Technology Informatics Design Endeavour (TIDE)

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Call for applications for NV Krishna Internship 2022-23 at TIDE

Title	Intern – Study on techno economics of converting waste and discarded areca leaf sheath & products to meet the thermal energy needs of the enterprise or convert it to Biochar
A brief summary of work	Assess technologies, economics and business opportunity for conversion of areca leaf sheath waste generated at plate making units and the disposed products after use, into biochar or meeting the thermal energy needs of the enterprise. Work out techno economics and prepare a Detailed Project Report (DPR).
Location	Bangalore with travel to areca growing regions in Karnataka
Duration and time period	3 months, can start anytime from February 2023
Mode	Full time paid internship
Stipend	Rs 20,000 per month; Travel and Accommodation claims for the field visits shall be paid upon submission of actual bills as per the organization policy

About the organization

Technology Informatics Design Endeavour (TIDE) is a 30-year-old Bengaluru based not for profit science and technology organization providing technology solutions for societal needs. TIDE's work encompasses on the

- Design and dissemination of biomass based thermal energy solutions to households, institutions, artisanal clusters, eateries etc.,
- Nudging urban consumers to adopt energy efficiency and energy conservation through behavioral change strategies.

- Providing climate education to the middle school students,
- Technology based skilling and livelihood generation for the rural
- Improving the delivery of the Water, Sanitation and Hygiene services to the underprivileged.
- Grooming rural community leaders.

The work culture at TIDE is professional, caring and gender neutral. We strive to offer exciting career growth opportunities for deserving candidates.

TIDE complies with all legal and statutory requirements diligently. TIDE is a registered society and has valid FCRA, CSR certification, 12A, 80G, PAN. All audit and annual reports are available on the website – https://tide-india.org

About the Internship

TIDE has initiated an annual internship program in memory of its Board member, late N V Krishna. The internship aims to provide opportunities for students to gain on the ground experience in technical areas, primarily in biomass technologies. All internships will align with TIDE' s focus areas of work and will directly contribute to its ongoing initiatives.

The current internship seeks to explore opportunities in the management of areca leaf sheaths through conversion to Biochar. TIDE has been promoting an alternate livelihood for areca farmers by training them in converting the areca leaf sheaths to plates and other products. Even after optimizing the product mix, some waste is generated during the conversion. And while the used and disposed products are biodegradable, they take a long time due to high lignin.

As a responsible initiative and a circular economy measure, TIDE is exploring ways to handle the sheath waste generated at the factories and also the used areca leaf sheath products that accumulate in landfills. Conversion to biochar is an opportunity to manage the waste responsibly and as a Carbon Dioxide Removal (CDR) method.

TIDE seeks an intern to study the available technologies, work out the techno economics of conversion of areca leaf sheath to biochar and study the market opportunities for linking with production units and disposal units. The end goal would be to integrate this in the areca value chain and demonstrate a circular economy.

Key activities and deliverables

Key activity	Deliverable
Assess the various available technologies for conversion of areca leaf sheath into heat energy for plate or bowl making or biochar, both at production units and at disposal centres. Study pre and post conversion processes and ready to market methodologies.	Comparison report for various technologies, including local suitability, pre and post processing, logistics, etc. Should cover both production centers and disposal units where used products are collected.
Work out the techno economics of the process	Techno economic working for both the processes and finalize.
Assess ecosystem level opportunities and barriers in minimum one areca growing region	Report along with DPR with ecosystem / market opportunities and barriers for one region
Visit the artisanal industries with predominant thermal energy usage, understand the process and their operational expenses, assess and suggest suitable clean energy solutions with attractive RoI and the feasibility of installation in the project site.	Report on the baseline assessment at 3 different artisanal clusters, comparison report for various technologies and a pitch presentation for attracting the funders.

Essential qualifications and attributes

- Bachelors in business or technology with an engineering background. Master's will be an added advantage.
- Self-driven with ownership
- Enterprising attitude
- Effective oral and written communication and networking ability
- Willingness to travel
- Interpersonal skills

Note:

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The intern will work closely with mentors assigned by TIDE.

Intern must abide by TIDE bye-laws and sign an NDA and confidentiality agreement.

Any additional resource required to fulfill the assignment needs to be submitted for approval.

How to apply?

Interested candidates must fill out the form here before 17-Mar-2023.

For questions, please write to info@tide-india.org.