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THE GLOBAL CLIMATE CHANGE ALLIANCE PLUS INITIATIVE

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Stories from a changing world 2019

The Global Climate Change Alliance Plus (GCCA+)

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TRINIDAD AND TOBAGO: REDUCING AVIATION EMISSIONS FROM THE GROUND UP

12 August 2019

Another plane full of visitors touches down at Piarco International airport on the island of Trinidad. They are a mixed bunch – tourists here to enjoy white sandy beaches and clear blue seas, along with workers from the oil and gas industry.

More than 2.5 million passengers use Piarco International each year, though it is unlikely many of them give much thought to the huge amount of electricity even a small airport needs to keep running. As the plane taxis to its allotted gate, passengers may catch a glimpse of several large arrays of solar panels around the airport - signs that a renewable energy revolution is underway.

"The cost of energy is a big issue for most small island developing states (SIDS)," says Jane Hulpe, Deputy Director of Environment at the International Civil Aviation Organisation (ICAO). "So there is a big economic as well as environmental benefit if you can cut aviation emissions. We know a lot about the economics of airlines and big airports, but we don't know so much about the small airports like those you often find on SIDS. Energy accounts for a high proportion of their costs, so anything we can do to help with that has got to be a good thing."

The ICAO's 'Solar at Gate' (SAG) project aims to reduce carbon emissions from fossil-fuel power generation by using solar energy for the air conditioning and other services a plane uses while it is at the airport gate – typically around one hour for domestic and two hours for international flights. SAG significantly reduces carbon dioxide emissions from aircraft parked at the gate, which currently use auxiliary power units (APUs) powered by jet fuel or airport ground power units (GPUs) fuelled by diesel to run on-board systems and cooling before departing for their next flight.

SAG was first piloted at Jamaica's Norman Manley international airport, followed by airports at Mombassa in Kenya and Douala in Cameroon. Now, as part of a 4€ million European Union-project – funded through the Global Climate Change Alliance Plus (GCCA+) initiative – to help Trinidad and Tobago reach its Nationally Determined Contribution (NDC), Piarco International has been chosen for SAG after an intensive feasibility and consultation process.

"When you do a project to reduce CO_2 it's important that the methodology is harmonised and comparable, so you can nail down the lessons learned and replicate it easily elsewhere," says Jane Hulpe. "We have come up with a methodology which easily shows the emissions reductions, so people now understand how much it will cost, what the benefits are and what it takes to get the SAG done – it's not difficult. They say 'Oh, it's really good, this can really help us!' "

"The whole point of doing pilot projects is to learn, to create a methodology which can then be rolled out easily at other airports around the world. The SAG at Piarco International is a great illustration of this – we carried out an assessment which showed that renewable energy was possible and could be done by replicating the original pilot. It's great news that they are going ahead."

SAG may sound simple, but it's not just a question of installing solar panels and hooking them up to the gate. Safety factors are a priority, such as eliminating glare from the panels which could dazzle cockpit crew as they take off or land. There also has to be a clear cost benefit – which in Piarco's case was obvious, as the airport currently consumes around 20,000 megawatts of electricity each year. "We're also talking to SIDS in Asia and the Pacific about SAG," she says. "The more projects we do, the cheaper it becomes – the cost has halved in two years and the area needed for the solar panels is half what it was. We're getting better all the time."

The benefits of SAG go beyond simply cutting costs and emissions. It encourages investment in the local economy, enables a country to diversify its energy sources and enables the government to make a practical demonstration of its commitment to tackling climate change. And, says Jane Hulpe, there are benefits for airport works as well.

"It's about the people," she says. "It's very nice to do all the planning, but when I see the project concretely on site it really gives me a lot of satisfaction. It's about capacity building, knowing that the staff in each country are well prepared to continue the work after you've gone. I get great satisfaction when the local staff assume the project as their own – when I leave, they are ready to go."

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DOUDA, IN TANZANIA, IS ONE OF THE HARDEST PLACES I HAVE EVER VISITED

14 June 2019

"Douda is one of the hardest and hottest places I have ever visited," says Faaris. "Drought and desertification caused by climate change are putting thousands of families at risk of starvation. During my visit the temperatures were so high it was impossible for the farmers to harvest their crops."

The tiny state of Djibouti in the Horn of Africa has been hit hard by the impacts of climate change. Temperatures regularly climb above 40 degrees celsius during the summer months and the land is arid and inhospitable. An astonishing 90 percent of the country is desert.

"Most of the nations in the Horn of Africa suffer from climate change, but Djibouti is particularly bad," says Faaris. "Douda is a small village about 15km from the capital. The farmers there grow vegetables such as okra which they sell in Djibouti City, but water is so scarce it is really difficult to get a decent crop."

That's where the EU's flagship climate change programme GCCA+ stepped in. As part of a €3 million project, 40 greenhouses, each equipped with a drip irrigation system, were put up for local farmers to use. The farmers plant a mixture of vegetables to sell at market and forage crops to feed to their animals. It is estimated they can earn around 40,000 Djibouti Francs a month – or €200 – from each greenhouse.

