



Watamu Community Solid Waste Management and Recycling Enterprises (WSWMR)

Fighting unemployment and coastal degradation through waste recycling in Watamu, Kenya

2011 SEED Winner

SEED CASE STUDIES: INSIGHTS INTO ENTREPRENEURIAL SOLUTIONS FOR SUSTAINABLE DEVELOPMENT



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IMPRINT

Publisher: SEED

c/o adelphi research gGmbH
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Picture credits: Watamu Community Solid Waste Management and Recycling Enterprises

Supported by: the European Union, the Government of Flanders, Federal Ministry for Environment, Nature Protection, Building and Nuclear Safety, Germany and Ministry of Economic Affairs, Netherlands and UN Women

The findings, interpretations and conclusions expressed in this publication are those of the authors based on interviews and site visits to the enterprise and do not necessarily reflect the views of SEED or Adelphi Research.

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SEED Case Studies Series

Demonstrating Sustainable Development on the Ground Through Locally-driven Eco-entrepreneurship

Social and environmental entrepreneurship, also known as green and inclusive entrepreneurship or eco-entrepreneurship, could play a critical role in achieving a global Green Economy. By embracing the added values of social improvement and wise resource management eco-enterprises that have won a SEED Award are living proof that entrepreneurial partnerships between various stakeholders can create innovative and novel solutions for delivering sustainable development at the grassroots and be economically sustainable.

Over the last ten years, SEED has awarded nearly **180 SEED Awards** to eco-enterprises in 37 countries. While the value of eco-entrepreneurship in delivering sustainable development is increasingly recognised and harnessed in the development sphere, there is still very little data available on the triple bottom line impact of these enterprises and their contribution to sustainable development.

The SEED Case Studies are designed to help fill that gap by generating insights for policy and decision-makers on the role of green and inclusive enterprises in achieving sustainable development, and on enabling factors that can help them overcome barriers and reach scale and replicate.

AT A GLANCE

Watamu Solid Waste Management and Recycling helps conserve coastal and marine biodiversity by recycling plastic and glass waste.

Previously unemployed vulnerable groups are provided with employment and income, as well as with transferable skills.

PRODUCTS & SERVICES



TRIPLE BOTTOM LINE

**Social impacts**

- Provided income opportunities to 24 women and youth and 7 local artists, improving the livelihoods of nearly 180 people in the community in 2014.
- Trained 11 community groups and 12 school groups in waste management and recycling.
- » Provides small business development opportunities.

**Environmental impacts**

- Removed 18,000 kg of waste, of which approximately 6,000 kg of plastic and 2,500 kg of glass from the environment, helping to ensure local fauna does not choke in waste.
- Reduced coastal waste and littering by 20%.
- » Reduces the amount of carbon emissions and toxic gases that would have been released from burning plastic waste.

**Economic impacts**

- Has increased purchasing power for 10% of the Watamu population.
- Reduced waste management costs for local hotels and councils
- » Boosts the local tourism industry by making Watamu a model for inclusive eco-tourism and a pristine diving destination.

KEY FACTS

- Location: Watamu, Kenya
- Founded: 2009
- Active: Watamu
- Workers: 24
- Annual turnover: USD 8,885

WATAMU PARTNERSHIP

**BUSINESS**

Hemingway's Resort

Turtle Bay Beach Club

WSWMR**NGO**

Watamu Youth Group

Watamu Marine Association (WMA)

Watamu Women's Group

1. Partnering for local solutions

1.1 Local Challenges

Kenya is home to over 500km of pristine tropical coastline bordering the warm waters of the Indian Ocean.ⁱ Approximately 120km north of the regional centre of Mombasaⁱⁱ is Watamu, a small coastal village in the Kilifi County which has many beaches, lagoons and mangroves, including the Watamu National Marine Park and Reserves. The marine protected areas are now considered UNESCO Biosphere Reserves as they are sensitive, biodiverse habitats and the area is considered one of the best snorkelling and diving areas on the coast of East Africa.



© Chris Mason-Parker

Rising unemployment

Life is difficult in the region partly due to Kenya's high cost of living and high inflation rateⁱⁱⁱ and the rate of poverty in the Kilifi County has been estimated at 70.8%ⁱ, compared to a national average of 45.9%^{iv}. Tourism accounts for about 12.5%^v of Kenya's GDP. However this rate is much higher in coastal areas such as Watamu where most of the town's small population, of around 1900 people^{vi}, rely primarily on tourism or fishing for their livelihood.

