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Building Resilient Food Systems

ESRAG's theme for this month is **Food Systems**. Stories from Kenya, the Caribbean, and Canada share high-impact strategies Rotarians are implementing to meet the dual challenges of climate change and growing and distributing enough food for humankind. In addition, the Oceania chapter reports on the inspiring events that ESRAG members organized for the Melbourne Rotary International Convention. You'll also find dates and registration links for valuable upcoming programs.

Dear readers! This is a special edition of the ESRAG newsletter for subscribers we believe are not yet ESRAG members. If that is the case for you - or your membership has expired - **please click here to join ESRAG today.** Annual dues are only USD $30 for Rotarians and USD $15 for Rotaractors. You can save a little and help a lot by choosing a five-year membership.

As more Rotarians seek trustworthy guidance on how to respond to the humanitarian impact of the world's escalating environmental crises, your dues will help ESRAG provide webinars, and post the recordings, project write-ups, manuals, and technical resources on our website, where these vital tools can be read in several languages. It also supports the communications and virtual gatherings of our thirteen Regional Chapters around the world.

Our July issue focuses on Sustainable Living. August's is on Circular Economy. Let us know if you're working on projects that fit either theme. We'd love to publish your own write-ups, or are glad to set up an interview if you'd prefer. The deadline for July stories is July 2.

Photo: planting a breadfruit sapling in Haiti. Credit: Trees That Feed Foundation

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June 17 Webinar: Learn How to Apply for Global Grants for the Environment

By Dr. Mina Venkataraman, ESRAG Projects Chair

ESRAG's Projects Division is offering this introductory webinar to help your club develop a Global Grant project under The Rotary Foundation's Environment Area of Focus. Register here. The webinar runs from noon to 3:00 pm UTC.

ESRAG members from TRF's Environment Cadre will explain the basic requirements to build a successful project and proposal. The Rotary Foundation's Environment Guidelines describe ten different action goals under which you can propose a global grant project. These include conservation, agriculture, climate, energy and electricity, resilience, and circular economy, each with many inspiring options. ESRAG's Projects Division will offer a workshop on each action goal, over the coming months.

You can download the Guidelines through MyRotary under "Area of Focus Resources."

June 22: ESRAG's Annual General Membership Meeting with Dr Rebecca Huntley

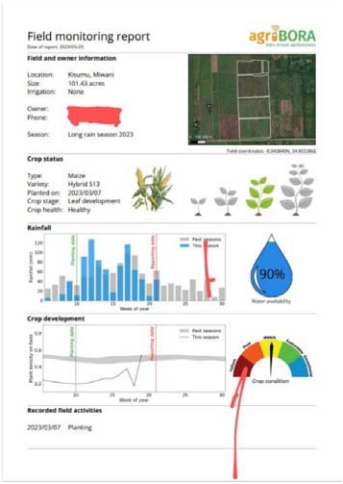
Our keynoter, Dr Rebecca Huntley, will share insights on how to talk about climate change in a way that leads to positive action in time to make a difference. Then ESRAG's Directors will report on ESRAG's achievements in 2022-23 and plans for the new Rotary year, thank retiring Directors, and welcome new ones. Here is the registration link. The meeting starts at 1:00 pm UTC.

Dr Hartley is one of Australia's foremost researchers on social trends. She has consulted with climate and environment NGOs, governments, and business on climate change strategy and communication. She is now Director of Research at the agency 89DegreesEast. Dr Huntley is the author of numerous books including *How to Talk About Climate Change in a Way that Makes a Difference* (Murdoch books, 2020). She is the Chair of the Advisory Board of Australian Parents for Climate Action.

