

**TIDE**

21<sup>st</sup> ANNUAL REPORT  
2013-14

## Technology Informatics Design Endeavour (TIDE)

### Office address

Technology Informatics Design Endeavour (TIDE)

19, 9<sup>th</sup> Cross, 6<sup>th</sup> Main,

Malleswaram,

Bangalore – 560 003.

Ph : 91-80-2331 5656

Fax : +91 80 23344555

E mail : [tide@vsnl.com](mailto:tide@vsnl.com), [info@tide-india.org](mailto:info@tide-india.org)

### Web presence

Web site : [www.tide-india.org](http://www.tide-india.org)

Linked in : <http://www.linkedin.com/company/technology-informatics-design-endeavour-tide->

Facebook : <https://www.facebook.com/pages/Technology-Informatics-Design-Endeavour/108424802574316>

### Legal and Financial details

TIDE is registered under Karnataka Societies Registration Act with the No : 131/93-93 dated 11th May 1993.

TIDE has FCRA, 12A and 80G certificates and PAN number.

### Key office bearers

Ms Svati Bhogle, Secretary & CEO, [svati.bhogle@tide-india.org](mailto:svati.bhogle@tide-india.org)

Ms K Sumathy, Executive Director, [k.sumathy@tide-india.org](mailto:k.sumathy@tide-india.org)

TIDE is a TIER I listed NGO with GIVE INDIA portal. Visit <http://www.giveindia.org/m-1519-Technology-Informatics-Design-Endeavour--TIDE-.aspx> to make a donation



Technology Informatics Design Endeavour

## Vision

To address developmental concerns of needy communities through technological interventions.

## Mission

To identify suitable technological interventions, effect improvements needed for field deployment and undertake various measures to promote the spread of these technologies





# Table of Contents

<b>Fore word</b>	<b>v</b>
<b>Impact of TIDE's work</b>	<b>1</b>
<b>TIDE's vision for Women's Technology Park</b>	<b>2</b>
<b>Brighter kitchens for happier women</b>	<b>3</b>
<b>Highlight of programs</b>	<b>6</b>
<b>Significant events at TIDE</b>	<b>21</b>
<b>Experience sharing and testimonials</b>	<b>23</b>
<b>Collaborations</b>	<b>25</b>
<b>Acknowledging funders and partners</b>	<b>26</b>
<b>Innovative skill building at TIDE</b>	<b>26</b>
<b>Financial Disclosures</b>	<b>28</b>



# Foreword

In its 3rd decade of existence, it is no mean feat for TIDE to remain true to its founding vision while being relevant with changing times. TIDE has met the challenge of remaining relevant by designing and delivering projects to appeal to a diverse set of funders, partners and communities while not compromising its vision. This is largely due to the patronage that TIDE enjoys amongst our stake holders due to the quality of our work and the out of box thinking by TIDE staff.

This year had many notable events in TIDE's calendar. We are proud to see the first batch of TIDE trained women entrepreneurs launch their commercial product (Biomass dried onion, garlic) under the brand name 'Manini'. Our Women's Technology Park (WTP) has moved beyond the project phase and is now a hub of various enterprises involving rural women. We are now providing start to end services for incubating enterprises, right from technology transfer to financial linkages to marketing linkages.

TIDE continues to introduce innovative, drudgery reducing skills for women's livelihoods. We are having good success in inducting women into marketing - our project with GEF UNDP on involving community members in the last mile reach of low carbon products (solar products, cook stoves, etc) has found many successful takers from rural women. TIDE promoted Sarala stoves (fuel efficient on site constructed domestic cook stove) is seeing a revival of sorts, with the Government and Industry recognizing the enormity and complexity of the wood burning cook stove scenario in rural India. Do read the article 'Brighter kitchens – Happier women' featured in this annual report to understand TIDE's work in this area.

Our successful partnership as a core partner with Department of Science and Technology, Govt continues; thanks to their patronage, TIDE is able to develop, test and disseminate technology solutions and packages in areas of energy, water, women & livelihoods. It is also a notable development that we are able to forge mutually beneficial partnerships with other core grant partners addressing gaps on technology or grass root reach.

The year also saw TIDE launching a novel urban initiative on energy conservation called 'Creating livelihoods through environmental stewardship. This pilot project, while establishing the need and the potential for energy saving' in Bangalore's IT offices, also threw



an 'adaption' challenge for TIDE, with respect to making it as a sustainable program. We see this as an opportunity to evolve in areas of scalability and replicability of our work and we are excited about charting this journey.

