

# FECT

FEDERATION FOR ENVIRONMENT, CLIMATE AND TECHNOLOGY

## *Annual Progress Report - 2021*



Federation for Environment, Climate and Technology is a Federation comprising Foundation for Environment, Climate and Technology - FECT (Reg. No. – N (A) 1148, GA 56), Tropical Climate Guarantee Ltd. – TC (Reg. No. – GL 2438), Disaster Services – DS (Reg. No. – GA 00209570), FECT– Maldives - FECT-MV, FECT – Inc. which is registered in New York, USA (DOS ID No. – 3976120) and FECT – Comoros - FECT-Km, FECT-Trust – Etrust 03/16

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# Summary

## HIGHLIGHTS

We had a challenging, eventful and ultimately productive year primarily due to the impacts of the COVID-19 pandemic. Three projects have been completed and we kept up with reporting on our major grant on Dengue. Projects on Climate Literacy and Social Media Training were undertaken. Four proposals were submitted. Our programs on Sri Lanka's and the Maldives' climate and disaster risk were sustained. Staffing ranged from 11 to 19. Staff transitions and ensuing up-skilling of others went on. An air quality card was introduced and distributed weekly. Around 20 automatic weather stations and 20 air quality instruments were installed and half of them remained online. The cleanair.lk website and associated work merited an award for Digital Social Innovation from ICTA. 12 Research Abstracts/Papers were presented on Dengue, Air Quality, X-Press Pearl and COVID Burials. Social Services, Advocacy, Training and Education opportunities were catered to. Litigation for the Foundation continued positively but with delays. Accounts and Audits and Regulatory reporting were mostly done on time. A Rooftop solar electricity system was installed. Welding and electronic equipment were set up. Internal Audits and Strategic Planning was undertaken fitfully given difficulties in congregating but we are seeing light at the end of those tunnels.

## Administration

Our administration is faced with the challenges of meeting work requirements with limited staffing and difficulties in working offsite. We updated our online documentation using the Open Science Foundation (OSF) platform, and internal and external blogs. Kanban boards helped with work tracking. Regulatory reporting, establishing and operationalizing recent constituent organizations were managed. Going forward, our plans are to complete reviews of the organization.

## HR

Proper practices are still needed to ensure legal compliance, online documentation, archiving and technology practices. We plan to clarify the HR department's duties and responsibilities and find steps to mitigate our critical HR shortcomings.

## Finance

We have audited the Financial Statements of Tropical Climate (Guarantee), FECT & DS and our Auditor found

the Accounts in order. Audits are in progress for FECT-MV and for year 2020/2021.

## Publications

Four technical reports were completed regarding Operational Dengue, Air Quality, Ground Water Contamination and Climate Services and were sustained.

## Conferences

Our staff participated in the conferences conducted by Centre for Science and Technology of the Non – Aligned Movement and other developing countries (NAM S&T Centre in New Delhi), *Sri Lanka Association for the Advancement of Science (SLAAS)* and American Geophysical Union (AGU) in New Orleans, USA.

## Programs

We had active programs on air quality, instrumentation, operational Climate services, Web Development and Data Library development.

## Projects

We had undertaken projects on Dengue Risk in the Central Province, Promoting Literacy on Climate Change, Renewable Energy Transition and Influencer Training.

## Proposals

We submitted responses to the USAID Climate Change Adaptation Activity (CCA) with the Earth Institute of Columbia University, on Empowering Sri Lanka with COP26, Communication and Literacy on Climate Change, COVID Impacts on Education and Fisheries in the MV and Communication and Literacy on Climate Change in MV.

## Operational Services

We continued to disseminate our weekly and monthly climate reports for Sri Lanka & Maldives. Our website and social media gave a running update on the current seasonal climate conditions. Data were continuously being obtained through our instruments and assimilated for analysis.

## Strategic Review

Staff brainstorming and reviews identified critical areas for improvement at the end of the year as

- 1) Digital Archiving
- 2) Disaster Risk Management for IT
- 3) Ensuring legal and regulatory compliance
- 4) Identity staffing needs in IT, Legal, Research, Writing and Project Management
- 5) Improved Project Monitoring, Data Management and Performance Management

## 6) Better securing our Physical Infrastructure

We have already taken some modest steps but work remains– in some areas such as staffing. We picked up on our work in instrumentation and in research on dengue and climate. We have updated the staff handbook and our summary on charitable activities.

