



Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

MoE, UGC & AICTE Approved

NAAC A++ Accredited

SDG Goal-1- Research on Poverty

1.1 No Poverty

Education is vital for reducing poverty, and each educational institution has a significant impact on this parameter by helping the underprivileged students to rise above their socioeconomic status. A higher degree of education significantly reduces the probability of poverty in the household as it provides the basis for economic prosperity and the end of poverty.

Global sustainable development is what humanity as a whole strives for. The 2030 Sustainable Development Goals, which include "Zero Hunger" and "No Poverty," are being approached by all countries with increasing success. Addressing the issues affecting agricultural and food systems globally requires sustainable growth in agricultural productivity to eradicate poverty.

No Poverty: Research Publications

Given its potential to promote social mobility and personal growth, education and educational institutions play significant part in the quest to eradicate poverty.

To contend with "No poverty" 27 numbers of research papers representing agriculture and sustainable development in several disciplines have been published by the Karunya Institute of Technology and Sciences.

List of Publications related to “No Poverty”

S.No	Title of the Papers	Authors	Journal	Vol	Issue	Year
1	Recognition of bloom/yield in crop images using deep learning models for smart agriculture: A review	Darwin, B.Dharmaraj, P.Prince, S. Popescu, D.E.Hemanth, D.J.	Agronomy	11	4	2021

2	Microbial disease management in agriculture: Current status and future prospects	Sara, D. Mandava, A.K. Kumar, A. Duela, S. Jude, A.	Biocatalysis and Agricultural Biotechnology	23	-	2020
3	Hormonal crosstalk in regulating salinity stress tolerance in graminaceous crops	Choudhary, P. Pramitha, L. Rana, S. Verma, S. Aggarwal, P.R. Muthamilarasan , M.	Physiologia Plantarum	173	4	2021
4	Drought assessment in paddy rice fields using remote sensing technology towards achieving food security and SDG2	Shams Esfandabadi, H. Ghamary As, M. Shams Esfandabadi, Z. Gautam, S. Ranjbari, M.	British Food Journal	124	12	2022
5	Futuristic IoT based Smart Precision Agriculture: Brief Analysis	Swamidason, I.T.J. Pandiyarajan, S. Velswamy, K. Leela Jancy, P.	Journal of Mobile Multimedia	18	3	2022
6	Novel Approach for Effective Crop Production using Machine Learning: A Novel Approach for Effective Crop Production using Machine Learning	Chowdary, V.T. Robinson Joel, M. Ebenezer, V. Edwin, B. Thanka, R. Jeyaraj, A.	Proceedings of the International Conference on Electronics and Renewable Systems, ICEARS 2022	-	-	2022
7	Scope and recent trends of artificial intelligence in Indian agriculture	Mary, X.A. Popov, V. Raimond, K.Johnson, I. Vijay, S.J.	The Digital Agricultural Revolution: Innovations and Challenges in Agriculture through Technology Disruptions	-	-	2022
8	Clustering and principal component analysis of traditional rice landraces grown under in vitro moisture stress condition	Anupriya, R.Geetha, S. Rajakumar, D. Senthil, S.A. Thankappan, S. Binodh, A.K.	Plant Cell Biotechnology and Molecular Biology	21	42	2020

9	Drought prediction using artificial neural network	Metta, P.S. Chintamaneni, A. Kumar, A.Yadav, J. Kumar, V. Bhaskar, B.	2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering, ICACITE 2022	-	-	2022
10	Biofertilizers: A Sustainable Approach Towards Enhancing the Agricultural Productivity	Mohanty, S.S 2	Biomolecular Engineering Solutions for Renewable Specialty Chemicals: Microorganisms, Products, and Processes	-	-	2021
11	Comparative Study on Recognition of Food Item from Images for Analyzing the Nutritional Contents	Sreetha, E.S. Naveen Sundar, G. Narmadha, D.	Lecture Notes in Electrical Engineering	905	-	2022
12	Enabling technologies for future robotic agriculture systems: A case study in Indian scenario	Mary, X.A. Mani, K. Raimond, K. Johnson, I. Dinesh Kumar, P.	The Digital Agricultural Revolution: Innovations and Challenges in Agriculture through Technology Disruptions	-	-	2022
13	Performance of black rice (Oryza sativa) varieties grown in Namsai district of Arunachal Pradesh, India	Sangma, R.R. Manpoong, C. Sharma, A. Devadas, V.S.Singh, D. Pandey, H.	Research on Crops	23	1	2022
14	Integrating Genomics and Phenomics Tools to Dissect Climate Resilience Traits in Small Millets	Pramitha, L. Choudhary, P.Das, P. Sharma, S. Karathi, V. Vemuri, H. Muthamilarasan, M.	Omics of Climate Resilient Small Millets	-	-	2022

