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Zwazo

Zwazo is produced biannually by Nature Seychelles, a non-profit, non-governmental organization that has worked in conservation in Seychelles since 1998. Its primary objective is to improve the conservation of biodiversity through science, education, awareness and training programmes. To achieve this we are dependent on voluntary support and funding. If you would like to help this work, please contact us at the address below.

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A word from the **FRONT LINES**



What Green? What Economy?

Rio + 20, the United Nations Conference on Sustainable Development has come and gone. Now we must reflect on whether the central theme of the conference –the Green Economy – has taken root.

According to a statement signed by 400 organizations from all over the world it has not done so. It accuses the United Nations of corporate domination. The statement says that the conference advocated further corporate stranglehold of the world's resources; deletion and diminution of rights to food, health and water; and refusal of rich countries to put in clear commitments for developing countries in trade, finance, technology transfer and capacity building.

The problem is that the world is still using the business-as-usual models for macroeconomic management: the EU does not talk about the Green Economy as it struggles to deal with the Eurozone crisis, the IMF does not try to persuade countries like Seychelles to switch to a Green Economy.

As the World Resources Institute says, "The problem is vested interests. Those who benefit from the status quo are either overrepresented in or have greater access to institutions that manage natural resources and protect the environment. Transitioning to a Green Economy will require a fundamental shift in thinking about growth and development, production of goods and services, and consumer habits."

The answer has to be in incremental steps where the Triple Bottom Line (TBL) - People, Profits and Planet - is taken into consideration. In this issue of Zwazo we describe some of the activities Nature Seychelles has undertaken in the first half of this year to address the TBL. We have feature articles by a range of experts which discuss many of the elements needed for a greener economy. I hope you enjoy this issue.

Nirmal Shah

Promoting the Blue Economy at Expo 2012

Seychelles, small country, big nation and Blue is the new Gold are the powerful messages that formed part of the Seychelles pavilion at the Living Ocean and Coast Expo in the city of Yeosu in South Korea. The messages were contained in a banner designed by Nature Seychelles as its contribution to the pavilion. The banner outlined Seychelles dependency on the sea and outlines the organisation's contribution towards the country's marine-based economy: the management of Cousin Island Special Reserve which is also a Marine Protected Area; sustainable tourism; fisheries co-management; climate change; ecosystems restoration and species conservation.

Seychelles President James Michel attended the opening ceremony of Expo 2012 whose focus was on balancing the preservation of ocean and coastal areas with economic development.

"As low lying Small Island Developing States, we are not only vulnerable to sea level rise but also aware of the importance of sustainable coastal tourism, responsible management of marine resources, and the protection of ecosystems and biodiversity. I am very proud of Seychelles' presence at this international exposition as our islands are at the forefront of the fight against climate change, as well as advocates for the development of a sustainable blue economy," President Michel told reporters at the opening of the Seychelles pavilion.

The Expo called for the sustainable and wise use of the oceans and a search for a common solution to the challenges currently facing the world, particularly the depletion of marine resources and climate change.

Photo: Nature Seychelles banner at Expo 2012 Yeosu

Blue is the new Gold[®]

Seychelles..
SMALL NATION
BIG COUNTRY[®]

The blue economy reflects our dependency on the sea. This liquid asset is our blue gold.

SEYCHELLES
 Ile aux Voches, Ile Denis, Praslin, Silhouette, Victoria, Bancs Africains, Remire, Mahé, D'Arros, St. Joseph, Ile Plate, Poinne, Desnouve, Marie Louise, St. Francois, Alphonse, Céligny, Aldabra, Assomption, St. Pierre, Providence, Cousin, Anse, Farquhar, Agalage (Mauritius), Les Glorieuses (Fr)

People & Environment

Educating
the next generation of Seychellois

Sustainable Tourism

Managing
Cousin Island Special Reserve

Fishing

Co-management
Working with fishers for sustainability

NATURE SEYCHELLES

As a leading NGO in the Western Indian Ocean we have placed the **Blue** at the heart of what we do

Climate Change

CO₂ neutral cousin
Managing our carbon footprint

Ecosystems restoration

Reef Rescuers
Restoring reefs affected by climate change

Species Conservation

Hawksbill turtle
Long term monitoring and conservation

Nature Seychelles takes part in the Guardian's report on Seychelles' Sustainability

Seychelles efforts in environmental protection, sustainable tourism, and climate change mitigation and adaptation, received exposure in UK's Guardian Newspaper in February through a 24-page special feature on Seychelles done by The Report Company. The country "stands out in protecting its pristine natural environment" and in making climate change a high priority on the agenda the report says.

The country's leaders including President James Michel were interviewed for the feature and highlighted efforts in business, technology, climate change energy, and sustainable tourism.

Nature Seychelles CEO Dr. Nirmal Shah was also interviewed for the feature. In his question and answers section of the report, he describes his experience in conservation.

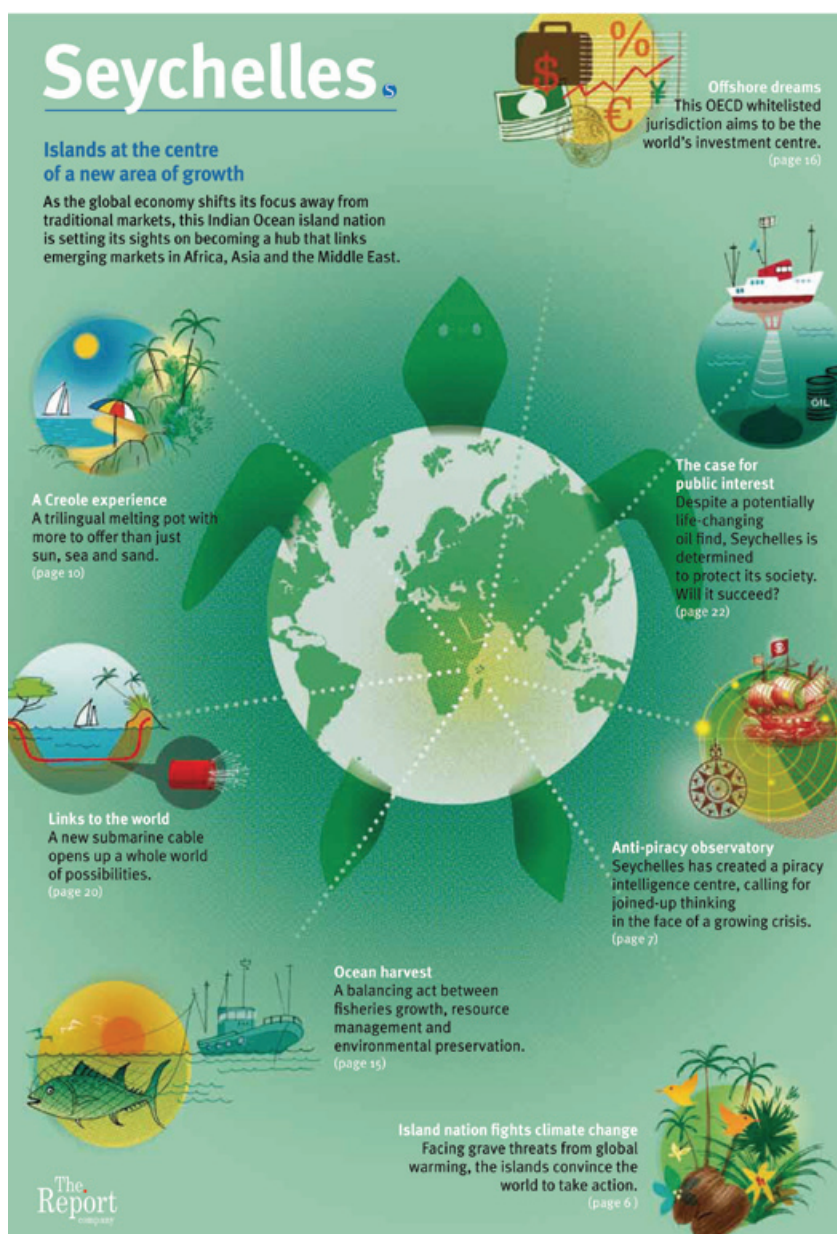
Having served in various environmental roles within government, Shah became the representative for the international NGO, BirdLife, the world's largest partnership of conservation organisations.

BirdLife has been involved in Seychelles for the last 35 years and owns Cousin Island. When an NGO to represent BirdLife in Seychelles, was needed, Shah was asked to create one and Nature Seychelles was born. Over 10 years later, the organisation has recorded many milestones especially in bird conservation. "But we are more than birds; we do everything from sustainability to turtles to coral reefs to education. We have also just started a programme called Green Health where we merge yoga and conservation," he says.

"Sixty per cent of our population is overweight, 25% are obese and 10% have diabetes, which is one of the highest rates in the world. On top of that we have drug problems so we thought that, with all these issues, if we want to remain relevant we have to move from being just a biodiversity organisation to doing something of value for the people," he says.

Shah also illustrates how conservation intersects with tourism. In particular, Cousin Island is an incredible success story for tourism. The Island has garnered many awards in ecotourism, which has been ongoing there since 1972, before the airport was built. Interestingly, the first conservation warden on the island in 1971 was paid by an operation that brought the first ecotourism ship into the Indian Ocean – the MS Linblad Explorer. Cousin Island is the only site in the Africa and Indian Ocean region where ecotourism funds the entire reserve.

It was also the world's first carbon-neutral nature reserve. Seychelles faces twin issue of being a small



island state at the frontline of climate change impact as well being a long-haul destination, Shah explains. Because of climate change, countries are now imposing carbon taxes for distance destinations and they cause voluntary non-travel by their citizens. The long haul destinations are mostly developing nations and small island states, which then suffer. "We realised we had to do something about it, so we decided to become carbon neutral."

In closing Shah says that Seychelles represents a model of sustainability. "This is an ethical destination. The Seychellois people are in charge of the businesses here at all levels. It's almost as close to paradise as we can get. "

Photo: Cover for the report (Courtesy of the Report Company)



From Saving Nature to Saving People

Nature Seychelles has launched an innovative project to enable vulnerable groups, such as people addicted to drugs and alcohol, to improve their mental and physical wellbeing through contact with nature, and to learn practical skills that allow them to rejoin mainstream society.

The Greening Livelihoods Project is funded by the European Union. Participants will gain skills in conservation, rehabilitation of ecosystems, visitor guiding and horticulture. Activities have already started at the Sanctuary at Roche Caiman, an urban wetland managed by Nature Seychelles.

“The Seychelles President, James Michel, has said that drug abuse is the biggest social problem in the Seychelles, and has called for concerted effort to address it. We have been working to save nature for the benefit of society, but now that society itself is in trouble, we need nature to help save people,” said Dr. Nirmal Shah, Chief Executive of Nature Seychelles.

Nature Seychelles is working with the Seychelles Drug and Alcohol Council (DAC), the body responsible for planning and overseeing national drug control programmes, and with two approved residential facilities providing treatment and rehabilitation, Centre Mont Royal and Centre d’ Accueil de la Rosiere.

It has also recently teamed up with UK based drugs and alcohol rehabilitation organisation, Phoenix Futures who pioneered the idea of using the outdoors to help recovering addicts re-integrate into society over 15 years ago in the UK. The programme has proved so successful that it has been replicated at more than a dozen locations up and down the country.

“It a very simple idea. We use the therapeutic potential of nature to help vulnerable people to become more confident and fit better into society,” said Jon Hall



of Phoenix Futures. Hall was recently in the Seychelles to meet with project partners.

It may sound an unconventional way to address what is rapidly becoming Seychelles’ most urgent social issue, but the results speak for themselves. In the UK people who include nature therapy in their rehabilitation are far more likely to show a full recovery from addiction and to date thousands of people have successfully been through the programme. As well as the intrinsic value of simply being in nature, working outdoors also gives people a sense of achievement and a social bond with those working around them. These factors are all positive features aiding recovery of vulnerable groups.

“We hope the programme will work for the Seychelles. Even if we get a small percentage of people rehabilitated it will be a very big boost,” Said Danny Volcy of the Drug and Alcohol Council.