### Challenges and Response

- The most significant challenge that we faced this year was turnover of staff which led to some knowledge and experience gaps.
- The regulatory and legal work took our time and treasure but these matters are now being managed adequately and proceeding favourably even if at a glacial pace.
- We are trying to augment data acquisition by setting up instruments and acquiring data but data assimilation falls short.
- Work was slow after the COVID -19 outbreak and we had to adapt to work from home.

### Instruments

We installed and maintained automated web-enabled environmental observations systems for weather, soil moisture, river water level and air pollution in Sri Lanka and Maldives.

### Social Service and Advocacy

We participated in the conferences conducted by Centre for Investigative Reporting (cir.lk), SLAAS Social Science Section and contributed by providing scientific information on X-Press Pearl Ship Disaster.

### Litigation

Hearings at Labor Tribunal, Magistrate Court and Court of Appeal took place. A complaint was filed to the RTI Commission. An unannounced inspection by ETF officers also took place.

### Regulatory

The 2020 Annual Reports for Foundation (FECT), Tropical Climate (TC) and Disaster Services (DS) were submitted. Annual Financial Report for FECT, TC and DS for year 2021 are in progress.

### Infrastructure

Welding and electronic repair tools were obtained and workshop facilities were set up. A 5KW solar power generation unit was installed on the rooftop

in Akurana. Our library holdings and catalogues were maintained.

### Communication

We sustained operational climate services for Sri Lanka and Maldives, generating content, disseminating regularly, responding to queries, and enabling research both within and without. We have been providing a Weekly Climate Bulletin for Sri Lanka since 2008 and a monthly bulletin for the Maldives since 2011. These advisories provide a compilation of climate characteristics and promote better understanding of weather, intra-seasonal to seasonal variability of rainfall. 52 Issues went out for Sri Lanka and 12 Issues for Maldives. The reach was extended after the staff social media training. Social media branding with [fect.lk](http://fect.lk) was used to extend our reach with Facebook, LinkedIn, Twitter and mail servers.

### Websites

We had setup three portals [cleanair.lk](http://cleanair.lk), [drought.lk](http://drought.lk), and [disease.lk](http://disease.lk) to provide authoritative information on air quality, drought and diseases accessible to the public. [Cleanair.lk](http://Cleanair.lk) merited an award under the category Environment and Green Energy from the Government Information and Communication Technology Authority. [www.Fect.lk](http://www.Fect.lk) was developed as a friendlier platform for the public and we have started work on [Fect.mv](http://Fect.mv).

### Collaboration

We collaborated with personnel attached to the Mahaweli Authority of Sri Lanka, Ministry of Mahaweli Development and Environment, University of Peradeniya, Akurana Pradeshiya Sabhawa, Akurana Divisional Secretary, Akurana Women's Welfare Association, Open University of Sri Lanka, Sarvodaya, Environment Foundation (Ltd) and News View.

In Maldives, we collaborated mostly with Renewable Energy Maldives, Maldives National University, Gaafu Dhaalu Atoll Education Centre, and Land and Marine Environment.

### Remote work

We worked from home from January-February & May – July due to the COVID risks. Our past work on the Internet-Cloud such as filing systems, library catalogues, internal blogs, Trello boards and wiki pages had to be improved. Digital archiving has improved for some areas of our 8-10 Themes and four Projects. File Archiving, IT Disaster Risk Management remains to be addressed.

# Detailed Report

## PUBLICATIONS

### X-Press Pearl Report to the Ministry of Justice

We prepared a report on X-Press Pearl Marine Disaster, exploiting the data that we obtained through our air quality instruments to the Minister of Justice and the Marine Environment Protection Authority. There was obviously pollution and it was directed towards land, but apart from some spikes, the pollution was not sustained.

### Dengue

We investigated the impacts of Dengue epidemics of 2017 and 2019 which was mainly focused on Matale area. Two research papers were drafted on Dengue Cases and Epidemiology and Entomology for Matale.