TIDE along with its for-profit partner Sustaintech India Pvt Ltd is continuing to grow its portfolio and market presence with their range of fuel efficient commercial and factory made domestic cook stoves.

One of the strengths of TIDE as an institution lies in its diligence – financial and otherwise. As a testament to this, TIDE was audited and approved by Give India for Tier I listing in its website [www.giveindia.org](http://www.giveindia.org)

Twenty one years since inception, we see lots of opportunities ahead for TIDE which also calls for a lot of adaptation in our thinking and functioning. For instance we see potential for synergising our strengths in energy and livelihoods; in energy and water under the common umbrella of natural resource conservation. In the coming years, we also would like to experiment with models which are only grant driven in initial stages for proof of concept but are able to sustain by themselves long term.

TIDE staff, past and present need to be thanked for ensuring that we stay rooted to our cause and our thanks are due to all our funders and partners in supporting us in our endeavours. We look forward to another fulfilling year along with you!

**K Sumathy**

Executive Director

# Impact of TIDE's work

It has been estimated that 150,000 people have directly or indirectly benefited from TIDE's work. These include micro entrepreneurs to whom technology has been transferred, end users of products, fabricators, masons, plumbers, women initiated into livelihoods, etc. Data collected from entrepreneurs shows collective sales revenue of Rs 6.6 crores and a collective profit to date of Rs 1 crore.

The work of TIDE in energy entrepreneurship has been showcased by UNDP Asia Regional Office as best practices in energy access for the poor (<http://web.undp.org/asia/pdf/EnergyPlus.pdf>).

TIDE has initiated about 50 women's groups into new livelihood activities. The women are now self reliant and contribute to the family income. TIDE has also initiated programs to do urban relevant livelihood trainings; in its novel endeavour through a 'Walk through energy assessment project, TIDE trained and has provided livelihoods for 20 urban youth.

The fuel efficient stoves installed through technology disseminated by TIDE have saved 75,000 tons of CO<sub>2</sub>e. The tea project of TIDE alone is additionally saving about 50,000 tons of CO<sub>2</sub>e annually.

Water conservation through TIDE interventions is estimated to be 4 lakh kilo liters per annum. In addition, TIDE reaches out to more than 100 farmers every year with awareness, training and implementation programs around ground water management and water use efficiency. TIDE has also standardised water audit for agricultural farm, school, apartment and tea plantation.

**TIDE plans to incubate rural enterprises for women's employment from its Women's Technology Park.**



**The vision for WTP  
is to facilitate  
economic and social  
empowerment of  
rural women**

# TIDE's Vision for Women's Technology Park

In the year 2011, the Department of Science & Technology SEED Division (Science for Equity, Empowerment & Development) awarded a grant to TIDE to setup a 'Women's Technology Park' (WTP) in Karnataka. The vision for WTP is to facilitate economic and social empowerment of rural women in equitable manner, using technology as livelihood options.

Today, the WTP at Araluguppe village (Tiptur Taluk, Tumkur District) is a two acre facility with infrastructure to do training, practical demonstration of about nine technologies and also support incubations of enterprises

TIDE's vision for women's empowerment is realized through Science and technology interventions , innovation, enterprise development and incubation. All this is possible through WTP and TIDE is planning to start an incubation centre at WTP for rural enterprises.



*Figure 1: WTP main building*

## Vision for the incubation centre

Self reliant women contributing to well being of the family and for nation building

## Mission for the incubation centre

To offer facilities and resources that would deliver the entire range of services to rural women for micro enterprise development to enable them to manage successful micro enterprises and secure livelihoods.

Towards this vision, TIDE has already enabled registration of a SHG group to undertake commercial transactions for the produce made by them.

TIDE is seeking project grants to run this incubation centre.

# Brighter Kitchens Happier Women

For over two decades, the Government of India, many State Government departments, Science & Technology Institutes, many public & private enterprises, multi-national energy majors and several NGOs in India have been working independently and also collaborating on various 'Clean Cook Stove / Smokeless stove Initiatives', trying to create a positive impact on environmental and social issues.

Data compiled and analyzed by various research agencies including NSSO 2009/2010 database, Census 2011, Planning Commission of India, GACC studies 2013: Show that

- Nearly 85% of Rural Indian households continue to use firewood and agri-residue, dung cake and coal/ charcoal as cooking fuels.
- Nearly 400 million people, primarily women and children, are vulnerable to serious health hazards, caused by burning firewood in poorly ventilated conditions.

