

# **ANNUAL REPORT**





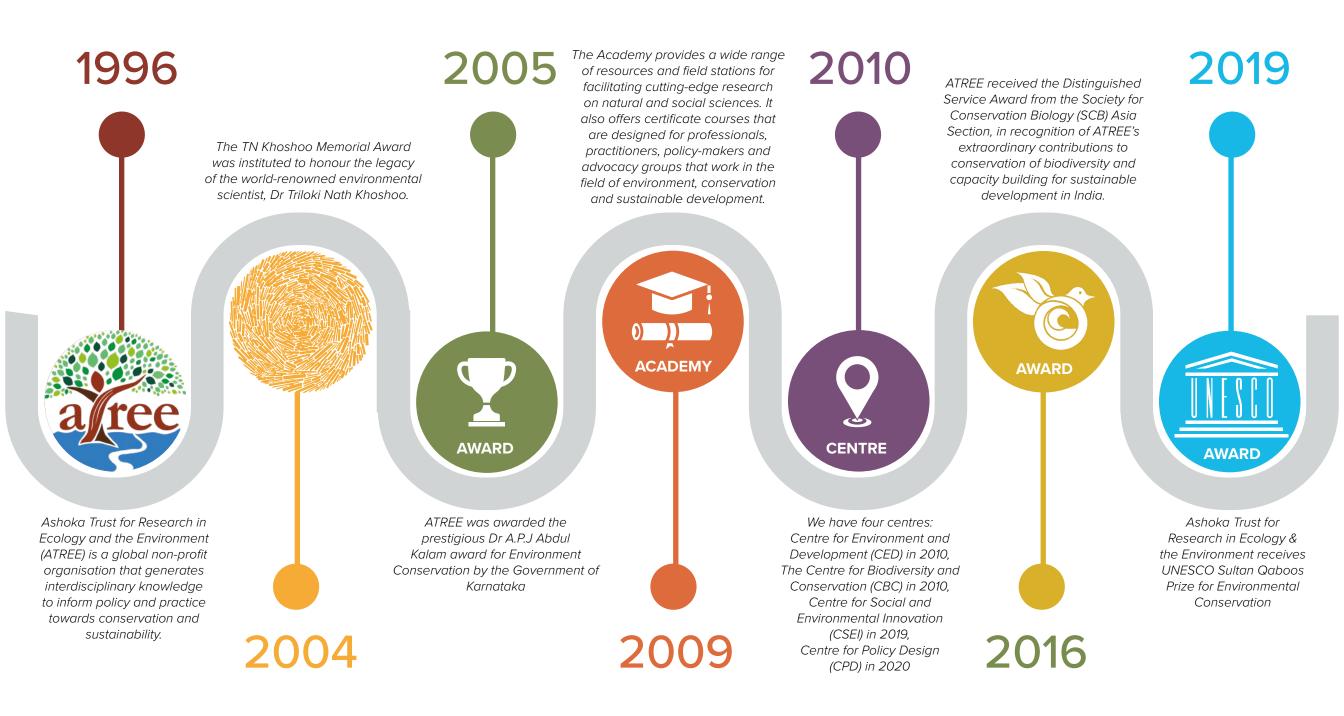




2019-2020

5 6 8 Our Mission **Funding Partners** Academy For **Conservation Science** and Sustainability Studies **15** 18 Centre for Environment The Centre for Social Community **Environmental Resource** and Development and Environmental Innovation Center 20 23 Suri Sehgal Centre TN Khoshoo Memorial **Financial Statement** for Biodiversity and Award and Lecture Conservation 2019 26 28 **Publications** Media and Outreach **About Atree** 

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Environmental challenges have been around for quite some time, but this summer has reminded us of how precarious our situation is. We have experienced unprecedented high temperatures and water shortages. Above all the pandemic, itself has been a grim reminder of our dysfunctional relationship with Nature. At ATREE, our commitment to address these challenges at scale continues to grow. A noteworthy initiative last year was the National Mission on Biodiversity and Human Well-being, a concept proposed by ATREE on behalf of a consortium of Bangalore based institutions, to the Government of India.

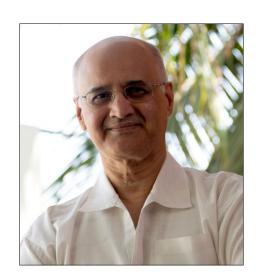
The initiative was formally announced to the public by the Prime Minister's Principal Scientific Adviser in March 2019, with ATREE receiving a planning grant, on behalf of the consortium, to develop a roadmap for the Mission. We hope the Mission will allow us to scale up our activities.

