ISSN 2070-4593





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Jo-Anne Sewlal explores the facts and fiction associated with sea monsters.

pg.8

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Design and layout: **Karibgraphics Ltd.**



is published by: Caribbean PR Agency #268 Harold Fraser Circular, Valsayn, Trinidad and Tobago, W.I. T/F: (868) 645-0368 hutchlin@gmail.com www.earthconsciousmagazine.com

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On our Cover

A lone bird wanders on floating plants at the Ptich Lake in Trinidad, looking for his next meal. Photo: Andrea De Silva



June 2014

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From the Editor

The Green Climate Fund Board, now up and running is on a mission to raise money to assist poor countries that will bear the brunt of climate change. Héla Cheikhrouhou, Executive Director of the Green Climate Fund said they are looking to raise as much as \$15 billion by the end of the year.

Speaking recently in the Caribbean, Cheikhrouhou pledged the Fund's support to help move developing countries such as those in the Caribbean towards being climateresilient. Acknowledging that expectations upon the Fund are very high, she expressed satisfaction that the Fund was on-track to open its initial capitalization and start supporting the fight against climate change through projects in the most vulnerable countries.

You can read more about Cheikhrouhou's thoughts on the Caribbean inside the pages of Earth Conscious and in another article about the Fund's plans to raise capital.

Read also, an OP-ED by Jorge Familiar, the vice president of the World Bank for Latin America and the Caribbean who talks about how countries in this region, already feeling the impact of climate change are not sitting back but are taking hands-on action to help reverse the impacts.



CONSCIOUS

Bangladesh is not in our region but we admire how this impoverished country with a population of 140 million, is a world leader on adaptation strategies. Although cyclones, floods and droughts have been part of Bangladesh's history, scientists have observed intensification in recent years.

It would be quite shocking to learn that Bangladesh, one of the poorest countries in the world is channelling \$1 billion of its own funds – 6 to 7 percent of its annual budget on climate change adaptation. Some threequarters of money spent came directly from the government, while one-quarter from international donors.

All these indicate the need for developed, industrialized countries to step up to the plate and provide funding through whatever mechanism to help the most vulnerable countries cope with climate change.

We have a lot more varied articles in this edition of the magazine from around the world which we hope you would enjoy.

Do send me your feedback at hutchlin@ gmail.com.

Linda Hutchinson-Jafar

Editor

Ms. Héla Cheikhrouhou sets out Climate Challenge for the Caribbean

Green Climate Fund Executive Director Delivers Memorial Lecture to Caribbean Development Bank Annual Meeting



"I think that we surpassed the expectations of many in reaching agreement about so many issues."

"Looking ahead, this will enable the Fund to become the preferred climate finance partner of developing countries as they move towards a sustainable future."

Speaking one week after the Green Climate Fund's Board successfully reached agreement on essential requirements for commencing initial resource mobilization, Ms. Héla Cheikhrouhou outlined how regions such as the Caribbean could work with the Fund in the future to adapt to the impacts of climate change and move towards a low emissions economy. She also recognized that although Caribbean nations have contributed little to the release of the greenhouse gases that drive climate change, they will pay a heavy price unless bold actions are taken on a global scale to stabilize the climate.

Ms. Cheikhrouhou stated that the impacts of climate change were already being felt in the Caribbean, and pledged the Fund's support to help move developing countries towards a climate-resilient and low-emissions development pathway. Highlighting the vulnerability of Small Island Developing States, she also emphasized the region's potential for clean energy and its jump-start on climate finance readiness activities. While she acknowledged that expectations upon the Fund are very high, she expressed her satisfaction that the Fund was on-track to open its initial capitalization and start supporting the fight against climate change.

The Green Climate Fund (the Fund) is a new multilateral fund that was agreed by Parties at the 2010 United Nations Framework Convention on Climate Change conference held in Cancun, Mexico, and designated as an operating entity of the Convention's financial mechanism. The Fund's Governing Instrument was developed and approved in 2011. The Fund's purpose is to promote, within the context of sustainable development, the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to help limit or reduce their greenhouse gas emissions and to adapt to the unavoidable impacts of climate change.

The Caribbean Development Bank's Annual Meeting took place on 28 and 29 May 2014. It brings together Ministers of Finance from the Region along with Governors of Central Banks, economists, executives and academics to discuss issues that are of concern to the Bank's Borrowing Member Countries.

Climate change: Latin America, Caribbean not sitting back

It is no coincidence that the Globe International network of legislators has chosen Mexico as the venue for the Second World Summit of Legislators on climate change that takes place in the Mexican Congress.

Five hundred legislators from around the world, especially from emerging economies, will tell the world that yes we can, that it is possible to create a movement that puts the interests of citizens first and that passes environmental legislation in favor of a more sustainable development model.

They will make it clear that — in the absence of a global agreement — parliaments, governments, civil society and the private sector can show the way at a national level.

Many of the alarming forecasts regarding the effects of climate change —from glacial retreat to rising sea levels — are being felt first hand in Latin America. From extreme weather variations in Mesoamerica and the Caribbean to prolonged droughts in the Southern Cone, all of this is having a devastating impact on agriculture, ecosystems and community life.

The good news is that at least in Latin America we are not sitting back with our arms crossed, despite the absence of global agreements.

In Costa Rica, reforestation projects, new market regulations and public campaigns are all part of the commendable effort being made by that country to become carbon neutral by



BY JORGE FAMILIAR

2021. In Brazil, the forestry and iron industries in the state of Minas Gerais are changing their ways and being rewarded with the first issue of carbon bonds for a forestry project, while in Mexico, the Climate Change Law of 2012 became one of the most comprehensive and ambitious at a global level.