“Well done Nature Seychelles. This is what I call being innovative. NGOs need to incubate more of such innovative ideas and turn them into real opportunities for jobs or self-employment,” said Bernard Elizabeth the Chair of LUNGOS, Seychelles’ umbrella organization of civil society.

Photos: Top - The programme was recently launched in Seychelles

Bottom - Dr Nirmal Shah Nature Seychelles Chief Executive signs an agreement with (L) Robert Moumou - Centre Mont Royal, and Danny Volcy (R) of DAC to work together on the project

Gardens for Growth



The project builds upon experience gained in promoting model home and school gardens, which Nature Seychelles has gained through the Heritage Gardens project. The NGO established the Heritage Garden at Roche Caiman to serve as a model for communities to follow and helped in the establishment of several other gardens including the therapeutic garden at the Home for the Elderly at North East Point.

The project also comes in the wake of the United Nations Conference for Sustainable Development, Rio+20, which recently gave a nod to the green economy as a tool to achieve sustainable development. The green economy is a new economic growth model that is friendly to the earth's ecosystems, whilst also contributing to poverty alleviation.

Several vehicles are expected to deliver the green economy one of them being agriculture. According to UNEP's the Green Economy report, environmental degradation and poverty can be simultaneously addressed by applying green agricultural practices. However, greening agriculture requires investment, research and capacity building.

Photos: Gardening and horticulture skills are in demand today

Nature Seychelles has received a grant as part of the Australian High Commission Direct Aid Programme for Seychelles and Mauritius towards a project that provide sustainable livelihoods opportunities for disadvantaged people through community gardens. The grant was announced by the Australian High Commissioner to Seychelles Ms. Sandra Vegting at a reception to mark the first ever Australian National Day in Seychelles on Monday 30th January 2012.

The Gardens for Growth project was developed in response to current socio-economic problems facing the country. It intends to address these issues by merging environmental appreciation and protection with enhanced skills in conservation gardening for the disadvantaged.

"The project will provide training and practical experience in conservation, horticulture, organic gardening and the production of value added goods," says Martin Varley, Nature Seychelles Community and Stakeholder Action Coordinator.

Gardening and horticulture skills are in demand today not only to contribute towards individual and the country's food security, but also to supplement income through home gardening. In the job market there are now many opportunities in hotels, private farms, islands and even private homes for gardening. But the skills that will be imparted will be nature based and will be geared towards ethical use of the environment.

Nature Seychelles wins 'Educating Africa' Award



Nature Seychelles was the organisation with the most entrepreneurial approach to education in Seychelles in 2011 winning the Educating Africa Pan-African Awards for Entrepreneurship in Education for 2011.

"Nature Seychelles has done exceptionally well to be named country winner in the competition. This means that it caught the judges' attention despite this being the most competitive award to date. We had an extremely high volume of entries this year and the standard was very high so you should be proud of your achievements," the organisers Educating Africa and Teach A Man To Fish said when they announced the winners in March 2012. The competition identifies and celebrates the achievements of social entrepreneurs who understand the role education can play within their communities.

Nature Seychelles entered its Green Health Programme, which teaches people to connect with nature through wellness and healthy

activities in natural surroundings.

Started in 2010 the innovative learning programme was responding to the challenges that modernisation has brought to Seychelles including the challenges of sedentary lifestyles that exclude nature. The same programme won the International Innovation Prize for the World Leisure Organisation in 2011.

"One of our core objectives is to improve the conservation of biodiversity and protection of the environment through educational programmes. We have been very successful in introducing environmental education in public schools. The Green Health Programme was introduced to extend this reach to the general population through non-traditional means. The award is a validation that thinking out of the box works," Dr. Nirmal Shah Nature Seychelles Chief Executive says.

Lifestyles changes in Seychelles have contributed to numerous health problems like high blood pressure, and a high prevalence of diabetes

and obesity. Childhood obesity is already a massive problem in the country. The programme promotes a love for nature early in children through outdoors activities.

"With this competition we were looking for programmes which are innovative, sustainable and create real impact – and we have found them. By awarding them we hope to encourage others to imitate the winner's approach and work towards more and better education in Africa," says Nik Kafka, Managing Director of Teach A Man To Fish.

Teach a Man To Fish is an international non-profit organization working to improve the relevancy, quality, and availability of education in developing countries. Educating Africa is a foundation committed to introducing cost effective and sensible education initiatives throughout Africa.

Photo: School children look out of the bird hide at the Sanctuary at Roche Caiman

Mangroves for Mankind:

Mangroves For the Future supports project at the Sanctuary

The award-winning wetland, the Sanctuary at Roche Caiman, managed by Nature Seychelles has gained support from Mangroves for the Future (MFF), an international initiative that stretches from Asia to Seychelles. The MFF has approved USD 25,000 in financial support to Nature Seychelles to carry out a mangrove rehabilitation project called Mangroves for Mankind at the Sanctuary. Nature Seychelles is also providing co-funding for the project aimed at improving the wetland ecosystem.

“Improvement of the Sanctuary at Roche Caiman will provide Seychelles with an enhanced demonstration site that integrates mangrove restoration with education, recreation and livelihood opportunities,” Nature Seychelles Chief Executive Dr. Nirmal Shah said.

The support comes as part of the Small Grant Facility of MFF aimed at investing in coastal communities and ecosystems that was launched in June 2008.

A contract to set things in motion was signed on 30 May 2012 by Dr. Martin Varley, Nature Seychelles’ Community and Stakeholder Action Coordinator and Dennis Matatiken, the Chairperson for the National Coordinating Body for MFF in Seychelles, in the presence of other grantees, and Lyndy Bastienne the MFF Coordinator in Seychelles.

Mangroves are one of the world’s most unique ecosystems living in the transition zone between the ocean and land. They are also among the world’s most productive ecosystems, supporting a wealth of life from fish to people, and are the final defence against land and sea degradation.

Seven species of mangroves are found in Seychelles. They protect shorelines by trapping sediments eroded from the land and also against wave erosion. They also offer some protection to the extensive coral reef system. The complex network of coastal ecosystems has a critical role to play in maintaining Seychelles biodiversity.

The Sanctuary at Roche Caiman has a range of coastal habitats including a small area of mangrove and a lagoon which attracts waders and migrant birds as well as harbouring native aquatic biodiversity.

“Although the reserve already contains a component of mangrove, we would like to enhance this habitat and rehabilitate a much larger area of coastal wetland on the site

with mangroves,” Dr. Varley said. In addition, a managed system of seawater flow into the site, vital for a healthy mangrove ecosystem, is required for the mangroves to thrive. This will be enhanced by the project.

It is expected that the mangrove restoration will be carried out with various communities, including creating linkages and synergies with participants of other projects being carried out in the site including the Greening Livelihoods and Green Health programmes. The project will also develop some on-site and online interpretive and educational material detailing the process of mangrove restoration and the value of mangrove habitats for demonstration purposes.

Once complete the rehabilitated area would further enhance the Sanctuary at Roche Caiman as an easily accessible site of excellence for wetland management in Seychelles. The Sanctuary is part of a wider community focused resource provided by Nature Seychelles, including the Heritage Garden, a demonstration community garden. It has gained an international reputation and secured “The George”, the World Leisure Innovation Prize last year.

Photos: The grant will improve mangrove diversity at the Sanctuary at Roche Caiman. Inset: Martin Varley and Denis Matatiken at signing ceremony.





Friending the Flycatcher

An after-school club called the “Friends of the Flycatcher” has been formed on La Digue to promote the conservation of the Seychelles Paradise Flycatcher, Vev. It was formally launched on Wednesday 20th June at the Veuve Reserve on La Digue.

The club has been formed as part of an advocacy and education project being implemented by Nature Seychelles and the Seychelles National Parks Authority (SNPA), whose aim is to help protect the species in its stronghold on La Digue.

The project is part of BirdLife International (Nature Seychelles is BirdLife partner) Preventing Extinctions Programme and is supported by Viking’s Optical of the United Kingdom who are the species’ champions. The Seychelles Paradise Flycatcher is one of the ten BirdLife flagship preventing extinctions projects.

The endemic flycatcher is regarded as an icon of La Digue and this project is enhancing its protection by engaging local people in activities that will help to better conserve the bird and its habitat.

“The club will educate the children about the flycatcher so that they can help protect the bird for the future,” said Josiana Rose of the SNPA which manages the Veuve Reserve.

Josiana will assist three teachers from the La Digue School - Ms Sodja Eliza, Ms Nydia Adelinne, and Ms Geva Pool to run the club.

The Friends of the Flycatcher club has attracted 20 children so far who will be participating in various activities including bird watching, monitoring, public events and tree planting.

“We aim to actively engage young people who have shown that they are passionate about the Vev. Children deserve the opportunity to experience the natural world. Such experiences influence them for life and am certain that within this club are the conservationists of tomorrow,” said Dr. Martin Varley Nature Seychelles Community and Stakeholder Coordinator.

During the launch club members were presented with colourful t-shirts and an educational booklet, produced under the project.

Titled *Vital Vev: Environmental Activities to Help Protect the Seychelles Paradise Flycatcher*, the booklet is full of interesting activities that will help club members understand the Vev and other Seychelles wildlife. It includes information and fun games appropriate for children aged five to fifteen, which will help the children to make the connection between



species, their habitats, food and the environment in general.

The launch was attended by the head teacher of La Digue School Mr. Michel Madeleine, the deputy school head Ms Evelyn Rose, the wildlife teacher, environment staff from SNPA and members of the recently formed La Digue Society for the Protection of the Seychelles Paradise Flycatcher.

Mr. Madeleine said that the club will help the children to grow with the knowledge that the conservation of the flycatcher is important and will thus help secure its future. He encouraged the members of the club to reach out to their friends and families to influence a wider involvement in the Vev’s protection.

Photos: Top - Club members Inset: Female flycatcher on nest (Jeff Watson)

A date with Nature at the Seychelles Mind, Body, Spirit Festival

Nature Seychelles kicked off the Seychelles' Mind Body Spirit festival held from 18 to 20 June with a guided hike to scenic Mount Copolia in Mahe. Leading the hike was green health coordinator Robin Hanson. More than 30 participants, including children, were there. "A healthy environment makes for healthy people," said Robin, while encouraging people to take in the sights and sounds on the walk, an experience that would be good for their wellbeing.

The walk to Copolia is described as moderate and can easily be done within an hour and a half. But for it to be really enjoyable, it is best done at a slow pace while being immersed in nature. The trail starts off at Val Riche on the Sans Souci Road, but participants first gathered at The Station, and then car-pooled to the start, before beginning the descent into the forest.

The mid to high altitudes of Seychelles hills can be distinguished by their vegetation. Altitude affects the availability of water, temperature and other factors, which affects plants. As a result, you get a varied landscape as you ascend the hills. In the midst of the forest stood tall cinnamon trees. Cinnamon, an introduced tree, once dominated the Seychelles trade in spices and is abundant in many places. Robin handed out some leaves and asked everyone to crush them and inhale the beautiful fragrance. Discussions then began on cinnamon's use. Popular in Creole dishes, cinnamon is also used in aromatherapy and herbal medicine. The bark steeped in hot water, with other spices like ginger added, makes for a lovely tea. It has recently been discovered that cinnamon lowers blood sugar and is good for people with diabetes.

Other plants of health interest included lemon grass which has a lovely aroma too. Leaves can be rubbed on skin to keep away mosquitoes. Lemon grass oil is a favourite in aromatherapy and the grass is also well liked as a tea. Its steam inhaled under a blanket was traditionally used to attenuate a fever. It is still an important local culinary ingredient.

Sturdy legs were needed for the steep parts of the trail which snaked up the hill. And the stilt palms with their many stilt-like roots firmly planted into the ground reminded people to keep their balance. On each side of the trail were huge granitic boulders, and further up



these were covered in moss and lichen, an indicator of fresh clean air!