I generally take this opportunity to thank our donors and friends listed in this report and many others who are not. We are particularly grateful to Rohini Nilekani, the Shibulal Family, Sandeep Singhal, and Suri Sehgal for their continued support.

Dr Kamaljit S. Bawa, President, ATREE

What an ending to a fiscal year? By March 2020, we started recognizing the emergence of a global pandemic to punctuate an otherwise exciting year. We embarked on a set of symbolic and substantive initiatives, including the launch of the Center for Social and Environmental Innovation led by our own Dr Veena Srinivasan to enable ATREE's researchers to engage with bazaar - the non-governmental institutions of society. By the end of 2019, we began expanding our science communications agenda with an annual function at the Bangalore International Center where Meena Subramaniam received the T N Khoshoo award for her vivid paintings of the Western Ghats' ecosystems.

As other exciting initiatives described in this first online-only Annual Report unfold, ATREE will be prepared for what may come next year. Suffice it to note for now that we remain grateful to our benefactors for enabling us to research and understand better the environmental plagues that run through our society.



**Dr Nitin Pandit, Director, ATREE** 

# **OUR MISSION**

To generate rigorous interdisciplinary knowledge for achieving environmental conservation and sustainable development in a socially just manner, to enable the use of this knowledge by policy makers and society, and to train the next generation of scholars and leaders.

#### **Endowments and Research Grants**

- Rohini Nilekani
- The Ford Foundation
- S.D. Shibulal and Kumari Shibulal
- ATREE Belmont, USA
- · Sehgal Family Foundation
- · Bawa Family, Belmont, USA
- · Sarojini Damodaran Foundation
- Raj Khoshoo and Mohini Khoshoo
- SDTT-ATREE CF
- Oak Foundation
- Centre for Interdisciplinary Studies in Environment and Development
- BARR Foundation
- Rani Dalbir Chaudhary
- · Vasudeva Rao and Chitra Phadnis
- Arghyam Foundation
- Kasturi Trust
- Jayshree and Ganesan Balachander
- T.R. Narayanaswamy and Meera Narayanaswamy
- Government of Karnataka (Abdul Kalam Award)
- National Geographic Society, USA
- Antrix Corporation Limited, Bangalore
- · Institute of Bio resource and Sustainable Development (IBSD), India
- Advanced Centre for Integrated Water Resources Management (ACIWRM), Govt. of Karnataka
- Principal Scientific Advisor's Office, National Mission on Biodiversity &

#### Human Well-being, GOI

- Centre for Interdisciplinary Studies in Environment and Development
- · Ministry of Environment & Forests, India
- National Mission on Himalayan Studies (NMHS)
- Kumaon Advisors LLP, India
- · Charities Aid Foundation India, New Delhi
- Critical Ecosystem Partnership Fund (CEPF), USA
- · Tides Foundation, USA
- Say Trees Foundation, India
- FK Norway
- Tata and Allied Trusts, India
- Department of Science and Technology (DST), Government of India
- Symantec Software, India
- Utrecht University, Netherlands
- · The National Academy of Sciences, USA
- The James Hutton Institute, Scotland, United Kingdom
- Sundaram Finance, Chennai, India
- Brakes India, Chennai, India
- Aroon Raman, India
- Mohandas Pai, India
- Sandesh Kadur, India
- Meena Narayanaswami
- Indian Statistical Institute, India
- Ministry of Earth Sciences (MOES), India
- University of Kassel (UOK), Germany

- Rufford Small Grants Foundation, United Kingdom
- Sustainable and Healthy Food System (LSHTM), UK
- · Department of Biotechnology, Govt of India
- Wellcome Trust –DBT India Alliance, India
- National Medicinal Plants Board, India
- · Oak Foundation, Geneva
- Pel Drukpa Charitable Trust, India
- United Nations Educational, Scientific and Cultural Organisation, India
- · University of Washington, USA
- International Foundation for Science, Sweden
- Azim Premji Philanthropic Initiatives (APPI), India
- · University of Stockholm, Sweden
- Bharat Rural Livelihoods Foundation, India
- Defries Bajpai Foundation, USA
- · Swissnex, India
- United Nations Development Programme, India
- Hanns Seidel Stiftung (HSS), Germany
- Alliance of Religions and Conservation (ARC), UK
- Bat Conservation International, USA
- State Wetland Authority, Department of Ports, India
- WIPRO Limited, India
- · World Wild Fund for Nature (WWF), New Delhi
- · Cranfield University, United Kingdom
- The Ford Foundation, USA
- Zoological Society of London, United Kingdom
- Centre for Ecology and Hydrology, United Kingdom
- National Bank for Agriculture and Rural Development (NABARD), India
- National Center for Biological Sciences, India

