



**Mangroves - the buffer between land and sea.
Super mitigators of CO2 climate gases.
Providing a lifeline to the future.**

WIF ANNUAL REPORT 2020





2020 ACHIEVEMENTS

In addition to recruiting and training staff in 2020 for expansion, our unique planting methods were further refined to maintain 96% survival rate of plants.

The activities included planting on mud flats, wetlands and grasslands with biodiversity concepts. Preparations were also made to conserve large areas by using VERRA's new methodology VM 0007, which was launched in September 2020. A 7-year plan for restoration and conservation on over 290,000 ha estimated to mitigate 126 million tons CO₂ during the next 20 years. This will strengthen WIFs pioneering efforts in cooperation with blue carbon investors. Our field staff of 24 forest graduate technicians and 600 well trained motivated planters are ready for new challenges.





RESTORATION ACTIVITIES 2020

- Completed 2100 ha Thor Heyerdahl Climate Park.
- Restored 600 ha land at Crab Island in cooperation with Korea Impact Carbon Corporation and VVM Advisory Services.
- Planted 500,000 mangrove trees in Yangon Region in cooperation with Norwegian Ministry of Climate and Environment, completing with 1 million trees in 2021.

- Established nursery with 600,000 seedlings.
- New project on 6,400 ha restoration project in Ayeyarwady, Yangon and Mon State, in cooperation with Tide Foundation, Atoma Solution GmbH, Climate Partner Foundation, EcoAct France, CEMAsys, Starboard, Enviritas, EcoEye, Korea Impact Carbon Corporation, EcoFriend, SAILGP.
- **Additional tree planting:** Happi Earth, Earth Restoration Myanmar, Forest Finest, ECOFRIEND WORLD, Voldstad Eiendom As, Rolf and Anita Biorne Winther, Grant from Norwegian Ministry of Climate and Environment.
- Estimated carbon capture 12 million tons.
- **Expanded WIFs blue carbon concept** with sea weed production and sea grass conservation projects. In addition to its high blue carbon value, the sea weed production project provides valuable livelihood support with sustainable community development. Over 4000 kg dried sea weed for human consumption were harvested and made ready for the market. By expanding sea weed production to all communities, hundreds of well-paying jobs will be created.



Sea weeds are algae, the fastest growing species in the world, mitigating large amounts of CO₂ during their super-fast growth. With new projects in ideal growth environment for sea

weed, tons of high value human nutrition and sustainable job opportunities will be created in combination with CO2 mitigation.

4000 ha sea grass project is in progress of being listed at VERRA in cooperation with Pathein University. During the preparation process, a sophisticated under-water drone was introduced and managed by marine science students to monitor the sea grass areas.



The sea grass conservation project with marine biodiversity is in the ocean areas outside WIF's first mangrove restoration project. This will protect endangered species, with emphasis on a colony of about 20 endangered dugongs and a colony of 400 sea turtles. Protected sea environment will serve same purpose for marine life as the newly planted mangrove forest providing shelter to endangered wild elephants and other endangered land based species.



Biodiversity is the key to sustainable development.

New activities

- The Mangrove Gene Bank was further expanded in 2020 with new mangrove species. Completed first phase of a sky walk for visitors.

- Commitment from Japan to develop an international research and training unit related to the Mangrove Gene Bank. The internationally renowned mangrove researcher Dr. Kogo Motohiko has accepted to become the team leader.
- Invitation to start Blue Carbon Projects in Thailand, Indonesia, Sri Lanka, Bangladesh and Malaysia in planning stage.
- Planning in progress for 200,000 ha conservation and 12,000 new restoration project in Myanmar with start in 2022. Dr. Danya Nambiar is the lead scientist for the project.
- **Effective forest management with new technology.**
WIF expansion process is fueled by new methods spearheaded by our creative mangrove specialist U Win Maung and his staff, in cooperation with international partners.



Planet – the effective high resolution satellite system.