### Air Quality

We are analyzing Air Quality data obtained by the Central Environment Authority (CEA) and comparing it with what have obtained through our instruments. There are some consistencies and interesting divergences.

### Climate Services

We continued working with the hydrological and meteorological agencies and water resources and environmental sectors to develop climatological information, customized monitoring systems that collect satellite and local data, to develop fine-scale prediction systems in Sri Lanka and Maldives.

## CONFERENCES

### NAMS&T

We participated in the conference conducted by Center for Science and Technology of the Non – Aligned Movement and other developing countries (NAM S&T Center in New Delhi). Our submission on “Risks of COVID infected burials” was accepted after sending through National Science and Technology Commission (NASTEC). Ashara Nijamdeen presented it virtually at the Conference held in early 2021. There was another interesting presentation on home gardens from a NERD Centre staffer who has promised to help us.

### SLAAS

FECT contributed to the conference organized by Sri Lanka Association for the Advancement of Science (SLAAS). Six abstracts were presented in sections concerned with Health, Environment, Engineering, Physics and IT. Two of our Abstracts were rejected by the Chemistry section – although one was submitted in duplicate by error – to the health section and accepted

there. Lareef Zubair helped the Social Science section by reviewing abstracts. Lareef Zubair concluded his service on the Section F committee after last year’s term.

### AGU

We took part in the conferences organized by American Geophysical Union (AGU) in New Orleans, USA. All the Abstracts presented by FECT were accepted and presented in the Atmospheric Sciences, Geo-health and Global Environmental Change divisions.

## CONFERENCE ABSTRACTS

### NAM & ST

- Nijamdeen A., Gammanpila S., L., Zubair, Bandara, R., Wickramagamage, P., Kusumawathie P.H. D., Contamination of Groundwater and Soil and Risk of Further Transmission due to COVID-19 Infected and Other Burials: Does Sri Lanka’s environment pose a unique risk? IWGWCM - STI 2021

### SLAAS

Following presentations were given at the Annual Sessions of Sri Lanka Association for the Advancement of Science (SLAAS), Technical Session 2021, conducted in Colombo:

- A.C.W.Kulasinghe, D.H.K.Wickramasinghe, A. Nijamdeen, P.H.D.Kusumawathie, L. Zubair , Dengue epidemic identification and its seasonal and spatial variability in the sub-districts of Matale district,
- D.H.K.Wickramasinghe, A. Nijamdeen, A.C.W.Kulasinghe, P.H.D.Kusumawathie, L. Zubair, Seasonal and Spatial Variability of Prevalence of Dengue and its Transmitting Vectors in the Matale District, Sri Lanka Association for the Advancement of Science (SLAAS), Technical Session 2021
- D.H.K.Wickramasinghe, A. Nijamdeen, L. Zubair, Nature and Scale of Impact of X-Press Pearl Fire on Air Quality, Sri Lanka Association for the Advancement of Science (SLAAS), Technical Session 2021
- S. Gobishankar, A. Nijamdeen, L. Zubair, T. Shifna, A. Mahendran, Nature and Scale of Impact of X-Press Pearl Fire on Air Quality, Sri Lanka Association for the Advancement of Science (SLAAS), Technical Session 2021
- Z. Iwais, U. Adithya, A. Munas, N. Alahakoon, K. Wickramasinghe, L. Zubair, Simulating the dispersion of pollution in the atmospheric from the Fire about the X-Press Pearl Ship, Sri Lanka Association for the Advancement of Science (SLAAS), Technical Session 2021

- S. Gammanpila, A. Nijamdeen, L. Zubair, Contamination of Groundwater and Soil and Risk of Further Transmission due to COVID-19 Infected and Other Burials: Does Sri Lanka's environment pose a unique risk?, Sri Lanka Association for the Advancement of Science (SLAAS), Technical Session 2021

## AGU

Following presentations were given at the Fall Meeting of American Geophysical Union, December 2021 in New Orleans, Louisiana.