While tourism has for a long time generated employment and income for the local population of Watamu, the industry on the coast of Kenya

ⁱ 1 adult equivalent poverty head count

is now struggling after recent terrorist attacks in the country. Visitor numbers are down in the area due to travel advisories about radicalisation in the region. The town is painted as an insecure place^{vii}, caught in the crossfire of negative media attention. In 2014/2015, hotels on the coast reported a drop in tourist numbers by more than 60%.^{viii} With this, the number of direct and indirect tourism-related jobs decrease by thousands, affecting the sustainability of the residents' livelihoods, causing an increase in unemployment, and aggravating poverty rates in the local community.

Threats to the Watamu's coastal and marine resources

The richness of Watamu's marine biodiversity, like many other marine ecosystems in the world, is under serious threat that can primarily be attributed to two factors: high population and pollution, and climate change.

High population, tourism and pollution

Anthropogenic threats relate on the one hand to unsustainable use of resources, such as overfishing or destructive fishing methods, due to high demand, and on the other to pollution. Globally nearly one-third of marine fish stocks have been overfished, and over 90% of the world's fisheries are fully exploited or over-fished^{ix}. While the setting up of a Marine Protected Area (MPA) and Reserves in Watamu are addressing some of those issues, the high local population density² combined with the tourist population means that natural resources in Watamu are in high demand.

² The population density of the Kilifi County is estimated by the Kenya Inter-Agency Rapid Assessment (KIRA) at 473.1 per square kilometre (i.e. 88 people in every km²) compared to a national population density of 401.1

The high overall population also generates increasing pollution such air emissions, solid waste and litter, releases of sewage, and release of gasoline in the coastal waters. Solid waste is by far the most significant threat in the Watamu MPA and managing it has so far proved to be a struggle for the town and a large part of the waste ends up in the environment, threatening the ecology of the area; for instance marine animals such as sea turtles ingest plastics and die from starvation^x, and sewage and coastal pollution alter the water's composition, causing serious damage to the flora and fauna such as coral reefs. While there is limited data available regarding the amount of marine waste in Watamu, one-off day clean-ups along 5km of beaches can result in over 3,500 kg of waste of which 800kg is plastic.^{xi}

Climate Change

Superimposed on those direct and indirect anthropogenic pressures are the impacts resulting from climate change^{xii}. Oceans make up approximately 70% of the Earth's surface area and absorb approximately 1/3 of the atmosphere's excess carbon dioxide^{xiii}, or in other words about 22 million tonnes of CO₂ every day^{xiv}. In essence, coral reefs absorb CO₂ to produce their limestone (calcium carbonate) skeleton and in the process release oxygen; so much so that they are the primary producer of oxygen – one of the reasons why corals reefs are often called 'the rainforest of the sea'^{xv}. The chemical reaction that takes place also produces carbonic acid (H₂CO₃), which increases the acidity of seawater^{xvi}. With the rising level of CO₂, ocean acidification increases and the chemistry and biology of the world's oceans may be altered significantly as a result.^{xvii} For instance coral reefs and the skeletons of marine fauna such as lobsters, starfish, clams, and various other species grow more slowly.^{xviii} As these species occupy vital spots in the global-ocean food web and coral reefs serve as large-scale nursery grounds for fish, these changes already have knock-on effects on all ecosystems associated with reefs^{xix}.

"In addition, climate change can cause sea level rise; changes in the frequency, intensity, and distribution of tropical storms; and altered ocean circulation".^{xx}

All in all, the convergence of these multiple stressors places Watamu's coastal biodiversity under considerable pressure. With the economic importance of the sea by way of fisheries and tourism, any loss of biodiversity and signs of pollution on land and in the water will not only pose a serious threat to the natural ecosystems, but also to the livelihoods of Watamu's population.

1.2 Creating innovative local solutions

Watamu Solid Waste Management and Recycling (WSWMR) was created in 2009 by the Watamu Marine Association (WMA) to address the growing plague of non-biodegradable waste which pollutes the streets and beaches of Watamu, threatens vulnerable marine life, degrades the environment and causes risks to human health, while at the same time reducing local unemployment.

WSWMR collects waste in three ways:

- the Blue Team – previously unemployed women and youth – collects waste from the beaches and surrounding areas once a week;
- hotels and residents bring waste directly to a storing depot located at the Turtle Beach Hotel;
- major clean ups are organised on international days, such as the UNEP World Environment Day (WED), which generally involve the Blue Team, hotels, residents, volunteers and often tourists.

The waste is then brought to the recycling centre where it is sorted. The plastic is processed into crushed material and sold to recycling businesses in Mombasa and China. The glass is recycled into construction aggregate and flip flops are recycled by local artists into crafts which are then sold to tourist shops or through hotels.