`Every tree on Earth to be regularly monitored`. This is the promise from the world's most effective forest observation satellite system. Until October 2020, the cost of using Planets services was expensive. But from October 2020, the system became free of charge for organizations engaged in forest climate activities, thanks to Norwegian Ministry of Climate and Environment. This is a great step forward in making effective forest monitoring systems available. From now on we can get the most sophisticated images from space, our new effective eyes in the

sky. This combined with a new online forest management system in cooperation with Odo

software development, will bring WIF in forefront of transparent forest management to be shared with all stakeholders.

Drones has been used by WIF during the last 4 years, both for test planting and observation. We therefore welcome a new technology improvement introduced in 2020.



A new type of drone with Artificial Intelligence developed for WIF by Andoya Space Centre was initiated in 2020 for operation in August 2021. This sophisticated version with powerful

sensors will systematically fly over dedicated areas and report in real time, to overcome limitations by satellites during cloud cover in the monsoon season. Access to the most effective technologies is propelling WIF to new highs in cost-effective forest management. WIF will now be ready to meet the most urgent challenges in the era of climate emergency. A new operational software being developed by Odoo, a leading Myanmar IT company will provide instant, online information on restoration and conservation, systemized and stored for regular update to all stakeholders. This will lead to maximum transparency with content permanently stored in the clouds.

Grace, the mother of Livelihoods.



WIF strengthened its management capacity in 2020 to meet new blue carbon milestones. This also included our Livelihood program with new leadership and additional field staff. The new sectional leader, Ms. Naw Grace Boni left an executive job at World Food Program to serve as manager of our Livelihood program. She has proven excellent capacity in social mobilization, working in tandem with partner communities and quickly proven herself to be in par with other excellent department heads. The quality of our human resources reflects the quality of the entire organization. WIF is now well equipped to reach new milestones in effective climate action.

Successful Livelihoods/Sustainable Development is the ultimate goal in securing forests from future destruction. Everyone in the poverty ridden communities will benefit from our dynamic, sustainable development process.

Far too many tree plantings projects have come to short of long-term goals by neglecting the human dimension in sustainable forest management. WIF has therefore from day one included the communities as strategic partners. People`s wellbeing and long-term benefits from a living forest is the ultimate key to success. Grace and her committed staff have proven their ability to deliver results during 2020, with achievements in social mobilization for poverty reduction, uplifting 62% of the population over the poverty line during the next 5 years. This is a realistic target based on results from ongoing livelihood activities. Eradication

of poverty is a guarantee protection of newly planted forests. Nature protection with bio diversity is a winning formula for everyone. Livelihood projects implemented in 2020:

Women Empowerment and Development

Women empowerment is an integral part of WIF's livelihood program. Women are encouraged to lead and participate in community development committees as part of new leadership roles. No one should be left behind in the new dawn of sustainable development.



"I am very proud and honored to be nominated and recognized as a member of the Community Development Committee. I am looking forward to perform my best for my community with the support of WIF". Daw Mya Khine Zar Oo, 45 years from Kan Hlar Shey village.

She is one of many women ready to take on new responsibilities in her community. Social mobilization and participation is the key to success in achieving the UN Sustainable Development Goals.



Fuel saving stoves for every family. This is a milestone in our environmental protection. In combination with establishing energy forests, providing effective protection of newly planted forests. By empowering the communities to make their own stoves, new livelihoods opportunities are also created. The stoves can be made by material easily available in the communities and save over 40% of biofuel. In addition to save firewood, it also saves money and creates job opportunities with extra income for the communities.

“After receiving the technical knowledge and skills, I can produce fuel efficient stove and gets income for my family. Furthermore, I got equal opportunities with men to participate in this project”. Ms. Youn Kabyar Htun, 19 years from Ywar Thit Kone village.



Income Generation through Shell Craft Art: This home-based shell craft business has provided knowledge and skills on how to use shells in creating dolls, decorating with shells in using accessories and special equipment.