In fact, wherever one looks in Latin America and the Caribbean today, its leaders are pushing initiatives to mitigate or adapt to the effects of climate change. In this way, even in times of global uncertainty, it is evident that the region is contributing rationality, certainties and trustworthiness to become a significant part of the solution to a global threat.

For example, its energy matrix currently boasts the lowest carbon emissions in the developing world (6 percent for the energy sector), the world's largest Rapid Transit System (associated with lower levels of environmental pollution) and the first catastrophe risk insurance mechanisms to guarantee the capacity to recover following a natural disaster.

Many of the *green* initiatives in the region have been strongly endorsed by legislators. In fact, Latin America is the region of the world that has done the most in 2013 in terms of legislation to prevent or mitigate the effects of atmospheric change, according to a report from GLOBE International. Some of the most notable examples include the Mother Earth Law in Bolivia, which penalizes the mistreatment of nature, the law for Good Living in Ecuador and the climate change framework law in Costa Rica, which, among other things, guarantees that the subject will be taught in schools.

Many of these initiatives have also received technical and financial support from the World Bank. We have supported the Amazon Protected Areas program, which covers a surface comparable to France's, and which has enabled Brazil to lower its deforestation rate continuously for more than four years.

Faced with retreating glaciers in the Andes, the World Bank has established — alongside the governments of Bolivia, Ecuador and Peru — a regional adaptation project administered by the Andean Community of Nations. This will lead to improvements in the capacity of local economies, ecosystems and populations to address its impending impact.

This becomes a life or death situation when 97 percent of regional GDP is generated in countries that are net commodity exporters oil, minerals and agricultural products. These resources could be significantly depleted in less than one generation if current extraction rates remain unchanged or if more sustainable agricultural techniques are not adopted.

Latin American leaders are aware of this reality and will not wait for others to take the first step toward changing it. They believe that a different future, a more balanced and sustainable one, is possible for all Latin Americans and future generations.

Jorge Familiar is the vice president of the World Bank for Latin America and the Caribbean.



Parched land due to drought in "Sebkhra de Kelbia" lagoon. Tunisia. © Michel Gunther. WWF-Canon



Regional Cooperation on Climate Change in Latin America and the Caribbean Strengthened

New agreement to provide forum for policy dialogue and cooperation on climate change mitigation and adaptation strategies for LAC region

A new regional cooperation agreement between the United Nations Environment Programme (UNEP) and the European Commission was signed on June 3 in Brussels to support greater policy dialogue on climate change mitigation and adaptation strategies in the Latin American and Caribbean (LAC) region.

The agreement, which forms part of the EUROCLIMA programme, provides for a Forum of Ministers of Environment of Latin America and the Caribbean to convene to engage in high-level policy dialogue on climate change, hosted by UNEP as the Secretariat. At the national level, climate change debate and legislation will receive greater support, and more resources will be devoted to raising public awareness of climate change issues.

UN Under-Secretary-General and UNEP Executive Director Achim Steiner said, "UNEP is proud to join hands with the European Commission and governments in Latin America and the Caribbean - as well as the wider development community - to help address the serious challenges posed by climate change across the LAC region. Activities under the agreement will be aligned with priorities of governments as identified by the Forum of Latin American and Caribbean Ministers of Environment."

EUROCLIMA is a regional cooperation programme between the European Union and Latin America, focused on climate change. The programme is implemented by UNEP and four other partners, and its objective is to contribute to climate change policy dialogue, governance, legislation and public awareness.



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SEA MONSTERS Separating fact from fiction

By Jo-Anne Nina Sewlal





The sea has been a source of intrigue for centuries for those who sail in its waters. I am sure that many readers have peered into the dark waters of the ocean and wondered what's down there. It is this wonder that has fueled the stories of sea monsters for millennia.

Much of our view of sea monsters is shaped from old maps which had elaborate drawings of mythical creatures believed to inhabit oceans. Some drawings just showed giant versions of known sea animals like giant lobsters. Known animals might be drawn in monstrous forms such as whales which were depicted as having heads that resembled that of a hybrid of a bird and a wolf with tusks. However, they were drawn as attacking ships although these creatures in reality have no interest in humans. It is more likely that their behaviour had been misunderstood where a huge animal surfacing suddenly might be interpreted as attacking than coming up for air.

It was also a long-held theory that animals on land had an equivalent in the sea. Therefore it was believed that there existed sea lions, sea dogs and sea pigs and the list goes on. Some of these names were retained as common names for some marine animals like sea lions which are basically seals with ear flaps. Sea pigs are actually deep water sea cucumbers which have legs. However, in old maps these are drawn as hybrids of a fish with the known land animal's head. So a sea pig would have a body of a fish but the head of a boar. But many of these maps were drawn from information gathered from sailors who had not received much formal education, if any. Also these maps were not primarily used for navigation but as art and displayed in the homes of the wealthy.

In Europe, the period from the 1400s to the 1600s is referred to as the "age of exploration" where a more scientific approach to obtaining new knowledge was applied which depended more on observations and data from naturalists who travel on these ships. With this age of exploration, a change in maps also occurred as they were more used for navigation. Also the fanciful images of sea monsters disappeared and more realistic images being used such as groups of fish to show good fishing grounds.

The largest of all sea monsters is the Kraken described as having a head with a circumference of 2.5km and huge arms that as large as the masts of ships. The story of the Kraken dates back to 1180 AD and it is said that this creature lived in the waters around Iceland and Norway. Based on current knowledge, what these sailors were most likely seeing were giant squid (Architeuthis sp.). There are eight species of giant squid and individuals can grow up to 20m in length. They also have ten arms and eyes that measure 30cm in diameter which is the size of dinner plates. However, giant squid despite their tremendous size do not attack humans or ships however, if one is close when one of these animals are submerging you and your vessel can be sucked down in the whirlpool created. However, the giant squid might not be the mythical Kraken as there are even larger squid species that have been known since 1925 to exist, such as Mesonychoteuthis hamiltoni. Giant squid although not known to be squids were known as "devil fish" where evidence of their existence included scars left on the skin of whales and pieces of their tentacles in their stomachs. It was only in the 1850's that "devil fish" were "recognized by scientists" as the giant squid.