Training and awareness-raising are essential parts of the enterprise's model. The WSWMR not only helps participants in this process by providing recycling, artistic, environmental and business training as well as access to its recycling centre, it also raises awareness and provides waste management and recycling education to the rest of the community.

Fast facts

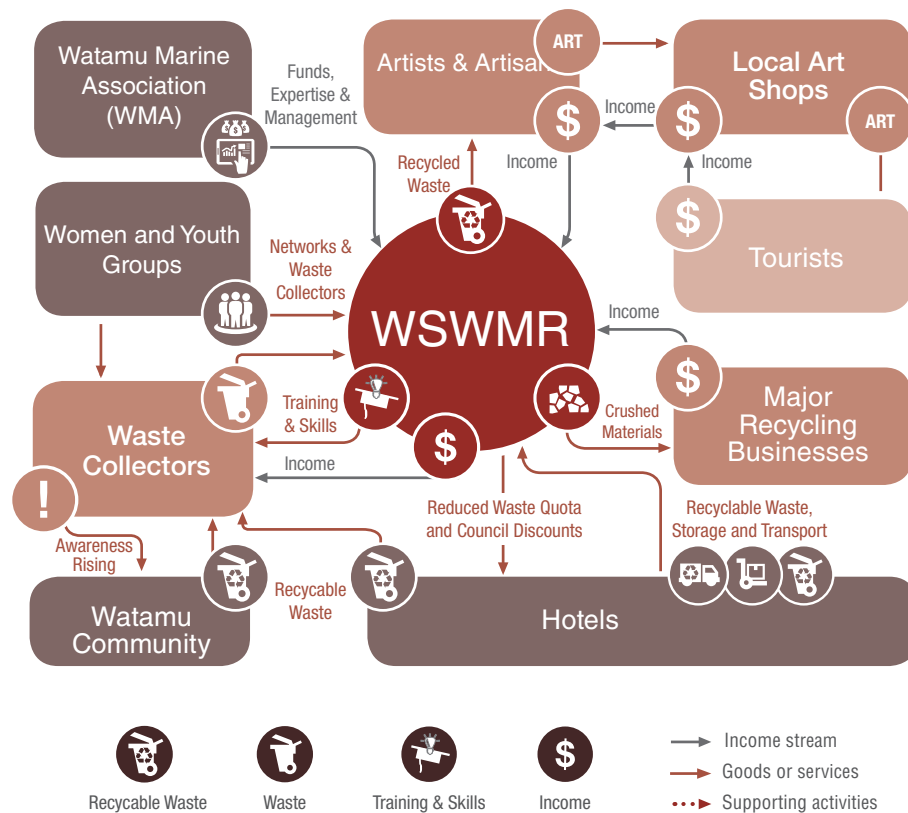


One-off clean-ups along 5km beaches in Watamu can result in over 3,500 kg of waste; 23% of which is plastic

The rate of poverty in Kilifi County is 70.8%, compared to a national average of 45.9%

43.4% of the Kenyan population lives on less than \$ 1.25 per day

Tourist numbers at the coast have reduced by more than 60%, resulting in the loss of thousands of jobs



Local Association

The Watamu Marine Association (WMA) is an Association made up of more than 30 groups and organisations from the community, tourism and environment sectors in Watamu and is the founding partner of the Watamu Solid Waste Management and Recycling Enterprise. It brings resources including funds, management staff, expertise and skills to the partnership which in turn helps it to achieve its own constitutional, community development and environmental management objectives. It remains the enterprise's central partner and is highly involved in the overall management.

Local Business

The **Turtle Bay Beach Club** and **Hemingway's Resort** are local hotels and are the two main business partners of the WSWMR. The resorts provide recyclable waste and storage depots, and transport the waste from the hotels and residents to the enterprise. The Turtle Bay Beach Club, which was one of the founding partners, actually provided the enterprise with a temporary recycling centre before they built their own, and the Hemingway has provided in-kind support such as office facilities and marketing.

The hotels benefit by having clean beaches for their clients and by reducing their own waste quota to landfills. As a result they receive financial discounts from the council. They also have a social responsibility strategy for environmental and conservation management and the partnerships help them meet their targets. As a result, the Turtle Bay Beach Club has received two global awards for its socially responsible activities in recent years.

The Partners ...

1.3 The power of partnerships

The partnerships

The Watamu Solid Waste Management and Recycling enterprise evolved out of a project by the Watamu Marine Association (WMA) which supports local economic development and environmental conservation. The enterprise works in a small community but is linked to almost every community group and business in the area and has established a network of partners nationally and internationally, which is considered the keystone of the success and sustainability of the enterprise.