Emissions from traditional cook stoves pose a threat bigger than previously thought. The newest health data from WHO estimated that 4.3 million people die annually from household air pollution caused by cooking with biomass and coal. It is the greatest health risk in the world after high blood pressure, tobacco and alcohol. More people are dying from the incremental, ongoing inhalation of smoke from fires they ignite in their homes than from malaria, tuberculosis and HIV/AIDS combined.

(Ref : [http://www.who.int/indoorair/health\\_impacts/burden\\_global/en](http://www.who.int/indoorair/health_impacts/burden_global/en))

## TIDE's approach

TIDE has taken an organic approach to the 'Clean Cook Stove initiatives', in the rural segment, taking into consideration the gender, social & environmental impact versus business opportunities. TIDE's cook stove programs typically start with awareness sessions following by a five days training program for short listed women. Over the course of years, we have understood what to look for while choosing women for the training program. Some of the women trained by TIDE have gone on to excel at their work, inspiring other women and winning recognitions. While not consciously staying away from men, TIDE has had more success working with women on stove construction program.

## Our partners

In the last few years, TIDE's stove construction training programs are being funded by Karnataka State Forest Department & the Department of Science & Technology, India. Petroleum conservation Research Association (PCRA) and Mahatma Gandhi Institute for Renewable Energy and Development (MGIRED) are our other patrons.

## About the sarala stove

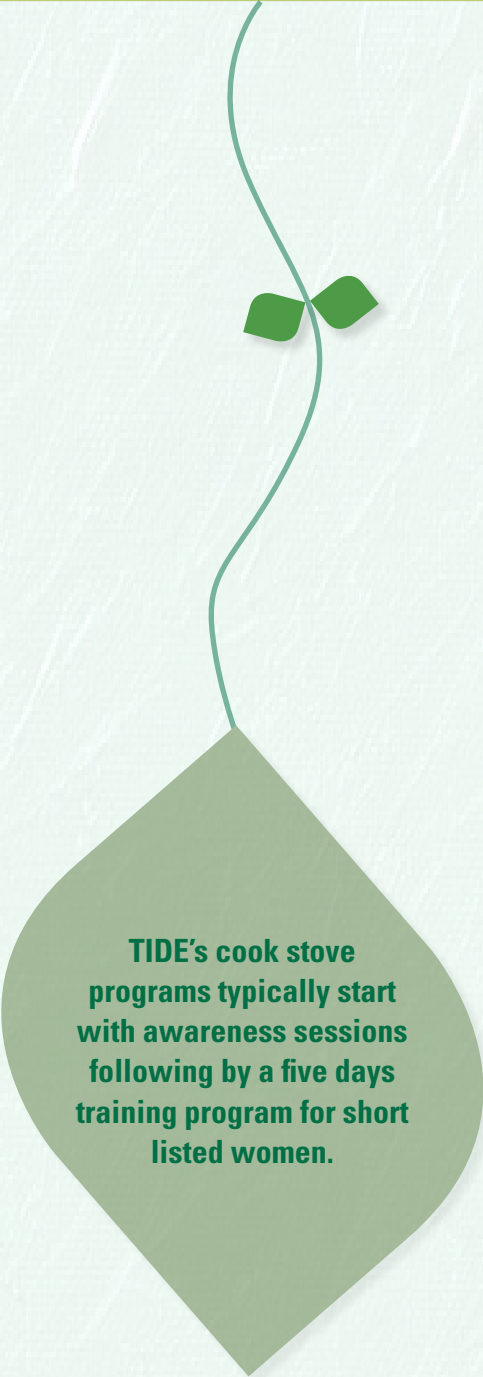
TIDE disseminates the Sarala stove for on-site construction of fuel efficient, smokeless stoves. The Sarala stove is a two pan wood or biomass burning stove. It was originally developed by Prof. K S Jagadish (Retired Professor, Civil Engineering) at the Indian Institute of Science. This is a two pan mud stove with chimney. A few steel/cast iron components like grate, fuel feeding guiding frame, support rods are used for the reinforcement of the mud stove and for long life. A cement or GI pipe expels smoke from the kitchen. Its heat utilization efficiency ranges from 22 -25% depending on size of vessels and usage. Women report that the sarala stove saves 30% fuel, 25% cooking time and is completely smokeless and safe. The cost of the stove including grate and chimney is about ₹ 900-1000 including the labour paid to the stove builder.