Besides giant squid, some species of octopuses can reach giant proportions like the giant Pacific Octopus (Octopus delfleini) which can reach lengths of 5m and can weigh in 50kg. Lusca is a sea monster that has been reported to be sighted off the island of Andros in the Bahamas. The common descriptions of this creature resemble that of an octopus such as its ability to change colour which is exhibited by smaller octopus species. It is also reported to live in large underwater caves which are habitat of octopuses as well. It has been reported to reach ridiculous proportions reaching 23 to 60 metres in length much larger than the genus Enteroctopus. Members of this genus are referred to as giant octopuses but typically reach five metres in length. However, the descriptions of this creature greatly vary and include one that is dragon-like in appearance, a multi-headed monster or evil spirit.

Another real animal that can be mistaken for a sea monster is the oarfish (*Regalecus glesne*) which has an eel-like body and can grow up to 7.6 metres in length. They also have a crest of long stiff rods or fin rays and a red dorsal fin giving its head an unusual appearance. The frilled shark (*Chlamydoselachus anguineus*) may also be mistaken for a sea monster. This species is almost considered a living fossil and like the oarfish it is also eel-like in appearance, however it has a single dorsal fin which can appear as a mane.

Another animal that may be confused for a sea monster is the saltwater crocodile. They live in the Indian Ocean and Australia and around South East Asia and are quite large animals reaching lengths of five and a half metres and can weigh up to 1 ton. Some unconfirmed reports put their maximum length



as approximately nine metres. They are also aggressive animals and are known to attack people.

Some indications of the presence of sea monsters are also incorrect for instance, "tongue stones" which were believed to be the tongues of serpents turned into stone by St. Peter were correctly identified as fossilized shark teeth. Many mythical sea creatures turned out to be ordinary objects, for example, a large sea serpent would often be a large mat of floating seaweed. Many monsters included elements of real animals, for example, the tentacle of an octopus becomes a serpent or part of the Kraken. A tentacle extended above the surface of the water where the tip is clubshaped and from a distance could resemble the head and neck of a Plesiosaur that survived from prehistoric times.

Keep in mind is that the constant motion of the water can suggest movement of something in the water when there is nothing. Also it is very difficult to judge the distance, size and movement of an object when on the water. Because on land there are stationary objects such as trees which can be used as a scale to average the size and distance even movement of an animal. However in the open water where everything is moving, the only thing that can be used as a point of reference are waves, which vary in size due to weather conditions.

Even small or tiny animals can be mistaken for a sea monster especially if they are in a large group for instance, fish or dolphins swimming a line might look like the humps of an undulating sea serpent. Groups of birds flying low over the surface of the water could also be mistaken for a sea serpent.

Some dead animals can also be mistaken for sea monsters. An example is the basking shark (*Cetorhinus maximus*) regarded as the second largest fish in the sea reaching lengths of just over 12 metres. Despite their common name they are filter feeders where they take in water filled with small fish through their large mouths and the water is pushed out through large gills on the sides of their head.

When these animals die the gills are usually the first to decompose, giving the carcass the appearance of having a long narrow neck like a Plesiosaur but without the head.

Unusual weather conditions could also account for sea monster sightings such as when air of two different temperatures form layers above the surface of the water where the difference in density between the layers cause the light to bounce, basically creating a fun house mirror effect. So that animals like dolphins, seals or whales breaking the surface of the water can appear thin and tall and thus easily mistaken for a sea serpent. So after all this, what is a monster? The definition given by the Webster's dictionary is "an animal of strange and terrifying shape and one unusually large for its kind". Large marine species continue to be discovered, the most recent being a new hammerhead shark species last year. Therefore monsters are not all cases of mistaken identities. So the mystery of the seas have never left with new marine species still being discovered, unfortunately many will be considered "monsters" until science recognizes them.

Jo-Anne works with the Department of Life Sciences, University of the West Indies in Trinidad

Jo-Anne hopes to see the Loch Ness Monster one day!

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the second se

A s I grow older, I'm appreciating the natural environment of our earth even more. As I travel to school on mornings, I'm always amazed at the beauty of the lush mountains and the flamboyant poui trees dotting the hills, in all their majestic colours of brilliant pink and yellow. On rainy days, the mountains, drenched in water, are enveloped in a huge white scarf of fog as though in a warm embrace.

I can get lost in the beauty of the verdant mountains especially during the current rainy season but I'm driven back to reality when I see boxes and bottles and other type of garbage, carelessly strewn about the streets and I know, eventually, a lot of it will reach the canals, the rivers and into the sea.

When the heavy rains come and streets and homes are flooded, there are numerous excuses from people about why it happened. They even blame God.

No, the almighty Creator doesn't have anything to do with this. It's all in our actions.

I know when I see the beautiful mountains; they give me pleasure and joy

When we begin to dispose of our garbage carefully, the drains will not be clogged; the mouths of the rivers will remain unobstructed and water can flow freely into the sea.

Properly disposing of the garbage will also allow us to have pride in our surroundings and our environment that is naturally beautiful and who knows, this may even have an impact on how we start our day at school or work.

I know when I see the beautiful mountains; they give me pleasure and joy. From my school, the unobstructed view of the mountains is a reminder about the natural, untouched beauty of our environment.

Wouldn't be great if we could keep it that way?