“I believe that I can run my own handcraft shop with the skills, knowledge and support received from WIF”. Daw Sandar, 38 years from Shwe Thaug Yang Ward (2). She is a person with disabilities (both hearing and speaking impaired) living with her mom and supporting her family.

Scholarship Program: Supporting talented youth for university studies.

The socio economic baseline study conducted in every community at the start of projects, reveals a large education gap, especially in women`s entrance to universities. WIF`s scholarship for children from disadvantaged families have made it possible to reduce the gap by supporting motivated students to achieve higher education. Most of the people have traditionally limited livelihoods opportunities beyond fishing or work as low wage daily laborers. The scholarship program supports young motivated talents to pursue their dreams and continue education from Grade 9 to University level.

“My goal is to be a teacher. In the current situation, with my family in financial trouble, I was lucky enough to receive a scholarship from WIF, which helped me a lot. I can now continue striving to achieve my goals in life. Many thanks to the donors giving me this fantastic chance.” Ms. Khin Mar Win, 19 years old from Shwe Thaung Yan.



From Darkness to Light.



70% of Myanmar`s households are without electricity, living in darkness after sunset, with only a few candle lights burning a few hours, if affordable. Lack of proper lights during evenings affects student`s ability to complete home lessons. This has all changed in WIF community villages. Providing effective solar lights to every school going child is our first community contribution. This has dramatically changed the lives of

children and adults alike. Like a miracle, they can experience a life from darkness to light with no extra cost. Sunshine for recharging the battery is free.

“I am really happy for the solar lamp. I can now save money for buying battery and my children can study very well at night too”. Daw Khin Ohn San from Let Khoke Kone village. She was widowed for 3 years and is a mother of 7 children (with one disable child). She and her 2 elder sons can barely earn from 1.5 – 2 USD on daily basis if she is lucky to get a job. She has signed up for new livelihood opportunities in WIF`s livelihood program.



Stored sunshine for children in WIF solar communities.

Computer Training for young talents.

Parallel with distribution of solar lights, every school building has got a solar panel on the roof and a computer lab with training in basic computer literacy, to catapult the community into the modern world of learning, with all its wonderful opportunities. Schools have also been equipped with printers and other technical accessories.



Rainwater harvest for safe drinking water.

Many of WIF partner communities are running short of safe drinking water during 6 months in the dry season. This causes serious health and sanitary problems. In areas with no potential for drilling deep wells, rainwater harvest is the best solution. Rain is collected from the roof in clay or ceramic containers on the ground. It is a practical solution for many poor families living far away from tube wells or unable to buy expensive bottle water.



“It makes me feel safe to have these clay pot water storage systems”. Ms. Nan Wai Phyu, house wife from Kan Hlar Shey village, Kun Chan Kone Township.

Community mobilization with public participation.

WIF Livelihoods team give priority to marginalized groups in achieving equal opportunities for everyone. Project ownership via Village Development Committees in coordination with Village Tract Leaders and Local authorities has proven to provide tangible results. A 9 month training session in social business development and other training programs implemented in cooperation with community participation is one of many mobilization initiatives.

Solidarity with Covid-19 victims

Myanmar was hit hard by Corona 19 pandemic. WIF assisted hospitals and health clinics in our project areas with urgently needed equipment like patients monitor, electrocardiogram, electronic stethoscope, personal protective equipment with surgical masks, hand sanitizers, surgical Gowns, gloves, infra-thermometers, PPE suits, bacteria filtration efficiency caps and spray equipment.



In addition, food and other basic needs were distributed to the 450 neediest families in our project areas. In case of total lock down, WIF compensated lost salary to assist our workers and their families with basic needs.

Planting activities and other field work continued in accordance with local conditions. Our overall responsibility is to improve living condition in partner communities. We don't only plant trees, we also plant HOPE.