Finally after a steep ascent, the trail opened up to what is one of the most stunning views on Mahe. Copolia overlooks the east coast of Mahe: the view of Eden Island is one of its attractions and beyond it, rising out of the blue water are Sainte Anne, Cerf, Long, Moyenne and Round Islands. Behind are the other peaks of Morne Seychellois, which at this altitude are wreathed in clouds.

Martin Varley, also from Nature Seychelles, directed people to one of Seychelles unique lianas, the pitcher plants, which grows in clusters on the rocks. Copolia is one of the very few places this endemic plant grows on Mahe

The walk ended with a guided listening meditation led by Robin.

Photos: Top - Curious about the Seychelles Pitcher plant, Below - Robin ended the hike with a guided listening meditation



Bio Happiness: People in Harmony with Nature

To commemorate the International Day for Biological Diversity on 22nd May, Nature Seychelles Chief Executive Dr. Nirmal Shah presented the organization's projects to promote "Bio Happiness", at a national conference entitled "Be happy, Make Seychelles happy" at the Seychelles' International Conference Centre.

Shah's presentation focused on Nature Seychelles programmes which include the Green Health programme and Heritage Garden, and its innovative projects - the Greening Livelihoods and Gardens for Growth projects, which are all society-based and geared to help people have well rounded fulfilling lives.

It has long been argued that human beings thrive in natural environments and in bonded social groups. But modernity, achieved by developed countries and actively pursued by developing ones, also brings with it modern malaise caused principally by our disconnection with the natural

world. We spend more time indoors whether at work in-front of computers or at relaxation in front of TVs. We are constantly bombarded by information coming via our emails, internet, phones and various multimedia toys of choice which favour an isolated life that reduces our natural contact with people and the environment around us.

Added to this is our consumption of food which we no longer grow and which comes heavily processed, affecting our physical bodies, minds and moods.

So wide-spread is the problem that the phrase "nature deficit disorder" has entered into popular lexicon. The term describes a range of behavioural problems in children who spend less time outdoors. It is now widely used to include physical, mental and emotional problems that affect people of all ages who are disconnected from nature.

Research by leading universities in the UK, USA and Australia has proven that a re-connection with nature can cure this malaise. It re-energizes our minds and bodies, and induces contact with others and with nature. This is the basis of Nature Seychelles programmes and

projects.

Other topics covered in the conference centre around a peaceful mind, healthy eating, physical exercise, gratitude, and giving back.

The conference came at a time when the environment and nature are being used as measures of sustainable wellbeing. The proposed Sustainable Development Goals muted at Rio+20 are one example.

The Happy Planet Index (HPI) a leading global measure of sustainable well-being is another. It ranks countries on how they use environmental resources to create long and happy lives for their citizens. Countries that are developed at using environmental resources for the wellbeing of their citizens are ranked better.

Countries are measured based on the health and happiness they produce per unit of environmental input, using global data on life expectancy, happiness and environmental sustainability. In 2012 Costa Rica, Vietnam and Colombia were ranked as the happiest. Islands have been ranked as some of the happiest places on earth by the HPI with Seychelles ranking 30 out of more than 170 countries in 2006.



Green Collar Jobs:

Nature Seychelles Promotes Conservation at Seychelles Job Fair

Careers in conservation are within reach for local job seekers. Environmental conservation offers job opportunities for people with many kinds of expertise, including project management, biological and environmental sciences, visitor handling, environmental education and awareness, and administration.

This was the message that Nature Seychelles passed on to visitors to its stall at the Ministry for Labour and Human Resource Development Job Fair held on Friday 27 April. Hundreds of job seekers visited the fair, which attracted the participation of the private sector and non-governmental organisations alongside government agencies. According to the Ministry, the fair held to commemorate Labour Day 2012, provided a platform for employers to talk about employment opportunities available in their organisations as well as to advertise job openings.

Nature Seychelles used the occasion to talk about its work and entice people to its organisation. It also advertised positions currently open in the organisation and generated a lot of interest in its work through distribution of informative posters and magazines. In fact, the importance the organisation held for the fair was proven by the presence of all its senior staff including the Chief Executive Nirmal Shah at the stall during the day.

“Our staff are essential pillars in delivering local and international programmes and projects that benefit society. **We cannot undertake our environmental conservation mission without skilled and motivated staff. It was therefore important for us to be out there talking to potential employees about the work we do** and the remuneration and rewards that come with it. We were quite happy with the response we got,” Mrs. Kerstin Henri the Director of Strategic Operations for the organisation said during the job fair.

One of the challenges the organisation has been facing was



how to attract young people to environmental careers. Therefore the organisation has been partnering with local post graduate institutions to develop training that is directed at careers in conservation and the environment. The Maritime Training College is one such institution and current students who visited the stall showed a lot of interest in the jobs being offered.

The organisation also wanted to pass the message that environmental conservation, apart from its larger mission of serving people and nature, is a key contributor to the local economy.

“Conservation contributes to sustaining livelihoods in a number of ways. There is direct employment either in full time or part time jobs. For instance Cousin Island Special Reserve has had the tradition of employing only locals to run the Reserve. Then there is expenditure on goods and services from local suppliers. And finally there is tourism revenue spin-offs to local hospitality and tour operators, which come from a well managed natural attraction,” Nirmal Shah explained.

Staff offered advice to those

contemplating environmental careers, in terms of the skills required and training they needed to pursue. One of the entry points, they said, could be voluntary work, which helps one gain relevant experience and also to establish contacts that may lead to future employment.

“There is much discussion currently about sustainable economies or what is being called the green and blue economy. It is expected to create new areas of employment globally and Seychelles will not be any different. Sustainable energy, organic foods, green architecture, transportation and sustainable tourism are just a few of these areas. This is especially important if Seychelles is to maintain its “WOW” effect as a tourism destination. As we modernise, expertise will be needed to keep this natural asset intact,” Shah said

Photo: Nature Seychelles Chief Executive Nirmal Shah speaks with students of the Maritime Training College at the Fair



A Message from Nature

The Seychelles Hospitality and Tourism Association (SHTA) has received a fresh message from Nature. The message is simple: “protect what nature has endowed us with”.

The message was delivered to the executive board of the association during its meeting at Au Cap in January. Two divers, male and female, emerged from the lagoon where the board was meeting carrying the message in a bottle, which they handed to the chairman of SHTA Mr. Louis D’offay.

The chairman was accompanied by board members Alan Mason and Daniella Alis Payet, the Executive Director of SHTA, Mr. Raymond St. Ange, the Chief Executive Officer of the Seychelles Tourism Board Mr. Alain St Ange and Dr. Nirmal Shah Chief Executive of Nature Seychelles. Members of the press were on hand to witness the delivery of nature’s message.

The setting for this exchange, although not spectacular by Seychelles standards, was illustrative of the important message that was being delivered.

“Seychelles is endowed with an

unspoiled natural beauty key to its tourism. It is the “wow” factor of the tourism package. Tourists come for the pristine environment, clean waters, beaches and wildlife,” said Shah, who was SHTA’s media point person on the beach.

This is evident in the numbers of visitors that come to its shores in spite of the factors affecting the trade such as economic difficulties in the key markets in Europe, piracy in the Indian ocean and the much publicised twin shark attacks that led to the swimming ban on one of the world’s most beautiful beaches, Anse Lazio.

According to figures published by the Seychelles National Bureau of Statistics 194,753 visitors came to Seychelles in 2011 a growth of 11% since 2010. This figure is over twice the total population of Seychelles.

Visitors who come to Seychelles say it’s a paradise destination and that they are impressed by its natural attractions. Nature’s message was thus a timely reminder that this paradise has to be maintained.



“It requires that we keep the attractions intact. We wanted to make the point that even a minor beach as this one is a beautiful addition to the Seychelles’ winning tourism formula. This beach is probably as good as the principal beaches. And our waters are safe as well,” said Shah to the local media.

Photos: Main - SHTA chairman and board receiving the message from nature, Inset - nature’s message in a bottle.

Fish for the Future:

The Role of Cousin Island for Fish Protection

Nature Seychelles and the Seychelles Fishing Authority have joined forces to investigate the role of Marine Protected Areas (MPAs), specifically Cousin Island Special Reserve, in the protection of small fish that sustain local fish communities.

The two organisations on 12th January 2012 formalised this partnership with the signing of a Memorandum of Agreement by their Chief Executives Dr. Nirmal Shah and Mr. Finley Racombo.

Under the agreement the two organisations will study fish spawning areas around Cousin, fish movement between the protected area and fished areas, and the connectivity between the reserve and nearby fish spawning aggregations. This will determine whether the reserve and its design fulfil the ecological role of fish protection.

The activity is being carried out under the Government of Seychelles Global Environment Facility financed project, "Strengthening Seychelles Protected Area System through NGO Management Modalities," being implemented with support from the United Nations Development Programme.

"It's going to be the first time in Seychelles where we investigate the design of a marine protected area with regard to this function and we hope it will deliver some very important results for Seychelles and the region," Shah said.

MPAs, like national parks, are areas of ocean where human activity is regulated or restricted. They meet a number of objectives, among them protection of marine species.

Scientific evidence shows that MPAs usually boost the abundance, diversity, and size of marine species living within their borders. They may also be able to replenish fished areas when young and adult fish move out of the reserve.

But at the moment we don't know to what extent our MPAs are fulfilling this function.

"The design of MPAs has become very important," says Shah. "In the



Photos: Top - Nirmal Shah (L) and Finley Racombo (R) sign an agreement to work together on the fish tagging project

Bottom - Mahe fish market. The project focuses on species that are important for Seychelles fisheries (Peter Chadwick)

past it has generally been assumed that the MPAs are protecting reefs and fish. But as our knowledge about fish has increased, especially coral reef fish, we understand that there are certain biological functions such as spawning and migration routes that need to be protected. This will determine the placement and design of a protected area.”

Acoustic transmitting devices will be inserted in key species of fish under study to track their movements over a number of years and seasons.

“It’s an exciting project. Cousin is small but it’s one of the best protected areas in the country if not the region. This makes it an ideal case study for this activity,” Jan Robinson, SFA’s Fisheries Research Manager said. SFA has been carrying out pioneering research on spawning aggregations of key species in recent years, in particular around Praslin, and its experience is key for the project.



“The study will also help to answer other questions about what is the best size for MPAs to protect really important populations of fishes such as parrotfish (Kakatwa) and rabbitfish (Kordonnyen),” Robinson said.

The project will also help answer questions about factors that are important in enabling the reefs around Cousin to recover from coral bleaching. Compared to other inner

granitic islands, Cousin is showing slow recovery from bleaching and this study could uncover the role important fish species play in that recovery process. Some of the fish involved in the recovery are also important fisheries species.

Photo: Cousin is one of the best protected areas in the country

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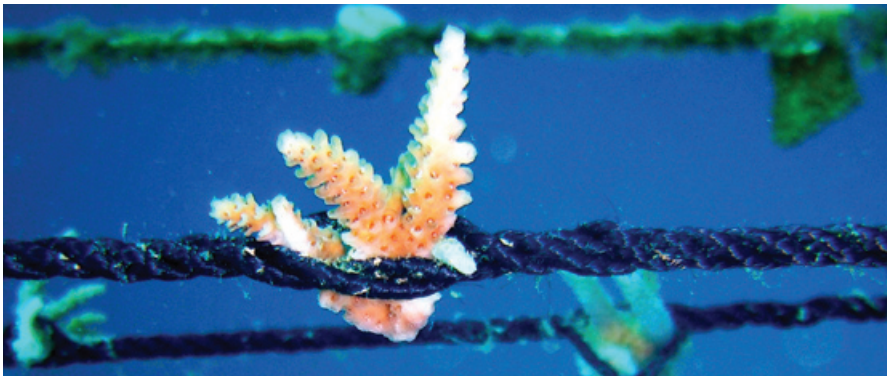
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Saving Coral Reefs:

7 rope and 2 net nurseries in place



"Incredibly, we have found that toothbrushes are very handy at cleaning up algae on the rope nurseries," David says.

Algae builds up quickly and requires constant attention. Toothbrushes gently scrub off the algae around the small coral fragments. This relieves the competition for the space on the rope and assists the coral in growing and attaching itself to the rope. Like weeding a vegetable plot containing rows of young seedlings, there is a certain satisfaction at the sight of a clean nursery rope with the small coral, standing proud, battling for their survival against the elements.