Each 0.5 ha plot is fed by treated waste water from the Douda wastewater treatment plant. A cooperative has been set up to help the farmers learn be trained in irrigation scheme management techniques and to teach them how to grow drought-resistant crops.

"I love being a humanitarian photojournalist because it gives me an opportunity to work with the most vulnerable and marginalised groups in society," says Faaris. "These people are the most affected by disasters and conflict, which are compounded by climate change. My role as a photojournalist is important because through my words and pictures I can give a voice to the voiceless."

47 year old mother of four Asha Mohamed is typical of the farmers struggling to make a living in this barren landscape. "Asha was one of the women to benefit from the greenhouse project. When I met her she was planting vegetable seedlings in the greenhouse in incredibly heat. You cannot imagine how hard it is to work in those conditions and to grow enough to sell at the market. Yet woman like Asha have no alternative."

Faaris likes to capture his subjects when they are working. "I came across this guy from Ethiopia called Abdi Abdirahman, working in the fields. He was tending the plants with one hand and in the other he held a solar powered radio turned to a local FM station. It was a bit weird hearing the music blasting out over the desert landscape."

The 'irrigated perimeter' project, as it is known, has other advantages besides helping farmers increase their productivity. In this dry country, every drop of water in precious, so the team have installed drip irrigation pipes which use only a tiny amount of water.

"I came across a farmer called Farah Sugaal, who is one of those benefitting from the project," says Faaris. "He's 58 years old and I found him watering the first trees to be planted on his plot of land. He told me the irrigation system has made a big difference to his life and to his future."

Faaris heard about the assignment in Djibouti through an organisation called Climate Tracker, which is working with GCCA+ to report on EU climate change adaptation and mitigation projects all over the world. Climate Tracker commissions young journalists, filmmakers and photographers to 'put climate change on the front pages'.

"I was already in Djibouti for another assignment, so it was no problem for me to travel to Douda," Faaris explains. "Although it is not far from the capital, it was a very hot journey. Climate change in this region is very real – it is having a huge impact on the people who live there, but at least the farmers in Douda now have a chance to improve their lives."

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MOVING NDCs ONE STEP AHEAD: FROM THEORY TO ACTION

12 August 2019

Results that were unimaginable just one year ago: climate actions communicated in Nationally Determined Contributions (NDCs) are aligned with 154 of the 169 targets of the UN Sustainable Development Goals.

cambodiaKompong Khleang village, Siem Reap
Post-Paris climate cooperation has focused on setting all the wheels in motion to help developing countries to take their NDCs from theory into action. A fledgling piece of climate change architecture has emerged, encouraging a 'partner-oriented technical approach'. The composition of this group ranges from a number of facilities established prior to the Paris Agreement (i.e. NDC Cluster, LEDS Global Partnership, Africa Partnership Facility for NDC) – that have since moved from NDC preparation to NDC implementation – to those established immediately after COP21 and launched at COP22.

Together, these facilities have convened more than 100 countries, representatives from international institutions and non- state actors committed to acting on climate.
In the two years following COP22, the 'new NDC leading architects' have been working with countries in fleshing out the NDCs. They have built populated databases to share data information, financial initiatives, and advisory support to narrow countries' knowledge gaps and, in the case of the NDC Partnership, coordinate donor and institutional support around country- identified priorities.

The key to the success of this approach is the method used by these initiatives to share climate information. They are progressively scaling up their partner networks to generate up-to-date information and data that enables countries to learn, shore up their knowledge and to accelerate their climate actions. This new modus operandi has already produced results unimaginable just one year ago: climate actions communicated in NDCs are aligned with 154 of the 169 targets of the UN Sustainable Development Goals, states the World Research Institute in its Climate Watch database.

This means that despite the proliferation of different existing initiatives, papers, words and seminars on this topic, the three leading initiatives are: The NDC Partnership (worldwide geographical scope), the World Bank NDC Platform (worldwide geographical scope), and the IDB Group NDC Invest (Latin American and Caribbean geographical scope) are the three actual NDC leaders in the context of UNFCCC negotiations. Therefore, other facilities and hubs, created in parallel to these three, should ensure their approaches integrate the work already done.

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MAKING A DRAMA OUT OF CLIMATE CHANGE IN COMOROS

14 June 2019

On a remote island beach in the Indian Ocean, two young men illegally fill sacks with golden sand and carry it away to sell for construction on the black market.

Just down the coast, a woman dressed in old plastic bags argues loudly with the local mayor about the piles of rubbish which stretch as far as the eye can see.

An old man confronts two young men who are cutting down trees to turn into charcoal. You are destroying your future and well as the forest, he tells them.

On a small farm up in the hills, an elderly woman explains to her grandson about how to grow healthy crops without using chemicals or pesticides.

These are all scenes from a series of seven short films made on the Comoros islands as part of a project to raise awareness about climate change and change the attitudes and behaviour of the islanders to their natural resources. The videos, funded as part of the GCCA+ programme on Comoros, have been shown on local TV stations and on social media.