Upcoming Livelihood Activities proposed in planning sessions with communities: This will include village revolving fund, saving groups, improvement of livestock and poultry raising (small holder breeding): water, sanitation and hygiene (WASH) and other health service provision, aquaculture and crab hatchery, clam production and ice plants to preserve quality of sea food harvests, hygienic solar sea food driers, home stead garden, mushroom production, bee honey production in mangrove forests, production of virgin coconut oil and continuation of ongoing successful projects.



HIGHLIGHTS 2020



Crab Island – a new Climate Battleground.

2500 ha land barely above the sea level in the Gulf of Martaban in Mon State. This area, regarded as too challenging for human settlement, is about to be transferred to a thriving mangrove forest. The newly planted trees will protect the shoreline from erosion due to sea level rise and stabilize the land for possible human settlement.



Millions of newly planted trees

The forest will also function as a green shield protecting villages on the land side from cyclones and other extreme weather. The first 1,5 million trees planted on 600 ha with 96% survival

rate are in healthy growth. Investment for the first phase of the project in 2020 was funded by Korean Impact Carbon Corporation.



Due to violent storm surges, the pioneering WIF team under U Win Maung's leadership, had to be evacuated twice during 2020. Damage to the temporary camp structure were repaired and work continued successfully. No one gave up!



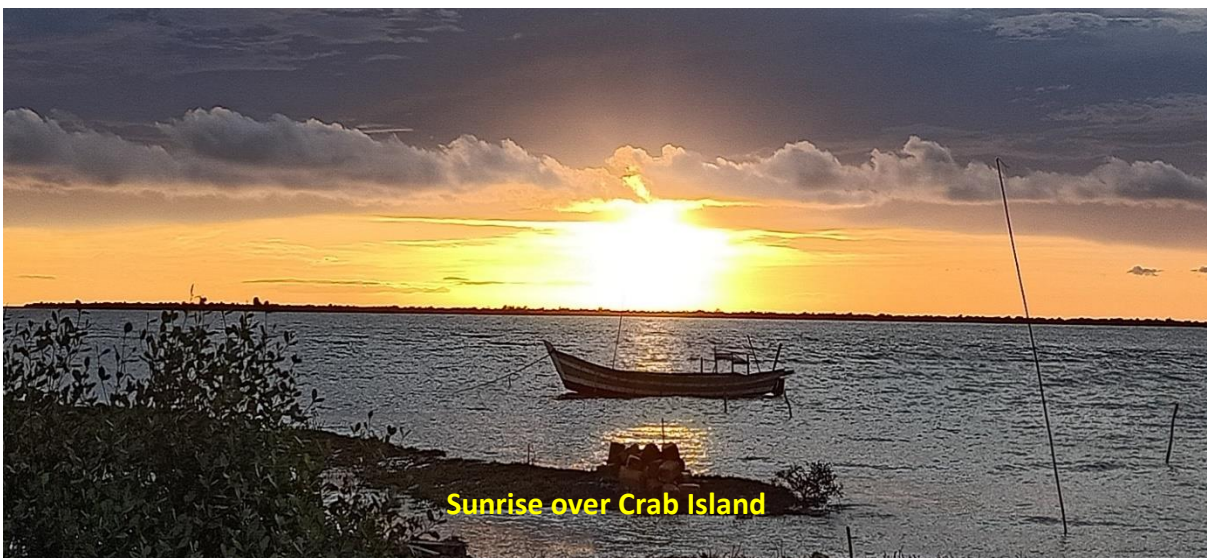
Permanent infrastructure for human settlement is in fast progress. The total land area with 6,25 million trees will be planted in 2021-22. Estimated carbon capture 3,8 million tons CO₂. Potential income from fishing and other income generating activities in the island will provide sustainable livelihoods for over 50 families. By using its experience in all kinds of land conditions and extensive mangrove restoration knowledge, no area seems to be too difficult for our teams to create a thriving forest and make life to prosper in tandem with nature.