Weather permitting, the rescuers then load up the boat and head off by 8-8.30am. They perform two dives a day with a short break for lunch on the boat.

"The last weeks of my stay involved moving the nurseries from their current location to a new location that would shelter them from the approaching South East monsoon," says Inge Smith who did six months of volunteering.

"This had never been attempted before and required extensive planning, preparation and teamwork to avoid causing damage to the sensitive coral. The first week was spent preparing the footings for the new nurseries. I found myself wielding a sledgehammer underwater as we hammered in the angle bars that would form the foundations of the nurseries. Luckily the weather was on our side and we successfully moved all five nurseries in the following week. Our small boat was put through its paces as we asked it to drag the heavy floating nursery several hundred meters to the other side of Cousin Island but Fisher's, our driver, expertise made the operation run smoothly," she says.

At the end of the day, the rescuers are back to base where kits are cleaned, tanks refilled and equipment prepared for the next day.

Photos: Top -The Rescuers build an underwater nursery

Bottom - Coral fragment in a nursery

In 2010, Nature Seychelles launched the reef rescuers project on Praslin. Financially supported by the United States Agency for International Development (USAID), this project seeks to repair coral bleaching damage in selected sites around Praslin and Cousin Island Special Reserve, that suffered severe damage after a massive bleaching event in 1998. Many reefs around Cousin simply collapsed into rubble which became covered by algae. Years later they show little sign of natural recovery and are in need of help. The reef rescuers are piloting the first ever large-scale active reef restoration in the region.

The rescuers - who are staff and volunteers - are using the coral gardening method, which involves collection of small fragments of coral from healthy sites, raising them in underwater nurseries and transplanting them on damaged reefs. A team of 6-7 divers perform daily underwater tasks to do this and include volunteer scientific

divers. "The volunteers have been extremely helpful and have also learnt new techniques for coral reef restoration," David Derand, the project's coordinator says. To date 7 rope nurseries with around 30,335 coral fragments of 5 different species growing and 2 net nurseries with 960 coral fragments of different species have been set up.

The day for the rescuers starts at 7.30am when they meet to discuss the day ahead. Their work may include building or securing nurseries, cleaning algae from the ropes, monitoring fragments survival and growth, collection of corals from donor site to replace dead and dying fragments, and baseline surveys of transplantation sites.

They then set up dive kits and prepare the equipment required. This may involve cutting up lengths of rope and Fisher, the project's boat driver, grinding lengths of angle bars when building new nurseries or just gathering up all the toothbrushes for a day of cleaning.

World's Oldest International Conservation Organisation turns 90!

On June 20 BirdLife marked a major milestone: the celebration of its 90th Birthday. BirdLife was started in 1922 when a remarkable group of people from different countries met in London at the private home of the UK Minister of Finance. United by their passion for birds they concluded that the only effective answer to the growing trade of wild bird feathers or the threats to migratory birds across the continents had to be through co-ordinated international action.

This was the birth of the world's first true international conservation organisation, as Professor Kay Curry-Lindahl decades later described the International Council for Bird Preservation (later evolved into BirdLife International).

In the decades that followed the world became more populated, industrialised, the problems for nature bigger and more complex, and the need for a co-ordinated response even greater.

That need resulted in the creation of BirdLife International in 1993, today the world's largest grass root Partnership for nature with national organisations in 116 countries. United by a common vision BirdLife today is a global Partnership for local action and global impact.

Nature Seychelles is BirdLife Partner in Seychelles. The Birdlife Partnership in Seychelles was built from scratch.

"I was ICBP Representative from 1987 till 1999 when I gave that up so that Birdlife Seychelles could become the Birdlife Affiliate. I became the founding Director of Birdlife Seychelles, now Nature Seychelles. In 2012 my official relationship with ICBP/BirdLife will therefore have spanned 25 years. My unofficial links go back to my childhood because my father was ICBP Representative before me," says Dr. Nirmal Shah Nature Seychelles Chief Executive.

Seychelles is the country (apart from the UK) that ICBP/BirdLife has had the longest uninterrupted relationship with. "It began in 1961 with negotiations to purchase Cousin Island and from 1968 to date there

was a permanent ICBP/BirdLife presence in the country," Shah says.

ICBP/BirdLife has been responsible for the successes recorded with some of the Seychelles critically endangered bird species making Seychelles the country where Birdlife has been responsible for the most amount of down-listings of threatened endemic birds.

"BirdLife International's 90th anniversary is an opportunity to reflect on what we've achieved together and help us focus on the future we want," said Dr Marco Lambertini, BirdLife's Chief Executive.

"Much has changed in ninety years but the fundamentals have not. The rationale for international

collaboration has only grown stronger and so the crucial need to empower local conservation capacity around the world. It all seems so logical today but it was truly visionary then," commented Dr Lambertini.

BirdLife Partners around the world will be marking the anniversary together at the BirdLife Partner World Congress next June 2013 in Ontario, Canada. Active conservationists, once numbered in dozens, are now counted in millions, with ten million supporters of the BirdLife Partnership alone. They all owe a debt to the handful of people who came together to form the ICBP at 12 noon on June 20 in 1922.



Photos: Top - Cousin Island in 1971. The island was purchased in 1968 when it was still a coconut plantation (Klaus Fiedler)
Bottom - Cousin Island today with its forest restored.

International Award for Grow and Eat your Own Food Book

The Grow and Eat your Own Food book has won a Gourmand World Cookbook Award for the Best Sustainable Food Book in Seychelles in 2011. The award was announced on March 6, 2012 at an event held before the Paris Cookbook Fair. A total of 162 countries participated in 2011 in the "Best in the World" cookbook competition which had 283 finalists from 71 different countries. All the winning books were exhibited at the Paris Cookbook Fair which ran from 7-11 March 2012.

In an attempt to revive the tradition of growing and eating locally beloved food, Nature Seychelles published and launched the Grow and Eat Your Own Food book. The book has been an instant success, particularly with Seychellois and residents, and the first edition is sold out. A 2nd edition is in the pipeline. In addition to the food, fruits, vegetables, herbs and spices



described in the book, this issue will also include popular local recipes contributed by local establishments.

Nature Seychelles is Equator Prize 2012 Finalist



Nature Seychelles was selected as one of the 103 finalists for the 2012 Equator Prize. 25 winners were selected this year in recognition of their outstanding contributions to sustainable development.

The United Nations Development Programme supports the Equator Initiative, a partnership that brings together the UN, governments, civil society, businesses and grassroots organisations to advance local sustainable development solutions for people, nature and resilient communities.

The Equator Initiative's Technical Advisory Committee said it reviewed over 800 nominations from 113 countries for the 2012 prize, out of which the finalists were selected.

"It's like being nominated for the Oscars or an Academy Award. Not everyone wins, but being selected as a finalist shows there is admiration for the work we are doing," said Martin Varley Nature Seychelles Community and Stakeholder Coordinator.

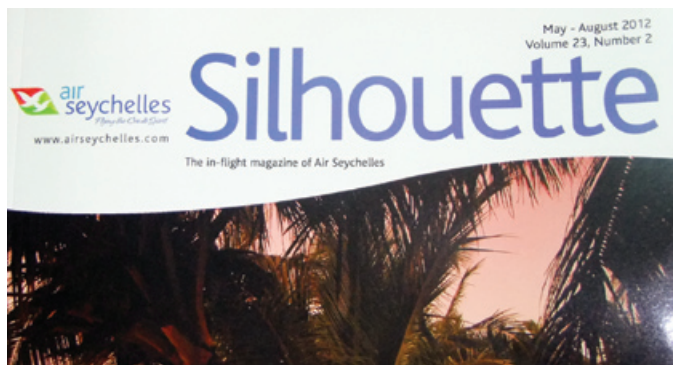
"We benefited from the process because we were able to take a spotlight to the activities we are undertaking and also review what other people across the globe are doing. The initiative is a way of sharing knowledge and innovation.

Nature Seychelles entered its Cousin Island carbon neutral programme. This programme offsets Cousin's carbon footprint by investing in projects in developing countries thus benefiting local communities in other countries while reassuring eco-visitors to Cousin. Revenues from Cousin benefit both local operators and support conservation programmes on the island.

The Equator Initiative seeks to recognize the success of local and indigenous initiatives; create opportunities and platforms to share knowledge and good practice; inform policy to foster an enabling environment for local and indigenous community action, and develop the capacity of local and indigenous initiatives to scale-up their impact.

The Equator Prize, which has been endorsed by former Heads of State Gro Harlem Brundtland and Oscar Arias, philanthropist Ted Turner, a host of Nobel laureates, and celebrities Gisele Bündchen and Edward Norton, celebrated its 10-year anniversary this year.

The Seychelles warbler, the comeback bird, in Airline magazine



The remarkable turnaround in the fortunes of the Seychelles warbler (*Acrocephalus sechellensis*) which in the 1960's was on the brink of extinction is the focus of an article appearing in the latest issue of Air Seychelles in flight Magazine, Silhouette. Written by journalist Ron Toft, the article describes how conservation efforts have

made this “the most amazing conservation success story in Seychelles and a world first.”

Gracing pages 34-37 of the airline magazine, the story traces the conservation efforts undertaken for

this bird by BirdLife International, Nature Seychelles and the Seychelles Warbler Research Group, beginning with the purchase of Cousin Island in 1968. The island was purchased by the International Council for Bird Preservation (now BirdLife International) because it was “the last stronghold of the Seychelles

warbler” and was turned into a nature reserve for the express purpose of trying to save this species.

Thanks to the restoration efforts, the numbers of the birds grew and once carrying capacity was reached, translocations to other islands were carried out to increase their numbers and territory. The most recent translocation, from Cousin to Fregate Island, of 59 warblers was in 2011. With anticipated breeding success on Fregate, this bird is “poised to be taken off BirdLife International’s Threatened Birds of the World list – the first time this will happen for a bird once classified as Critically Endangered. “In 1969 the Red Book said the Seychelles Warbler could well become extinct in our time. We can now say the Seychelles Warbler was saved in our time – definitely the most amazing conservation success story in Seychelles,” Nature Seychelles Chief Executive Nirmal Shah says in the article.

Indian Ocean Tuna Commission Protects Seabirds



The Indian Ocean Tuna Commission (IOTC) in April 2012 agreed to measures that, if appropriately implemented by tuna longline fishing vessels, will result in significant reductions in albatross mortality.

The Indian Ocean is home to globally important populations of eight albatross species, including the Critically Endangered Amsterdam Albatross *Diomedea amsterdamensis*. Each year hundreds of thousands of seabirds are killed unintentionally during the course of longline fishing. This is the primary reason behind the fact that 17 of the world’s 22 species of albatrosses are threatened with extinction. Tuna longliners usually

deploy several thousand hooks, attached by branchlines to a main line that can be more than 100 km long. Seabirds, especially albatrosses, are vulnerable to becoming hooked when they take the bait, and are drowned as the line sinks to setting depth (known as ‘bycatch’).

Although an understanding of the scale and nature of this threat has been known for a long time, the development of measures to reduce bycatch has been slow. BirdLife International and researchers in Australia, the USA and UK have been particularly active in devising and testing technologies and fishing practices to reduce bycatch.

In November last year, the tuna commission for the Atlantic (ICCAT) agreed to a strong set of measures (that are based on scientific evidence) that fishing vessels must deploy when working in areas where albatrosses occur. BirdLife has worked hard since then to pave the way for the IOTC to harmonise its seabird conservation measure with that of ICCAT. From now on, all longline vessels will be required to use two seabird bycatch mitigation measures from a choice of bird streamer (tori lines) which scare

birds away from the hooks, adding weights to the hooks to make them sink more quickly, or setting hooks at night when most birds are less active.

Concerns of fishermen centre around the addition of weights to lines, which ensures that they sink out of the reach of seabirds rapidly. Large sharks or fish can place such strain on lines when being hauled onboard that the line snaps. When this occurs, lead weights attached to the line can fly back towards the hauling station and pose a significant safety threat. BirdLife has developed a new type of lead sinker that slides off the line when it snaps, thereby eliminating the safety risk.