- A. Nijamdeen, K. Wickramasinghe, C. Kulasinghe, Z. Javad, Kusumawathie Pahalegedera, Towards a Dengue Early Warning System in Sri Lanka: Climatic influences on Dengue mosquito prevalence, Seasonal and Temporal Variability of Dengue Incidence around the Knuckles Mountain Range.
- A. Nijamdeen, K. Wickramasinghe, G. Sathyamohan, L. Zubair, The X-Press Pearl Marine Disaster off Sri Lanka in May 2021: Atmospheric Transport of Pollution from the Fire and Explosion - Auditing Materials on board, Modeling Air Pollution Plumes and Air Pollution measurements in Sri Lanka.
- Z. Iwais, U. Adithya, A. Munas, N. Alahakoon, K. Wickramasinghe, L. Zubair, Is an IoT based Operational Air Quality Monitoring System Feasible for Sri Lanka?
- N. Alahakoon, U. Adithya, A. Munas, L. Zubair, Lessons from Developing and Sustaining Climate Services in Sri Lanka and Maldives for 15 years: Provision of Weekly/Monthly Bulletins, Advisory Services and Forensic Analysis.

## PROJECTS

### Dengue Risk in the Central Province

PEER Cycle 7: Full title: Developing Dengue Risk Predictions from Environmental, Entomological and Societal Information to aid public health management in Sri Lanka. Three Quarterly Reports were submitted in April, July & September 2021. Also, Annual Reporting (Oct 2020 - Sep 2021) was done in October 2021.

### Promoting Literacy on Climate Change, and Renewable Energy Transition

At the request of the British High Commission through Dr. Vidhura Ralapanawe, a project on *Promoting Literacy on Climate, Climate Change, its Impacts and Mitigation through Awareness of Potential Transition to High Renewable Energy in Sri Lanka* was undertaken between January and August in 2021. Infographics, Flyers, Posters,

Brochures and Videos were produced and distributed via social media.

### Influencer Training

Again at Dr. Vidhura Ralapanawe's urging, a training program to develop Digital Media skills of ten of our staffers was undertaken by Influencer Team, A.K. Tharindu and Lividul Witharna for three months. Through this project, guidance was provided to initiate a new website – [fect.lk](http://fect.lk) – and new alumni and friends' groups on Twitter, LinkedIn and Facebook while maintaining a regular calendar of postings. In addition, Climate, Disasters, Environment and Society (CDES) Public group was created on Facebook.

## FINANCE

Audits for 2019/2020 for FECT TCG and DS were undertaken by Anzari and Company. They have audited the Financial Statements of Tropical Climate (Guarantee), FECT & DS, which comprise the Statement of Financial Position as at 31<sup>st</sup> March, 2019 and the Statement of Income and Expenditure for the year then ended together with the notes to the accounts given therein. Accounts were prepared for FECT-MV and FECT-Inc. A USD Account was opened in October 2020. A Bank Account was opened for the Federation in June 2021. Chase Bank Account for TCG was opened in 2021.

## SOCIAL SERVICE AND ADVOCACY

### Centre for Investigative Reporting

The Center for Investigative Reporting ([cir.lk](http://cir.lk)) held two workshops with Journalists and Environmental Researchers on Neglected Environmental Topics in Sri Lanka in October and one with Journalists and Researchers on Climate Change. Lareef Zubair contributed as a Resource Person and asked that we acknowledge the failure to advance the sciences for Sri Lanka.

### SLAAS Social Science Section

Lareef Zubair contributed to the Social Science Committee of the Sri Lanka Association for the Advancement of Science for 2021 through its monthly meetings, reviewing presentations and support for external events.

### X-Press Pearl Ship Disaster

FECT staff took it upon themselves to contribute to the call for scientific information from the Ministry of Justice and the Marine Environmental Protection Agency.