Things to Do

Make a tornado in a jar

A tornado is air which is spinning very fast. It is made by a special type of thunderstorm called a supercell.

What you will need:

- A clear jam jar or similar see-through container with a screw-on lid
- Washing-up liquid or liquid soap
- Food colouring

What to do:

- Fill up the container with water then add a few drops of the washing-up liquid and a few drops of the food colouring. Tightly screw on the lid.
- Swirl the container around in a circle lots of times and then stop. Inside you should see what looks like a tornado. It will slowly disappear as it reaches the top of the container.

Tornadoes in the real world are made in a similar way, when cold and warm air combine and spin.



Make a cloud in a glass

Clouds in the real world form in warm, moist air. You can make something similar happen using things you can find around your home.

What you will need:

- A clear glass or similar see-through container
- Warm water
- Ice
- Metal or foil dish

What to do:

- 1. Place the ice into the metal dish.
- 2. Pour a small amount of warm water into the bottom of the glass.
- 3. Wait until the dish is really cold. Then place it on top of the glass.
- 4. Watch the inside carefully. You should see a 'cloud' form near the top of the glass.

In the real world, clouds form when warm, moist air, like that in your glass, is cooled (your ice). When it is cooled it condenses into tiny water droplets, which appear as clouds.



Experiments and images courtesy: http://www.metoffice.gov.uk Visit: http://www.metoffice.gov.uk/education/ for more cool stuff on weather!

UNEP Launches Green Passport for 2014 World Cup



(l. to r.) Brazil Minister of Tourism, Gastão Vieira; UNEP Executive Director, Achim Steiner; Brazil Minister of Environment, Izabella Teixeira; Brazil Green Party Cofounder, Carlos Minc; Rio de Janeiro Tourism Sub-Secretary Pedro Guimarães



The United Nations Environment Programme (UNEP) and Brazil's ministries of Environment, Sports, Tourism and Social Development have launched the 2014 edition of the Green Passport initiative, which is an online mobile application aimed at promoting sustainable tourism during the 2014 World Cup in Brazil and beyond.

In 2012, UNEP and Brazil agreed to work together on incorporating sustainability concerns into the World Cup. The Green Passport can be downloaded as an application or used online, and gives a wealth of advice to tourists on how to minimize their environmental impact while in Brazil. Beyond responsible tourism tips, the campaign features the Green Passport Tours-60 tour options at and around each one of the twelve host cities of the 2014 FIFA World Cup, which encourage travellers to choose more sustainable practices, such as public transportation and local cultural experiences. Tourists may also recommend establishments engaged in the campaign, using sustainable criteria.

By developing activities focused on sustainable production and consumption, the campaign involves the Brazilian tourism sector in activities such as Sustainability Journeys- workshops to engage hotels, bars and restaurants in ecoefficiency practices in five host cities (Brasilia, Belo Horizonte, Rio de Janeiro, Salvador and São Paulo)- and the Green Passport Pledge, which invites the tourism sector to commit to more sustainable practices.

Through the campaign website, selfassessments can be carried out. The results will indicate how a company can commit to adopt and/or improve sustainability practices.

always on top of issues

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Green Climate Fund Board Takes Major Step towards Mobilization funds

The Board of the Green Climate Fund has taken major decisions necessary to begin mobilizing significant funds to tackle global climate change.

The Board successfully reached agreement on essential requirements for the Fund to move towards commencing its initial resource mobilization, among them, a results management framework, the initial proposal approval process, the guiding framework and procedures for accrediting entities and the Fund's financial risk management and investment frameworks.

> Speaking immediately after the Board meeting, Co-Chair Mr. Manfred Konukiewitz (Germany) stated: "We have taken the final steps for the fund to become operational and to start the initial resource mobilization process. With the decisions taken at this meeting, especially on the investment framework and the proposal approval process, we have designed the fund to be ambitious and effective in supporting developing countries in their way towards lowemission and climate-resilient development. This was a very crucial meeting and we have made the essential progress needed."

> Co-Chair Mr. Jose Maria Sarte Salceda (Philippines) stated: "The Board's decisions this week demonstrate that the Fund can and will succeed. We had some tough negotiations, but all members have shown their determination for the Fund to play a vital role in helping developing countries cope with the devastating impacts of climate change and become more climate-resilient."

Ms. Héla Cheikhrouhou, Executive Director, stated: "Today marks the adoption by the Board of the essential policies for the Fund to be able to receive, programme and disburse resources. Looking ahead, it will be important to mobilize initial resources promptly, to enable the Fund to start delivering on its mandate as a main financial partner of the developing countries in their response to climate change"

The Green Climate Fund (the Fund) is a new multilateral fund that was agreed by Parties at the 2010 United Nations Framework Convention on Climate Change conference held in Cancun, Mexico, and designated as an operating entity of the Convention's financial mechanism. The Fund's Governing Instrument was developed and approved in 2011.

The Fund's purpose is to promote, within the context of sustainable development, the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to help limit or reduce their greenhouse gas emissions and to adapt to the unavoidable impacts of climate change.

Climate Fund Should Not Support Fossil Fuels

Global Pressure on New UN Climate Fund

 More than 250 organizations, movements

More than 250 organizations, movements and communities from developing countries called on the United Nations' Green Climate Fund (GCF) to ban the use of its funds for fossil fuel and other harmful energy projects and programs as it gathered for its 7th Board Meeting.

"To use climate funds to finance fossil fuel and other harmful energy projects is totally unacceptable," said Lidy Nacpil ,Coordinator of Jubilee South Asia/Pacific Movement on Debt and Development (JSAPMDD), a member of the Global Campaign to Demand Climate Justice that helped coordinate the world-wide response.