After long deliberations, stretching across five days of the Commission meeting, agreement was finally reached for the new measure. Dr Ross Wanless, Seabird Division manager at BirdLife SouthAfrica, represented BirdLife International at the meeting.

BirdLife

Critically Endangered Amsterdam Albatross (Vincent Legendre Creative Commons Attribution-Share Alike 3.0 Unported)

What's the Deal with the Green Economy?

By Liz Mwambui

On the occasion of this year's World Environment Day, the United Nations Environment Programme (UNEP), which promotes this annual event, had as its theme: **"Green economy: Does it include you?"** UNEP hoped to stimulate interest in the green economy among "regular people". The first part of the theme it said, tackles the subject of the green economy, because "this is where some people shut off their minds because they find the concept of the green economy a little too complex to understand." On its 'What is the Green Economy?' web page, a layman's explanation of this concept is provided.

As described by UNEP, a green economy is one that **results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.** Simply put, it is an economy that is **low carbon, resource efficient and socially inclusive.**

UNEP also leads the Green Economy Initiative (GEI), launched in 2008, whose purpose is to provide analysis and policy support for investing in green sectors and in greening environmental unfriendly sectors. The GEI recently produced a Green Economy Report in collaboration with economists and experts worldwide.

The report demonstrates that the greening of economies is a new engine of growth, a net generator of decent jobs, and that it is also a vital strategy for the elimination of persistent poverty.

But where did it all come from? The idea came into being after the global financial crisis that began in 2007.

One of the key lessons learnt from this crisis was that the prevailing models of economic growth have failed. Billions (two and a half billion according to a report by the International Fund for Agricultural Development on Rural Poverty published in 2011) of people are still living in poverty.

Furthermore, the natural resources on which we depend on

are diminishing. The idea of a green economy, one that can deliver growth, as well as environmental and social well-being, was seen as a better alternative to doing business as usual.

The global crisis also provided the opportunity to promote green economy initiatives as part of the stimulus packages that were being put in place to support recovery. In the United States, political activist Van Jones (he became President Obama's environmental advisor), authored the book, *The Green Collar Economy*.

He suggested that the solutions to environmental problems and global warming could also be the solutions for a struggling economy and unemployment. "Green investments" he argued, would help solve both

problems. Jones outlined avenues through which these investments can be made such as in renewable energy, construction/green buildings and clean transportation. These investments would create jobs and directly engage the working class thus lifting people out of poverty.

The Green Economy Report similarly says that green investments will enhance new sectors and technologies that will be the main sources of economic development and growth of the future.

These sectors include renewable energy, resource and energy efficient buildings and equipment, low-carbon public transport systems, infrastructure for fuel efficient and clean energy vehicles, and waste



Photos: Top - a solar power installation at Nature Seychelles. Bottom - Seychelles first electric car imported by the Maia Resort. The renewable energy and transportation sectors are key to the green economy

management and recycling facilities.

Other investments are required in human capital, including greening-related knowledge, and management and technical skills to ensure a smooth transition to a more sustainable development pathway.

The green economy received a nod at the recently concluded United Nations Conference on Sustainable Development, Rio+20. Heads of State and more than 190 nations agreed that such a transition could be 'an important tool' for sustainable development, when supported by policies that encourage decent employment, social welfare and inclusion, and the maintenance of the Earth's ecosystems.

The green economy is however not without its challenges. It is still viewed as the new "buzz word" that will soon, like others, mean little.

A major challenge is reconciling competing interests of rich and poor countries. Developing countries, although best placed to embrace green economies, are concerned that transitioning to a green economy will hinder economic growth and the ability to reduce poverty, and that they are at a technological and financial disadvantage to embrace it.

In particular the issue of protectionism needs thrashing out. Developing countries expressed fears at Rio that a green economy approach could lead to green protectionism - the use of trade policies by developed countries in particular to restrict imports on the basis of green criteria. This will threaten international trade and growth in developing countries.

Some environmental activists equate the green economy with the "greed economy" which will trample on the rights of the poor and the

disenfranchised. At Rio+20, indigenous peoples from five countries said that the green economy is a "crime against humanity that dollarises Mother Nature and strips communities of their rights."

Furthermore, green economy solutions are likely to be expensive and in the short term, could result in job losses associated with changes in various sectors especially in developed countries. Those who will bear the brunt of the transition would have to be supported in order to have broad ownership.

Buy-in is necessary across the board. Many still view the "green movement" as being elitist. In his book Jones said, "to create a green collar economy we must bring together not just the relatively affluent people (...) but also people of more modest means (...) Even though the less wealthy may not consider themselves environmentalists, they have the means and capacity to push for important environmental changes at the local level."

Another danger is adopting a one-size-fits-all approach for this complex concept. Countries and their green economies will evolve differently.

A number of initiatives that demonstrate that not only is a green economy possible, it is entirely do-able are however emerging. The findings of a new report, *Building an Inclusive Green Economy for All*, launched at Rio+20 summit by the Poverty-Environment Partnership show that many developing and least developed countries are already pursuing a transition towards low-carbon, resource efficient economies. Scaling-up current examples - supported by targeted investment and governance reforms - has the potential to deliver

a 'triple bottom line' of job-creation, economic growth, environmental sustainability and social inclusion.

Liz Mwambui is Nature Seychelles' Communication Manager. Twitter: @naturesey



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What about the Vulnerable People in Seychelles?

By Martin Varley

The Seychelles is entering difficult times with regards to social progress, with rising drug use leading to the creation of vulnerable and dependent groups who often have poor mental, emotional and practical skills. The situation was noted at the recently held National Symposium for Social Renaissance at which President Michel himself noted the dangers when he described Seychelles as 'a blessed and beautiful country that is a model to the world, where we live in a society that so far is a model of harmony and tranquillity which we must preserve at all cost.'

Nature Seychelles has begun projects using Nature Therapy - nature conservation, gardening and green exercise methods - to provide vulnerable and dependent groups with new mental, physical and practical skills to improve their chances of getting a job and to help them

get back into mainstream society.

Issues affecting marginalised groups are not easy to solve, since even when their immediate problems are managed they often cannot improve and increase their livelihood options and join mainstream society. Thus they still lie outside of the economy and are at risk of falling into bad habits again. Nature Therapy uses the natural environment of Seychelles as a platform for healing along with conservation and green/eco-health practices to leverage them out of their current status and gives skills to access jobs. Such practice lies at the heart of the green economy, engaging disadvantaged people in a sustainable way – and by sustainability I mean using all three legs of the economy, environment and society.

The idea that nature can help in the rehabilitation of drug and alcohol addicts was pioneered by Phoenix Futures, a leading provider of care and rehabilitation services for people with drug and alcohol problems in the UK.

Since 2001, Phoenix Futures has run the unique and innovative Conservation Therapy Programme in partnership with Natural England and the National Trust, along with various local agencies. The programme engages service users from Phoenix Futures' substance misuse and alcohol treatment services to work as teams in assisting in the conservation of specific areas of the countryside. It delivers tangible results to those engaged, local communities, as well as providing genuine benefits to the environment.

Nature Seychelles is planning to bring the same programme to the Seychelles and Jon Hall, the founder of the conservation therapy programme in the UK, was over in the Seychelles recently to help set the scheme up and to share his knowledge with referral agencies who will be partnering in the scheme.

If the green economy is to deliver everything which is expected of it then we are going to have to rethink the way we do work here in the Seychelles as well as around the work. Business as usual will not bring those who have been excluded from society for whatever reason and nor will it release the potential the environment has for providing jobs. We hope that the Greening Livelihoods Project is the just the start of our work in helping the green economy to become a reality in the Seychelles. It may be changing our traditional field of working but it is rising to the new challenge of society and helping to make the environment more relevant to a wider group of society. The fact that it will also transform lives is the icing on the cake.

Martin Varley is Nature Seychelles' Community and Stakeholder Action Coordinator.

Photos: The project is engaging disadvantaged people in a sustainable way

Bottom: Victoria food market - the project increases livelihood options (Conor Jameson)



Totally Tropical

Green Buildings for Seychelles are Possible

By Dominic Rassool

Over time, easy access to globalization's universal architectural expression has led to the decline of traditional architecture and with it, passive buildings. It is therefore common that the design for a temperate climate is exported to a warmer and more humid climate, such as the tropics. The result is that such practices have led to buildings with excessively high energy consumption, mainly attributed to air-conditioning systems responsible for overcoming the thermal stresses inherent to these designs.

Commercial buildings have played a particularly important role in speeding up the uptake of foreign architecture (for instance, consider the design of our local malls and large hotels; when were they first built? Were they not unprecedented?). Moreover, their (non-hotel buildings) peak hours of occupation tend to coincide with high external temperatures; to achieve levels of comfort their designers have been forced to resort to air conditioning systems. These have either been an afterthought or the implementation of such was a conscious decision during the design process.

Interestingly enough, it is not just a conscious decision that we take when we choose to opt for air-conditioning inside our new buildings, it seems we have become - pardon the pun - conditioned to think that its use cannot be avoided. It has been inculcated in each one of us that what is imported and comes from the West is better. Occupants have come to associate air-conditioning with comfort, and so they find it difficult to imagine a modern home or office that makes do without such a system.

Reducing the amount of energy we allocate to cooling our buildings is, undeniably, one of the priorities that ought to take precedence in a so-called sustainability movement. There are several ways of approaching this; either we choose technological solutions or alternatively, we choose passive ones. Incidentally, passive strategies are those that make do without mechanical or electrical devices. There will be scenarios where one alternative will be more appropriate than the other, and this will in all likelihood be in the cases where older (non-passive) buildings undergo a green- retrofit, that is, altered

slightly such that they eventually consume less energy.

New builds, however, will have a 'choice' to make. They can 'choose' to become low carbon footprint either by making use of renewable energy systems and therefore continue the status quo, or they can 'choose' to reduce the overall amount of energy they require to a more acceptable level. In the latter scenario, a more intelligent design would be at the core of such a building.

The intelligence involved in a passive building revolves around environmental design, the study of designing buildings that work with the external environment to achieve comfort. This will be a major asset if we are to create elite buildings with exemplary track records of energy consumption.

It must be noted that environmentally designed buildings and renewable energy are not mutually exclusive. The major advantage of the former is that it gives rise to relatively low energy requirements. This in turn provides building owners with a major economic advantage should they wish to install a renewable energy



Photo: Are we conditioned to airconditioning? (Image from stockxchng)

system. This should bode well for companies who are willing to demonstrate some level of eco-awareness at relatively little cost.

Ironically, environmental design is not a new concept. Our forefathers exploited the local climate for decades and relics of this bygone era are still around today. The recently renovated La Plaine St André is a classic example. It is a typical 'creole house', elevated on short columns and featuring large openings across its ocean-facing facades, this building exploits temperature differences as well as sea breezes to ventilate itself naturally. Although this is the predominant method for achieving comfort, ceiling fans (which themselves consume relatively little energy) rather than air-conditioning is the active cooling system of choice; this has allowed the building to exist in its intended state. Being open has another advantage, it allows more light into the building which in turn reduces reliance on artificial lighting during the day (often a common occurrence in spaces that have been badly designed).

While one may argue that there are certain building types that, because of their specific functions, cannot make use of natural ventilation (e.g. hospitals), we should not underestimate the attractiveness of having open air offices in our 'contemporary world', especially as we are increasingly moving towards paperless offices. Again, there are those who would purport that you still need the privacy and consequently air-conditioning, this should be limited to a minority because most offices today are

moving towards an open plan design. With the open plan formula, the privacy factor is much less relevant.

Beyond energy consumption of buildings, environmental design will have an indirect benefit. The social implications are the hard labour skills required to resuscitate our cultural heritage can be sourced locally. Our yesteryears boasted talented craftsmen and perhaps knowledge has filtered through the generations. All the more reason, therefore, that this cultural heritage should be given new life because it is intricately linked to a bright green future.