## LITIGATION

- Hearings at **Labor Tribunal** were held on 08<sup>th</sup> February, 17<sup>th</sup> February, 06<sup>th</sup> August and 14<sup>th</sup> December 2021 following the complaint by one of the beneficiaries of FECT. The Litigant evidence was led by her lawyer over the last 3 years for 10 sittings. Cross-Examination shall probably take more years followed by other witnesses. Hearings at **Magistrate Court** were held on 23<sup>rd</sup> March, 20<sup>th</sup> July and 23<sup>rd</sup> November 2021.
- Initial hearings resulted in the postponement and on 23<sup>rd</sup> of November, the proceedings were suspended. Hearing at **Court of Appeal** was scheduled on 28<sup>th</sup> July 2021 but postponed due to COVID emergency and due on January 18<sup>th</sup> with a new Bench.
- Visit by **ETF** –Digana office was given a surprise inspection by two officers of Employees Trust Fund on 22<sup>nd</sup> September 2020. We are waiting for the records of the ETF through RTI.
- RTI Commission** – FECT has complained about the failure of the Labour Department to handover all their documents in a timely manner. The hearing scheduled for July was postponed to 10<sup>th</sup> January 2022 as new Commissioners were recently appointed.

## REGULATORY

While the 2020 Annual Reports for Foundation (FECT), and Tropical Climate (TC) were submitted by Ralapanawe Associates, the reports for Disaster Services were submitted by Ms. Hidaya Rousdeen. Annual Financial Report for FECT and DS for year 2021 are in progress. TC will be submitted. A Bank Account for TC was obtained in New York in 2021. Voluntary Service Organization for FECT and TC were not submitted in 2021 due to no good reason.

## INFRASTRUCTURE

Tools for Welding and Electrical Repairs were obtained. Our workshops were made serviceable.

A 5 KW rooftop solar installation was undertaken in the Akurana office and after some delays is providing electricity to the CEB. Unfortunately, it is a condition of the CEB that we cannot use the power directly if there is a power cut.

## COMMUNICATION

- Fect.lk**  
Motivated by the Influencer project, the web portal for FECT.lk was developed this year. Its look, feel and information are less technical than climate.lk, disaster.lk, cleanair.lk, drought.lk and disease.lk. Such a site was needed for wider outreach.
- Social Media (SM) with Fect.lk**  
A social media campaign was carried out starting in August to build our links to Alumni, Friends and build up our reach on Twitter, Facebook and LinkedIn. We used the handle of @fectlk in these platforms. We did better in our outreach but nowhere close to what our content warrants.
- SM outreach on FB, LinkedIn, Twitter**  
Weekly updates of climate bulletins are posted in Facebook, LinkedIn and Twitter at @fectlk and @climatemv. We have introduced Weekly Air Quality card, weather Highlights, weekly monitored rainfall GIF and distributed posts on international days related to environment and climate sectors.
- Weekly and monthly Climate Bulletins for Sri Lanka**  
Weekly and annual climate bulletins are updated and are available at [www.fect.lk](http://www.fect.lk)
- Fect.mv**  
The new web portal for Maldives is being developed with the intention of advancing essential understanding on climate disaster and environment risks at fine scales. Fect.mv project is in progress.

## ADMINISTRATION AND IT

- Our accounting systems, audits and company reporting were completed well.
- Inventories of books, files, journals and reports were made more accessible.
- IT systems have been kept and upgraded up to the demands of additional staff.
- We are working on cloud-based accessibility to information resources.
- We keep compliant with the labour, financial and company law.

## DISCUSSIONS / MEETINGS

### Internal Meetings:

- Climate Change Adaptation in Sri Lanka & Maldives, Columbia University. March 2021 (PI: John Furlow)
- Characterizing and Mitigating COVID Impacts on STEM Education and Fisheries Operations in Remote, Far Flung and Low-Lying Islands of the

Maldives, Maldives National University, Pre-Proposal. October 2021 (PI: Shazla Mohamed)

- Organizational Review Meeting was held in November.

#### External Meetings:

- X-Press Pearl SLAAS meeting organized by SLAAS, was held in July.
- Federation for Environment, Climate and Technology conducted a review meeting on 11th November at Akurana to rethink of the organization for next 6 months and review Admin, IT & Research themes.

#### Workshops

- International Workshop on 'Ground Water Conservation and Management by Leveraging Science, Technology and Innovation' was held in January.
- A presentation for the A/L Science Students at Akurana Balika Vidyalaya (Girls' College) was held in November.
- ARSET - Introduction and Access to Global Air Quality Forecasting Data and Tools (Day 1, Day 2 & Day 3) organized by NASA in September.