Initially WSWMR was managed through the WMA committee, made up of 2 representatives from community groups, 2 members from hotels and 2 from community tourism operators, 2 from environment organisations, 1 from fishermen group, 1 from dive operators and an expert consultant. In 2012 the enterprise was registered as limited company with Articles of Association and a Board of Directors (BoD) which makes decisions pertaining to the strategic plans of the enterprise. The BoD is made up from WMA committee members and all benefits from the enterprise go towards enterprise operations and WMA community projects.

Partnership management: overcoming challenges

The strong linkages between the community groups and associations in Watamu have provided the enterprise with stability in its partnership structure and there have not been any major challenges encountered with its partners so far. Looking forward, there are however, gaps for further partners to support the development of the enterprise. The enterprise is looking for corporate partners to help finance the extension of the centre such as workrooms for the artists, work space for offices and utilities, and a gallery-showroom to market the crafts. Partnerships with local government departments or government-affiliated bodies will help connect the enterprise to other towns in the County in order to increase their supply of waste and may help it to navigate complicated regulatory requirements and to access government support for its services and activities.



Local NGOs

WSWMR works with two local community organisations: **Voice of Watamu Women's Groups**, an umbrella organisation of 29 women's groups in the local area, and the **Watamu Youth Future Concern Groups** – which has a membership base of around 200 and represents the youth of Watamu. Their role is to create awareness in the community on the benefits related to good waste management, to educate their members, and to solicit support for the enterprise within the community. They open up grassroots networks which help the

enterprise stay in tune with the needs of the community and provide personnel for the Blue Team (the team of waste collectors). They are participants in and beneficiaries of art and craft enterprises and receive education and training on environmental hazards which they share with the community at large.

The leader of the Watamu youth association is also the Chairman of WMA and the director of the women's organisation is the Vice-Chairman.

2. Building an inclusive eco-enterprise

The Watamu Marine Association (WMA) designed a waste management project in 2009. The project was awarded funding from the International Union for Conservation of Nature (IUCN Netherlands) as part of their Ecosystems Grants Programme (EGP). In 2012, after receiving the SEED Award and support, the project was registered as a for profit limited company. The enterprise began selling its recycled products in 2010 and in 2012 undertook a series of steps to expand, one being to purchase land to build their own recycling centre which they completed in 2014. This centre allows for more production and serves as an information centre about local waste management practices.

2.1 Financial development

In its first year, the Watamu Solid Waste Management and Recycling Enterprise grew out of a USD32,900 grant³ from the IUCN NL EGP. These funds were used to purchase equipment and to employ over 40 part-time local youths, women and unemployed people from WMA community groups' members to operate as waste collectors. They then received a grant of USD16,100 from the African Fund for Endangered Wildlife to scale-up the enterprise, and used this money to purchase one acre of land as a base for their operations. In 2013, they received another grant of nearly USD17,000⁴ from Friends from Ireland to construct the new recycling centre and machine room. In 2014, the enterprise was able to operate on nearly USD3,000 from sales and USD6,000 from sponsorships of local businesses, individual residents and hotels and had a total asset value of USD41,900. Operations were delayed in 2014 as the acquisition of land and the building of the centre took longer than expected (almost 3 years), and therefore the enterprise is not yet financially sustainable. In August 2015 however, the official opening ceremony of the centre will provide the enterprise an opportunity to showcase their products and services to local government departments with the aim to connect with other towns in the County to direct their waste to the enterprise

³ 24,627 Euros

⁴ 12,750 Euros

and, in doing so increase the supply of waste. Furthermore, the management has analysed the market and has witnessed a vibrant demand for their products. This potential influx of supply and expected demand imply that, now operations have started, the enterprise will be able to generate growing income.



2.2 Employment situation

In 2009, the enterprise started working with 40 waste pickers from the community, of which 24 are now regular workers. There are 2 full time positions for processing the waste at the centre and 22 part-time workers which form the Blue Team. The enterprise has an equal opportunity policy and women are well represented in the enterprise with 14 out of the 24 workers being women. The full-time employees earn approximately USD1,200 per year each, and the part-time workers can earn up to USD 23 per month for 1 day of work per week. The 2 employees with formal employment contracts receive contributions to the National Social security Fund (NSSF) & National Health Insurance Fund (NHIF). For the part-time workers, the enterprise offers health and safety training and provides safety equipment for sorting waste. Training includes recycling training, small business training, and general waste management education. In addition, a project manager and coordinator oversee all the operations; their salary is funded by WMA. The service provided by the Board of Directors is on voluntary basis.