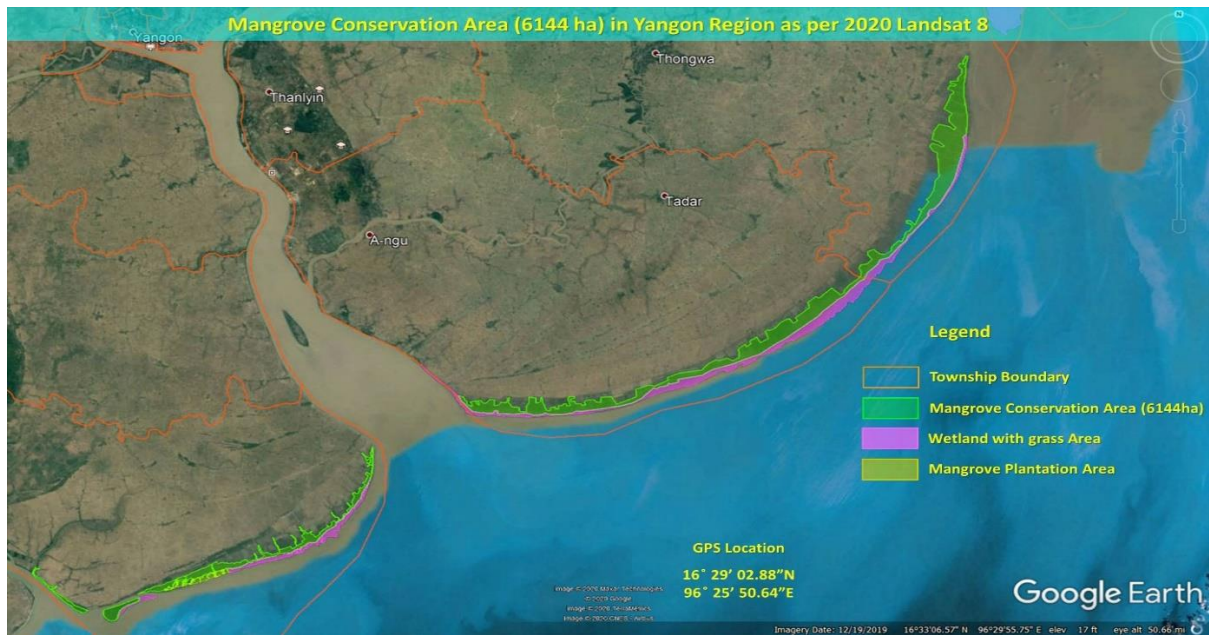
The pioneering heroes at Cab Island are creating new forest with life bearing eco system services and increased sea food resources in combatting climate change. The island can become a new settlement of 50 landless families, in addition to 20 families generating income from sustainable fishing in the rich sea food waters. The biggest potential for additional livelihoods is from crab culture. Crab Island is about to become a thriving new community rising up from the sea, thanks to the new forest with mangroves steadily creating new land due to growth of over 6 million trees.



WIF – creating new opportunities in the most difficult conditions with pioneering spirit by the dedicated field team lead by U Win Maung, WIFs experienced mangrove specialist. Nature creates miracles.



Yangon - A green mangrove shield for 7 million people.



Two years ago, the Chief Minister of Yangon Region U Phyo Min Thein invited WIF to create a green protective shield of mangrove forests in the vulnerable coastal areas prone to sea level rise, in protection of its 7 million people from cyclones and other extreme weather.



The first 600,000 trees were planted in 2020 with grant from Norwegian Ministry of Climate and Environment. The balance 400,000 from this grant will be planted in 2021, following planting of 6 million trees on the remaining 2400 ha land to be funded by voluntary contributions. Many partners have already committed their interest to complete this pioneering project.

Yangon is one of Asia`s most vulnerable cities exposed to climate change. A thriving mangrove forest protecting the shorelines is a natural climate solution, proven its effectiveness during millions of years. It will also provide life bearing eco system services and sustainable livelihood opportunities for years to come.