#### Webinars

- Integrated Programme for Better Air Quality in Asia Online Learning Series (Day 1): AQ monitoring & communication (Webinar) was held in February.
- Webinar on S2S forecast and its applications in South Asia organized by Indian Institute of Tropical Meteorology (IITM), Pune, India was held in July.
- Webinar on Heat Stress Thresholds for Indian Cities - Day 1 and Day 2 organized by South Asia Heat Stress Information Network was held in August.
- [SAMA] Webinar on Asian precipitation Experiment (AsiaPEX) organized by South Asian Meteorological Association was held in September.
- Heat stress webinar- Day 3, Global Master Class on Early Warning Systems for Heat Stress Management was held in September.
- [SAMA] webinar on Sea Level Rise and Coastal Climate Risks in Pakistan was held in September. This webinar is being co-hosted by the Water Environment Forum, Pakistan Meteorological Department and the UK Met Office, in partnership with the International Centre for Integrated Mountain Development, supported through the Asia Regional Resilience to a Changing Climate

(ARRCC) programme funded by the UK's Foreign, Commonwealth and Development Office.

#### Events

- Norochcholai, Nirmalapura, Puttalam and Serakkuliya Visits organized by TCG took place in February.
- A visit to Kurunegala was undertaken to check the AWS instrument fixed at the RDHS, to obtain data from our instruments & to check the missing data from the same instruments in November.
- Regional Symposium on Disaster Risk Management programme conducted by SEUSL was held in December. Keynote address was delivered by L. Zubair.
- ICTA Awarding Ceremony organized by Information and Communication Technology Agency of Sri Lanka (ICTA) was held in March.
- Visit to US Embassy, Bayleaf, Anim8 & Soft wave organized in April.
- Visit to RDHS & RMO Matale for Dengue case & Entomology data from 2018 - 2021 March was held in May.
- Data collection from NRMCC for Ampara-Garden, Maho, Alutharama and Horana stations was carried out in May.
- Visit to the Ministry of Environment - Climate Change Secretariat, Sobadam Piyasa in Battaramulla, Central Environmental Authority (CEA) and the Meteorology Department, to promote our work and to discuss on collecting air quality data. In this visit a meeting was held with President of FECT, Ms. Hudha Ahmed.

#### ONGOING GRANTS

- **PEER Cycle 7:** Developing Dengue Risk Predictions from Environmental, Entomological and societal information to aid public health management in Sri Lanka. From the US National Academy of Sciences (PI – P. H. D. Kusumawathie, 2019 – April 2022). Following Quarterly Reports were submitted:
  - (Oct-Dec 2020): reporting submitted in January 2021
  - (Jan-March): reporting submitted in April 2021.
  - (April-June): reporting submitted in July 2021
  - (July-Sep): reporting submitted in October 2021
  - (September 2020 - September 2021): Annual reporting submitted in October 2021.



## PROPOSALS

- **CCA – RFI and RFP**

USAID had a very large call on Climate Change Adaptation (CCA) in Sri Lanka and Maldives. CCA program utilized three groups of interventions: science, scientific uptake and priority adaptation solutions. FECT submitted in collaboration with Columbia University Earth Institute (CUEI) and Sarvodaya as main partners in March 2021. There was some content missing in the docket submitted by Columbia University. Nine submissions of the CU proposal were shortlisted – they usually shortlist three. Eventually, the award was made to a DC company called Tetrattech. Nihani Riza of USAID was in charge of administering this project and Lareef Zubair met her in October to discuss regarding the follow ups. They are trying to spin up and shall be in working for the next 5 years.

- **Empowering Sri Lanka's from COP26**

FECT proposed a project with the objective of Empowering Sri Lanka's Contributions, Ambitions and Gains from COP26 at the request of the British High Commission in Colombo. The project was focused on helping and addressing some of the bottlenecks that had held back the participation of civil society and regional organizations. Even though there was no follow up, the proposal has left us with a plan.