"The videos are part of a wider publicity campaign using radio, the internet and local newspapers," explains Ali M Mohammed, the GCCA+ Project Director for Comoros. "We wanted to attract the attention of the entire population to these issues and their challenges for Comoros. We wanted to get people to link their everyday actions with climate change. A lot of them don't really understand climate change and how it relates to how they live day to day. Using simple language and illustrations, people get to understand climate change better."

Directed by local filmmakers Said Hassane Ezidine and Rafik Daoud Mmadi, each story features the Mchangama family and their neighbours as they struggle with different challenges – deforestation, plastic pollution, coastal erosion, urban development and unsustainable farming practices. The scripts and storylines were created by a team including GCCA+ staff and a local video production company.

"All the actors are young Comorians who were chosen for their ability to connect with the audience on these difficult topics," says Ali. "They really bring the stories to life in a way which people can understand easily. We also produced versions which could be used in primary and secondary schools.

The videos do not shy away from controversial topics. Illegal sand mining is a major problem for Comoros, where entire beaches have been dug up and the sand sold for making concrete. Papa Mchangama – played by local actor Mansour Mmadi Hamadi – tells the two young men that not only are they destroying the coastline, but they risk going to prison. "You are responsible for the destruction of the coast! You are endangering the community!" he admonishes them. "Without sand to protect it, the sea will wash away the coast and the mangroves, and will flood the fields, making them useless." He then explains to the man who hired them to dig the sand that it is useless for construction work anyway, because of the salt content. "Do you really want to build a house that will fall down in ten years time?" he demands.

In another dramatic encounter, Mama Mchangama (Miriam Issa Saher) is so angry about the vast piles of plastic rubbish on the beach that she goes to the mayor's office to demand action – wearing a colourful dress made of old plastic bags. The film ends with the local shopkeeper, Baba Djalou (Mboreha Mohammed Ahmed) agreeing to put a charge on single-use plastic bags to discourage customers from throwing them away.

"The idea was to make people laugh – that way they understand and remember the issues better," says Ali. "We have had really a positive reaction from the entire population. The films have been shown on national television, as well as being screened in some pilot schools and shown at events such as Environment Day, Climate Change Day and Europe Day in the Comoros. Local NGOs have organised screenings in local communities. As well as the obvious topics such as deforestation and plastic pollution, the films also look at sustainable urban planning, cooking with fuel-efficient stoves and the importance of protected areas. "

The EU's flagship climate change initiative GCCA+ has been working in Cormoros since 2014 helping to build resilience and adapt to the worst impacts, with a special focus on sustainable farming as part of the €3 million programme. When Grandmother Mchangama (Anzlati Said Mhadji) receives a visit from her grandson (Nassila Ben Ali), who is studying agriculture at the local university, she laughs when he asks her the secret of her bumper harvest. "There's no secret," she says. "I learned the traditional farming methods from my parents, and they learned it from theirs. Animals, plants, water and humans should live together in harmony."

©Pacific Community 2019

SEE WHAT SEEDS CAN DO IN VANUATU

17 April 2019

'Before, when I want to plant, I have to have money. I have to go to the shop or to the agriculture office and buy vegetable seeds. Now, I do not need to go to the shop. I just make my own seeds.'

Mary Nipisina is one of about thirty ni-Vanuatu women trained in selected fruit and vegetable seed production under the Pacific Community's (SPC) Pacific Seeds for Life project funded under the SPC Innovation Fund. Like other trainees under the project, she is steadily transforming her garden, and according to her, both her life and the life of her family.
It is a hot, humid day in Tanna, one of Vanuatu's southern-most islands. Mary is bending over a greening peanut patch pulling up weeds. It is one-tenth of the tour into her network of traditional gardens and only she can see weeds. To the unpractised eye, her peanut garden is immaculate. The earth under and around it a rich, deep black, a gift of Mount Yasur's volcanic ash thousands of years in the making and still rumbling. Her fingers are nimble among the young peanut plants, barely a gentle brush as she cleans the plots.
'I have always planted island cabbage, onions, capsicum, cabbages, tomatoes, pumpkins, yams and manioc. I can choose and use my own planting material for yams and manioc but I always had to spend money to buy vegetable seeds.'

Her first garden is about an hour's walk from her home; there are seven more spread across the dense green foliage. Whilst venturing into training offered by SPC in partnership with the Department of Agriculture and Rural Development's (DARD) Tafea Province Office on Tanna, Mary is one of several thousand examples of ni-Vanuatu farmers across the rich, volcanic archipelago successfully blending science with traditional knowledge to harvest a steady cornucopia of fresh food. She is using seed saving and seed production skills and knowledge learned from trainings but is establishing gardens using centuries-old mechanisms of separation according to traditional laws governed by kastom.

'This first garden has peanuts, yams and some tomatoes,' she says pointing into a seemingly endless mass of trellised yams. 'In the other seven gardens, I have a mix of onions, island cabbage, capsicum, manioc, eggplant, pumpkins and more yams, she says with a laugh.

'I used to worry about money to buy seeds, and sometimes, I have the money but there are no seeds to buy. So I have to wait until seeds come to the island through the shops or DARD. Now, I don't have to wait! I just save my own and keep it in my house. I use this to plant.'