Photo: Dr Rebecca Huntley

From Satellite to Market: Equipping Farmers to Thrive

By Felix Kimani Kariuki, ESRAG Africa Chair



Climate change is a massive magnifier of the risks faced by small farmers. AgriBora is an Agri-Fin-Tech company that leverages satellite data to help farmers in Kenya understand and reduce those risks. AgriBora is a word coined from "Agri" for Agriculture and "bora," the Kiswahili word for "better." Hence AgriBORA means "Better Agriculture." My role is to scale the use of this technology and to work with farmers, collecting their advice to develop the service so it meets their needs with precision. This is crucial for our food systems to recover and thrive.

Every five days a satellite orbits a specific location on Earth. As it passes, it collects various datasets such as the climate of the place, the vegetation cover, the water index, etc. AgriBora uses a Sentinel satellite to monitor crop health at each stage of growth of a geotagged farm. Additionally, through its field monitoring service, AgriMON SaaS, it provides an estimate of the expected and potential harvest as per the current climatic, and field conditions. These data inform financial institutions and insurance companies on credit risks with greater precision. I'm working through the AgriBora satellite intelligence extension advisory to help small farmers improve both production and income.

Farmers' greatest need – other than inputs – is getting their crops to market at the right time. There are situations where farmers throw away produce or have produce rot at the farm for lack of market access. I am currently working with Nairobi County Government on the creation and integration of the Market Linkage Geoportal. This shows which physical markets are nearby and which need the produce a farmer has ready to sell.

For small farmers to have a fair chance of success, they need to be informed and equipped to implement climate-smart farming, and have the right infrastructure. This includes irrigation, cold storage, adequate roads, and timely market information.

There are several ways Rotary Clubs can team up with local farmers and strengthen their market power and influence on policy. These include:

- Coaching farmers on farming practices that enhance production
- Encouraging collective saving
- Helping to fund equipment such solar-powered wells, irrigation and cold storage for perishables
- Working together on policy advocacy that advances farmers' goals

I see this as a partnership. Most small-scale farmers are disadvantaged by operating on their own. Rotary Clubs can help farmers create organizations or associations that give them economies of scale. These associations can pool savings into a kitty to fund infrastructure needs. Rotarians could help create social bonds to finance major local projects like road repair. They could advocate for tax policy favoring the shared savings of farmers for infrastructure needs.

This is the essence of Rotary: that we can come together and solve problems: we, united. That is what Rotary should always scale.

If you'd like to learn more how we're working on this in East Africa, please email me.

Engineer Felix Kimani Kariuki is a member of the Lavington Eco Rotary Club in Nairobi. He is the coordinator of the Government Data Think Tank Initiative (GODAN) Secretariat, business development consultant with AgriBORA, and Programmes Director for the Programme for Capacity Development in Africa (P4CDA), working on health, experiential education, agriculture, nutrition, and data sourcing.

Flourishing Partnership with Trees that Feed Foundation

By Natasha Norris, Communications and Program Manager, Trees that Feed Foundation

When like-minded people join forces, the impossible becomes possible.

One Rotarian's search for a solution to climate change has now impacted thousands of lives in the Caribbean and beyond with bonuses galore. Cathy Henry of the Rotary Club of St. Catharine's South, Ontario, Canada, found her answer when she met Mary and Mike McLaughlin, co-founders of Trees that Feed Foundation (TTFF). Based near Chicago, Illinois, TTFF plants fruit trees – mainly breadfruit – to feed people, create jobs, and benefit the environment in 20 countries.

Why breadfruit? It's climate resilient! Once established, the tree can survive harsh circumstances and live for 80-100 years. While other staples like rice fill our atmosphere with greenhouse gases, a breadfruit tree captures carbon dioxide (approximately 1.3 tons in its lifetime) in the air while also supporting soil carbon sequestration. Versatile and nutrient rich, it can be processed into flour and thus creates an economic value chain within a community.

How do Rotary and TTFF collaborate? It's a symbiotic relationship. Some Rotary clubs donate their time, planting trees funded by TTFF. Some Rotary clubs fund the trees. The more they work together, the more NGOs, governments, and individuals come alongside them. Everyone witnesses the results, especially when looking back over the years – or up at a flourishing breadfruit tree!