"We are organizations, movements and communities from developing countries whose citizens bear the brunt of the most harmful consequences of climate change. All efforts must be made to ensure that climate finance is provided adequately, allocated equitably and used effectively." Nacpil said.

"People across the world are calling for an explicit policy that GCF funds will not be used directly or indirectly for financing fossil fuel and other harmful energy projects or programs that are most of the time detrimental to the health and environment of the poor." Mithika Mwenda, General Secretary of the Pan African Climate Justice Alliance and Global Campaign member said.

California oil pumps. Photo: CGP Grey

"We urge the GCF board to adopt an 'exclusion list' as part of environmental, social, gender and financial safeguards and protection policies." Mwenda added.

Civil society observers of the Fund noted with alarm that like other international financial institutions the GCF may rationalise funding climate-polluting projects because of "lower carbon" energy or because they switch to "lower emissions" fuels rather than truly sustainable options.

The call was supported by more than fifty civil society groups from developed countries in Europe, North America and the Pacific.

Formally launched in 2010, the GCF is under pressure to open for business in 2015.

Currently it is a Fund without funds, as rich industrialized countries drag their feet in fulfilling their obligations under the UN climate treaty to provide up to \$100 billion of climate finance a year.

Climate Agreement Must Meet Adaptation Needs of Vulnerable Communities

Communities across the developing world have a wealth of local knowledge and ingenuity to adapt more successfully to climate change but they urgently need greater international support to unlock their ambitions, said Christiana Figueres, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC).

"In the past few years, governments under the UN climate change convention have launched a whole new set of institutions to support action by the developing world. But there is still a gap between intent and full implementation that will allow vulnerable countries to make the most of their abilities and adapt own at а scale," faster and more decisive she said, after addressing the 8th Annual Community Based Adaptation Conference in Kathmandu, Nepal.

"Next year, governments will agree a new, universal climate agreement that must put the world on track to а carbon-neutral future. An essential foundation successful for а agreement must be greater ambition bv all sectors of society to reduce emissions and to support developing nations communities build climate-resilient and futures," she said.

The Kathmandu conference focused issues on such as how to ensure international finance can reach communities in need and how the private sector can better support such communities to adapt to climate change.



Christiana Figueres speaking at the closing ceremony of the of the 8th annual conference on community based adaptation to climate change. Photo: Stephanie Andrei. IIED

"Nepal itself is estimated be to losing one per cent of its GDP to floods and landslides alone, figure а that will only rise unless the alobal community puts in place the policies and the pathways to bend the emissions curve down and climate proof communities and development here and across the vulnerable world," said Figueres.

She underlined the importance of the new Green Climate Fund (GCF) which was established to become a major conduit of finance for developing country climate action. It will use public funds directly but also to leverage even higher levels of private sector investments for nations that might otherwise find access to such funding difficult.

"It is in the interest of all sides that developed countries come forward with substantial pledges to capitalize the GCF.



Billions are required. At least ten billion dollars are urgently needed as initial capitalization so the GCF can operate quickly and at scale," the UNFCCC chief said.

A whole set of funds and projects supporting climate action by developing nations These already exist. include those linked directly to or established by decisions under the UNFCCC. These include the Adaptation Fund, the Least Developed Countries Fund, the Special Climate Change Fund and the GCF. They also include the Global Environment Facility and others such as the Climate Investment Funds generated through the World Bank.

the Under UN climate convention, countries developing also the have opportunity to give potential funders or other assisting institutions access to their detailed plans for low-carbon development and adaptation to climate change.



Above and below): photos from the CBA8 field tip to site 2, Kritipur village, Nawalparsi district, to showcase irrigation system and community forest projects. Photos: Kate Wilson. IIED

These include the so-called NationallyAppropriateMitigationActions(NAMAs), National Adaptation Programmes ofAction (NAPAs) and the new more long termNational Adaptation Plans (NAPs).

"The urgent task is to ensure that all these working parts are being designed, redesigned and dovetailed together into the most powerful engine of change to a carbon-neutral world – this will in part define the lives and legitimate aspirations of people for many years to come," said Figueres.



Major Economies Forum Calls for Urgent Climate Action

The Mexican Government hosted the 18th meeting of the Major Economies Forum on Energy and Climate (MEF), welcoming 90 delegates from 23 countries to a discussion intended to support progress in climate change negotiations and encourage the adoption of clean energy that reduces greenhouse gas (GHG) emissions.

The officials and ministers gathered from 8-9 May 2014, in Mexico City, Mexico, and agreed on the need for urgent action to avoid the worst impacts of climate change. Attendees at the event included the Co-Chairs of the *Ad Hoc* Working Group on the Durban Platform for Enhanced Action (ADP) of the UNFCCC.

The four themes addressed by the meeting were mitigation, adaptation, differentiation, and the path to negotiations in Paris, France, in 2015. Looking ahead to the 2015 climate change negotiations, attendees expressed their desire to achieve a draft negotiating text to be considered in Lima, Peru, later this year. They noted the text should reflect the positions and interests of all countries.

Mexican Secretary of the Environment and Natural Resources Juan José Guerra Abud highlighted several of the measures Mexico has taken to combat climate change, namely the General Law of Climate Change, as well as its Energy Reform, which will encourage the deployment of cleaner fuels throughout the country.

US Special Envoy for Climate Change Todd Stern expressed his satisfaction with the meeting, noting that countries had made important advances on the four key themes. He emphasized that every country should be prepared to propose its actions to reduce GHG emissions by early 2015, while promoting its development.

The 17 major economies participating in the MEF are: Australia, Brazil, Canada, China, the EU, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, the Russian Federation, South Africa, the UK and the US. Countries invited to the meeting were: New Zealand, Peru, Marshall Islands and Saudi Arabia.