Mary's new sense of power is palpable under the cool foliage of trees between gardens. Her bare feet are quick through a well-worn track in the underbrush. The black soil track is smooth, testament to her regular trips to maintain her gardens. Among her lush onion and capsicum gardens, she casts her eyes away to the bordering yams and lowers her voice.
'We had [Cyclone] Pam a few years ago and we lost so much. Most of us in Vanuatu had to wait for seeds to come in from other countries. We could not plant our own food when we wanted to. We had to wait. We had the land and the weather became good but we had to wait. There was no more seeds. Today, I can tell you, I feel I have so much power in me because I know I will not have to wait again. Next time, after a hurricane, I will have my own seeds to start again.'

In its wake, Cyclone Pam left an indelible mark on the lives of people across several countries, including Vanuatu. With a population of about 260, 000 people, Vanuatu is categorised as the most At Risk or Most Vulnerable country by the United Nations University's World Risk Index by virtue of its portfolio of natural disasters including volcanic eruptions, cyclones, coastal and inland floods, extreme heat, and drought against the strength of critical infrastructure enabling resilience. The year of Cyclone Pam, 2015 estimates placed about 64% of Vanuatu's population at risk per major natural disaster. Successive years, while presenting differing percentages still place Vanuatu in the number one position for vulnerability. A key feature of this vulnerability is Vanuatu's capital, Port Vila's direct vulnerability given its geographical location – it sits directly in the path of cyclones and vulnerable to storms and storm surges, affecting the country's ability to operationalise post-disaster support mechanisms. This affects, among other things, government's ability to respond to the needs of farmers.
Against this backdrop, the Pacific Seeds for Life project training key farmers, including large numbers of women, in seeds saving and seeds production is critical toward the building of resilience in Vanuatu.

According to Gibson Susumu, Programme Leader for Sustainable Agriculture at the Land Resources Division of SPC , 'The Pacific Seeds for Life project aims to empower the Pacific farming communities to have sustainable availability and access to diverse and quality seeds through policy strengthening, improving seeds distribution, and capacity.'
Linking to this, Sam Naiu, Principal Agriculture Officer (PAO) for Tafea Province provided context saying, 'Cyclone Pam caused about 95% agricultural losses in the whole country. To have skills in seeds production and saving means that farmers do not have to depend on seeds from stores or through foreign aid. They have the power to decide what crops are important for them, save these seeds regularly, and when disaster strikes, they can go out on their own and plant from their own seeds supply.'
Mary Nipisina is one such farmer. She plants local root crops, and local indigenous fruit and leaf vegetables. Her gardens are reflective of Vanuatu's customary ease to adhere to traditional knowledge and practices married with new scientific innovation supplied by DARD. She has her traditional gardens interspersed with new commodity vegetables and is selling at the Lenakel Market and to the Evergreen Resort.

However, according to her, 'This training in seed saving and seed production is what has given me new power. I decide what I plant, when I want to plant, and I am not afraid of a disaster destroying my crops. I can begin again and I decide when and how I will do that.'

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PACIFIC ISLANDERS WORK WITH NATURE TO COMBAT CLIMATE CHANGE

4 April 2019

Scientists agree that climate change is man-made, but the solutions could lie with nature. Across the Pacific, communities are using natural solutions to protect their vulnerable island states against the worst impacts of climate change.

"Nature-based solutions, or ecosystem-based adaptation, essentially uses ecosystems and bio-diversity to build resilience to climate change," says Herman Timmermans, manager of the Pacific Ecosystem-based Adaptation to Climate Change (PEBACC) project, funded by the Euro-pean Union and implemented by the Secretariat of the Pacific Regional Environment Pro-gramme (SPREP) based in Samoa. "Healthy intact ecosystems have resilience built into them because they are strong and can absorb changes more easily. Weak ecosystems are less able to cope and take longer to recover from extreme weather events and other impacts of climate change."

Nature-based solutions will be high on the agenda at the forthcoming Pacific Resilience Meet-ing Youth Futures in a Resilient Pacific, being held at the University of South Pacific in Suva, Fiji, at the beginning of May. The event, co-organised by the European Union's flagship climate change initiative Global Climate Change Alliance Plus (GCCA+) and the Pacific Resilient Part-nership, will showcase inspiring examples of young people and communities working inclusive-ly to improve lives and protect livelihoods as part of the €15 million Scaling Up Pacific Adapta-tion (SUPA), GCCA+ project funded by the EU.

"Small Pacific islands are particularly vulnerable and are very exposed to climate change," says Timmermans. "Atolls are especially at risk as they are flat and there is nowhere for the popula-tion to move to high-er ground. Cyclones seem to be getting stronger each year, and the in-frastructure on many Pacific islands such as power lines, water supplies, housing and schools are often exposed. The seasons are changing – dry spells are getting longer, and many islands don't have dams or reservoirs to store water. They rely on rivers and small catchment systems which are easily damaged. Bush fires are also increasing."

Faced with these challenges, several nature-based projects are underway across the Pacific. In Fiji, for example, villagers in Nawaka who live near the Nadi River on the west coast have been taking part in a pilot project to plant vetiver grass along river banks which have been eroded by flooding over several years.