Women trained by TIDE have built about 20,000 stoves in Karnataka. As the initiative is becoming popular, women stove builders from Karnataka have travelled to other parts of India (more than 1000 kms from their homes) in Uttarakhand and Orissa to train other women in building stoves. One illiterate stove builder Ms. Lalita Bai, was awarded the "Woman Exemplar Award" by the Confederation of Indian Industry. Another stove builder Ms. Katyayini has been invited to talk about her enterprise in the Central University of Karnataka at Gulbarga. The University later sponsored a stove training programme by Ms. Katyayini so that women in villages around the University also learnt to build stoves.

## Impact

While the programme has offered multiple benefits, its success has been viewed primarily through the gender lens. Women have demonstrated that they can transcend societal gender limitations to offer energy services to other women. Women are an important target group in developing countries and the project demonstrates the potential for





**TIDE's cook stove programs typically start with awareness sessions following by a five days training program for short listed women.**

its replication of a gender driven initiative. Through the stove building services offered by women to their peers, they have helped thousands of women improve their health, save time, reduce drudgery, open up new entrepreneurial opportunities, besides addressing global concerns like deforestation and climate change mitigation. It has empowered women by increasing their income and having a decisive say in the way they incomes are utilized. The women stove builders have become role models in their community thus stimulating women's aspirations and social transformation.

### Then and now (evolution of cook stove dissemination programmes)

The household cook stove programme has seen great transition since 2002 when TIDE launched the women stove builders programme. At that time, the options for a fuel efficient stove were limited to 1 or 2 single pan portable stoves and most designs identified for dissemination were mud stoves. The dissemination programme was largely government driven with targets to states, districts, blocks etc. In the past 4 years several new designs of fuel efficient portable single pan stoves have been introduced and sold commercially.

### Final word

TIDE believes that the clean cook stove initiatives in India are better driven by social and gender objectives than a pure business objective. Rather than giving stoves for free or giving direct subsidies on fuel prices, organizations promoting 'Clean Cook Stove Initiatives' should raise public awareness and collaborate to set standards for making efficient & affordable clean cook stoves.

# High light of Programs



*Figure 2: Table top fuel efficient tea stove*

## Core Grant Support

Funder : SEED Division, Department of Science of Technology, Government of India

TIDE continues to receive the Core Grant support to develop its capabilities to fulfil its vision and mission, not necessarily confined to projects.

During the year 2013-14, TIDE's R&D work in the Energy group has produced some interesting 'Ready for the market' products:

- Table top version of fuel efficient tea stove
- Loose biomass Multipurpose Stove
- Push cart version of MP stove

The stoves developed by TIDE are sold through our for-profit arm 'Sustaintech Pvt Ltd' under the brand name Pyro. The commercialization of these stoves is the outcome of successful collaboration between Government (Department of Science & Technology, an NGO (TIDE) and a for-profit enterprise (Sustaintech Pvt Ltd).

TIDE also developed and designed three pan sarala stove mould (Fig 1) for onsite construction of smokeless, fuel efficient stove.





*Figure 3: Three pan sarala stove*

efficiency quantitatively through mulch irrigation, TIDE has started dissemination among farmers in Tiptur area. Instead of plastic, we advocate coco pith mulching. Tomatoes, Chillies and brinjal are now grown by farmers who have adapted mulch irrigation.

Continuing its work on developing water audit procedure for various sectors, TIDE developed a Procedure for water audit at agriculture farm leading to recommendations along with quantitative impacts on water demand / supply.

In its efforts to make rain water harvesting affordable to rural people, TIDE has been experimenting with alternate low cost packages for roof top harvesting. During this year, we have done a successful design and installation with Bamboo. Even with the bamboo transport costs, this works out about 25% cheaper compared to PVC installations. The cost would be much cheaper where bamboo is available in abundance and there is no transportation cost.

In its work with farmers, TIDE has observed water abuse and over irrigation; one of the primary reasons for this is the unregulated usage of the water pumps driven by erratic power supply. To address this issue, TIDE is experimenting with mobile controlled pump switch on-off system.

In the area of Women & Livelihoods, TIDE uses its Women's Technology Park set up at Aralaguppe village as the centre for our activities to adapt and disseminate technologies for value addition of local produce.

During the year, TIDE introduced some novel livelihood trainings. These include:



*Figure 4: Bamboo based Roof top rain water harvesting system*



- ☞ Training in Oyster mushroom cultivation
- ☞ Training in value added products to ragi (finger millets)
- ☞ Training in pressed flower art
- ☞ Training in production of Adobe bricks
- ☞ Training in sun drying of tomatoes

With the Core grant support, TIDE has set up an **Energy lab and fabrication facility** at its main office. The facility has all equipment required for carrying out minor repairs to stoves, making modifications and testing facility for measuring efficiency and emissions.