15	A preliminary study on design of a modular agricultural mobile robot	Vishal, R.Mahanta, G.B.	AIP Conference Proceedings	2670	-	2022
16	An analysis of total factor productivity of cotton in Tamil Nadu	Kavitha, V. Usha Nandhini, S. David Chella Baskar, V.	Ecology, Environment and Conservation	27	1	2021
17	A preliminary study on autonomous drone systems for agriculture pesticide spraying	Vishal, R. Mahanta, G.B.	AIP Conference Proceedings	2670	-	2022
18	Genomic designing for biotic stress tolerance in Foxtail Millet (<i>Setaria italica</i> L.)	Rana, S. Pramitha, L. Aggarwal, P.R. Muthamilarasan, M.	Genomic Designing for Biotic Stress Resistant Cereal Crops	-	-	2021
19	Impact of Plant Health on Global Food Security: A Holistic View	Srinivasan, T.S. Thankappan, S. Balasubramaniam, M. Bhaskar, V.	Agriculture, Environment and Sustainable Development: Experiences and Case Studies	-	-	2022
20	Impact of IoT based Autonomous Farming Equipment on Crop Culture and Management in the Agricultural Sector	Kumar, N. Singh, A. Das, D. Srivastava, D.Talari, V.S.R. Kurukwar, A.D.	International Conference on Edge Computing and Applications, ICECAA 2022 - Proceedings	-	-	2022
21	Drip Fertigation with Fertilizer Prescription Through STCR—IPNS—A Way Forward Towards Climate Change Mitigation	Rangasamy, S. Subramaniam, M.Stephen, P.K. Dey, P.	Lecture Notes in Civil Engineering	176	-	2022
22	Arduino based low-cost greenhouse monitoring system for small scale farmers	Anisha, M. Arsad, U.M. Starly, P.J. Dhanalakshmi, K. Anitha, S. Benisha, M. Chezhiyan, P. Elliot, C.J.	Proceedings of the 3rd International Conference on Intelligent Communication Technologies and Virtual Mobile Networks, ICICV 2021	-	-	2021
23	In vitro bio-efficacy of biocontrol agents and oil cakes against <i>Pythium aphanidermatum</i> from tomato	Madhumitha, B. Gnanaprakash, S.Jayapradha, C. Thankappan, S. Rathikannu, S. Priyanga, T.	Journal of Environmental Biology	43	6	2022

24	An Investigation on Impact of Malnutrition in Human Health and Technique to Evaluate the Nutrient Intake from the Food Image	Sreetha, E.S.Sundar, G.N Narmadha, D.	2022 IEEE International Power and Renewable Energy Conference, IPRECON 2022	-	-	2022
25	Approaches to Plant Nutrient Management Through Fertilization in India: Then, Now and the Future	Praveena Katharine, S. Suguna Devakumari, M.	Reviews in Agricultural Science	10	-	2022
26	An analysis on farmers awareness and perception towards Pradhan Mantri Fasal Bima Yojana Scheme in Coimbatore District of Tamil Nadu	Kavitha, V. Nandhini, S.U.	International Journal of Agricultural and Statistical Sciences	18	2	2022
27	A study on organic produce marketing in Coimbatore district of Tamil Nadu	Kavitha, V. Chandran, K. Usha Nandhini, S.	Plant Archives	20	-	2020

1.2 Proportion of Students Receiving Financial Aid to Attend University because of Poverty.

Low-Income Students Receiving Financial Aid.

KITS provides financial assistance to low-income students to empower them with education and employment. This fellowship encourages bright young minds to achieve academic excellence and grow into contributing members of society.

Total number of students benefited by scholarships and free ships provided by the institution, Government and non-government agencies (NGOs) during the year (other than the students receiving scholarships under the government schemes for reserved categories) are listed below.

Name of the scheme	No. of students benefited by government scheme and amount		No. of students benefited by the institution's schemes and amount		No. of students benefited by the non-government agencies (NGOs) and amount		
	No. of students	Amount	No. of students	Amount (Rs)	No .of students	Amt.	Name of the NGO /agency

Institutional Merit Scholarship	-	-	1744	83440000 & USD 42100	-	-	-
Institutional - Student Benevolent Fund Scholarship	-	-	17	1345775	-	-	-
Institutional GATE Scholarship (Ph.D.)	-	-	1	35000	-	-	-
Institutional Sports Scholarship	-	-	13	1812126	-	-	-
TN Govt. Adi-Dravidar Welfare Ph.D. Scholarship	1	100000	-	-	-	-	-
AICTE – Pragati Scholarship Scheme for Girl Students (Technical Degree)	6	300000	-	-	-	-	-
AICTE – Swanath Scholarship Scheme (Technical Degree)	1	50000	-	-	-	-	-
Central Sector Scheme of Scholarships for College and University Students	13	130000	-	-	-	-	-
Ishan Uday Special Scholarship Scheme for North Eastern Region	2	156000	-	-	-	-	-
Merit-cum-Means Scholarship for Professional	88	2540000	-	-	-	-	-

and Technical Courses							
PG Scholarship for SC ST Students for pursuing Professional Courses	1	78000	-	-	-	-	-
Post-matric Scholarship Schemes Minorities	33	287100	-	-	-	-	-
Prime Minister's Scholarship Scheme for Central Armed Police Forces and Assam Rifles	6	106000	-	-	-	-	-
Umbrella Scheme for Education of ST Children - Post-matric Scholarship (PMS) for ST Students - Meghalaya	1	30000	-	-	-	-	-

1.3 University Anti-Poverty Programmes

Karunya Institute of Technology and Sciences works to lower enrollment barriers and implements policies so that all students, regardless of background or financial status, can receive a top-notch education.