Together, MEF member countries are responsible for over 80% of global GHG emissions and make up 75% of global gross domestic product (GDP). US President Barack Obama launched MEF in 2009 with the aim of spurring meaningful discussion about climate change among leaders of major developed and developing economies. VYTT is leading the way in corporate communications by working collaboratively with its clients to deliver sharper solutions in strategic communications and reputation management...

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Bangladesh Uncovers the Crippling Cost of Climate Change Adaptation



With a population of 140 million, Bangladesh is one of the world's most populated countries. It is also one of the most vulnerable to the impacts of climate change. Cyclones, floods and droughts have long been part of the country's history but they have intensified in recent years. As a result of the long exposure to these hazards, Bangladesh is a world leader in adaptation strategies but this has come with a heavy price tag.

To find out exactly how much taxpayers' money has been absorbed by efforts to tackle the effects of climate change, the country's Ministry of Finance has been working with the UNDP-UNEP Poverty-Environment Initiative to launch its first comprehensive climate change accounting system. The results of the financial review were quite revealing.

A crippling bill

Bangladesh currently spends \$1 billion a year, 6 to 7 per cent of its annual budget, on climate change adaptation.

The figure is more startling when seen in context of the World Bank's recent estimation that 'Bangladesh will need \$5.7 billion for adaptation by 2050'. The budget review revealed that Bangladesh is spending nearly a fifth of that a year already.

Contrary to popular assumptions, the budget review showed that it is the Bangladesh government and not international donors, which is picking up the bill. Three-quarters of money spent on climate change in the country comes directly from the government, while one-quarter comes from international donors.

The irony of the finding will be lost on few people: the average European citizen emits as much carbon in 11 days as the average Bangladeshi in an entire year. Bangladesh who are expected to pay for the escalating costs.

The expenditure review also revealed that poorer households need far more to adapt to climate change. For the extreme poor and landless households, the damage from climate change often significantly exceeds their income, some by more than double the amount. In short, it is the poorest communities in Bangladesh who are being landed with a crippling development deficit.

New Government focus on climate

The review created quite a stir within and beyond the Ministry of Finance. It has moved the issue of climate change beyond the sole remit of the Ministry for the Environment. By bringing together civil servants from across diverse ministries, including from agriculture, disaster management, water resources and local government, the initiative has proven the relevance of climate change to all departments.

For Manumur Rashid from the Ministry of National Planning, it is a significant

Yet it is the government and the people of shift in government thinking. For the first time, climate change is no longer merely an additional demand, it is central to the country's development prospects. For him, a very different 'budget day' is now in sight one on which the Minister of Finance will follow his presentation of a national economic budget with the national climate budget.

Informing the global agenda

The expenditure review is also making an impact beyond national borders. Bangladesh's Minister for the Environment has used the findings in statements in parliament and at international climate change negotiations.

As the country is a very prominent player in the international scene, representing and fighting for the needs of other Least Developed Countries (LDCs) also grappling with escalating climate bills, the hope is that the figures will support a stronger negotiating position at the global level to leverage the kinds of funds required to fill the development gap created by climate change.

FORESTATION

Forests help protect the planet by absorbing massive amounts of carbon dioxide (CO2), the most abundant type of pollution that causes climate change. Unfortunately, forests are currently being destroyed or damaged at an alarming rate. Logging and clearing land for agriculture or livestock release huge amounts of carbon dioxide and other harmful greenhouse gases into the atmosphere. It also diminishes those regions' ability to absorb carbon pollution.

Scientists estimate up to 20 percent of global carbon emissions come from deforestation – greater than

Extreme weather drives displacement from The Horn of Africa

Photos courtesy: Norweigan Refugee Council. Disaster-related Displacement from the Horn of Africa. Report.



UN University and Norwegian Refugee Council: Thousands of people at the Horn of Africa are at risk of being displaced across borders as extreme weather increases in frequency.



Between 2008 and 2012, 144 million people were forced to leave their homes by sudden-onset disasters around the world. The vast majority of them fled from floods, storms and wildfires and others effects of climate change. Most remain in their countries as internally displaced people, but many also flee across the borders to other countries.

A new report by the UN University, Institute for Environment and Human Security (UNU-EHS) and the Norwegian Refugee Council (NRC) was launched in May at the Nansen Initiatives' regional consultation in Nairobi. The report calls for more attention to the situation of individuals who are displaced to another country because of climate change and disasters in the Horn of Africa.

"As extreme weather increases in intensity thousands are at risk of being displaced. Many of the displaced receive some assistance, but the support varies. There is a need for more predictive protection and assistance. We must start in the hardest affected regions," says Nina M. Birkeland of the Norwegian Refugee Council.

Drought forces people to leave their homes in Somalia and Ethiopia and flee to Kenya, Egypt or Yemen. Most of those fleeing are pastoralists, small scale farmers and agropastoralists. The report shows that natural disasters usually interact with ethnic and politically based discrimination. For instance, armed conflict and lack of humanitarian access in Somalia played an important role in escalating the effects of the drought and famine.

"Individuals leave for another country for a variety of reasons, but in many cases the driving factor is related to the loss and deterioration of livelihood. Induced by weather-related events, factors such as destruction of crops or flooding motivate people to cross borders" says Dr. Tamer Afifi from UNU-EHS.

The report finds that people often leave without essential legal documents, money, personal items and might be separated from their families. People who are forced to flee their homes as a result of a disaster and effects of climate change are not considered refugees under current law and conventions. If a refugee status cannot be applied, displaced persons may have limited access to assistance.

"There is a need to explore the experiences of those directly affected as well as responses by governments, international organizations and others on the ground. We must ensure that the rights of those displaced are protected, says Birkeland."