Nursery with 600,000 seedlings ready for planting.



SUCCESSFUL LIVELIHOOD project with sustainable fishing.



Some of WIF projects are in sea food rich areas. Mangrove forests will further increase sea food resources with 50%. New opportunities created in tandem with nature.

By providing fishermen with nets and rods, they have more than double their family income by utilizing WIFs interest free community loan with easy settlement.

A crab hatchery was donated to WIF by Queensland University in 2020. Installation to be completed in 2021. This will further increase crab resources in the mangrove creek areas.



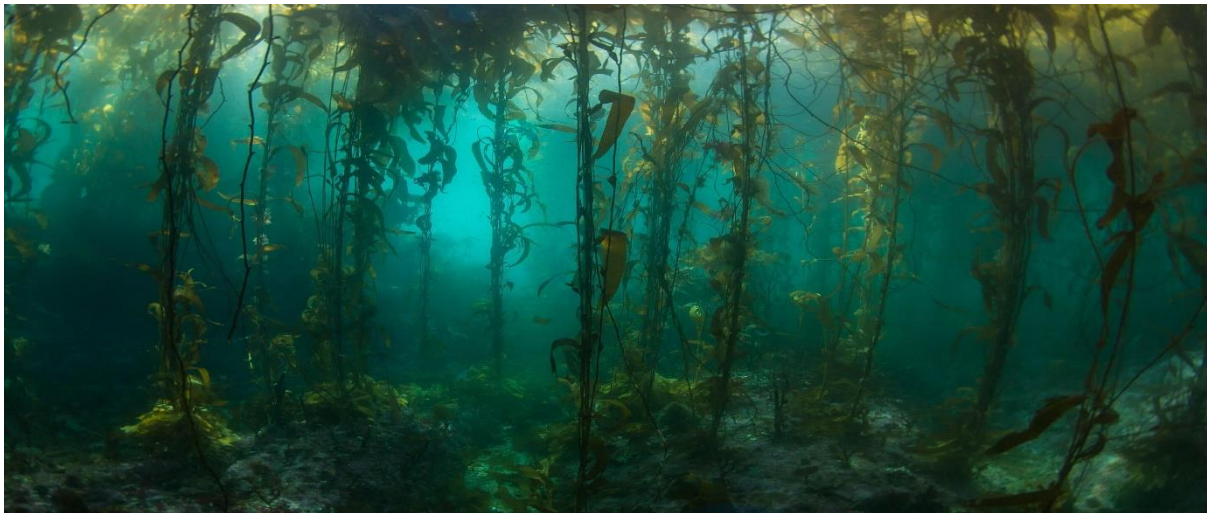
THE PROMISING SEA WEED PROJECT



2020 was a breakthrough in pioneering effective WIF Livelihood projects. Thanks to dedicated support by Ms. Thi Thi Hla, WIFs sea weed project manager, encouraging results was completed during the pilot period in 2020.

The plants also called sea vegetables, represents an exceptional high nutritional value for human consumption with additional food security. It is a ground breaker in providing prosperity to disadvantaged communities, successfully rising above the poverty line.

True to our blue carbon commitments, steps will be taken to draft a VERRA methodology for verifying carbon from sea weed projects, as well as expanding areas of seagrass conservation. Myanmar has a long and productive coastline of 2000 km. This represents exciting opportunities. One to be explored is potential for growth of kelp, the blue forest with exceptional growth with up to 50 meters per year.



This fastest growing algae plant thrives in water between 12 and 18 degrees C. Our blue carbon Advisor and Marine Science Professor Dr. Htay Aung has identified deep water areas in the Bay of Bengal with 12 degrees C outside our first climate park. The question is if there is enough light for kelp to grow in this deep water. It is worth while trying, the reward can be very high. Professor Dr. Aung Htay is also studying the seasonal influx of large amounts of phytoplankton in our marine project area, as a potential climate and food resource. Plankton is a biological carbon pool, globally mitigating up to 10 gigaton blue carbon per year.

