainability

Innovation is supplemented by rigorous environmental monitoring. Every month the company thoroughly investigates water quality and the health of associated micro-organisms in its operations. “We also monitor carbon emissions from cultivation and manage our emissions levels accordingly,” said Wu Hougang, Chairman of the Board and President of Zhangzidao.

Zhangzidao has taken a comprehensive approach to addressing the environmental impact of its operations, which is made easier because it is a vertically integrated business. Operating across the industrial value chain, it can integrate sustainability into every part of the business and scale, whatever it does.

“The human side of aquaculture development is also important”, said Wu, who stresses the need for inclusive growth that promotes prospects for all stakeholders – from local communities and fish farmers to financial services companies. **“Social harmony enables sustainable development for industries and companies,”** he said. Employees and customers are treated as key stakeholders and a monthly newsletter goes out to all key stakeholders.

Shape the Environment

Wu believes that protecting the environment and promoting sustainable fishing are necessary not only for the financial health of Zhangzidao, but also for the prosperity of all Chinese fishery companies. “Without a culture of sustainability, costs cannot be controlled long-term,” he adds.

Zhangzidao collaborates with academic institutions on research in alternative farming techniques. “With the help of industry-university-research platforms, we’ve maintained industry development and corporate development,” Wu said. In what Wu calls a “relationship chain”, the company has also established ties with government, financial institutions and fish farmers.

Part of the reason for building these relationships is that Wu sees input from many different sectors as crucial to the promotion of a sustainable aquaculture industry. “The government’s performance evaluation system encourages sustainable development,” he said. “But resource and energy planning should be strengthened, too.”

Impact – Business

Sustainability has given Zhangzidao an advantage, allowing the company to ignore regulations that require fish farms to shift location over time to mitigate the negative effects of monoculture. Between 2005 and 2010, revenue grew annually by 40% compared to an industry average of 13%, with an average EBITDA margin of 31%.

Impact – Environmental and Social

By optimizing an ancient aquaculture fishing technique, Zhangzidao ensures the sustainability of the ocean ecosystems in which they operate. They also improve the livelihoods of the local fish farmers with whom the company works closely – many of whom own shares in the company – through control and monitoring systems designed to guide them towards improved work standards and more industrialized production.

Zhangzidao’s seafood farms are balanced ecosystems in which species such as salmon, which requires external feeding, are farmed alongside species that derive their nutrients from these “fed” species. Unlike monoculture techniques, this integrated approach takes into account local conditions, operational limits and environmental quality in order to achieve long-term sustainability.

5. Going Forward

This report showcases the practices of a select group of companies – emerging-country organizations that demonstrate that it is entirely possible to deliver exemplary financial performance while placing environmental and social sustainability at the core of operations and culture. The motives and actions of these New Sustainability Champions present pragmatic ways in which society can become a more effective steward of Earth’s natural resources.

More encouraging still is the fact that these exemplary companies are not the only organizations that encourage hope for a sustainable future. Many others have integrated one or more of the practices on which the Champions score high marks. Collectively, such companies signal new and positive paths toward sustainable growth in emerging economies – paths that may also point to *global* growth that respects and accommodates environmental and societal constraints.

These findings raise a number of key considerations for all stakeholders:

Companies of all sizes will do well to consider the long-term economic implications of failing to become more resource-efficient as supply constraints translate into rising costs. How quickly might their fiercest competitors gain advantage with pre-emptive sustainability moves? For MNCs in particular, such questions resonate even higher in emerging markets. Already, many MNCs have succeeded in those markets by making technology relevant and accessible to their users, and by educating them to use the technologies appropriately. It is not a big step to extend such approaches to sustainability initiatives.

At the same time, businesses should revisit their relationships with non-profits and NGOs, examining how they might be able to approach them as true contractual partners in long-term sustainability collaborative efforts, and benefit from the reach or political support that not-for-profits and NGOs can provide.

NGOs should reflect on how best to collaborate with companies and communities to achieve long-term success on sustainability issues. This area is ripe for exploration. The attraction for NGOs – for many not-for-profits – is that they may be able to make faster and better progress toward their objectives by partnering with businesses. For some leaders of not-for-profits, it may be a revelation that there are so many for-profit organizations eager to solve sustainability challenges.