In the future issues, we shall review the urban realm in Seychelles and how we can develop more sustainable communities by way of good urban design.

Dominic Rassool is a graduate of the University of Nottingham with a BA in Sustainable Built Environment. His main interests lie in passive solar design as well as low carbon cooling systems. Twitter: @dominicrassool

Photo: La Plaine St André represents a typical 'creole house', elevated on short columns and featuring large openings across its ocean-facing facades (Erwin Burian)





Energy: Use it well, Live well

The Seychelles Energy Saving Campaign

By Andrew Jean Louis

Over the past few years, electricity demand in Seychelles has grown at an average annual rate of 4.2% and according to forecasts, electricity consumption will increase to approximately 400 GWh by the end of 2012. The Industry and Commerce sector accounts for 60 percent of the total consumption.

However, electricity consumption is rapidly increasing in other sectors such as domestic and Government. Increased use of air conditioning for cooling is probably the main reason for this increase. Other reasons include population growth, increase in personal incomes and the use of energy-reliant products coupled with longer use of these products.

Seychelles depends heavily on imported fossil fuel, which supplies almost 100 percent of domestic energy use. In 2007, about 50% of the petroleum products imports were used for electricity production. Despite the increase in world oil prices, Seychelles's consumption has grown over the past years. Given these realities, the Seychelles Energy Policy 2010-2030 aims to design and implement cost-saving measures to boost and promote energy efficiency and conservation across all sectors including standards for electrical appliances and energy management in buildings. No targets have been set but the main objective is to reduce energy consumption.

In line with this policy and as part of its mandate, the Seychelles Energy Commission has begun work on an Energy Efficiency and Conservation Campaign to educate and disseminate knowledge about energy efficiency and conservation.

Along with the Public Utilities Company and other partners, the commission has developed a 3-year plan to promote energy efficiency and conservation through various education and awareness activities targeted at decision-makers, the tourism industry, importers of electrical appliances, consumers, schools, media, office workers and managers. The campaign was recently validated by local stakeholders and its branding activities approved.

The campaign will inform the public how to get the desired energy services such as comfortable homes and offices, and profitable business but with less energy using better technologies. It will also outline behaviour that results in the use of less energy such as turning off the lights when leaving a room or turning up air conditioning, and will explain that a reduction in energy consumption translates directly into monetary savings.

The strategy addresses seven different target audiences, with specific campaign activities to be implemented to help each group change specific behaviours. For instance domestic consumers will be encouraged to buy energy efficient household items like fridges, and change over to energy saving light bulbs. A targeted campaign at importers is expected to provide energy efficient items to the local market.

Other activities being implemented by the

Commission to complement the education strategy include energy audits, household retrofits to replace lighting, fridge and electric water heaters, and talks to educate those who use public buildings.

In February 2011, the Commission working with local NGO Sustainability for Seychelles, began a project to guide families to adopt sustainable living practices such as rainwater harvesting, home gardening and energy conservation. Three households were used as models for the project and were fitted with energy saving appliances including a refrigerator, compact fluorescent lamps and a solar water heater. An analysis of the project shows that up to 25% savings in energy consumption in some households can be achieved.

A new Energy Act will pave the way for mandating energy efficiency and labelling for imported appliances. This is highly important for achieving the efficiency objective. Regulation changes will be introduced as soon as possible for electrical home appliances and for energy systems in the industrial and commercial-public sectors, especially on air conditioning and refrigeration equipment. In parallel, an enforcement mechanism should be established within the frame of the SEC in the Ministry of Finance, Trade and Investment (and Customs). This enforcement mechanism would supervise electrical appliances and ensure their compliance with the required efficiency levels.

The effort to reduce energy demands must be increased. Energy efficiency measures will reduce energy demands and restrict the scale of electricity production facilities which would otherwise be required; it will also reduce the country's dependency on imported petroleum products, as well as reduce emissions and decrease environmental pollution.



Andrew Jean Louis is the Chief Executive Officer of the Seychelles Energy Commission

Photo: Campaign logo

A piece of the Sun

By Tim Kirkpatrick

A completely renewable energy source shines down on us every day, namely the sun. Yet its potential remains untapped. Seychelles is only 4.5 degrees south of the equator. This means that every square metre of land and sea surface receives 2161 Kilowatt-hours (Kwh) of solar energy per year. Harvesting a small proportion of this energy would solve our energy and electricity needs forever. But ask most people about converting to solar, even those who support renewable energy, and they will tell you it's expensive and unreliable.

What is Solar energy?

Solar energy is the light energy that our sun beams out constantly. To put this into context the modern average family home in Seychelles consumes approximately 2400 Kwh of electricity annually. If we could harness all the energy that hits just over 1 square metre in the Seychelles it would power an average family house forever. What this means is that we can reduce our dependence on fossil fuels and reduce our carbon footprint.

The technology has been around for well over 70 years. Sunlight is converted directly into electricity with the use of photovoltaic (PV) technology also called solar panels.

The most advanced PV panels can capture 25% of the sunlight and turn it into electrical energy. The best commercially available panels are 18% efficient and are locally available.

How different is it from the electricity we get from the Public Utilities Company?

The electricity generated by solar panels is direct current (DC) whereas domestic electricity supply is alternating current (AC). All modern appliances use AC which is more efficient to transmit over long distances. A

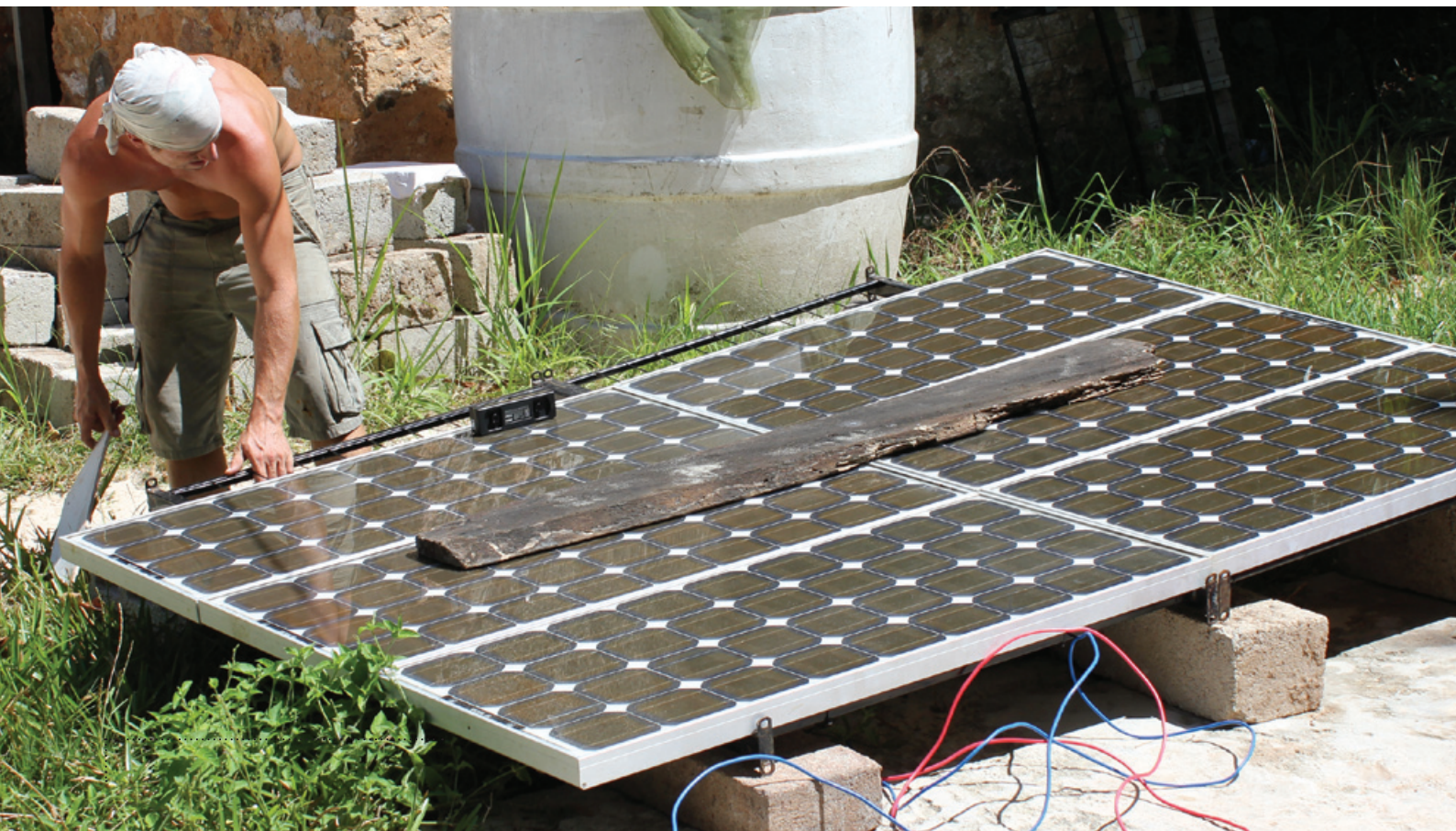
simple electrical inverter converts the DC into AC current and powers your home or factory. PUC uses fuel to run its power station. This is unsustainable in terms of cost and the large carbon footprint it leaves behind.

In your experience, what can solar panels power?

Global Vision International (GVI), the organisation I work for runs a 2Kw system on Curieuse Island to power its office. 2 fridges, 4 laptops, lighting for 12 volunteers and 4 staff, a presentation projector, mobile phone recharging can run on it. This can be sustained for most of the year but we have a backup generator which also powers the solar system whenever it needs to be on.

How much money is needed on average to switch over to Solar?

The global average cost of manufacturing solar panels has been falling. The cost of a 2Kw PV installation in the Seychelles should be approximately 80,000 Rupees and this can be used by household and small businesses. The system is low maintenance. You keep the panels clean by wiping them down once a month. On Curieuse because of proximity to the sea and salt corrosion, electrical components are sprayed with WD40 once every four





simpler than most existing technology. Any reasonably qualified electrician can install and maintain solar power systems. Solar energy is driven by cutting edge technologies that can be easily learnt. This is a clean technology which should be attractive to both men and women who are in training or looking for jobs. Worldwide, solar power careers have become one of the leading growth industries of the green economy because of demand for solar power installation.

weeks and battery terminals simply coated with Vaseline to stop salt water corrosion (batteries are only needed in remote locations where no PUC connection is available). Other components may need to be replaced during the life time of the system but overall owners can look forward to about 25 years of service.

What are the potential returns on the investment?

The average 2Kw installation will produce about 3000Kw a year. Solar panels power generation can guarantee up to 25 years or more of savings on energy bills which in real terms could amount to 250,000 Rupees or more. For the large hotels and industries the benefits are even better as they pay nearly double the price for their electricity.

Many developed countries have what is called a feed in tariff where companies responsible for operating the national grid purchase electricity from renewable energy sources at a pre-determined price e.g in Seychelles PUC will set a price it pays for each kw fed back into the electrical grid. This ensures that those who produce electricity from identified renewable energy sources such as solar, wind and other renewable sources have a guaranteed market and an attractive return on investment for the electricity they produce. This is under development here in Seychelles under a new energy policy.

Where does one find the money to invest in Solar?

Generous subsidies in other countries encourage the installation of solar systems. Loans from local banks and international banks such as the African Development Bank and grants from development agencies can fast-track installations of PV systems.

What about the expertise needed?

There is a misconception that solar photovoltaic technology is very complex requiring expert technicians to install and operate it, when in actual fact it is far

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Photos: Preceding page - Solar panel installation on Curieuse Island. Above: This Nature Seychelles centre uses solar energy for its electricity needs

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The Blue Economy: Small Islands with Big Problems need Creative Solutions

By Nirmal Shah

The Republic of Seychelles is a sprawling archipelago of 155 granitic and coralline islands and islets in the Western Indian Ocean. Known for its fabulous natural beauty, multiracial harmony and excellent conservation record, it is a tiny nation of only about 87,000 people. The Seychelles is blessed or cursed, depending on one's point of view, with a very large ocean territory inside an Exclusive Economic Zone (EEZ) covering 1.2 million sq kilometres.