Nature managed in a sustainable process is a way out of the poverty trap, as well as an important climate initiative.

New milestones from WIF partner Starboard and active Board Member Svein Rasmussen:

International Kayak Federation for Climate Action with mangrove restoration.

The goal will be to plant 10 times the number of mangroves required to absorb the carbon emissions at ICF Stand-Up Paddling World Championship events.

In the long-term, further action will be taken through all ICF disciplines to make each World Championships climate neutral through planting the same amount of trees as the amount of carbon dioxide that is emitted.

One of many goals is to work together in support of Paris 2024 becoming 10 times climate positive.

Svein Rasmussen believe sports and the Olympic Movement can promote decisive climate action, starting at the water's edge with reforestation of mangroves sea trees, perhaps the most reliable and efficient carbon dioxide capture technology. `Our partnership will reach all disciplines under ICF, using teamwork and collaboration to make a greater positive movement towards a healthier planet.`

ICF President José Perurena: `The international community understands the importance of clean waterways, adding that he hoped this partnership would push other governing bodies towards environmentalism. ICF is very excited to be partnering with Starboard, a company with a fantastic world-wide reputation not just for designing cutting-edge paddle craft, but also for its passion for the environment. Together I believe we will be able to achieve some great outcomes, for athletes, event organizers and, most importantly, the health of the planet`.



Starboard winning the prestigious WORLD SAILING 11TH HOUR RACING SUSTAINABILITY AWARD

This is another important recognition of Starboard`s pioneering efforts to mobilize global water sports actors for Climate Action. It will strengthen efforts to get the next Olympic Games to become climate positive, 10 times mitigating all carbon emissions from the games with restoration of mangrove forests, the miracle trees at the water edge for a sustainable ocean environment.

WIF congratulate Starboard and Svein Rasmussen with important partner climate milestones. A new large watersport climate forest of mangrove sea trees is ready for implementation with support by Starboard and its partners.

NEW BOARD OF DIRECTORS 2020

WIF President Mr. Bjorn Heyerdahl, Director Thor Heyerdahl Centre, Colla Micheri, Italia, continues for new period.



Dr. Sandii Lwin,
WIF's new Chair person

The following Board of Directors were elected at the General Meeting on 16 September 2020:

Chairperson: **Dr. Sandii Lwin** from Myanmar. She is the ideal person to propel WIF to new heights in combating Climate Change and provide sustainable development to partner communities. She has long experience in international development as Founder and President of Myanmar Health Consortium and former executive of World Bank, UNDP, Global Health and coordinator of large regional multi stakeholder projects. Sandii has provided valuable support to WIF in her voluntary capacity since start of our mangrove restoration projects in Myanmar in 2012. She is the third woman to be elected as Chairperson since inception of WIF in 1979.

Other board members:

Mr. Svein Rasmussen, Founder and CEO Starboard, Thailand, a global prize winning water sport company with representatives in 82 countries. Svein Rasmussen is several times world champion in wind surfing and inspiring Climate and Environmental activist. Starboard is 100 times carbon neutral company (pioneered planting of 700,000 mangrove trees in Thor Heyerdahl Climate Park from start of the project).

Ms. Monaqui Porter Young, founder and CEO Worldview Development USA and founder/CEO of Srina Tea and Health Corporation. Partner with WIF since 2002.

Mr. Jevan Tan, Singapore, entrepreneur and social inventor, Founder of Metazone, Vice Chairman Singapore Sailing Club.

Ms. Ingvild Bratli, Founder and CEO Norway Event Company, former executive of Telenor.

Mr. Nawaz Faleel, founder and CEO Oman Lanka Corporation. He joined WIF from the start as Finance Manager from 1979, and as Assistant Secretary General in 1998.

WIF Secretary General **Arne Fjortoft** was reconfirmed as Ex-officio member of the Board.