- Bihar Forest Department (Decco), India
- · The Learning Society, India
- Indira Gandhi National Forest Academy, India
- Norwegian University of Life Sciences, Norway
- Xu Lianggen, China
- · Rainforest Alliance, USA
- Science & Engineering Research Board (SERB)
- HCL Foundation, India
- Herriot Watt University, UK
- Chris Davidson, USA
- Synchronicity Earth, UK
- The Pacific Institute
- Jane Schukoske, Mohan Das Pai, Surinder (Suri) M. Sehgal, Sehgal Foundation
- David and Lucile Packard Foundation
- Climate And Land Use Alliance
- India Climate Collaborative
- Westbridge Capital
- Anthony Killough, USA
- Devdutt Yellurkar, USA



#### **ADMISSIONS FOR THE ACADEMIC YEAR 2019-20**

The Academy for Conservation Sciences and Sustainability Studies received over 120 applications for the academic year 2019-20. Of these, 62 were shortlisted for the entrance test and interviews and 36 were then selected for the final interviews. The interview panel further evaluated and selected 7 candidates (5 regular and 2 externally-funded). The Academy's affirmative action contributed to the final selection of selected students.



#### **AWS 2019**

The Academy organised the biennial ATREE Work Seminar (AWS) from 6th–8th August 2019to disseminate and discuss the achievements, work findings, and potential proposals of the Community Conservation Centres (CCC) with the entire ATREE community.

#### ACADEMY@10

The Academy completed 10 years in 2019 and celebrated the occasion on 25th November at the Bangalore International Centre alongside the 16th edition of ATREE's TN Khoshoo award.

Our 26 alumni have joined nationally and internationally recognized institutions such as Krea University (Chennai), Azim Premji University (Bengaluru), Stanford University (California, USA), the University of Sheffield (UK), the Wellcome Trust, and WWF-India among others. In all, our PhD scholars have published over 65 papers. In addition to this, we have also conducted 10 certificate courses and skill-building workshops for over 100 students, researchers, and conservation practitioners. On average, we also host 35 speakers annually from globally recognized institutions and organizations.

Over the last 10 years, the support of the Tata Trusts, The Royal Norwegian Embassy, and the ministries of Environment Forests and Climate Change (MoEFCC) and Science and Technology (MoST) has been crucial in creating a vibrant Academy that looks confidently to the future.

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#### **ANNUAL SEMINAR 2020**

The Academy for Conservation Science and Sustainability Studies organized its 2nd annual Student Annual Seminar (SAS) from 6th—8th January 2020. The SAS is designed to provide students a platform to present the progress on their doctoral research objectives to all ATREE faculty and their peers. Student presentations involve conceptual and/or methodological discussions, and field, lab, or archive data analysis. Students report both on the work completed in the previous calendar year and what they intend to complete in the upcoming year.

#### **SEMINAR ON SDC**

The Academy conducted a seminar on sustainable development and conservation (SDC) at the Naropa Fellowship (NF), Ladakh from 14th–23rd May 2019. The 8-day seminar for the first cohort of NF students was designed to advance their comprehension of the biological and cultural diversity of Himalayan ecosystems, ecosystem services and human well-being and guide them towards opportunities for addressing these issues in the Himalayas. The seminar comprised classroom sessions as well as field activities and students were taught courses on natural history, phenology, ecosystem services and human wellbeing, climate policy, renewable energy, and creating virtual tours and maps.

#### **K2A WORKSHOP 2020**

The Academy was responsible for and codesigned the scientific content for the kickoff meeting of the South Asia Cluster of Cooperation (CLoC) and the ensuing dialogue workshop held in Bengaluru from 15th-17th January 2020. Supported by the Swiss Universities Development and Cooperation Network, the workshop sought to improve the correspondence between the generation, dissemination, and implementation of SDG- relevant knowledge by considering local contexts of environmental and social issues, regulatory mechanisms, and people's place-based perception and expertise. ATREE's participation in round-table discussions (Dr Nitin Pandit), technical sessions (Dr Jagdish Krishnaswamy), and researcher testimonies (Dr C Madegowda) was coordinated by the Academy.