"We do a lot of work with communities to engage them and get them involved in nature-based solutions," says Timmermans. "We talk to them about climate change – a lot of them are unfamiliar with the technical aspects of climate change. They've heard about it and they know it is an issue, but there's a lot of misinformation about how it impacts them."

The conservation, restoration and sustainable management of forests, river basins, coral reefs, mangroves, and wetlands are increasingly seen as a cost-effective alternative to technological solutions to climate change. In Samoa the government has set itself an ambitious target of planting two million trees by 2020, to restore land which has been deforested or degraded and so improve resilience. Farmers and communities are taking the lead both growing the young trees in nurseries and planting them out.

In Tuvalu, as part of the 'ridge to reef' approach, work is underway to tackle the explosion of harmful invasive seaweed caused in part by unpredictable weather patterns and drought. The fast-growing seaweed – which damages both human health and fish stocks – is a major prob-lem in Funafuti lagoon, but scientists hope that by planting vetiver grass along the coastline some of the agricultural nutrient run-off on which the seaweed thrives will be reduced.

Nature-based solutions are not just good for people, they make strong economic sense as well. One study estimates that globally, intact mangroves prevent US$82 billion in flood dam-age every year. They are also often cheaper than hard infrastructure. "Sea walls may be suc-cessful in combatting coastal erosion in the short term, but they tend not to last very long and they may have adverse environmental impacts and disturb the natural ecosystems," ex-plains Timmermans. "Nature-based solutions are a no-regrets, good value for money approach – that's a major consideration in poorer countries."

For some communities, nature-based solutions may be the only financially viable alternative. On Choiseul in the Solomon Islands, rising sea levels and coastal erosion are major problems but building sea walls or dykes is not an option because of both the cost and lack of re-sources. Instead, coastal rainforests are protected through a programme partly funded by the EU, in which indigenous landowners voluntarily give up their rights to logging in exchange for the opportunity to create and sell rainforest carbon offsets.

"In addition to coastal protection against storm surges, cyclones and sea level rise, healthy mangroves provide fish, firewood, building materials, they are home to a wealth of biodiversity and they absorb up to four times more carbon than other types of forest," says Timmermans.

"Low lying islands are in a really serious predicament, but I am optimistic. Nature-based solu-tions can help island communities to become more resilient. It's early days, the uptake is promising and we are learning lessons all the time. The pieces of the jigsaw puzzle are being put into place but as yet we don't have the complete picture. But we're going in the right direction."

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SAVING HAITI'S FORESTS – ONE COOK STOVE AT A

20 March 2019

An EU-funded training programme in Haiti is teaching young people how to make clean energy cookstoves powered by waste sugar cane biomass. The project aims to save the country's remaining forests from being cut down for firewood and charcoal.

It's only about 40 km from the Haitian capital Port-au-Prince to the seaside town of Leogane, but it's a bone-shaking two hour drive along dusty, potholed roads choked with traffic. Some buildings along the coastal roadside still bear the scars of successive earthquakes and tropical storms. Everywhere – on the sidewalks, verandas, and back-yards – people cook food on makeshift charcoal stoves.

Sixty percent of the population live below the poverty line – a figure which rises to 75 percent in rural areas. Extreme weather events such as droughts, floods and hurricanes are common. Centuries of timber extraction and charcoal production have devastated the country's forests.

Yet in Leogane, a quiet revolution is taking place which could play a vital part in helping Haiti adapt to the worst affects of climate change and allow Haitians to become more resilient. Inside a workshop at the Catholic Training and Production Center, a dozen men and women are learning how to manufacture environmentally friendly cook stoves – known as pyrolysis stoves – powered by biomass from waste sugar cane. The project is run by Caritas Suisse and funded by the EU flag-ship initiative Global Climate Change Alliance Plus (GCCA+) as part of a €6 million eight year program to combat climate change and reduce poverty in Haiti.

"We want to reduce and replace the use of charcoal for cooking and heating because of the number of trees that are cut down," says Joan Mamique, the Program Manager in charge of the project. "The farmers produce a lot of waste from sugar cane, corn and rice which is free and can easily be turned into biomass pellets. They don't have room to store it so we take it off their hands – it's free, and everybody benefits."

At the same time, young people are being taught valuable engineering, manufacturing and marketing skills. "We're aiming to produce 7000 stoves," says Joan. "We're not just creating jobs, we are creating an entire supply chain. One student might be good at making the stoves, another at marketing, another might set up their own business. We aim to give them financial independence as well as skills."

In another part of the workshop, students are being taught how to use a machine supplied by a German engineering company which crushes the sugar cane waste into biomass pellets. Up to 2000 kilos of biomass can be transformed into valuable energy pellets each day - enough to meet the cooking needs of around 4000 households. Students Freguens Louis and Wilclaude Justin are aware that using firewood and charcoal is destroying Haiti's remaining forests. "We are proud to take this training," says Freguens. "Cutting down trees causes great harm to the country and to the people. Our goal is to convince our parents, neighbours and the entire community to use this new cooking technology."