The Seychelles has an enviable conservation record. More than 50% of its land territory is protected within reserves. Its Marine National Parks date back to the 1970s. The Seychelles' per capita spending on environmental management is probably the highest in the world. But as a small island developing state it faces monumental environmental issues. Climate change is of course the elephant in the room. However, the ability of the Seychelles to adapt and mitigate is limited by its very small population and economy compared to its large territory.

According to the Central Bank of Seychelles, fisheries' may be stated to be the only significant natural resource of the Seychelles. Over the past 30 years, the sector has metamorphosed from a mostly subsistence activity to a major processing and export industry, based on the exploitation of tuna in the South-West Indian Ocean. Today, the fisheries sector has become an integral and fundamental part of the social and economic structure of the country. Alongside tourism, it constitutes a pillar of the economy.

But what is the future of this activity. First, out in the high seas, the future of tuna fishery is murky with overfishing a major problem. Yes, climate change is an issue but well known Indian Ocean tuna expert Francis Marsac said it is only a contributing factor compared to overfishing by distant water fleets. Yellowfin and big eye tuna stocks are in serious trouble. There are still some opportunities left for skipjack and albacore fisheries, but no one knows for how long.

In the near shore areas, the local artisanal fishery is fully exploited with some stocks in jeopardy according to reports and papers published by the Seychelles Fishing Authority. The Seychelles coral reefs which were severely bleached in 1998 don't have much of a future based on research by several researchers including Tim Maclanahan, Nick Graham and Dr. Josh Ciner. Based on the information published by Tim Maclanahan and his collaborators, the

ocean around Seychelles is a "hot zone", where sea surface temperatures are predicted to increase in the future. There is little room for manoeuvre to save our reefs.

The bad news is tempered by good social capital fundamentals inherent in the country. Pioneering research by researchers from the University of Newcastle and others have shown that Seychelles, of all the countries in the region, may have a high socio-economic capacity to adapt to this crisis. Compared to say Kenya and Tanzania where overfishing, coral bleaching, pollution and so forth are pushing more people further down the poverty trap, the high Human Development Index in Seychelles means that people could find solutions to the crisis.

The research results clearly demonstrate that the Seychelles has the potential to surmount present and future environmental dangers, more so than the people in neighbouring countries. But this is only a potential. It needs to be realized. Thus, the national challenge facing the country is how to mobilize the innovation and creativity available across our society.

The most exciting and innovative solution in recent times is Nature Seychelles Reef Rescuer project. This project, funded by USAID and the GEF, aims to restore coral reefs damaged by bleaching. A diversity of coral species are already being grown in underwater farms, areas for restoration will be then cleaned and prepared for translocations, the farmed corals will then be put in place and maintained. Training, a Tool Kit and a Business Plan will be undertaken to ensure sustainability.

The Seychelles is one of the smallest of the small island states but in terms of marine conservation and environmental management in general it has been punching above its weight for many years. Recent projects like the Reef Rescuers and others such as the fishery co-management programme, on-going between the government and local fishers on the second-most populous island of Praslin, demonstrate the innovation possible AND necessary in small island states.

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First published on the Ocean Foundation Blog. Adapted with kind permission.

Photo: A fishing boat in Seychelles waters (Rudy van der Elst)



Balancing Coastal Development and Biodiversity in Seychelles

By Georgia French

The Marine Conservation Society, Seychelles and the Green Islands Foundation are coming to the closing stages of a Mangroves For the Future funded project that aims to help people have their say on coastal development in their communities.



to see what effects a development could have on the local biodiversity.

This system has been installed as a database in the EIA section of the Department of Environment, effectively digitising their operations. Staff have also been given training in Geographical Information Software which will allow them to accurately map developments and habitats and calculate how much biodiversity would be lost if a proposed development went ahead.

This system also allows for immediate warnings to be generated when unsatisfactorily high levels of biodiversity are lost, or if a habitat of particular conservation value, such as a

With development rates so high in Seychelles, many people are very concerned (and rightly so) about the impacts that these developments are having on the local biodiversity. Development encompasses all kinds of projects where areas are converted from their natural state and put to another use. Just a few examples could be areas converted for farmland, land reclamation, roads and buildings of various usage.

Tourism is one of the main pillars of Seychelles' economy and people from all over the world visit the islands to enjoy their natural beauty. It is essential to find a balance between providing facilities for tourists and protecting the natural resources that they have come to enjoy. Obviously it is also absolutely essential to preserve Seychelles' natural resources for the benefit of Seychellois, as well as the sake of biodiversity in its own right.

Finding this balance is one of the objectives of Environmental Impact Assessments (EIAs). These assessments are carried out by trained employees in the Department of Environment who work closely with the Ministry of Land Use and Habitat. When an application for development is submitted, it's potential impact on the environment and well-being of residents is assessed and reports are made available to the public for their input. If it is felt that the development will have too great of a negative impact on an area, it can be refused or suggestions can be made to mitigate the negative impacts. Unfortunately, EIA documents are generally extremely large and written in technical language, making the contents largely unavailable to the average resident.

To simplify the outputs of an EIA, Marine Conservation Society, Seychelles (MCSS) have devised a scoring mechanism that grades habitats and developments and provides an easy way for everybody

wetland or glacia, could be affected. The results of the scoring system will be included on the front page of future EIAs as well as being posted on the Department of Environment website and will be available in English and Creole.

To further sensitise the public to the issues of coastal development, MCSS and the Green Islands Foundation have been running national and local awareness campaigns to involve and inform local communities.

Public presentations have been held at all four of our project sites which include Beau Vallon/Bel Ombre, Takamaka, Denis Island and North Island. These sites represent different levels of development in the Seychelles context and have been intensively surveyed to establish biotic and socio-economic baselines which have formed the basis of our scoring system.

National public speaking and cartoon competitions have been run through the schools with the Ministry of Education and the public Education and Community Outreach section of the Department of Environment, with outstanding results that have been put together to create educational posters that will be distributed to schools. All of our events have received media coverage on TV, national newspapers and radio and we keep interested parties informed through our various blogs and Facebook page.

As we come to the final stages of this project, it is very gratifying to see all of the various pieces falling into place to provide a system of balancing biodiversity and economy for the benefit of all.

Georgia French is a Project Coordinator with the Marine Conservation Society Seychelles

Photo: Overlooking Beau Vallon Bay

Health, the Environment and Livelihoods in Andavadoaka, south west Madagascar

By Tess Shellard

The Vezo people of Andavadoaka, south west Madagascar have an incredibly strong relationship with the sea – so strong that the word Vezo itself means literally ‘the people who fish’. Tellingly, it has also been known to mean ‘to struggle with the sea’ and this second meaning has never been so apt. The Vezo are utterly reliant on coastal resources for their survival, but are finding it increasingly difficult to catch sufficient food for their families. As the fish stocks continue to dwindle, the population keeps growing and the problem only intensifies.

In addition to the problems of rapid population growth, the villagers’ way of life had no resilience to the potential effects of climate change. Of particular concern is the increasing violence of their tropical storms: Andavadoaka has recently suffered one of the worst tropical storm cycles in living memory, with five cyclones in five weeks. During these times it is impossible to fish as the sea is far too rough, so it is crucial for the community to have alternative means to support itself.

Blue Ventures works in Andavadoaka to try and provide holistic solutions to the challenges the coastal environment and communities are facing. For instance, in collaboration with the community, reserves have been set up and education provided to prevent octopuses from being caught during their breeding season - just a brief annual hiatus can help to ensure sufficiency in numbers for years to come. It also means that when the villagers do resume catching, the octopuses have had longer to grow and so are worth much more.

To create further options for alternative livelihoods, and to help alleviate some of the intense pressure on the coastal resources, Blue Ventures has also started sea cucumber farming. This provides additional much-needed income for the local families, and crucially for the women involved, these endeavours allow them to have a say in how the family money is spent for the first time. However, this work alone couldn’t offer the level of support needed to alleviate such a complex combination of pressures and so - in a very unusual move - Blue Ventures integrated health initiatives into these marine conservation activities.

While working in Andavadoaka, it became clear to Dr ViK Mohan of Blue Ventures that part of any solution for improving the quality of life for the Vezo must include providing the family planning and education they had

expressed a desire for. Without it, all the hard work the community was putting in was going to be for nothing - the sea could only provide so much. Before the first Blue Ventures clinic was opened in 2007, in just a small hut down by the beach, the villagers had no access to sexual and reproductive health services. The nearest clinic was an unfeasible 50km away through dense, spiny forest.

As is well known, Madagascar rates as one of the ‘hottest of the hot’ in terms of global biodiversity hotspots, but it also has one of the world’s fastest growing populations. This growth rate has been one of the key drivers in devastating loss of habitat. Although Madagascar is often held up as a success story in terms of increased access to family planning, this still hasn’t been felt in the more isolated parts. Alarmingly, the population is doubling every twenty years. The country as a whole has an average fertility rate of 5 births per woman, but this is significantly higher in the remote villages of the south west where it is closer to 7. Families with ten children or more are commonplace. The reality is that even at the current level the population in their villages may not be sustainable. It is clear they are already struggling to meet their needs with the resources they have.

Despite the struggles these communities are currently facing, population is still not always recognised as being central to a wider, more sophisticated question about what sustainability will really look like in practice. Blue Ventures have found that by integrating seemingly separate themes a greater awareness is promoted within the community about the inextricable links between a community and their environment, and how best to nurture this relationship. A sense of genuine stewardship is fostered and the positive effects achieved in one area of work cascade into positive effects in all the others. For the Vezo, their efforts to preserve the coastal resources would have been doomed to fail without access to basic health services. Unquestionably, ensuring this access continues will be critical to their pursuit of true sustainability for the future.

Tess Shellard is the Health Project Coordinator for Blue Ventures’ integrated work in Andavadoaka, Madagascar
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The community at work on the aquaculture programme
(Antoine Rougier)



New Online Green Network for Sustainability in Africa

By Kate Berrisford



A new online sustainability network and knowledge-sharing hub for Africa, the Green Africa Directory was launched in June 2012. The directory already profiles over 700 green organizations from across Africa and encompasses a wide range of topics, such as green travel, climate change, green finance, green business and leadership and green building. It also features a range of useful resources including a blog, green event listings, green jobs and tenders, green specials and competitions from all across Africa. In essence it aims to be a central green hub for Africa – linking people, business, industry, government and academia and promoting green initiatives and activities throughout Africa.

The directory aims to inspire action for sustainability, raise awareness, and facilitate interaction, collaboration and the sharing of green ideas and green solutions for Africa. As an example of how the directory works – if someone in Brazil is looking to volunteer their expertise on a conservation project in the Seychelles, they can use the online directory to search for a volunteer organization in that country and then enable them to connect via email, phone, or social media like Twitter or Facebook; similarly it would facilitate companies working on climate change adaptation projects in Africa to connect, network and interact.

Vision for Africa's green directory

It all began with a vision of connecting the sustainability movement in Africa. While working for an environmental NGO, I found it very difficult to find green organizations in Africa to partner with or information and news on green initiatives taking place on the continent. At the same time, through speaking to green business owners in Africa, I realized how they also struggle to promote their organizations, products and services. I was inspired to create an online platform that would allow people to easily search for and connect with relevant green organizations and initiatives in Africa – and the Green Africa Directory was born.

Many of us already have the luxury of choosing how we live, what we buy, what we support, what products and

services we use – and are able to question what impact our decisions and actions have on the environment, society, economies and on the current and future state of life on Earth. My hope is that through the directory, a green collaborative network of businesses, industries, governments, leaders, youth and communities will be able to share and connect online – spreading and mainstreaming green actions throughout Africa for a more sustainable future.

Africa's potential for green growth

In the context of the current world economic crisis, declining biodiversity and ecosystem services, growing food insecurity, loss of sustainable livelihoods, expanding human population and climate change impacts that threaten life and well-being, there is a growing realisation that a sustainable future urgently requires a transition towards a green economy. A green economy is essentially a new economic framework for development premised on environmental sustainability. It involves investment in, and policy and legal reforms geared towards, low-carbon, low environmental-impact and resource efficient production and consumption, while being socially responsive and equitable.