#### **HIGHLIGHTS (2019-2020)**



29 Talks@ ATREE were conducted.



5 students were awarded degrees after defending their PhD thesis



8 students presented their synopses.



9 students registered with MAHE



2 students presented their pre-PhD submission



8 students won 9 awards/ grants/ fellowships



11 student publications in this period



15 students presented in seminars across globe



Students organized 9 workshops/ conferences



9 certificate courses student organized by Academy

## **IMPACT OF COVID-19**

Our students, Ronita Mukherjee and Ovee Thorat defended their theses successfully online and were subsequently awarded their PhD degrees. Ronita's thesis (titled "Consequences of urban demand on pollination service and livelihoods of the reliant communities: A study in the peri-urban landscapes of Bangalore, India) was the first thesis defense examination conducted online by the Academy. Ovee's thesis (titled "The political ecology of pastoral development and landscape conservation in Banni grasslands of Gujarat) was attended by over 125 participants. Two other students (Soumyajit Bhar, Nachiket Kelkar) completed their pre-PhD submission presentations online and 2 students (Nipu Kumar Das and Shruti Menon) registered with MAHE in this period.



The Centre for Environment and Development continued to address critical issues related to forests (SDG#15), water (SDG#6), and climate change (SDG#13).







The Community Conservation Centres (CCC) of BR Hills and MM Hills are a 'local space' through which vital initiatives to enrich livelihoods, protect community rights and assess important species were executed.



#### Rock honey bee

Rock honey bee colonies are being monitored in 50 locations across both forest and agricultural land in and around MM Hills.



#### Lantana

Through lantana management and livelihood development efforts across Maharashtra, Tamil Nadu, and Karnataka, five master craftsmen trained approximately 85 people with forest-dependent livelihoods.



#### **Community rights**

64 Gram Sabhas have received community rights; 96 farmers received land under the Forest Rights Act and the Kisan Yojana scheme.



The sale of 41,000 kg coffee beans from 306 BRT farmers was facilitated. Collaboration with the Karnataka Coffee Board led to establishment of 2 coffee nurseries and distribution of 60,000 seedlings among Soliga coffee farmers.



#### Non-timber forest products

Non-timber forest products (NTFPs) value addition units were established at BRT and MM Hills with 3 NTFPs processing units registered under the Adavi brand. Long-term monitoring revealed that three important species were stable: P. emblica, P. indofischeri, and T. chebula.



#### Wild food plants

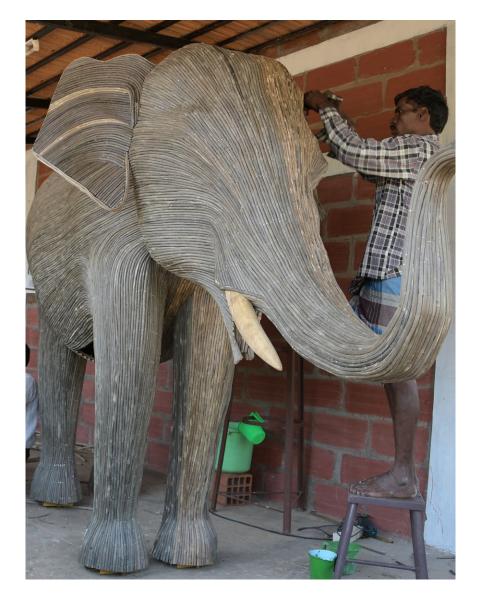
Wild food plants (WFPs) naturally occur in forests, farmlands, fallow land, roadside, and near water bodies and streams. With the help of the MM Hills-based research team, 124 WFP species were assessed for economic benefits and community dependency.

#### ATREE Eastern Himalaya/ Northeast India Initiative

In the Sikkim-Darjeeling regions, 15 different students were supported for internships, 24 dissertations studies for the Master's students from local colleges and universities were also supported. Specifically, 31 students from Darjeeling-Sikkim Himalaya were trained in field-based techniques. About 130 local community members were involved in outreach activities focused on local biodiversity. Over 308 local community members were trained in apiary, sustainable agriculture, and community-based tourism.