Figure 5: Mushroom cultivation at a rural home

## Women's Technology Park (WTP)

**Funder: SEED Division, Department of Science & Technology, Government of India**

TIDE successfully completed the activities towards setting up the Women's Technology Park. Infrastructure has been created for showcasing and training in the following areas:

### On going activities at WTP

- ☞ Green house horticulture
- ☞ Shade net nursery
- ☞ Mud / Adobe brick making
- ☞ Value added horticultural products using biomass dryer (onion, garlic, chilly, etc)
- ☞ Value added products using solar dryer (Tomato, Herbs)
- ☞ Value added ragi products
- ☞ Paper bag making
- ☞ Flower pressing and making stationary products
- ☞ Smokeless stove construction
- ☞ Mushroom cultivation

**TIDE successfully completed the activities towards setting up the Women's Technology Park.**

Apart from these, WTP has bamboo based rainwater harvesting, recharge pits and recharge wells, farm pond, solar pumps which are used for demonstration purposes. Also in WTP is an Exhibition Cum Learning Centre showcasing sustainable, rurally relevant technologies. Since inception 2 years ago, WTP attracts a wide spectrum of visitors including local community members, field visits by partner NGOS, Funding agencies, Nodal agencies, Schools and peer agencies.



*Figure 6: Members of the newly formed MANINI SHG group*

## Micro enterprise for Rural women in production of horticulture products dried in biomass dryer – Phase 2

### **Funder – NABARD**

Biomass dryer is an on-site constructed dryer which utilizes locally available biomass including agro residue. Any horticultural produce can be dried in this dryer and the value of the produce increases about two and a half times, compared to the fresh produce price. The other advantage in dried products is that the shelf life is extended by 6-8 months, thus making it an attractive product for consumers, retailers and whole sale customers.

After successful R&D with these dryers, TIDE is now disseminating the technology through SHG driven rural enterprises. Through a phase I support from NABARD, TIDE had identified market for these products



**Visualizing WTP as an incubation centre for rural enterprises, an SHG has been created. This SHG is registered for undertaking commercial transactions and will also obtain necessary food certifications.**

as well as trained women groups to undertake this as a livelihood option. With this success, NABARD had sanctioned a phase II to induct more women into this activity and provided marketing support to kick start commercial activities.

With this grant, TIDE reached out to 130 women who attended Awareness programs out of which 14 women were selected and given Micro Enterprise Training training and inducted into the enterprise at the Biomass dryer facility at our WTP. During this phase, TIDE has created market linkages for several dried products like onion flakes, garlic granules/pods, cut green chillies, grated and sliced carrot and cut beans. A significant achievement in this project is the launch of 'Manini' brand of dried produce.

Thus completing Phase II successfully, TIDE proposes to float a Hub & Spoke model of food processing enterprise in Karnataka. In this model, MANINI Self Help Group at Women's Technology Park, Aralaguppe, Tiptur will function as the Hub ; Five spokes have already been identified from various parts of agro growing regions of Karnataka.



*Figure 7: Launch of Manini products by NABARD Chief General Manager during AgriTech India*



## Survey : Gender and Livelihoods Impacts of Clean Cook stoves in South Asia

**Funder : Global Alliance for Clean Cook stoves; Partner – Practical Action, Bangladesh**



*Figure 8: Stakeholders workshop to share the survey findings*

This research aims to build a body of evidence around gender and economic empowerment

The methodology adopted included literature survey, Questionnaires covering conventional and improved stove users, Focus group discussions with stove users , meetings and calls with men and women involved in the cook stove supply chain.

The data has been presented to Practical Action, Nepal which has compiled consolidated data for South East Asia. One of the important recommendations TIDE has derived out of the survey finding is that, if improved cook stove adoption has to increase, women have to be involved in front end operations like sales and marketing . A stake holder workshop was held in Bangalore inviting various players in the clean cook stove business, to share the findings. Highlight of this program was an extempore talk by one of the woman stove builder on her experiences and fielding questions by curious participants.

## Low Carbon Technology Adoption and Dissemination through Community Led Initiatives

**Funder : Small Grants Project (SGP), UNDP-GEF**

The goal here is to initiate, establish and integrate efforts at the community level into the climate change mitigation process through adoption of low carbon products.