Fast Employment Facts

Workers	Avg. Salary per Year	Female Workforce
		
24	\$ 1,200	58%

	Full-time	Part-time	Casual
Workers	2	0	22
Female	0	0	14
Male	2	0	8

2.3 Business development

The enterprise had mixed success in the past year in meeting its target of generating a regular income from sales of processed plastic waste since it faced delays in acquiring the land and the necessary licences for the construction of the new waste management centre. Now that the centre is complete, they expect to increase production soon and to increase their sales by 100%. This will translate into increased employment, income generation, and small business enterprise expansion. Furthermore they are aiming to expand their partner-base from 4 to 14 hotels and resorts in Watamu and engage them in supplying waste as well as providing waste management systems (like waste collection bins) in their hotels. They also intend to scale up its services in other areas such as Malindi. While the decline in tourist numbers means a decline in the amount of waste produced locally, the waste on the beach and in the ocean also originates from other parts of the Kenyan coast, neighbouring countries such as Tanzania and other countries across the ocean even as far as Thailand (brought in by the Indian Ocean Gyre), meaning that the enterprise will continue to have a supply of raw materials - indeed the amount of waste recorded each year is still rising.

They also intend to diversify their products. At the moment the recycling businesses in Mombasa and China, to which they are selling the plastic waste, are interested only in plastic bottles. The target is to start working with partners that are also interested in other plastics such as plastic bags.

The vision of the enterprise is to become the regional hub for sustainable waste management where tourists can learn about and participate in conservation, where artists can showcase and sell their arts made from recycled flip flops, and where the local community can learn about affordable and accessible small environmental business development.



Crafts made from recycled flip flops by local artists

3. Reaching impact

The Watamu Solid Waste Management and Recycling enterprise has strong impacts on all three spheres: social, environmental and economic. As it removes waste from the area, it helps encourage tourism (economic) and saves local wildlife (environmental) while providing income through collection and recycling for vulnerable sectors (social).



3.1 Beneficiaries

The enterprise focuses primarily on providing employment and income opportunities to people in the marginalised communities, particularly for youth and women, and on offering an alternative solution to wooden products such as fencing and signposts, and outdoor furniture. Benefits are created along the entire value chain:

- **Sourcing:** local youth and women that pick the waste have a stable source of income and build transferable skills in waste management;
- **Production:** the next part of the value chain is the processing where the material is converted to plastic pellets and then resold. Workers benefit at this stage as they generate income from these activities. Furthermore local artists have a new supply of materials for their arts and crafts from which they can generate income by selling them to tourists or tourists shops

- **Distributors:** recycling businesses benefit by purchasing the products and turning them back into useful items. Tourist shops have a new local supply of distinctive arts and crafts which they can sell to tourists;
- **Communities:** the local communities benefit from a reduced burden of plastic and gain knowledge about waste management and the environment; the hotels reduce their waste quota which allows them to receive tax discounts; the tourists benefit from a clean coast; all these translate into an increase of income for both the local communities and the resorts;
- **Local governments:** the Watamu municipality and the Council of Kilifi County benefit from a reduction of waste going into the landfills – which translates into savings in terms of waste management and fuel for garbage collection trucks, and the costs incurred from plastic pollution are minimised.



3.2 Social impact

The direct and indirect social impacts of this enterprise are multiple and reach various groups of the community:

Job creation and income generation

The enterprise has so far employed 14 members of the women's organisations and 10 members of the youth organisation; the latter are about 22 years of age. The enterprise also contributes to income generation for 7 local artists who sell their recycled arts and crafts in 3 hotels and 1 local craft shop⁵. As a result, 31 households benefit from additional income which, with an average household size of 5.6 in the county^{xxi}, means that almost 180 people in the town prosper from WSWMR.

Empowerment and small business development

Through their work, women are empowered through providing income for their families. For instance they are now able to pay school fees for their children, which means that their status in the family is elevated. One beneficiary also explained that the enterprise has brought harmony to many couples and cited the following example:

"The husband of one Blue Team member was initially against the idea of his wife joining the team. However after some time, he understood the benefits of her work and appreciated the important role his wife was playing for their home as well as for the community."

Also the youth have changed their perspectives. Beneficiaries explain that previously many were idle, and in some cases, had problems with illicit drugs. The enterprise succeeded in bringing them together to understand the value of waste and how to contribute to society in a meaningful way. This gave them a platform to share ideas.

The Blue Team members are now also ambassadors for the enterprise and have become trainers themselves for the community.

Furthermore, the enterprise promotes small business development through business management trainings for the local artists and the Blue

⁵ It is estimated that the local artist can earn approximately USD 40 p/m from the crafts produced from recycling flip-flops

Team members who are then able to start-up small waste collection businesses with the little money they have earned.