The Green Africa Directory will contribute towards the transition to green economies in Africa by providing a green networking and knowledge hub that will enable people, communities, countries, businesses and industries to influence, design and implement green economy policies. It will inspire green action through creating an awareness and preference for green products and services and through encouraging cooperation and collaboration. I also think that this platform will be particularly helpful for non-profit organizations in reaching out to potential donors and partners both in Africa and globally.

Africa - with its relative abundance of natural capital, reliance on biodiversity and ecosystem services for basic needs, infrastructure requirements, growing population and urbanization rates and political flexibility - is well-positioned to take advantage of and benefit from the transition towards a green economy and could serve as a model for sustainable development pathways. There are so many inspiring examples of environmental and sustainability initiatives in Africa that have the potential to be mainstreamed, scaled-up and replicated.

Achievements thus far

The Green Africa Directory has been incredibly well received and supported. Over 700 organizations are listed on the directory. I estimate that this figure will grow to over 4000 within the next 2 years. We are also getting many requests from organizations to feature their events, job listings, specials and news on our website. I am excited and optimistic about the growth and potential of the Green Africa Directory and inspired by the increasing number of green initiatives and attitudes in Africa.

Kate Berrisford is the Founder & Managing Director of the Green Africa Directory www.greenafricadirectory.org Twitter @greenafricadir

Gadget Graveyards:

The growing problem of e-waste

By Raju McKenzie

Whilst the rest of the world seem to be up and running full pelt with the idea, mass scale recycling in the Seychelles is only really in its infancy. Up until this point the major efforts have all been by private traders aware of the value of waste materials, rather than by the municipal waste management body.

However, the public are becoming more aware of the need to recycle, as well as the need to take greater care of the environment. Most people these days know about the problems caused by polystyrene takeaway boxes, and drink cans, but as technology advances, and we increase our consumption of IT goods, what thought is being given to the waste that this consumerism produces? We are now faced with an entirely new challenge, that of safely disposing of our old technology.

Mobile phones, computers and monitors, printers and copiers, radios, televisions, iPods, answering machines, pagers, PDAs, stereos, calculators, CD players, VCRs and DVD players -all these items qualify as e-waste, and all of them contain harmful materials; chemicals such as mercury, cadmium and lead. When disposed off, these hazardous materials leach into the land over time or are released into the atmosphere, impacting nearby communities and the environment.

Sales of electronic devices have rocketed worldwide as once luxury items become cheaper and more common place. In 2009 there were more than 117,600 mobile phone users in Seychelles, a number higher than the country's population! That number is expected to have risen. As a middle income country, Seychelles leads other African countries in technology usage, and lifestyle changes are reflected by entry into local markets of retail shops for smart phones and tablets.

All that adds up to a rather large amount of e-waste that will need to be dealt with. In many European countries, regulations have been introduced to prevent electronic waste being dumped in landfills due to its hazardous content. However, the practice still continues in many places, particularly in developing nations.

The main reason that this is just not possible here in the Seychelles is the incredible cost involved in sorting the waste collected. Going through all of the waste collected is incredibly labour intensive. This is the main reason that other countries usually 'outsource' this to developing nations, where labour prices (and unfortunately safety levels) are much lower.



So what can we do to help face this challenge? How can the public help with the growing problem of e-waste management? As usual it mainly comes down to the three R's of sustainability; Reduce, Reuse & Recycle.

Reduce: Strangely enough, the battle to reduce waste actually begins at the point of purchase. Green manufacturers are leaning more and more towards creating technology that can be upgraded rather than just thrown away once it is obsolete. Choosing these items will help to ensure the amount of equipment you actually scrap is kept as low as possible.

Reuse: As the saying goes "one man's trash is another man's treasure". As long as the item is still working, why not see if someone else is willing to take it on? The culture of selling second hand goods in Seychelles has taken off quite considerably recently, helped in no small part by the massive increase in social networking. If you can't sell the item then why not consider donating it?

Recycle: This is where it becomes tricky. As I said before, recycling materials of this kind is incredibly expensive, especially when the items need to be sorted from the rest of the normal waste. As such there is no easy way to recycle these good locally yet. But Seychelles is a nation of adaptation, and who knows, as the problem becomes a bit more widely known perhaps we will end up with a viable way of recycling our e-waste. This would open new avenues for green jobs too.

Raju McKenzie is a Project Manager with Nature Seychelles and is passionate about technology and the environment. Twitter @gurindi

Photo: A sea of television housings, cathode ray tubes, computers, monitors and other imported electronic waste not salable at the Alaba market in Lagos, Nigeria, is dumped here in a nearby swamp ©2006 Basel Action Network (BAN)

The Green Economy: Where there's a Web there's a Way

By Nirmal Shah

Fibre optics have arrived in Seychelles. The cable has landed! And with it the promise of better, faster & cheaper connectivity to what is known as the world wide web, internet or cyber space. And with that hyper connectivity the promise of a change-making transition that would revolutionize the way we work and live. Transforming from an information to a knowledge economy by advancing human to human, human to machine, and machine to machine interactions.

Certainly the enhanced connectivity and visibility will be vital for sustainable development. One of the main constraints hindering Seychelles' development is its geographical position – we are far from markets, and financial & knowledge centers. Increased cyber access to markets will give us the possibility of new jobs and livelihoods through different business start-ups and economic opportunities. Access to the global knowledge society can bring new learning, ideas, innovation and partnerships. One example of this would be so called 'cloud' services, which allow sharing and processing of intellectual information and data by providing a global platform for collaboration.

People will be able to have faster e-conferencing and online meetings, thus saving time and money. Importantly for sustainable development these e-connections will reduce Seychelles carbon footprint. Seychelles currently has the largest per-capita carbon footprint in Africa. This is a consequence of our dependence on imports and on international tourism, but also on our own overseas travels. We may not need to travel as much if business can be done in cyber space. Some years ago I uploaded a Power Point presentation with my own voice digitally added on to be shown at a UN meeting without my physical presence there. With

the arrival of the fibre optic cable though, so much more will be possible. Imagine being able to give fully interactive lectures (over the internet) to entire rooms of people, thereby sharing both information and expertise.

However, a large percentage of traffic carried over the internet is content for the purpose of entertainment and social networking. This includes everything from iTunes files, Facebook updates & BitTorrent traffic, to on-line gaming, video streaming and more. Many Seychellois will be very happy with the "infotainment". But, as has happened elsewhere, it may not promote creativity, innovation and drive because so much of it is designed to be received in a passive manner.

Of course the ICT companies will want to make as much money as possible out of the new capacity, and will ensure that infotainment content takes precedence over other traffic because there is so much more profit to be made from these 'top drawer' services.

As we enter what may be the re-architecting of our society, we must remain acutely aware of cultural, political, religious and privacy concerns. All manner of things from pornography to online purchasing will crowd our TVs, computers, phones, and other devices. The cable is not only a promise of better things to come, it will also test the limits of our understanding of who we are and what we want ourselves, our children and our country to be.

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The Youth, a Voice for Change

By Liz Mwambui

Anthea Lawrence is an unassuming 15 year old, studying at the Beau Vallon Secondary School in the north of Mahe. She likes to read in her spare time and lives in the vicinity of the beautiful Beau Vallon area with its lovely beaches frequented by many of the local youth like herself.

But Anthea is quite exceptional. She recently won a special prize in an international essay competition organised by Living Rainforest of the United Kingdom, in the run up to the United Nations Conference on Sustainable Development (Rio+20) held in Brazil in June. She was Seychelles highest performing student and she also collected a prize as the best performing student for Small Island Developing States. The prize has won her the admiration of many of her peers, the community and the President of Seychelles whom she got to meet.

Anthea impressed the panel of distinguished judges by writing about climate change and the importance of providing a platform for Small Islands Developing States like Seychelles to express their concerns on this issue.

According to Shane Emilie Environment Education Officer at the Ministry of Education who coordinated the local entries from schools, the judges were also generally impressed by the quality of entries from Seychelles and a number of students also collected certificates. "Students articulated very well how they were being affected by climate changes, what they are doing and what could be done to mitigate and adapt to climate change," Shane says.

Those who have the privilege to know, have the duty to act, Albert Einstein famously said and Anthea says she felt the need to add her voice through the essay after being exposed to environmental issues.

Seychelles has done very well in educating young people on environmental issues. Exposure has come by way of membership in local environmental clubs, public speaking competitions, quizzes, and taking part in eco-friendly activities like clean-ups. Local organizations such as Nature Seychelles and the media have also highlighted issues. Young people have seen leaders, led by the President, speak about the effects of climate change on Seychelles and other small islands. This, Anthea says, has driven them to action, however small, and what the youth have learned they've

share with their families and communities.

In the competition, students were asked to write essays about what they think governments and world leaders should be doing to build a more sustainable future on planet Earth.

"Dear Mr UN Secretary General," Anthea wrote, "I'm a young Seychellois who believes in the conservation of my country's environment. Seychelles and other small island states (SIDS) are the most sensitive countries when it comes to climate change."

"We would like and very much appreciate if developed countries could take responsibility for their actions and take us in consideration. If we don't act now as a united world, in time small islands would cease to exist. We will also be grateful if all world's leaders and governments work together to provide a sustainable Earth for us children, for our own benefit, for the future generation to make this world's future sustainable."

Seychelles is already taking action to adapt and mitigate climate induced changes. Projects ranging from beach protection to coral reef restoration, erosion control and tree planting are being implemented.

There were other campaigns to involve the youth that took place before the Rio conference at which Seychelles youth spoke out and excelled. One was the Youth song contest called Global Rock Star where a song by Seychellois youth called 'Respect for life' came in fifth place in the Youth Category.



Liz Mwambui is Nature Seychelles' Communication Manager.

Photo: Anthea (pictured) and other Seychelles youth spoke out about Climate Change



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Amy Bowers - A Woman of Substance



My friend Amy Bowers died on Sunday 20th May at the Seychelles Hospital after a long and brave battle with cancer. Active in the local arts scene for many years, Amy also had a deep interest in the natural environment.

She was a long time member of Nature Seychelles and became the

organisation's first Treasurer. She was re-elected on the Board three times and assisted us in maintaining sound financial records that impressed donors, partners and local officials. She was still occupying this post when she died.

Amy was also involved in redesigning Nature Seychelles as the organisation completed its strategic plans ahead of schedule several times. Her wacky sense of humour always stopped us from getting too boring.

Amy came to Seychelles from UK in 1990 to join her parents. Her father Tom Bowers, the famous sculptor had come on holiday to Seychelles in 1981, fallen in love with the place and moved here in 1986.

The moment she arrived in Seychelles she started pestering me with all kinds of questions about nature, especially what she observed from her home at Anse a La Mouche. Once she spied a creature that I couldn't, for the life of me, identify from her description because it sounded

so bizarre. Another time she called up and said she had seen a leaf move like a fish near the shore at Anse a La Mouche. This, I could happily tell her was undoubtedly a batfish, the juvenile of which takes on the appearance of a dead leaf for camouflage

Amy's professional background was in beauty therapy and make-up having graduated from The Park School of Beauty Therapy in London. She worked for several years in the theatrical, TV and modelling world as a point of contact as well as a make-up artist. She also worked in the fashion industry managing design fashion shops in London.

In Seychelles she quickly became a well known face on the local art scene, assisting her father but also working with other artists to promote their art. She was passionate about getting Seychellois art better known and arranged exhibitions in hotels and elsewhere. She also advised companies, hotels and individuals on suitable artwork for their premises.

In the last few years Amy took up a new career again, this time in the diplomatic world. She worked as the British Vice Consul and became an indispensable figure in British and EU affairs in Seychelles. In particular she was active in the recent anti-piracy work.

Amy leaves behind her father Tom, mother Ellen and sister Katy, as well as many friends and colleagues. She will be missed.

Nirmal Shah

Photos: Amy Bowers (above and below right) was a long time member and Board of Trustee of Nature Seychelles. She was the organisation's first Treasurer



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