Through the Sustainable and Healthy Food System (SHEFS) in Sikkim, the Centre is trying to understand the drivers of change in agricultural practices in Dzongu Valley in North Sikkim and thereby to the local food system by conducting rapid assessments in 27 villages.

The Food Future Initiative – Darjeeling and Sikkim Himalaya is a pilot initiative to link local endemic and seasonal food with tourism in Darjeeling and Sikkim Himalayas. As part of this initiative, household surveys in 21 villages with 93 respondents revealed a list of 205 species that are an integrated part of the diet of local communities.



Another survey was conducted among some premium hotels in Darjeeling town to understand and assess various artists of tourism in the area. An ongoing survey of local restaurants, food aggregators, and homestays is being conducted to understand the status and challenges in the local food scenario.

Supported by National Bank for Agriculture and Rural Development (NABARD) under FSPF (Farm sector Promotional Funds), the Singalila Mustard Oil and Agro-Industrial Cooperative Society (SMOAIC) currently has 210 members from 10 different villages. Through the Society, 55 kgs mustard seeds were distributed and sown in 11 ha of land in 3 villages. A total of 525.4 kg oilseed was produced which yielded 126 liters of oil along with 2,063 kgs edible mustard leaves worth INR 20,630 in farmers' earnings.

The Centre identified High Conservation Value categories and sub-categories appropriate for North and West Districts of Sikkim.





The Vembanad CCC, established as part of the Community Environmental Resource Center (CERC) in Alappuzha, Kerala, attempts to support management and conservation of the Vembanad wetlands.

An institutional system including Kerala State health and education departments, panchayath, women SHGs, and CSOs worked together to make Muhamma the first synthetic-sanitary-pad-free village in India. As part of this initiative, 26 awareness sessions were conducted, 4500 cloth sanitary pads, and 300 menstrual cups were subsidised and distributed. As a result, more than 4000 (40%) women in Muhamma Panchayath (Alappuzha, Kerala) and hundreds of more women and students across the state have shifted to these sustainable alternatives.

A farm school was set up to promote sustainable and responsible agricultural practices in Kuttanad. In collaboration with the Kerala State Agriculture Department, 60 master farmers were trained in ecofriendly farming practices.

The Harithakarmasena were trained in and equipped for Solid Waste Management in Muhamma. Employing a new formal Waste collection system with the help of the Muhamma Panchayath and extensive citizen awareness campaigns, ~11 tons of plastic was collected from the Vembanad lake and surroundings and recycled, while 2 tons of used cloth was collected and upcycled.

Additionally, nine canals were restored and weed barriers installed in Muhamma to facilitate water transport and develop tourism.

A partnership with District Disaster Management Authority and UNDP supported Disaster Management and Preparedness with 300 teachers from 150 schools trained in emergency preparedness. Green Libraries with 50 environment-related books were set up in 25 Jalapaadom schools.

The Annual Students Wetland Congress was conducted wherein 60 students from 14 selected schools presented papers.



A Social Innovation Lab was established in Muhamma in collaboration with the Panchayath to promote rural innovations, impart training and provide a safe workplace for local women. This lab achieved the following milestones:

- As part of the Weed for Needs initiative, 10 women were trained in making products from the stalk and pulp of water hyacinth (Pontederia crassipes). The trained artisans were also registered as a Women Self Help Group under Kerala state Kudumbasree Mission.
- Cost-effective household BSFL (Black Soldier Fly; Hermetia illucens) rearing units, "Biopods", were developed and distributed to 75 village households. Furthermore, 15 local women were trained in making value-added products from BSF larvae harvested from the Biopod.
- 10 youngsters were trained in making energy-saving LED lamps and tubelights.
- As a response to the COVID-19 pandemic face masks were then distributed to health workers, police officers, and public servants on duty. Alongside, 80L of hand sanitizers were prepared and handed over to the district collector for distribution among health workers. Food plants were distributed among citizens to overcome food shortages and promote agriculture during the lockdown.



# The Centre for Social and Environmental Innovation (CSEI) has been a force of change in three major areas: green cities, food futures and invasive species.

A Citizen Lake Dashboard to measure the health of lakes in Bangalore, streamline the efforts of citizen groups and encourage citizen engagement. A grant from Oracle was awarded to the Centre to support dissemination of relevant information to key stakeholders.