Rose Guerlande Frederic was one of the first group of youngsters learning to make pyrolysis stoves and how to produce biomass from agricultural waste. "I told my parents and friends that I am learning how to make modern stoves," she says. "Since then, everyone wants one!"

Despite the promising start, there have been considerable challenges. "It's hard to find trainers who have a good knowledge in new energy technology," says Joan. "But we've set up a partnership with the University of Quisqueya to train the trainers. And there are other practical issues, like unreliable electricity supplies. We are continually modifying the design of the stoves, testing them, getting feedback and making them more efficient. It's a long process."

"It was also hard to get young people interested in taking part, especially girls. It's a manual process and most people don't know anything about renewable energy. They know about solar power, but they haven't heard of alternatives like wind energy, hydro or biomass. Actually, making the stoves is just the start. Marketing, sales and promotion among the population is the most complicated part."

Back in the workshop, Maxime Romane Jean Louis talks passionately about his role as a Caritas technician. "I am teaching young people in Haiti how they can transform biomass into gas and how they can make a cook stove, and how they can use the biomass to cook with and to replace charcoal. These stoves are a great opportunity to save Haiti's trees."

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MYANMAR: CLIMATE CHANGE CAN BE SPOOKILY QUIET

19 March 2019

Climate change doesn't always mean extreme events that leave behind mass destruction and chaos, it isn't always loud, . Often it's slow and spookily quiet. This is true for the people of Pakokku, in the dry zone of Myanmar. The land is flat, hot and dry and extremely vulnerable, climate change aggravates these already extreme conditions. People from areas along the river experience flooding and are often forced to leave their homes and take refuge in the local town monastery. Further inland, the region is experiencing chronic water problems, with struggles to continue traditional farming such as growing rice paddy.

myanmarTraditional farming – Chronic water problems cause struggle to continue traditional livelihoods. With the changes in the climate, higher temperatures and a shorter rainy season, some farmers can only grow one crop instead of two

Myanmar Climate Change Alliance has conducted studies on the current vulnerabilities and projections reveal that temperatures may increase up to maximum 2.7 degrees by 2050 with up to 4–17 hot days per month in the summer season compared to one hot day per month defined historically.

With a loss of traditional livelihoods, many (mostly men) have had to migrate to cities or to neighbouring Thailand in search of work, which makes Pakokku more vulnerable for lack of skilled human resources in the townships, leaving women led households without alternative sources of income

As part of activities to support alternative livelihoods in Pakokku, Myanmar Climate Change Alliance is funding a sewing project for women who have lost their homes or crops in the floods, or may be the most vulnerable to climate change effects. This activity has been identified as part of a social sustainability plan that helps communities cope with changed livelihoods in order to leave no one behind.

The rainy season is shorter in length and flash flooding is more intense. As a result villages are accustomed to rebuilding their homes more regularly when they are destroyed by the sweeping floods or intense rainfall and storm. Another local level of intervention under the Myanmar Climate Change Alliance is the training of local carpenters to build climate and disaster resilient housing using traditional materials from the area with new design features, such as raising the plinth height to reduce flood impact or four sided tapered roof to avoid roofs blowing away in storms. The new features make houses more resilient to the changes in climate such as a more intense monsoon season and hot season.

http://gcca.eu/stories/pakokku-climate-change-can-be-spookily-quiet-myanmar-climate-change-alliance-helps-adapt

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SENEGAL: THE CLIMATE REFUGEES FROM THE VENICE OF AFRICA

15 March 2019

Senegal's Atlantic coast suffers from some of the worst erosion and rising sea levels in the world. Villages have already disappeared under the waves and hundreds of thousands of people risk becoming climate refugees.

The residents of Saint Louis on Senegal's Atlantic coast are living on the edge. Rising seas and coastal erosion mean the ocean is quite literally at their doorsteps. The shore is littered with the rubble of abandoned homes, offices and workplaces slowly sinking into the sea. The main coastal track is regularly unusable and long stretches have been rebuilt. In some places the beaches wash away at the rate of two meters a year. Not for nothing is the city – home to around 230,000 inhabitants – known as the 'Venice of Africa'.

For centuries, Saint Louis has been protected from the pounding Atlantic waves by the Langue de Barbarie, a narrow, 30 km peninsula at the mouth of the Senegal river, part of which is a UNESCO world heritage site. But now the low lying sandy spit of land is itself rapidly disappearing, a victim both of a changing climate and man-made problems such as illegal sand-mining and over-development. A well-intentioned but poorly designed flood relief scheme in 2003 effectively cut the peninsular in two – what started as a four meter wide channel is now more than four kilometres across.

Today, the southern part of the Langue de Barbarie is an island and the village of Doune Baba Dieye is under more than a metre of water. The villagers have become climate refugees, forced to live in temporary camps on the mainland. Not only have they lost their homes, but salt water has contaminated their land and driven freshwater fish away.

Launched in 2014 with €4 million from the EU, the Integrated Coastal Zone Management programme (GIZC), funded by the EU flagship initiative Global Climate Change Alliance (GCCA), aims to reverse some of the worst impacts and help the inhabitants of Saint Louis and the surrounding area become more resilient to rising sea levels.