Regulators and policy-makers will need to understand how they can use the tools at their disposal – laws, environmental regulations, taxes, subsidies, and others – to encourage sustainable and resource-efficient economic growth. They must do so not only in the context of their own national imperatives but with an eye to the global good. The New Sustainability Champions have demonstrated that it is possible to innovate and grow in resource-constrained environments. So a key question for policy-makers is this: aside from market forces and competitive pressure, what combinations of incentive pull and regulatory push would most effectively encourage other businesses to follow suit?

These findings are also the catalyst for further research. It is our intent to explore, in detail, how society can accelerate economic growth while mitigating its impact on the natural world and on the societies that are most vulnerable to that impact. In the next phase of this collaboration, the World Economic Forum and The Boston Consulting Group will:

- Research and seek to quantify the impact of such practices
- Develop a methodology which other companies can apply to become better at innovating for sustainability
- Identify the levers that other stakeholders can use to encourage desired behaviour in companies

As increasing numbers of the world’s population gain access to the prosperity provided by economic growth, it is imperative that business leaders and other stakeholders consider the lessons gained from the New Sustainability Champions as building blocks for a new model of sustainable growth.

Emerging market-based companies play an increasingly visible role in providing innovative solutions to the world’s complex challenges. If adopted by a broader business community, the lessons learned from the New Sustainability Champions could lay the foundation for a new model of sustainable growth.

Endnotes

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Annex 1: Project Description and Methodology

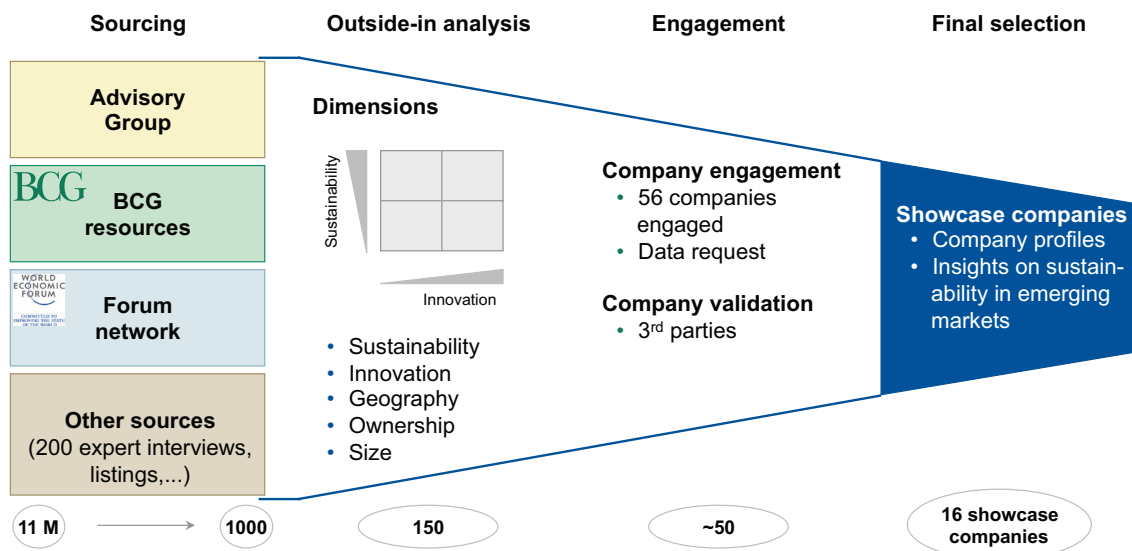
The World Economic Forum and The Boston Consulting Group (BCG) partnered to research and understand the most effective innovation practices for driving sustainable growth in emerging markets. The study involved detailed reviews of more than 1,000 companies, coupled with interviews of almost 200 business executives. The research covered all emerging regions and industry sectors.

The project began with compilation of a list of more than 1,000 emerging market-based companies with annual sales ranging from US\$ 25 million to US\$ 5 billion. The list was drawn from the experience and knowledge of those in the Forum's network, from the array of companies with which BCG has worked, from interviews with experts and publicly available listings, and from the expertise of the study's project advisory group.

After gauging the companies in light of criteria such as sustainability, innovation and scalability, the project filtered out a shortlist of 150. Further analysis – including additional interviews with experts – yielded a penultimate list of about 50 companies. A final round of investigation, in most cases involving interviews with the CEOs and Chairpersons of those remaining organizations, led to the selection of those we call the New Sustainability Champions.

Finding Sustainability Best Practices in Emerging Markets

Comprehensive research methodology applied



Annex 2: Experts

This publication is the result of a one-year journey involving many voices from all sectors of society and regions of the world. The project team would like to thank everyone involved for generously contributing their insights, passion, energy and time.