Under this project, TIDE has chosen to work in Trichy, Coimbatore areas in addition to villages around Bangalore. Low carbon products relevant to these areas were chosen on the basis of baseline data, interaction with community and discussions with suppliers. The chosen range includes fuel efficient pyro stoves, Samuchit Sarai charcoal cookers, solar mobile chargers, solar lanterns and lights and portable Biogas.

TIDE has tied up with about 6 suppliers for these products and has established linkages with 5 NGOs and CSOs for outreach to the community. We have also set up a TIDE-SGP Dissemination centre for low technology products / services at Trichy and Coimbatore (at the officer of a partner NGO).

Within a year, we have had good penetration of Pyro stoves and Sarai cookers in Tamilnadu. In Karnataka, about 20 women are actively selling solar products.



Figure 9: TIDE-SGP Low carbon technology dissemination centre, Trichy



## Rural Hybrid Energy Enterprise Systems [RHEES]

***Project funded by Department of Science and Technology (DST) New Delhi***

***Carried out in collaboration with Research councils, UK***

TIDE's proposal in this consortium is '**Developing biomass based enterprise models to secure livelihoods**'

A socio-economic survey in the project area is proposed to assess needs and identify gaps for bridging the rural urban divide through reliable energy access

- ✧ Critical assessment of livelihood and / or enterprise opportunities emerging out of the project; Understand & overcome barriers to energy linked livelihood
- ✧ Develop & recommend methodologies for energy linked rural livelihood options; also develop enterprise models / business plans for the same.

Planned enterprise models:

- ✧ Areca leaf plate making
- ✧ Value addition of Ragi- (ragi malt, ragi papad, ragi biscuits)
- ✧ Value addition of coconut – (coconut chips, burfi)
- ✧ Coconut oil expelling – oil extraction
- ✧ Multi grain atta
- ✧ Mushroom cultivation
- ✧ Vermi composting using digester residue

TIDE is awaiting the choice of region to launch the program.

## Stove (Chulha) construction training programs

Capacity building of rural women in the Construction of smokeless stoves (Sarala Stove)

***Funder: Gulbarga University***

The training programme was organised at Central University of Karnataka, Kadaganchi, Aland Taluk, Gulbarga district. 10 women participated in the 5 days training programme which consisted of theoretical and practical sessions. For the latter, Kadaganchi & Sunataoor villages were identified by the University.



Trainees actively participated and learned the method of building stoves. Each trainee was given a mould and a construction manual. Initially, trainees were not confident, but at the end of the program, they gained confidence to construct chulhas and continued to install chulhas.

After the training program these trained women have continued the installation of smokeless chulhas, and completed the construction of 60 chulhas at Suntanoor and Kadaganchi villages.



*Figure 10 Rural women involved in the stove construction.*

## Smokeless household stoves Training Programme

**Funded by Forest Department of Karnataka**

In the year 2013-14, TIDE has conducted Sarala stove training programmes at Honnavar, Dharwad, Chikkamagalur and Madhugiri division of Tumkur Districts under "Hasiru Grama yojane programme" of Karnataka Forest Department. Objective of the training is to ensure wider dissemination of smokeless stove to reduce firewood consumption and indoor air pollution. The highlight of this program is that the rural women who are trained by TIDE are financially supported by Forest Department to construct smokeless stoves in forest fringe areas. Thus this program has been a success in not only reducing environmental pollution and indoor air pollution, but also in generating sustainable livelihoods for rural women.

Totally 52 rural women were trained in stove construction and they built 200 smokeless stoves. After the training programme women continued installation of stoves with support of forest Department.



Figure 11: Training at Dharwad division of Forest Department

## Evaluation of smokeless Chulha constructed in the year 2008-2009

### **Funder – PCRA Through MGIRED**

In the year 2008-2009, Petroleum Conservation Research Association (PCRA) had awarded a project on **“Construction of smokeless chulhas”** (smokeless household stoves) at Gubbi Taluk of Tumkur districts to Mahatma Gandhi Institute of Rural Energy and Development (MGIRED). This programme was successfully implemented by Technology Informatics Design Endeavour (TIDE) with the support of MGIRED in selection of villages, and monitoring. Under this project, 380 stoves had been constructed in 6 villages of Gubbi Taluk, Tumkur district.

As a follow up, a grant was given to conduct evaluation of the stoves. 10% samples were selected through random sampling method. TIDE developed the questionnaires for evaluation, organized field visits and interacted with the stove beneficiaries. Evaluation of stoves done at 6 villages:

- Shivasandra village, Gubbi Taluk.
- Mudalapalya village, Gubbi Taluk.
- Yallapura village, Gubbi taluk.
- Shigehalli village, Gubbi Taluk.
- Taggihalli village, Gubbi Taluk.
- Kundranahalli village, Gubbi Taluk.