"We worked with NGOs and business groups to create the project," says Dior Sidie, GIZC Project Manager at the Ministry of the Environment. "So far we have planted at least 276 hectares of casuarina trees and 260 hectares of mangroves in the Petite Cote, Saint-Louis and Casamance areas. We have also carried out infrastructure and engineering works such as breakwaters, groynes and dykes made from rocks, and put in place a geographical information system (GIS) to track the impacts of climate change."

The plight of those who live and work on the Langue de Barbarie has attracted international attention. Last year President Emmanuel Macron of France and World Bank President Jim Yong Kim together pledged a total of €42 million euros to tackle coastal erosion around Saint Louis.

"Beach reconstruction and reforestation are very important," says Mme Sidibe. "A healthy mangrove ecosystem plays a vital role in the conservation and regeneration of biodiversity, it helps stop salt water from spreading inland. It stabilises the coastline and slows down coastal erosion. Coastal erosion is a natural phenomena, but it exacerbated by human action. If you travel through the coastal area, you'll see it is completely urbanised, fully developed."

Dakar-based energy NGO Enda-Energie were one of the business partners in the scheme, along with the NGO Wetlands International. "It is really important to involve local people and get them enthusiastic about protecting the coastline," says Ndeye Fatou Faye of Enda-Energie. "There is no point in developing this type of project if local people aren't involved. That's why we work with fishing communities on the Langue de Barbarie and the traditional fishing quarters of Saint Louis such as Guet-Ndar and Gokhou Mbathie."

One of those once-thriving fishing communities was Doune Baba Dieye, now submerged under the encroaching ocean. Village chief Ameth Segne Diagne has witnessed his family and friends become climate refugees, and he mourns the loss of the mangrove forests which have protected his coastal home for generations. "Mangrove trees can live for up to 600 years," he says. "Their roots spread wide into the ground, which enables them to cope with the weather and the salt water. They help sweeten the underground water. Mangroves are vital for this area because they are nutrition for all life."

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MYANMAR: NOW WE REALIZE THE IMPORTANCE OF MANGROVE

21 February 2019

Labutta, in the heart of the Irrawaddy delta, is one of the villages were residents were battered by Cyclone Nargis ten years ago. It was a devastating category four cyclone that swept across the Bay of Bengal creating storm surges that ruined fields and crops and destroyed thousands of homes. In total 2.4 million people were displaced and more than 138,000 people died.

Ten years on since the worst natural disaster in the history of Myanmar, many low lying villages don't have storm shelters, an alarm system or evacuation plans and safe ground to easily access if another natural disaster hits. The Myanmar Climate Change Alliance has funded the construction of a multipurpose cyclone shelter in a larger village which was decided as a prioritized intervention after a climate change vulnerability assessment of Labutta, as well as adaptation planning of the area in consultation with communities and local government authorities. Many other villages are also in need of such adaptation planning in the delta area.

A resilience initiative gaining ground is the rebuilding of mangroves along the coast, providing an example of ecosystem-based adaptation solutions.

"We were born here so we want to survive. Now we realise the importance of trees and mangroves and not cutting them down for firewood." Ohn Myint, a farmer and chairman of the mangrove committee in Thin Gar Lay, believes strongly that adaptation programs are needed in the region to plan for climate change and stop the problem of possible migration seeking alternative livelihoods in cities. Changes in rainfall and rising temperatures are affecting climate sensitive current livelihood options (farming, aquaculture and mangroves) and already becoming a strong trend in Labutta.

Economic vulnerability caused by floods or natural disasters can also drive families to take out loans and begin a cycle of debt. One villager, Zaw Min who works as a fisherwoman, says "if we don't get enough fish for our family we have to borrow money. This is difficult because we can't afford to buy rice or other products that are also become more expensive due to the lack of the production in the region after flooding."

Labutta has a two salt lines: a permanent salt line, below which the land and groundwater is saline, and a seasonal salt line, in which land and groundwater is saline in the dry season. With its location along the banks of the Irrawaddy river most of the 315,000 population is dependent on farming along the flood plains. Yet after Cyclone Nargis many communities are still struggling to rebuild. The total annual rainfall in the Labutta area is projected to increase, model results suggest that total rainfall increase may be driven by increases during the monsoon season. In contrast, the direction of rainfall change during the hot and cool seasons in unclear, as models project a wide range of rainfall changes, spanning from an increase to a decrease. Strong winds and cyclones are also expected to increase, as a result of hotter temperatures, moisture and other conditions. Salinity is also a critical challenge.

http://gcca.eu/stories/labutta-now-we-realize-importance-mangroves-myanmar-climate-change-alliance-helps-adapt

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MALAWI: FARMER FIELD SCHOOLS EMPOWER FARMERS TO FIGHT CLIMATE

30 January 2018

A typical farmer field school (FFS) group comprises 25 to 30 farmers and the approach focuses on 'learning by doing', taking into account both innovation and indigenous knowledge.