Building Resilience Critical to End Hunger and Undernutrition by 2025

Global conference offers new research and commitments to address threat of rising shocks to global food system

According to the International Food Policy Research Institute (IFPRI), the post-2015 agenda should aim to end hunger by 2025—and can succeed by building resilience to various environmental, political and economic shocks that threaten food security and livelihoods.

More than 800 experts from around the world convened in Addis Ababa, Ethiopia, for a three-day conference to discuss the scope of this challenge and the investments required to end hunger and malnutrition for good. The conference, "Building Resilience for Food and Nutrition Security," organized by IFPRI, its 2020 Vision Initiative, and partners took place from May 15–17, 2014.

Building resilience is about helping vulnerable individuals, households, communities, and countries prepare for, cope with, and recover from shocks and even to become better off. The shocks can be natural or man-made, short- or long-term, and acute or chronic.



Opening the conference, the Prime Minister of Ethiopia, H.E. Hailemariam Dessalegn, noted "to be a resilient country we must also have a resilient agriculture system. Accordingly, we have invested in raising the productivity of small farmers, strengthening agricultural marketing systems, bringing more land under irrigation, and reducing land degradation by soil and water conservation measures including biological measures for sustainable land management." He added, "Our people are at the center of these investments and policies."



IFPRI Director General **Shenggen Fan** stressed the conference's relevance in light of growing uncertainty and extreme events. "Many of the potential shocks we face, such as disease, food price spikes, and natural disasters, know no borders. Our success in coping, and even thriving in the presence of shocks, will depend on renewed efforts to cooperate and collaborate on a resilience agenda," he said. "Strengthened resilience in turn will be key to achieving an end to hunger."



This call-to-action was echoed by fellow panelists Maria Helena Semedo, the United Nations Food and Agriculture Organization's Deputy Director General for Natural Resources, and Erastus Mwencha, Deputy Commissioner of the African Union Commission. The African Union is celebrating its Year of Agriculture and Food Security in Africa in 2014.

Many major shocks hit poor people and vulnerable communities hardest, and these groups also face constant threats of crop failure, disease, and accidents. All of these shocks, large and small, combined with chronic poverty, contribute to the persistence of hunger and undernutrition.



"Successful small farms—which are responsible for up to 80 percent of the food produced in some countries—can create vibrant rural areas that ensure a dynamic flow of economic benefits between rural and urban areas," said Kanayo F. Nwanze, President of the International Fund for Agricultural Development (IFAD).

"Investing in the resilience of smallholder farmers is also investing in the resilience of food systems and communities and the balanced and sustained development of nations."



Source: Beare, D. 2012. Fisheries and aquaculture: The importance of fish for food and nutritional security p. 55-67. In: Thornton, P.; Cramer, L. [Eds.]. Impacts of climate change on the agricultural and aquatic systems and natural resources within the CGIAR's mandate. CCAFS Working Paper 23. (Available from http://cgspace.cgiar.org/handle/10568/21226)

Drought Forecast for Caribbean

By Elisabeth Gawthrop and Mea Halperin

he Caribbean Climate Outlook Forum (CariCOF) took place in May in Kingston, Jamaica. It is one of a number of Climate Outlook Forums (COFs) around the world during which scientists present a forecast to decision makers who work in climate-sensitive sectors such as agriculture, water management, disaster planning and health. The forecast is made by consensus of scientists from across the region.

The first CariCOF was held in 1998, but after a few years the Caribbean Institute of Meteorology and Hydrology (CIMH) became the sole creator and disseminator of the regionwide forecasts. CariCOF was reinstated when an extreme drought in 2010 called attention to the need for regional collaboration among national-level scientists and decision makers.

Typically, the primary component of the CariCOF has been to present the seasonal rainfall forecast produced with the Climate Predictability Tool. This year, for the first time, forecasters attending the CariCOF generated a temperature forecast and a drought outlook. The drought outlook received most of the attention and engagement from decision makers.

"The drought outlook was a big success today in that it turned probabilistic forecasts into a more digestible format, but much research still needs to be done on how to define the phases of drought in a way that is accurate scientifically and with regard to impacts," says Simon Mason, Chief Climate Scientist at the International Research Institute for Climate and Society, who has been involved with COFs around the world since they were first held.



Leslie Simpson of the Caribbean Agricultural Research and Development Institute plays the role of spokesman in a mock press conference during CariCOF.

The newly issued forecast indicates that much of the Caribbean has a slightly higher chance for drier-than-average conditions over the next six months, which is region's the wet season. emphasized that below-Forecasters average precipitation during the wet season does not necessarily mean there will be impactful drought, but it may make drought more likely to occur during the dry season that follows. Drought is a climate impact that builds up slowly over months. Using forecasts can alert decision makers before the drought reaches a hazardous level so that they have the opportunity to take preventative measures and reduce vulnerabilities.

Climatologist Cédric Van Meerbeeck from CIMH says that most people in the Caribbean are used to preparing and reacting to hurricanes. "We want to emphasize that preparedness is also important for other climate risks, such as drought."

Taking on the challenges of an increasingly electrified world

IEA report says business-as-usual approach must be overhauled to cope with global shift to electricity

Electricity will increasingly power the world's economies in the 21st century, rivalling oil as the dominant energy carrier, according to a new report by the International Energy Agency. Actively managing this transformation is the only way to ensure we meet global energy security and climate goals economically, the report says.

The report, *Energy Technology Perspectives (ETP 2014)*, offers a comprehensive, long-term analysis of trends in the energy sector and of the technologies that are essential to achieving an affordable, secure and low-carbon energy system. ETP 2014 also features the IEA's annual progress report on global efforts to engineer a clean-energy transformation. It shows that while clean energy technology deployment in emerging economies has rallied over the past year – making up for declines in the industrialised world -- the overall picture of progress remains bleak. Indeed, the level of progress described in the 2014 report is arguably less than what was documented in the IEA's previous tracking report.