Bottom financial quintile admission target

All students from economically disadvantaged backgrounds who enroll in KITS are assisted in securing bank loans to complete their degree.

Bottom financial quintile student success

95% of the financially aided students enrolled at the university graduate within the specified period of time. In 2022, 4721 students successfully graduated out of 4970 enrolled.

Low-Income Student Support

To alleviate the financial burden of economically disadvantaged students and ensure that they study without interruption, a range of student aid measures are offered to them. These initiatives include student loans, first-girl child scholarships for low-income students, study grants for first-generation students, reduced tuition or waived fees for students enrolled under sports quota, and a variety of state and private scholarship schemes. Additionally, the institution waives 50% of the fees in the event that the bread-winner of the family passes away accidentally during the course of study period.

Bottom Financial Quintile Student Support

KITS does not prevent admission to students from backgrounds of poverty, However it helps students who are socially and economically challenged to apply for government scholarships such as SC&ST and merit scholarships based on a 2 lakh threshold or lower.

1.4 Community Anti-Poverty Programmes

To fulfil the objectives of community anti-poverty initiatives, KITS offers services to support economically impoverished residents of nearby villages. Additionally, it offers several training programmes, to people who wish to enhance their skill sets and become entrepreneurs to achieve the community anti- poverty program goals.

Programmes for Services Access

Several university-level initiatives aimed at alleviating poverty for the local population include sensitization programmes on two-wheeler engine assembly, tuition centers, 3D printing, medical camp; eye-checkup camp, sensitization program on field practices in masonry, bar

bending for local community, Manipur relief project, health and hygiene hand wash campaign which are listed below in brief.

Tuition Centers

As there are vulnerable communities living near Karunya University, the Centre for Community Academia and Collaborations (CCAC) renders its helping hand on behalf of the institution. The CCAC division is running 14 free Tuition Centers in the 14 vulnerable areas, 220 students of the downtrodden and tribal communities were benefitted and received school kits, white board sets, mats, and a few playing kits to use their leisure time..

Medical & Eye-Checkup Camps

CCAC has organized free medical camp for local communities residing in Siruvani hills of the Western Ghats. CCAC of KITS in collaboration with Vasan eye care hospitals organized the camp for the needy people on September 25, 2023, at Sadivayal Community Hall, where more than 100 individuals benefitted.

Sensitization Program on Field Practices in Masonry and Bar Bending for Local Community

In line with the mission of KITS to contribute to society, the Center for Community Academia Collaborations and the Division of Civil Engineering jointly organized a skill development program on field practices in Masonry and bar bending for rural youth on October 5th, 2023. 10 economically marginalized youths participated in the training.

Manipur Relief Project

CCAC along with Jesus Calls has supported the displaced communities in Manipur state through their relief projects. With the help of the local administration, 4358 people in 58 relief camps in Kangpokpi district, 865 people in 6 relief camps in Imphal district and 5826 in 30 relief camps in Churhandpur district were supported. The Karunya University Coordination committee resolved to support 40 students from Manipur with free education in Engineering.

Health and Hygiene Campaign

The thrust areas of KITS being health care, water, food, and energy, an awareness program on the importance of hand wash was organized for the local communities in Pachinampathy, Perumalkoilpathy, Valayankutai, Govt Primary School and in Seengapathy Govt Residential School. The children were provided with a hygiene kit each consisting of a soap, comb, coconut oil and nail cutter.

Pictures displaying the activities

Tuition Centre



Medical & Eye-Checkup Camps



**Sensitization Program on Field Practices
in Masonry and Bar Bending for Local
Community**



Manipur Relief Project



Health and Hygiene Campaign



Policy Addressing Poverty:

Since poverty is a crippling force that makes a community and country weak over time, imparting education provides access to a wide range of employment opportunities, skill development and other possibilities for improving the standard of living.

1. Prioritising long-term university plans to help low-income and needy students receive better education.
2. Accelerating research on crop production to help farmers implement technology for effective cultivation in nearby villages.
3. Integrating Agriculture and Engineering research to revolutionize farming practices with IOT and drone technology for enhanced crop yield to alleviate poverty.
4. Equipping low-income students with skills for competitive examinations and placements for the upliftment of their social status