Experts Interviewed

Academia

Cemal Atici, Adnan Menderes University, Turkey

Mert Bilgin, Bahçeşehir University, Turkey

Constantin Belu, Bucharest Academy of Economic Studies, Romania

Dirk Michael Boehe, Instituto de Ensino e Pesquisa (Insper), Brazil

Nataša Bojković, University of Belgrade, Serbia

Miriam Borchardt, Unisinos University, Brazil

Beck Chau, Hong Kong Polytechnic University, Hong Kong SAR

Jose Antonio Chaves, Fundacao Dom Cabral, Brazil

Huiqiang Cheng, The Institute of Recycling Economy of Beijing University of Technology, People's Republic of China

Anthony Chin, National University of Singapore, Singapore

Soumitra Dutta, INSEAD, France

Neil Eccles, University of South Africa, Centre for Corporate Citizenship, South Africa

Tareq Emtairah, International Institute for Industrial Environmental Economics (IIIEE), Sweden

Eugenio Figueroa B., University of Chile, Chile

Celso Funcia Lemme, Universidade Federal de Rio de Janeiro (UFRJ), Brazil

Nesreen Ghaddar, American University of Beirut, Lebanon

Arjun Guneratne, Macalester University, USA

Gustavo A. Herrero, Harvard Business School, USA

Md. Ashraf Islam, Centre for Energy Studies, Bangladesh University of Engineering & Technology (BUET), Bangladesh

Rakesh Kapoor, Alternative Futures, India

Sher Jamal Khan, National University of Science & Technology, Pakistan

Bas Kothuis, Freelance Consultant

Mike Lai, Hong Kong Polytechnic University, Hong Kong SAR

Patrick T.I. Lam, Hong Kong Polytechnic University, Hong Kong SAR

Joseph Lassiter, Harvard Business School, USA

Xiao Li, Zhejiang University, People's Republic of China

Patricia Lontoc, Asia Institute of Management, Philippines

John Macomber, Harvard Business School, USA

Yuze Mao, Chinese Academy of Fishery Science, People's Republic of China

Toufic Mezher, Masdar Institute of Science and Technology, United Arab Emirates

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Radiyah Othman, Journal of Financial Reporting and Accounting, Malaysia

Jianguo Qi, Chinese Academy of Social Science, People's Republic of China

Navi Radjou, Centre for India & Global Business, University of Cambridge, United Kingdom

Subramanian Rangan, INSEAD, France

Forest Reinhardt, Harvard Business School, USA

Klaus Rennings, Centre for European Economic Research, Germany

Ramazan Sari, Middle East Technical University, Turkey

Joseph Sarkis, Clark University, USA

Michael Schröder, Centre for European Economic Research, Germany

Han Shi, City University of Hong Kong, Hong Kong SAR

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Andrew Michael Spence, NYU Stern School of Business, USA

José Guadalupe Vargas Hernández, Instituto Tecnológico de Cd. Guzmán, Mexico

Gyula Vastag, Corvinus University of Budapest, Hungary

Yanjia Wang, Tsinghua University, People's Republic of China

Christian Webersik, University of Agder, Norway

Peter Willis, University of Cambridge Programme for Sustainability Leadership, United Kingdom

Bing Zhang, Nanjing University, People's Republic of China

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Leong Cheung, Bain Capital, People's Republic of China

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Dorian Emmett, Anglo America, United Kingdom
Camilla Flatt, Africa Practice, United Kingdom
David Flusberg, Adama, Romania
Johnny Fung, Wal-Mart, People's Republic of China
Mark Goldsmith, Actis LLP, United Kingdom
Peiyuan Guo, SynTao, People's Republic of China
Rajat Gupta, Promethean Power Systems, India
Alastair Hammond, EnerCap, United Kingdom
Harish Hande, SELCO Solar Light (P) Limited, India
Andrew Howard, Goldman Sachs, United Kingdom
Gaurav Jain, Jain Irrigation, India
Uday Khemka, Sun Group, United Kingdom
Matthew Kiernan, Inflection Point Capital Management, Canada
Ajith Kumar, Ozone CleanTech Energy, India
Marko Likon, Luka Koper, Slovenia
Megan Louw, Nedbank, South Africa
Adefolu Majekodunmi, Microsoft, Nigeria
George Mathew, Team Sustain, India
Deepak Mawandia, Carbon Watch, India
Nicola Mok, CLSA, People's Republic of China
Jayendra Naidoo, J & J Group, South Africa
Nitin Nayar, Warburg Pincus, India
Gaurav Oberoi, Blackstone Carbon Credit & Advisory, India
May Qiu, Nike, People's Republic of China
Bejul Somaia, Lightspeed Venture, India
Thierry Tene, A2D Conseil, France
Sara Wright, BNPP, Germany