The Mira Project is an in-development digital platform funded by Akamai CSR March 2020 to inform, integrate, coordinate and monitor citizen science projects aimed at lake restoration and development in Bengaluru. A team from the Centre were semi-finalists in the Rockefeller Food Vision Prize for their conceptualization of 'Food Futures Academy', an initiative to empower local and native food professionals and enhance food experiences for consumers. Dr Veena Srinivasan also served as a panellist at the Rockefeller EAT Forum. A plan for a Food Future Map of Darjeeling District to showcase the regional food is also in development.

The Weeds to Wealth project, aimed at developing furniture from the invasive lantana was funded by Social Venture Partners (SVP) and launched in July 2020 across Bengaluru, MM Hills and BR Hills.

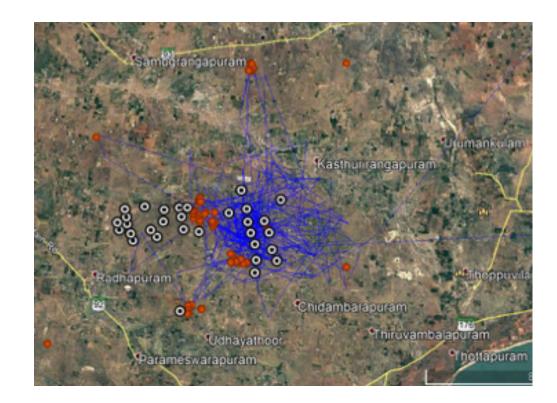


The Centre for Biodiversity and Conservation initiated a preliminary study in southern Tamil Nadu to understand the effects of windfarms on Harriers, migrant grassland raptors that require open grassland areas. This important study showed that wind turbines can interfere with the daily activities of these birds.

In this figure, the black and white circles represent wind turbines, red spots mark the night roost sites, while blue lines indicate foraging movements of the harriers.

Under the project, 'The Banni grasslands in a time of change: Ecological and socioeconomic resilience in a coupled human-natural system,' funded by the PEER programme (USAID and US National Academies of Science), the Centre launched "Banni: In a Time of Change" an Android app. This app, provides a way to explore the implications of different 'What-if' conditions on the Banni grasslands.

A collaboration between ATREE, Sahjeevan, BPUMS, BTN Pte Ltd, and DESTA Research LLP led to a workshop with Banni's youth in which participants envisioned and analysed possible futures for the grasslands using the app.



# **TN Khoshoo Memorial Award, 2019**

Meena Subramanium, artist and conservationist was awarded the TN Khoshoo Memorial Award, 2019 for her pioneering work in ecological artistry.

The award presentation and lecture event took place at the Bangalore International Centre and was centred around the theme of Science Communication. The keynote address was delivered by Jonathan Baillie, executive vice president and chief scientist of National Geographic.

Instituted by Ashoka Trust for Research in Ecology and the Environment (ATREE) the award was presented to Meena in recognition of her work which portrays different aspects of the forested landscapes of the Malabar region and a scientific approach to detailing. Through her work, Meena has shown that artistic endeavours can appeal to one's inner aesthetics while keeping intact the integrity of the subject.

Meena's work brings out the fantastic dimensions of both flora and fauna of the western ghats by using an immersive technique. At the same time, her precision in rendering the subjects make it an important scientific document as well.



# **FINANCIAL STATEMENT**

Balance Sheet as at 31st March 2020					
Particulars	31st Marc	31st March 2020 31st		March 2019	
Source of Funds					
Corpus Fund		5,653.36		5,016.67	
General Fund		95.83		92.91	
Utilised Reserves					
Project Assets		1,403.90		1,332.89	
Other Assets		33.80		33.24	
Land and Building		904.70		696.72	
Project Fund		1,037.23		1,312.82	
Total		9,128.82		8,485.25	
Application of Funds					
Fixed Assets					
Project Assets		1,403.90		1,332.89	
Other Assets		33.80		33.24	
Land and Buildings		904.70		696.72	
Investments					
Corpus Investments		4,861.18		5,017.01	
Other Investments		68.52		911.81	
Current Assets and liabilities					
Advances	99.08		83.25		
Other Current Assets	53.97		55.15		
Cash and Bank	1707.28		358.01		
Gross Current Assets	1860.33		496.41		
Less: Other current Liabilites	3.61		2.83		
Net Current Assets		1856.72		493.58	
Total		9128.82		8485.25	