Here is how Rotarians are working with TTFF to advance food security, rebuild soils, and capture carbon across the Caribbean and beyond.*Photo: Rotary volunteers repotting breadfruit seedlings in the Bahamas for distribution to farms devastated by Hurricane Dorian.*

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Scaling Biochar to Restore Soils

By Joey O'Brien, ESRAG Director

As a Rotarian and ESRAG Board member I have become far more aware of the impending climate and food production crises that the world faces. I serve as CEO of SustainAgro, which is building Canada's first pyrolysis facility to convert cellulose into low-carbon fuels, biochar, wood alcohol, and graphene. This process reduces solid waste, sustainably turning organic matter into products that can both

sequester carbon and increase food security.

I have never been more engaged in the success of an enterprise, due to its potential to solve so many of society's needs. While we have four products, this article is focused on biochar, which can restore the fertility of depleted agricultural soils. As the article Regeneration International explains, "soil degradation now threatens at least a third of the Earth's land surface, and climate change is accelerating the rate of degradation. This is having a devastating impact on small farmers (who provide 70% of the world's food supply) and on global food security." Biochar also helps to mitigate climate change by sequestering carbon.

Our pyrolysis plant is on the Canadian province of Prince Edward Island (PEI), a small island off the east coast of North America. PEI produces many crops. Decades of high fertilizer usage have denuded the province's agricultural soils of carbon. Rain-driven fertilizer runoff from these fields has resulted in blooms of "sea lettuce" in the estuaries, choking off local species. The island's timber industry is also in serious decline.

PEI has one of the most aggressive climate action plans in North America. One of their priorities is to re-carbonize their agricultural soils. When SustainAgro determined PEI as the correct location for our first pyrolysis plant, we started working with a number of local sustainable farming groups. We are blessed with the quality and capability of the team members who have signed on to this effort. One of them is a young scientist, Jon Schuman. Click on "read more" for his report on the remarkable convergence of events – including the havoc created on the island by Hurricane Fiona in 2022 - that have made PEI an ideal place to test the agricultural use of biochar at scale.

Photo by Jon Schurman, PhD: Biochar test on PEI, spring, 2023

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From the Chair: Let's salute the ESRAG Volunteers at RICON 2023

By Dr. Pat Armstrong

By all accounts, the Rotary International Convention (RICON 2023) in Melbourne, Australia was a wonderful success. Regrettably, I came down with Covid two days before the Convention began and so was only able to attend the activities for two days. But they were two wonderful days,

during which I experienced the enthusiasm and commitment of all the ESRAG volunteers at the Convention. The ESRAG booth in the House of Friendship was very popular, well-supported by other nearby environmental booths: Colin Scobie's amazing *Oyster Reef Restoration Project*; Clari Nolet's inspiring *Lithium-Ion Battery Recycling Program*; and John and Liz McCaskill's *We're for Bees and Other Pollinators*, which created a great buzz.

Photo: Pat (second from right) with fellow volunteers at the ESRAG House of Friendship Booth

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Excellent Turnout for ESRAG Events

ESRAG's Oceania Chapter provided Rotarians a wealth of opportunities to explore effective environmental action during the Rotary International Convention in Melbourne. 65 people participated in ESRAG field trips, which illustrated an array of environmental successes, a tremendous value added to the RICON experience.

Lesley McCarthy's articles describe the lively interactions of ESRAG's Environmental Action Summit and ESRAG's House of Friendship Booth, which teemed with visitors, discoveries, and eager conversations throughout the Convention. In addition, ESRAG Oceania set up a lunch on May 27 and dinner on May 28. These two events drew almost 90 Rotarians for a wonderful opportunity to catch up with old friends, make new ones, and exchange ideas. The lunch was standing room only!