It was observed that materials used in the stove construction like Chimney pipe, cast iron grates are still in good working condition and there were no cracks in chimney pipes. Women were advised to clean the pipes once in 6 months. All the stoves are functioning well and women were happy about the performance of stoves and few of them introduced these stoves to their relatives & neighbours.



As per the data collected, women using the stove overwhelmingly reported that the Sarala stoves are more fuel efficient and that there is no smoke inside the kitchen. Other feedback included faster cooking and cleaner vessels. Indirect benefits came through reduced time spent in foraging for fuel and additional cash available (that was saved through less fuel consumed in sarala stoves) that women were now free to use for their children's nutrition and education.



Figure 12: Stove constructed in 2008

### Smokeless household stoves Sarala stove training at Integrated Rural Development of Weaker Sections of India (IRDWSI), Odissa

Technical training on "Capacity Building of Rural Women in the construction of Smokeless household stove/Sarala stove" was organised by IRDWSI, with TIDE as the resource partner. There were 12 participants who attended the 5 day training program. 60 stoves were built during this training period in Kondupungar and Puriakhudi villages.



Figure 13: Stove construction training organized by IRDWSI





Figure 14: Stove constructed by trainees in Odisha

## Creating Livelihoods through environmental stewardship

### **Funder : Social Venture Partners, Bangalore**

Technology Informatics Design Endeavour (TIDE) in partnership with Social Venture Partners (SVP) has launched a unique city wide pilot initiative aimed at tapping into the city's growing corporate sector and apartment culture. 'Creating Livelihoods through Environmental Stewardship' aims to build skill and develop livelihoods as 'environmental stewards' for needy youth, women and un-employed people. Under this initiative, these 'stewards' are trained by experts to carry out 'walk through energy and waste assessments' for corporate offices and large residential areas.

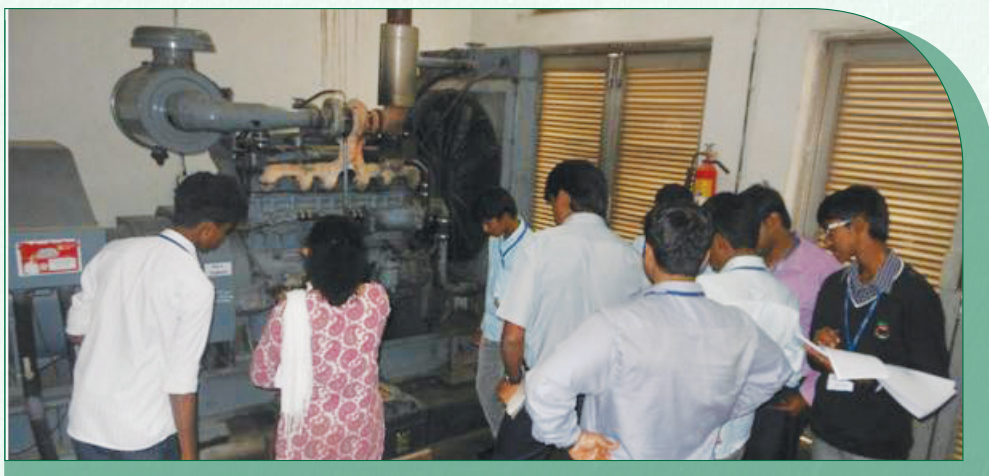
The walk-through assessments are designed to capture existing patterns and practices in energy consumption and waste management within the organization. These findings in the form of historical behaviour, are analysed and then recommendations are made towards energy conservation and waste management. Typically, the recommendations provided are nil-investment and are directed towards changing behaviour and simple house-keeping practices. A follow through assessment is conducted to check the actual impact of the recommendations. The entire process including the walk through study and follow through assessment is done for a small fee depending on the company's electricity bill. This fee is then given as income to the stewards.

A novel paradigm involving 'entry level walk through assessments' as a means of energy savings and waste management has been established. It has demystified the concept of energy audits while actually providing the base line for a detailed audit. Another notable feature is its inclusive process with emphasis on behaviour change.

- ✎ With just 14 studies conducted primarily at offices in Bangalore, the project has shown annual savings potential close to 54,000 kWh equivalent to INR 815,618 (US\$13,594). This translates to about 43 MTs of annual CO<sub>2</sub> emission savings!