Training of the Blue Team on waste management

Education

The enterprise aims to spread its own knowledge to the community and have so far trained 65 community members. Training in solid waste management best practices is not only geared towards adults but also children. WSWMR has been particularly effective in this area; 12 local schools and 11 community groups have participated in seminars and field activities.

Human health

Risks to human health, such as polluted water, resulting from litter in the environment are reduced as the enterprise carries out its weekly beach and village clean-ups.

Harmony in the community

While tourism brings in revenue, it has also brought tension in the past due to the competition for scarce resources such as water and food, and a clash between extremes where luxury resorts and tourist companies operate next to extreme poverty^{xxii}. Through the strong community engagement the enterprise helps to bridge the gap between the tourism sector and local community groups, resolving conflicts and identifying common areas of collaboration and partnership.

3.3 Economic impact

The economic aspect of the Triple Bottom Line includes the internal economic performance (Section 2) as well as economic advancement for the community.

Firstly, the purchasing power of impoverished segments of society increases. As the economic status of the 24 workers and 7 artists improves, the income and economic benefits spill over to their families, almost 10% of the Watamu population, and to the community at large. While the enterprise reports that the economic impacts have not been nearly as large as they could be, they believe that the new facility and machinery will help increase production and increase the flow of wealth to these groups.

Secondly, by providing collection services to 4 local hotels and 100 other residents, the enterprise provides a valuable service which would otherwise cost the resorts and the council considerable amounts of money.

Finally since the local tourist economy is heavily reliant on a pristine environment to attract visitors, the association is giving a boost to the entire economy by making Watamu an attractive tourist location.



The Blue Team at work

3.4 Environmental impact

In 2009 WSWMR set itself the target of cleaning the beaches every week; they have honoured this promise ever since. In terms of overall waste collected in 2014, major beach clean ups have collected on average 6,000 kg of waste, 23% of which was plastic; weekly clean ups collected on average 1,000 kg of waste per month, of which about $\frac{1}{3}$ could be recycled. Therefore in total about 18,000 kg of waste was collected in 2014, of which approximately 6,000 kg was plastic and 2,500 was glass. In addition, over 3,000 kg of flip flops have been recycled into crafts and curios since 2009. Overall, the enterprise has recorded that plastic waste pollution in the Marine Park has now been reduced by 20%, which was their original target. WSWMR is now aiming to reduce the waste by 50% by 2016.

The environmental impacts of this waste reduction are multiple. For one, conservation of the marine fauna and flora is promoted. As turtles are an indicative species^{xxiii}, WSWMR uses the presence of turtles as an indicator of the sea's health. The enterprise measures this target by monitoring habitats and recording the nesting and hatching success. According to data collected by a local sea turtle scientist, sea turtle nesting has not been disturbed by waste pollution since the waste collection began. This indicates that the environment around and in the Marine Park is healthy and will enable other species and corals to thrive.

In addition, the waste collection has reduced the amount of plastic being burnt at roadsides, which in turn reduces the release of greenhouse and toxic gases.

Beneficiary: "Watamu is cleaner compared to Kilifi and Mombasa. This can be attributed to the community's better understanding of waste management. Through creation of awareness of few people who benefit from the enterprise, these go on to share the acquired knowledge with the other community members."

In its operations the enterprise aims to minimise the amount of waste they create and all operations have been approved by the National Environmental Management Authority (NEMA) to ensure environmental standards are met, especially with regard to noise and emission of harmful gases. The enterprise has now also installed a bio-fuel facility and is producing biofuel briquettes. Best practice also extends to the partners; for instance the Turtle Bay Beach Club turns food waste from the hotel into organic compost which is given free of charge to community members who practice agriculture; the coconut wastes such as shells and husks is crushed to produce briquettes; and they intend to start using biogas at the staff canteen/kitchen.



3.5 Policy impact

WSWMR has been working extensively with the Kilifi County government and is currently assisting with the development of policies on the use of plastics, especially plastic bags, with the aim of phasing out plastic bags at both the county and national levels. Part of their influence on local government is derived from having one member of the WMA Committee on the county waste management committee which is currently working on a Kilifi County waste management policy. Members involved directly in the enterprise have also been invited to the county government for meetings to provide input into policy matters and they were also invited by the Mombasa Coast Association to discuss the enterprise's waste management policies and to share experiences on waste management in Watamu.

The enterprise has been involved in advocacy and lobbying work to protect sensitive ecosystems like the blue lagoon on the northern side of Watamu Beach. Their advocacy has also raised the issues of encroachment by oil exploration on the Arabuko Sokoke forest.