ESRAG Past Chair Dr. Christopher Puttock is now leading the Council of Rotary Action Groups, and this year's RAGtime meet and greet for all RAGs was a huge success, drawing 150 people who networked

with Rotary leaders, staff, and each other over delicious food at the Melbourne Botanical Gardens.*Photo: Rotarians setting out for the evening bat tour, including ESRAG Oceania members Vic Grosjean and Ted Waghorne, who played an essential role in building sustainability and environmental education into this year's Rotary Convention. They are on the front row, first and second from the left.*

ESRAG Booth A-Buzz with Joyful Activity

By Lesley McCarthy, ESRAG Oceania Newsletter Editor

The ESRAG booth at RICON 23 encouraged visitors to ***imagine*** and ***hope*** as they connected with volunteers and discussed environmental projects. The engagement, connections, stimulating conversations, project discussions and sharing and dedication to a cause were there in plain sight on every day. “I am an environmental education officer with the Gould League and am delighted to see Rotary involved in such a significant way in supporting the environment,” said Noemi Oskar of Melbourne. “The resources you have available to assist people with events are wonderful.”

With eye-catching Australian floral displays and a range of informative posters with connecting QR codes, the full extent of possibilities was on offer, including the **Green Events Handbook** which was released to the Rotary world at this convention. ESRAG volunteers led by the ESRAG Oceania team promoted the **Flight Carbon Estimator** to international attendees, encouraging them to offset the carbon emissions of traveling to Melbourne.

Volunteers from South Africa, India, the Netherlands and the USA joined with those from Australia and New Zealand, sharing club activities and grant opportunities, including many tree planting and pollinator activities. The booth saw a constant stream of visitors across the 5 days of the convention, promoting the environment and encouraging Rotarians to include the 7th Area of Focus in their 2023-2024 planning.

Photo: Rotary President-Elect Gordon McInally sporting bee gear with volunteers at the ESRAG booth.

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Environmental Action Summit Showcases Powerful Projects

By Lesley McCarthy

Sixty-six people attended the ESRAG Action Summit on May 25 at the Melbourne Town Hall! Our first guest speaker, Prof David Karoly, an Australian world leader in climate dynamics and climate change science, spoke on climate change and how Rotarians can be involved in solutions. Chris Brace, General Manager of Growth Futures, Yarra Valley Water, gave the second talk, on the environmental efforts they are implementing to ensure a clean, green organisation.

Seven Rotarians then gave five-minute briefings on their environmental projects:

- Salvador Rico: Rivers of the World
- Christopher Puttock: Mangroves Restoration
- Rob Anderson: the Rotarians for Climate website
- Clari Nolet: Lithium-Ion Battery Recycling
- Colin Scobie: Oyster Shell Reef Restoration
- Phil Lyons: Trees for Survival NZ, and
- Pat Armstrong: Light up Timor Through Enterprise.

Attendees then worked in small tables to share their project ideas and agree on one to take back to the audience. These discussions were facilitated by ESRAG Oceania members who transcribed the ideas for future reporting. Table spokespersons then shared the discussions and project ideas. These ideas will be used as the basis for ESRAG Action Guides.

This event was very well attended and engaged those with a variety of ideas, activities and planning issues.*Photo by Rosemary Waghorne: ESRAG Oceania Chair Ted Waghorne addressing participants at the Action Summit*

ESRAG Funds Go Green

By Dr. Yasar Atacik, ESRAG Chair-Elect

At our May meeting, the ESRAG Board voted to move the bulk of its funds from its current bank account to a green bank. A **green bank** is a financial institution that uses innovative financing techniques to accelerate deployment of clean energy technologies. Our board's decision is based on the work of ESRAG's Climate Roadmap Working Group which, among other goals, seeks to ensure environmentally responsible management of ESRAG's money. The bank selected for this purpose is Greenpenny Bank, which uses deposits exclusively to finance clean energy and/or carbon-reducing projects. The bank also offers comparable products to other banks we considered, as well as market-competitive rates for our savings.

The Environmental Sustainability Rotary Action Group

operates in accordance with Rotary International policy, but is not an agency of, or controlled by, Rotary International.