ADVISORY PANEL

Ms. Margot Wallstrom, Senior Adviser, former minister in several Swedish Governments, lately Minister of Foreign Affairs up to May 2020. Former EU Commissioner for Environment, Vice President EU and Assistant Secretary General UN. Active member of WIF since 1983.

Mr. Erik Solheim, Chairman China Green Belt Institute and former Minister of Environment and Minister of Development, Norway and former Director General of UN Environment. Served 2 years as Chairman of Worldview Rights.

Ms. Paula di Perna, author and environmental film maker, Vice-President Coustou Society, Special Advisor to Carbon Disclosure Project and former Vice-President Chicago Climate Exchange. Participated in WIFs pioneering mangrove project in Myanmar in 2013.

Mr. Svein Tveitdal, former Director UNEP and founder/CEO of Klima 2020. Twitter account on climate with 380,000 followers. Speaker at WIF Climate Conference.

Mr, Sandeep Roy Choudhury, Founder/CEO VNV Advisory Services, India. Initiated several carbon projects in Asia and started Crab Island Project with WIF.

Dr. Kjell Vagle, Chairman Worldiew Norway. Specialist on natural medicine and health. Active member of WIF since 2013.

Dr. Bremley Lyngdoh, founder and CEO Worldview Impact, GB. In charge of large tree planting projects in Meghalay, India. Former Board Member WIF since 1998.

Mr. Amadou Taal, Chairman Worldview Gambia, ambassador to Nigeria and advisor on African Development. Member of WIF since 1982.

Ms. Rebekka Borch, Senior Advisor Norwegian Environment Department and former Deputy Minister of Higher Education, Norway. Visited the climate park in 2014, planting first mangrove trees in Pathein University park.

Mr. Carlos Navarro Martinez, Spain, Independent Business Consultant. International tree planter with special interest in mangrove restoration projects. Participating in WIFs Clomate Conference and visiting WIF`s Climate Parks twice.

Ms. Jannike Mikkelsen, FNF award winning environmental filmmaker and Co-Founder Mayday Impact Award PitchFest and Creative Producer AShiwBiz Summit 4.0.

Ms. Roksana Ciurysek-Gedir, environmentalist, artist and banker. Exhibited art in many world cities, auctions at Sotheby's, Philips and Dreweatts & Bloomsbury. Vice President of Bank Pekao SA and Head of UK Team at Credit Suisse for high net clients in Europe.

SCIENCE PANEL

Dr. Ranil Senayake, President Earth Restoration, Chairman Rainforest Rescue International and founder of Analog Forestry. Dr. Senanayake was the first science consultant at start of WIF mangrove park in 2012.

Dr. professor Htay Aung, Pathein Unversity. Marine Science Spcialist with background from Hawaii University. He has been serving WIF projects since 2012.

Professor Dr. San Tha Tun, Mawlamyaing Universtity. He served as science advisor from the start of WIF operation in 2012.

Professor Max Hansson, Karlstad University. He has been active supporter since 2013, with sepcial assistance in implementing the Orchid Seeds Resue Project. Frequently visiting the clima park as advisor.

Professor Dr. Ms. Nang My Han, Forest University. She has been actively involved in WIFs mangrove projects as Head of Marine Science Department at Myeik University since 2012.

Professor Dr. Ms. Cherry Aung, Pathein Universtity. Present Head of Marine Science Department and actively engaged in establishing the first sea grass project in cooperation with WIF.



WIF's climate soldiers ready for action

*On behalf of our dedicated staff and community blue carbon partners,
we thank you warmly for support and trust in our ability to deliver tangible results.*

*At this critical time of climate emergency, with power from nature
we can realize our hope for a livable future.*

Yangon, January 2021.

Arne Fjortoft, WIF Secretary General.

Video from the mangrove park -

<https://drive.google.com/file/d/1Avl2pSsTcMSbyboL2VuTnxbsAqpR996b/view?usp=sharing>



Sustainable Development – from darkness to light