While the involvement of local and regional government departments is a sign that waste is taken seriously, WSWMR notes that it can complicate the overall management as each department's role is not always clear and duplication or inconsistencies can result. For instance, the natural resource management including management of beaches is currently the responsibility of the national government, but both county and the national government institutions are addressing the needs of the local communities. How to approach and work with all levels of government has been a challenge that the conservation group is trying to solve.



4. Charting green and inclusive growth

IMPACT

Waste recycling provides livelihoods and preserves marine ecosystems

Before 2009, Watamu suffered from a lack of waste collection; the beaches were littered with plastic and glass, which had severe negative impacts on marine biodiversity and on the tourism industry. Watamu's model provides jobs and income opportunities to people from vulnerable sectors, such as women and youth, by collecting and recycling this waste. While cleaning up the beaches contributes strongly to attracting visitors to an area which relies heavily on tourism, it also helps protect the rich marine biodiversity. Reports from local biologists indicate that the turtle population is growing once again, which is partly due to the absence of plastic waste in the marine environment.

CHALLENGES

Production delays and lack of access to resources

While the enterprise has made considerable progress on its triple bottom line, meeting its business targets has been a challenge because of moving from one waste facility to another. The enterprise used a large amount of funding to make this transition and during this time very little production activity could occur. Further compounding the delay were the bureaucratic hurdles of different branches of government regarding natural resource management activities. While the enterprise still faces a lack of funding and resources for the expansion of the recycling centre, operations are expected to pick up quickly now that the centre and new machinery are in place.

SUCCESS FACTORS

Addressing local needs through strong partnerships and community engagement

The paramount success factor for this enterprise is the strong partnership base, formed at the outset around a shared goal, i.e. addressing the non-biodegradable waste pollution and conserving the marine biodiversity. Each partner was able to bring in technical and practical skills as well as unique expertise. However the partnerships would not have been able to survive without the strong community support from the Watamu population, which has been gradually built up by consulting and engaging community groups throughout the entire process.

Finally the model offers a new, highly demanded, service to the area which reduces management costs of the government and local business and which contributes to re-boosting the tourism industry.

FUTURE NEEDS

Using new resources effectively

With the new machinery and building in place, the enterprise is about to start operating at full capacity, which will provide more work for the casual workers. The ability to train workers and local artisans to become entrepreneurs themselves will be key for the organisation to generate a stable and high quality supply of recycled material.

The enterprise is now mainly looking to expand its partnership base to increase the supply of raw material, diversify the demand for recycled goods, and expand to new towns.

In addition, the enterprise would benefit from studio and exhibition space to showcase the arts and crafts made by the local artists from the recycled materials.



Acknowledgements

We would like to express our sincere appreciation to Steve Trott (Chair of Board of Directors of Watamu), Ken Ombok (Conservation/Energy Manager at the Turtle Bay Beach Club) and the beneficiaries Benjamin Karisa, Elcah Nafula, and Justin Kitsafor for participating in numerous hours of interviews and kindly giving us a glimpse into their daily activities. We are also grateful for all the technical assistance and advice received from the Koninklijk Instituut voor de Tropen (KIT), the African Centre for Technology Studies (ACTS) and from our colleagues at SEED: Timothy Chipperfield and Marianne Henkel.

About SEED

SEED strengthens the capacity of small grassroots enterprises in developing countries to enhance their social, environmental, and economic benefits, builds bridges between entrepreneurs and policy makers and stimulates exchange and partnership building.

SEED was founded by the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP) and IUCN (International Union for Conservation of Nature) at the 2002 World Summit on Sustainable Development in Johannesburg and is hosted by Adelphi Research gGmbH, based in Berlin, Germany.

Adelphi Research (AR) is a leading think-and-do tank for policy analysis and strategy consulting. The institution offers creative solutions and services regarding global environment and development challenges for policy, business, and civil society communities.

About the lead authors



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Magdalena Kloibhofer – Magdalena Kloibhofer is a Project Manager at Adelphi Research and has worked for SEED since 2011. Her focus lies on fostering sustainability entrepreneurship and inclusive green business models in developing countries and emerging economies, with specific experience in socio-economic research and capacity building to help enterprises develop socially and ecologically sustainable business models.



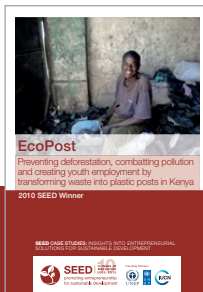
Helen Marquard – Helen Marquard has been Executive Director of SEED since 2007. Prior to that she was a senior official in the UK government, responsible for various aspects of environment and sustainable development policy at the EU and international level. Helen holds a PhD from Manchester University.