- **Communication and Literacy on Climate Change**

Sri Lankans were facing challenges due to hazardous impacts caused by climate change, environmental degradation and adverse development projects. FECT proposed actions to mitigate the issues related to climate change and support civil society, women's groups and youth through generating climate related information.

- **COVID Impacts on Education and Fisheries in the MV**

Maldives: We proposed characterization of impacts of COVID-19 on School and University Education and Fisheries Operations and proposed steps to mitigate these adverse impacts widely in the Maldives with a case study in the Gaafu Dhaalu Atoll. FECT proposed to contribute to the work of Maldives National University to develop the baseline information of Health, Environment, Education and Fisheries and upgrade STEM Education.

- **Communication & Literacy on Climate Change in MV**

FECT-MV submitted a proposal to facilitate protection, awareness and assistance for the

individuals who have faced challenges due to Sea level rise, heat stress, sea surface warming and polluted marine biology through providing climate related information.

## OPERATIONAL SERVICES

We disseminated our weekly, monthly and annual climate assessments for Sri Lanka and Maldives via email and social media. Dissemination of drought monitoring for Sri Lanka and Maldives and automated climate report generation for Maldives were continued.

- Climate Services for Sri Lanka: We continued to provide Climate Services for the Mahaweli Authority and Maldives. Archives of advisory reports are available at: <http://fectmv.blogspot.com/> Weekly expert inputs for Hydro-meteorological Assessment for Mahaweli Authority are made available via <http://fectsl.blogspot.com>; <http://www.climate.lk> and <http://fectsl.wordpress.com>
- Climate Services for Maldives: In collaboration with the Maldivian Meteorological Services Monthly Hydro-meteorological Advisory services are provided for the Maldives. via <http://fectmv.blogspot.com> and <http://www.tropicalclimate.org/maldives>
- Climate Services for the Comoros: <http://www.tropicalclimate.org/comoros> provides updated information for the Comoros.

## STAFF

Seven staff members departed. The departure of Ashara Nijamdeen after five years to pursue her Masters in Tropical Agriculture at the University of Bonn was significant. Zeeba Javad too left after 1.5 years to pursue educational and personal goals.

Internship opportunities were provided for eleven undergraduates during this period - Statistician Charuni Kulasinghe, Environmental Scientist Gobishankar Sathyamohan, Computer Scientist Varunya Amamini, Management Aide Emmanuel Gautham, Physicist Tharushi Ekanayake, Computing and Management interns Isura Dissanayake, Sarasi Pamunuwa and Dilushi Doranegama, Data Digitizer Narmadha Hewage, English Educator Sammani Gunasekara and Law student Deshani Kolongasella. Most of them were from Peradeniya, with each from Rajarata, Sri Jayawardenapura and the Mahaweli College of Education, Polgolla.

Rimza Zacky, Tuan Hadgie, Fathima Shakira, Kokila Wickramasinghe, Nipuni Alahakoon, Zain Iwais, Azra

Munas and Ushan Adithya carried on their work from last year.

Sabra Ansar, Hasmiya Jabarooth, Piushani Ellegala, Madhura Weerasekera, Sewwandhi Chandrasekera, contributed to Organizational tasks.

## TRAINING AND EDUCATION

### Science for Service program

A motivational program was held at Akurana Girl's College for Advanced Level (A/L) Science and Geography students. This program was done in collaboration with Tropical Climate. Seventy senior students participated in it. Presentations were conducted on Dengue in Akurana by Tharani Kailavasan, Instruments in Akurana (AWS's, AQ, Soil Moisture, River Level) by Zain Iwais and Air Quality in Akurana by Kokila Wickramasinghe. Lareef Zubair conducted a Question & Answer Session with students. We tried to unplug the students from the Tuition classes and direct towards Research and Projects but we have rarely succeeded.

### Regional Symposium on Disaster Risk Management

The symposium was conducted by South Eastern University of Sri Lanka in collaboration with District Management Center (DDMC) Ampara. It was held on 16.12.2021 at 9.00 a.m. Keynote address was delivered by Dr. Lareef Zubair along with the Director of the DMC and Vice Chancellor.