Enelesi and Maria John have learned how to manage an intercropped field of maize, okra and tomatoes. The Phalombe Farm Field School in Malawi is where they learn about practices which increase resilience to climate change impacts. Local farming communities work together at the farmer field school study plots where trainers like Beatrice Kapone demonstrate and facilitate how solar irrigation for land management works.

Phalombe is in one of four districts (Phalombe, Zomba, Neno and Blantyre) where the EU-funded Global Climate Change Alliance (GCCA) initiative supports community resilience practices such as redirecting water to the fields, as is done at the Tikondane Farm Field School.

Malawi is one of the most vulnerable countries in sub-Saharan Africa to the impacts of climate change. According to a 2014 FAO report, floods, dry spells, heavy storms and hailstorms are the main climate-related hazards in a country where half of the population lives below the poverty line.

Local solutions to global problems

The Farm Field Schools approach is a participatory and complementary way of reinforcing the traditional provision of agricultural advisory services, helping smallholder farmers in particular to acquire new skills and knowledge and to become more resilient to climate change. Farmers learn how to analyse the problems they face and to make appropriate decisions on how to adapt their practices according to local conditions and contexts.

A typical FFS group comprises 25 to 30 farmers and the approach focuses on learning-by-doing principles which take into consideration various innovations and indigenous knowledge. By analysing and understanding the local agro-ecosystem through regular agro-ecosystem analysis (AESA) combined with consideration of the existing capacities enables them to implement informed decisions. As the communities and villages in Malawi vary across the country, their vulnerability and susceptibility to the impacts of climate change are experienced in different ways. This calls for a holistic and transformative process for educating farmers which aims to empower vulnerable communities to manage and use natural resources in a sustainable way and to encourage diversification.

Malawi's economy is largely dependent on its natural resources with rain-fed agriculture being the pillar of the country's agro-based economy. It accounts for 30 to 40 % of its GDP and employs 85 % of the country's workforce. Moreover, 90 % of the population practise subsistence agriculture.

GCCA in Malawi

The GCCA programme in Malawi, started in 2015. It is part of a GCCA action being implemented by the UN's Food and Agriculture Organisation in partnership with Total LandCare, the Evangelical Association of Malawi, and the Malawi government. Community resilience practices are taught in four districts: Zomba, Neno, Phalombe and Blantyre.

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TANZANIAN FARMERS: HAVING THE COURAGE TO ADAPT TO CLIMATE

14 January 2019

In the semi-arid Dodoma region, climate adaptation means using locally sourced material, innovation and courage.

For farmers like James Maligana from Chololo village, which is located in the semi-arid region of Dodoma in Tanzania, adapting to the negative impact of climate change is a harsh reality. However, James has proved to be resilient and is adapting in many ways, using locally sourced materials, innovation and courage.

"I strive to adapt to climate change in the following ways. First, I must have good seeds; secondly, I prepare my farm by making contour ridges along slopes to prevent soil erosion and to catch precious rainwater. Thirdly, I grow drought-tolerant crops, including sorghum and pearl millet, and apply farmyard manure to my crops," said James.

The EcoACT project, which falls under the GCCA Tanzania programme which is funded by the EU, has assisted almost 2 832 households in Dodoma City Council and Chamwino District by providing drought-tolerant seeds. Quality declared seed farmers (QDS) are certified by the Tanzania Official Seed Certification Institute (TOSCI) and have begun producing their own drought-tolerant seeds and selling them to their communities. TOSCI aims to make the activity sustainable in the long term.

Gilbert Mbumi from Kikombo village, who bought QDS from Eliakim Kutusha, a neighbouring farmer, acknowledges that from the seeds he bought and planted on his 15-acre farm he has harvested 10 368 kilograms of sorghum in the 2017/2018 cropping season.

This has greatly improved his food security and he now has an excess to sell. Kikombo and Idifu wards have a total of 105 QDS trained farmers of which 34 are qualified to produce QDS.

"At first, it was difficult to get farmers like James on board as they were very resistant to change. After some time, the community began to trust us and are now benefitting from our technical support," said Dr Francis Njau, EcoACT project manager.

As well as using QDS and climate-smart agricultural, the project has also encouraged other alternative sources of income. Providing better goats to community members is another component of the EcoACT programme. Debora Mahenge breeds goats for a living. A quality buck was supplied by the EcoACT project which Debora now breeds with other goatherds in the area. She is meticulous about keeping her buck healthy and inspects potential breeders' pens and the health of female goats to assess whether they are suitable before allowing her buck to breed with them.

"The EcoACT project provided me with an improved buck for increasing the productivity of my local goats and I have gone on to sell the crossbred goats' offsprings. This year I have earned TZS 840 000 00 (USD 400) from the sale of 12 one-year-old cross-bred goats. In the past, using local goats I could only earn TZS 480 000 00 (USD 210) from a two year-old. I am now doubling my income in half the time. I also help my community to breed goats, and provide support," said Debora.

ABOUT GCCA+

The Global Climate Change Alliance Plus (GCCA+) is a flagship initiative of the European Union helping most vulnerable countries respond to climate change. It started in 2007 and has become a major climate initiative with over 70 programmes in Africa, Asia, the Caribbean and Pacific region.

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