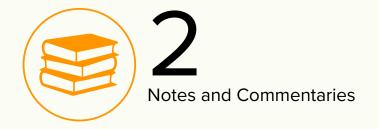
Income & Expenditure Account for the year ended 31st March 2020				
Particulars	31st March 2020	31st March 2019		
Income				
Grants	1,724.66	1,605.56		
Interest	523.13	738.03		
Donation & other income	85.49	31.89		
Total	2,333.28	2,375.48		
<u>Expenditure</u>				
Centre for Environment and Development				
Forests & Governance	66.67	287.69		
Water, Land & Society	236.71	273.48		
Climate Change Mitigation & Development	103.24	77.51		
Centre for Biodiversity and Conservation				
Ecosystem Services and Human Wellbeing	354.60	238.22		
Biodiversity Monitoring & Conservation Planning	488.19	398.61		
Landscapes, Livelihoods & Conservation	305.36	400.25		
Centre for Social and Environmental Innovation	64.06	-		
Centre for Policy and Design	8.04	-		
Academy for Conservation Science and Sustainability Studies	148.14	130.86		
Salaries-Programme Support	73.79	103.68		
Salaries/Consultancy-Institutional Support	378.67	299.91		
Staff Welfare	5.38	10.16		
Administrative Expenses	91.40	123.97		
Depreciation	20.87	20.64		
Total	2,345.12	2,364.98		
Surplus/(Deficit) during the year	(11.84)	10.50		

Receipts & Payments Account for the year ended 31st March 2020				
articulars 31st March 2020		31st March 2019		
RECEIPTS				
Opening Balances				
(Cash & Cash equivalents)	6,286.83		5,906.80	
Receipts during the year				
Project Grants	1,888.29		1,813.15	
Corpus/Endowments	636.69		550.00	
Interest	483.09		470.94	
Donation and other income	85.49		31.27	
Total	9,380.40		8,772.16	
<u>PAYMENTS</u>				
Fixed Assets	301.32		203.44	
Centre for Environment and Development				
Forests & Governance	66.67		238.30	
Water, Land & Society	247.26		250.59	
Climate Change Mitigation & Development	105.24		77.5°	
Centre for Biodiversity and Conservation				
Ecosystem Services and Human Wellbeing	335.53		225.23	
Biodiversity Monitoring & Conservation Planning	559.52		404.54	
Landscapes, Livelihoods & Conservation	327.95		389.72	
Centre for Social and Environmental Innovation	64.06			
Centre for Policy and Design	8.04			
Academy for Conservation Science and Sustainability Studies	148.14		130.86	
Salaries-Programme Support	73.78		103.68	
Salaries/Consultancy-Institutional Support	380.37		297.34	
Staff Welfare	5.38		10.16	
Administrative Expenses	91.40		123.47	
Closing Balances				
(Cash & Cash equivalents)	6,665.73		6,317.32	
Total	9,380.40		8,772.16	

# **PUBLICATIONS**













Other Knowledge Systems

# **Media and Outreach**

ATREE's voice in the media has grown consistently. Contributions by ATREE researchers to both digital and print media in the form of opinion pieces, commentaries and policy papers are regularly featured. Additionally, media is hugely interested in ATREE's work which is very frequently reported.

	2017-2018	2018-2019	2019-2020
MEDIA COVERAGE	150	246	193
followers	5609	8182	10,558
FOLLOWERS	1403	2526	5222
<b>6</b> FOLLOWERS	840	1800	3906
in FOLLOWERS	-	-	4,085

## **About Atree**

Ashoka Trust for Research in Ecology and the Environment (ATREE) is a research institution in the areas of biodiversity conservation and sustainable development. We focus on applied science through research, education and action that influence policy and practice on conservation of nature, management of natural resources, and sustainable development. ATREE is recognised as a Scientific and Industrial Research Organisation by the Ministry of Science and Technology, Government of India.

ATREE is registered with the Sub-Registrar,
Bengaluru as a public charitable trust and with the
Ministry of Home Affairs, Government of India under
Section 6(1) of the Foreign Contribution (Regulation)
Act 1976. ATREE is registered as a wholly Charitable
Trust under Section 12(A)(a) of the Income Tax Act
1961 and donations to it are eligible for 150% /
100% tax exemption under Section 35(1)(ii) / Section
80GGA(2)(a) of the Income Tax Act 1961.



# THANK YOU FOR THE SUPPORT

The progress we've reported on was made possible by the generous support of donors and partners. Conserving biodiversity is a collaborative effort and human partnerships, as mirrored in the natural world, are the key.

Thank you for backing us.