## INSTRUMENTATION

### Automatic Weather Stations – (AWS)

We have established 12 Automatic Weather Stations (AWS) in operation island-wide in collaboration with Ambient Weather to obtain online air quality data to our web-portals. Further, two weather stations have been established in Maathoda – SIRC and Thinadhoo in Maldives which are offline currently due to maintenance and network failures. New stations were established in Gammaduwa in Northern Knuckles Foothills in Matale while major relocation and repairs were undertaken in Colombo (Bayleaf), Kandy (Trinity College) and Kurunegala (Health Office).

### Air Quality

FECT has placed a dozen online air quality instruments from Purple Air and Air Visual and a score of Automatic Weather Stations, over several selected regions in Sri Lanka and Maldives. Maintenance, data acquisition, assimilation and quality checks on these instruments were undertaken. A weekly update of the data obtained through the Air Quality Instruments were disseminated

through our web portals ([www.cleanair.lk](http://www.cleanair.lk), [www.disaster.lk](http://www.disaster.lk), [www.fect.lk](http://www.fect.lk), [www.climate.lk](http://www.climate.lk) and social media of FECT. ICTA recognized the merit of this work last year with an award for Digital Social Innovation.

### Soil Moisture

FECT has established Soil Moisture Instruments in the Airport Island in Maldives and Akurana Sri Lanka which were in operation till recently.

### River Water Level

In Akurana, Sri Lanka, we are testing an instrument fabricated by one of our staffers to obtain data on River Water Level. The data for Akurana in Pinga Oya is already online but there are teething problems.

### Instrument Sites

Automatic Weather Stations	Kandy (Trinity), Kurunegala, Gammaduwa, Norochcholai, Colombo 07, Akurana, Puttlam, Nawalapitiya, Asupini Ella, Bulugahathenna, Nawalapitiya, Digana, & in the Maldives - Thinadhoo, Maathoda
Air Quality	Puttlam, Norochcholai, Akurana Colombo 07, Nawalapitiya, Nachchaduwa, Serakkuliya.
River Level	Akurana
Soil Moisture	Akurana, Hulhule (Maldives)

## LOOKING AHEAD

**COVID Impacts** – We had to manage our work from the office, from home and in hybrid mode in keeping with the prevailing risk from COVID -19. We were proactive in asking our staff to work from home before the government requested for it. Staff in our offices were able to adopt low risk practices but the difficulty was mainly in travelling. Some used public transport and others staggered their hours so as to travel during periods with low traffic density. While the work from home was effective at an individual level for some, there were negative consequences from the lack of collaborative work and informal interactions, the failures in computer and related infrastructure at home, and from the mental health strains from such work from home.

**Grants and Proposals** - We were kept busy with completing three externally funded grants and one internally funded grant alongside our work on ongoing programs on climate, air quality, instrumentation and work on infrastructure. Alongside, we expended effort

and time on one major proposal to USAID and other organizations. These proposals even if not successful, represent an investment in intellectual resources which we need to capitalize on.

**Publications and Conferences** - We worked on a dozen abstracts and reports for conferences. These shall be upgraded to publications.

**Litigation** Once the cases were filed, against the Foundation (FECT), we had made it part of our societal work to better understand the Regulatory system as applicable to the non-profit and charitable organizations. The laws in Sri Lanka are of course tilted against the “capitalists” who are seen to generate employment exploitatively. In the case of the EPF and ETF regulations the determinations of the Commissioner and their agents are even placed outside judicial review. This has spawned an HR Industry in Sri Lanka and the use of various tactics to manage the burdens of the extractive state officials. It does not help the employees too in a situation where there are shortfalls in jobs as employers shall be reluctant to hire. The regulatory agencies seem to work with exceeding diligence on occasion. In our case, through third parties, the officials have solicited bribes. Backdated letters produced by them. Justice systems don’t work if delayed but with COVID, the delays are exceeding.

**National Financial Environment and Governance** – We are looking to adapt to crises that we anticipate in managing our finances, keeping power supply on, obtaining supplies and for our staff to undertake their work, lives and manage their futures. **Overall**, the environment for work and engagement by private organizations have become more. However, the conditions in Maldives have been improving.

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