Electricity production uses 40% of primary energy and produces an equal share of energy-related CO2 emissions. However, cost-effective, practical solutions can increase efficiency, moderate electricity demand and decarbonise almost all power generation by 2050.

The report finds that an additional USD 44 trillion in investment is needed to secure a clean-energy future by 2050, but this represents only a small portion of global GDP and is offset by over USD 115 trillion in fuel savings.



Click image to access the full Executive Summary of the report

"Electricity is going to play a defining role in the first half of this century as the energy carrier that increasingly powers economic growth and development. While this offers many opportunities, it does not solve all our problems; indeed, it creates many new challenges," said IEA **Executive Director Maria** van der Hoeven, who launched the report during the Fifth Clean **Energy Ministerial meeting** in Seoul.

Other key points emerging in ETP 2014's analysis:

- Electricity storage can play multiple roles in an integrated system, as can other technologies with which it must compete. Contrary to many other voices, ETP analysis finds that electricity storage alone is not an indispensable game changer for the future energy system.
- Electricity could be the key to weaning the transportation sector off its oil addiction, but not all regions are at the same level of readiness to take that leap.

Celebrating the Launch of Community-Based REDD+

Over 100 people attended the recent launch of the Community-Based REDD+ (CBR+), a new partnership between the UN-REDD Programme and the UNDP-GEF Small Grants Programme (SGP).

Made possible through the generous contribution of \$4 million from the Government of Norway, and co-financed by SGP, CBR+ will provide grants of up to \$50,000 directly to indigenous peoples and local communities, to empower them to fully engage in the design, implementation and monitoring of REDD+* readiness activities, and to develop experiences, lessons, and recommendations at the local level that can feed into national REDD+ processes.

In recognition of the strong role indigenous peoples played in driving the development of this new initiative, the launch was held during the United Nations Permanent Forum on Indigenous Issues (UNPFII), and a number of prominent indigenous leaders took to the podium to applaud CBR+ and encourage indigenous peoples and communities to take full advantage of



As Charles McNeill (Senior Policy Advisor, UNDP) explained, CBR+ will support communitylevel projects that complement UN-REDD National Programmes, national REDD+ readiness processes and/or strategies. It is currently being piloted in six countries: Cambodia, Democratic Republic of the Congo, Nigeria, Panama, Paraguay and Sri Lanka.

Joan Carling (Secretary General, Asia Indigenous Peoples Pact) praised CBR+ as a way to bridge the gap between local communities and international level processes, and expressed her hope that CBR+ would facilitate greater involvement of indigenous peoples in REDD+ processes.

Kanyinke Sena

(Former Chair, UNPFII) emphasized that indigenous peoples and forest communities should be at the frontline of REDD+, and called on IPs to take full advantage of the opportunity CBR+ presents. He also expressed his hope that the initiative could be expanded in the near future to serve a greater range of countries.

Delfin Ganapin

(Global Manager, SGP), emphasized that REDD+ needs to be supported from the grassroots as well as from the top, and pointed to CBR+ as a key element to ensure this is the case.

*REDD+ stands for countries' efforts to Reduce Emissions from Deforestation and forest Degradation, and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks.

Natural Solutions for Island Resilience: Strengthening a beach in Tafatafa, Samoa



At the core of the idea of Natural Solutions for Island Resilience is empowering communities to take action for a healthy environment

Healthy ecosystems can help Pacific islands better adapt to climate change as they are better able to 'bounce back' from the impacts of severe weather patterns and natural disasters.

In Kiribati, the Secretariat of the Pacific Regional Environment Programme (SPREP) has fully implemented coastal Ecosystem based Adaptation (EbA) activities by planting coastal vegetation and carrying out monitoring at selected sites, putting in place other suitable coastal erosion control methods using natural materials, carrying out site visits to the outer islands and raising awareness about the value of coastal EbA, identifying needs for coastal EbA.

The Secretariat of the Pacific Regional Environment Programme (SPREP) is also working with partners in Samoa to help communities take action. One activity in particular is bringing fun into learning about nature conservation through a project to protect Vaiula Beach from further erosion at Tafatafa.

If you happen to spend a weekend here, you will come across a newly installed billboard with a twist. In addition to messages about protecting the beach, this billboard provides a fun photo opportunity that allows you to be part of the call for good environment practices. A cut out in the board allows you to take an action photo and share the strong messages.

Since its installation, the billboard has already proven popular with locals.

"Incorporating fun into the spirit of learning about how we can protect our environment is always a winner," said Vainuupo Jungblut, the Oceania Ramsar Officer at SPREP.

"We want to share knowledge about the need to prevent beach erosion and help more people get involved in protecting the environment. While it is fun, there is a very important overall message behind this – we need to work together with nature if we are to build island resilience."

1971 **2013** REMIX

Conference of leading scientists reports a danger of rapid and serious global climate change caused by humans, calls for an organized research effort.

Scientists are more certain than ever that the warming since 1950 has been primarily caused by humans.

Strong global warming since mid-1970s is reported, with 1981 the warmest year on record.

2013 REMIX

1982

The period 2001–2010 was the hottest decade on record.

Scientists have known for decades. They've warned us. And changes are well underway.

CLIMATE CHANGE IS HAPPENING NOW

1990 20

IPCC First Assessment Report finds global warming is likely to increase heatwaves in summer.

2013 REMIX

Many regions including Australia have experienced longer and more intense heatwaves.

1965

Leading scientists point out the chaotic nature of the climate system and the possibility of sudden shifts. A warming climate is increasing the frequency and severity of many extreme weather events.

2013 REMIX

Nature does not hurry, yet everything is accomplished. *Lao Tzu*

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