Government

Ali Abo Sena, Egypt National Cleaner Production Centre, Egypt
Pierre El Khoury, Lebanese Center for Energy Conservation, Lebanon
Dan Esty, US Environmental Protection Agency, USA
Jie Guo, China Fishery Association, People's Republic of China
Mark Levine, China Energy Group, People's Republic of China
Guoxing Liang, China Electronic Energy-Saving Technology Association, People's Republic of China
Jyothi Parikh, Integrated Research and Action for Development (IRADe), India
Khursheed-UI-Islam, former consultant to German Development Cooperation, India

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International and Not-for-Profit Organizations

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Ravi Agarwal, Toxics Link, India
Andrew Alli, Africa Finance Corporation, Nigeria
Simon Andrews, International Finance Corporation (IFC), Vietnam
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Habiba Al Marashi, Emirates Environmental Group, United Arab Emirates
Teresa Alfaro, SumaRSE, Panama
Lisa Inez C. Antonio, Philippines Business for Environment, Philippines
Seema Arora, CII-ITC Centre of Excellence for Sustainable Development, India
Palash Baral, Nyakrishi Andolan, Bangladesh
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Martin Baxter, Institute of Environmental Management and Assessment, United Kingdom
Cláudio Beochat, FDV, Brazil
Peter Brew, International Business Leaders Forum, People's Republic of China
Martin Bwalya, New Partnership for Africa's Development - Sustainable Agriculture in Africa, South Africa
John Carter, Aliança da Terra, Brazil
Gloria Chang, Greenpeace, People's Republic of China
Hela Cheikhrouhou, African Development Bank, Tunisia
Igor Chestin, World Wild Fund for Nature (WWF), Russian Federation
Vladimir Chuprov, Greenpeace Russia, Russian Federation
Aron Cramer, Business for Social Responsibility (BSR), USA
Paola Del Rio, First Climate, Mexico
Urvashi Devidayal, The Climate Group, India
Jing Ding, World Wild Fund for Nature (WWF), People's Republic of China
Mohammad Djauhari, KpSHK, Indonesia
Catharina Dwihastarini, SGP Indonesia, Indonesia
Rachel Fleishman, Climate Change Business Forum, People's Republic of China
Taryn Fransen, World Resources Institute (WRI), USA

Daniel Gonzales, AVINA, Panama
Yana Gorbatenko, International Finance Corporation (IFC), Russian Federation
Linda Greer, Natural Resources Defense Council, People's Republic of China
Lalith Gunaratne, Sage Training, Sri Lanka
Gayathri Gunaruwan, Ceylon Chamber of Commerce, Sri Lanka
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Ian Holmes, Environmental Sustainability Knowledge Transfer Network, United Kingdom
Jagat.S.Jawa, Solar Energy Society of India, India
Nilmini Jayasinghe, Sri Lanka Apparel, Sri Lanka
Jiaman Jin, Global Environment Institute, People's Republic of China
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Yahya Khaled, Royal Society for the Conservation of Nature (RSCN), Jordan
Henri Le Bienvenu, Peru 2021, Peru
Bernice Lee, Jane Goodall Institute, Singapore
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Alireza Omidvar, CSR Development Centre in Iran, Islamic Republic of Iran
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Suneel Pandey, Centre for Environmental Studies (TERI), India
Adi Prasetijo, Indonesia Center for Sustainable Development, Indonesia
Jingjing Qian, Natural Resources Defense Council, People's Republic of China
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Andreas Schaffer, Earth Observatory of Singapore, Singapore
Faouzi Senhaji, United Nations Environment Programme (UNEP), Kenya
Ali Shiek, LEAD, Pakistan
Harpreet Singh, Making a Difference Differently, India
Manish K. Singh, Indian Wind Energy Association, India
Shirish Sinha, formerly of World Wild Fund for Nature (WWF), India
Istiaq Sobhan, *International Union for Conservation of Nature* (IUCN), Bangladesh
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Bryanne Tait, International Finance Corporation (IFC), Russian Federation
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