Notes

This case study is mainly based on interviews and site visits to the enterprise in late 2014 / early 2015, as well as internal documents such as the enterprise's business plan. Additional resources are listed below.

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| <p>I Central Intelligence Agency, 2015. The World Factbook, "Kenya" Available from: https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html [14 April 2015].</p> <p>II Watamu Marine Association, 2009. About Watamu. Available from: http://www.watamu.biz/about-watamu.php [March 9 2014].</p> <p>III IPSOS, 2013. Kenyans Pessimistic about 2014; Cost of Living Biggest Worry, pp 1.</p> <p>IV Kenya Inter-Agency Rapid Assessment (KIRA), February 2014 – KILIFI SECONDARY-DATA REVIEW http://www.humanitarianresponse.info/system/files/documents/files/Kilifi%20Secondary%20Data%20Review_20141112.pdf</p> <p>V Muna, Lababedi, Smith, 2013, A time for Nairobi is a time for Africa. pp.2</p> <p>VI http://www.takafrica.org/tours/destinations/watamu.html</p> <p>VII May, Lottie 2013, The Threat of Terrorism in Kenya and the Kenyan Presence of US Troops, Internationaldevelopmentblogger, Blog. Available From: http://international-developmentblogger.blogspot.de/2013/02/the-threat-of-terrorism-in-kenya-and.html</p> <p>Viii Standard Digital, 11 May 2014, Tourism on its knees as thousands of jobs lost, by Winsley Masese http://www.standardmedia.co.ke/business/article/2000119718/tourism-on-its-knees-as-thousands-of-jobs-lost</p> <p>IX FAO (2014) State of World Fisheries and Aquaculture (SOFIA) – SOFIA 2014. FAO Fisheries Department – http://www.fao.org/3/a-i3720e.pdf</p> <p>X Watamu Marine Association, 2009. Community Waste Management, Watamu. Available from: http://www.watamu.biz/watamu-community.php?cid=32 [March 9 2014].</p> <p>XI Watamu Marine Association (WMA) – data collected at the 2014 beach clean-up for World Environment Day</p> <p>XII UN Chronicle, April 2013, Vol L, No 1, Impacts of Climate Change on Coral Reefs and the Marine Environment. http://un Chronicle.un.org/article/impacts-climate-change-coral-reefs-and-marine-environment/</p> | <p>XIII National Marine Sanctuaries, Coral bleaching and ocean acidification are two climate-related impacts to coral reefs http://floridakeys.noaa.gov/corals/climatehreat.html</p> <p>XIV Feely, Richard, 2006, National Oceanic and Atmospheric Administration (NOAA), "Carbon Dioxide and Our Ocean Legacy"</p> <p>XV UN Chronicle, April 2013, Vol L, No 1, Impacts of Climate Change on Coral Reefs and the Marine Environment. http://un Chronicle.un.org/article/impacts-climate-change-coral-reefs-and-marine-environment/</p> <p>XVI U.S Geological Survey (USGS), Sound Waves Newsletter (2007), Discovering the Effects of CO₂ Levels on Marine Life and Global Climate, Kate Bradshaw. http://soundwaves.usgs.gov/2007/01/</p> <p>XVII U.S Geological Survey (USGS), Sound Waves Newsletter (2007), Discovering the Effects of CO₂ Levels on Marine Life and Global Climate, Kate Bradshaw. http://soundwaves.usgs.gov/2007/01/</p> <p>XVIII National Marine Sanctuaries, Coral bleaching and ocean acidification are two climate-related impacts to coral reefs http://floridakeys.noaa.gov/corals/climatehreat.html</p> <p>XIX http://soundwaves.usgs.gov/2007/01/</p> <p>XX UN Chronicle, April 2013, Vol L, No 1, Impacts of Climate Change on Coral Reefs and the Marine Environment. http://un Chronicle.un.org/article/impacts-climate-change-coral-reefs-and-marine-environment/</p> <p>XXI Kenya Inter-Agency Rapid Assessment (KIRA), February 2014 – KILIFI SECONDARY-DATA REVIEW http://www.humanitarianresponse.info/system/files/documents/files/Kilifi%20Secondary%20Data%20Review_20141112.pdf</p> <p>XXII Chonghaile, Clar Ni, 2012, 'Kenya coast secessionists play on fear of outsiders – the wabara in Mombasa,' The Guardian 6 September 2012. Available From: http://www.theguardian.com/world/2012/sep/06/kenya-ocean-coast-secessionist-party [9 March 2015].</p> <p>XXIII Jessica Aldred (2011), How tourism is taking the turtles from Kenya's blue waters – The Guardian http://www.theguardian.com/environment/2011/dec/12/tourism-turtles-kenya-population</p> |
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