- ✎ In each of the premises where the studies were conducted, annual savings ranging from 2 to 14% has been shown with nil / minimal investments.
- ✎ The project has provided livelihoods to about 18 youth with a minimum potential monthly income of Rs 4000 (\$67) with flexible and part time work opportunity. This is also a skill development increasing their employability in future.
- ✎ Has mainstreamed youth into the process of climate change mitigations, through a sustainable livelihood model around environmental stewardship.

TIDE is now developing this model into a larger model with citizens engagement for natural resource conservation as the theme.



*Figure 15: Stewards undergoing training on energy consumption assessment*



## Diversifying business opportunities of grass root clean energy entrepreneurs

**Funder : GSRD**

### Objectives of the project

- ✎ Development of prefabricated stove components and knock down models
- ✎ Stimulating entrepreneurship in spares and accessories
- ✎ Training and enabling enterprises in offering annual maintenance contracts

TIDE has successfully completed the project and met the objectives. This project has enabled TIDE to apply our past learnings and to improvise through better design, accessories, etc. It has enabled us to adapt the technology to better suit the user requirements and thus achieve better penetration of clean energy products.



Through this project, entrepreneurs selling fuel efficient biomass based stoves now have access to a wider market through multiple designs, components and accessories. Their sales have therefore increased. They have also got trained to do preventive maintenance and AMC.



Figure 16: TIDE's work and output in the project Diversifying business opportunities of grass root clean energy entrepreneurs

## Training rural women in brick making with energy efficient kiln for income generation – Phase 2

**Funder : ETC Foundation, Netherlands**

The brick making project was one of the earliest to be introduced in the WomensTechnology Park (WTP) and this has demonstrated that women can acquire a new skill and get incomes that are more than what they could get as unskilled agricultural labour. It has demonstrated that technology and technical training can improve women's lives. It has also reduced drudgery for women through introduction of machines for brick making.

The project has been able to influence the community about need for skill up gradation of women and their ability to take on newer and bigger challenges. This is gradually creating mind set change and encouraging women to take on unconventional livelihood activities. Although social change is a long term goal, the project has made beginnings in that direction.





*Figure 17 Interaction with women by ETC representative*

## Other programs

TIDE continues to receive donations through Give As You Earn (GAYE) program, facilitated by CAF. Under this support, we donate fuel efficient commercial cook stoves to institutions and organizations which are working for the poor, and which do not have the means for raising funds.



*Figure 18: Training at Dharwad division of Forest Department*

# Significant events at TIDE

- 🌀 'SEED Award – Low carbon winner ' recognition received for Sustaintech-TIDE partnership
- 🌀 TIDE was approved for listing with Give India after the due diligence.  
<http://www.giveindia.org/m-1519-Technology-Informatics-Design-Endeavour-TIDE.aspx>
- 🌀 TIDE listed in CSR market place  
<http://samhita.org/csrmarketplace>
- 🌀 TIDE was invited to participate in Agritech 2013 where NABARD officials released 'Manini', products made by SHG women from our WTP.
- 🌀 Coverage of TIDE in Mint newspaper on 2nd September 2013 – in connection with SVP project  
<http://www.livemint.com/Companies/XE3jA8ny0VmPOiRqd748DJ/NGOs-raise-funds-in-corporate-style.html>
- 🌀 TIDE was invited to presents its work on Energy conservation in Tea plantations by UNDP in UNEP conference in Kenya
- 🌀 TIDE continues to be invited as expert / resource partner in various forum around clean cook stove initiatives at national and International level including:
  - ✧ Internation Renewable Energy Agency (IRENA)
  - ✧ Ministry of Human Resource Development (MGRD), GoI
  - ✧ Ministry of Women and Child Welfare's Rashtriya Mahila Kosh scheme , with World Bank

## Visitors at TIDE

- Under Secretary, IFD, DST visited TIDE and did field visits to understand TIDE's work as a core partner
- Ms Karen Bakhusein of ETC foundation visited for external evaluation of the project in September 2014
- An Ethiopian delegation visited Smokeless village near Gubbi and interacted with TIDE stove entrepreneurs and users. Under the program 'Learn from improved cookstove program in India' organized by UNDP in November Nov 2013
- FSG consultants visited and had a discussion on work done by TIDE in clean energy solutions on 12th November 2013. They are evaluating the market in clean energy for a large donor organization in US.
- Visit to WTP by students of Acara Institute, University of Minnesota to understand rural enterprises



Figure 19: Visit by ACARA



# Experience sharing and Testimonials

Gareth, Intern at TIDE shares his experience

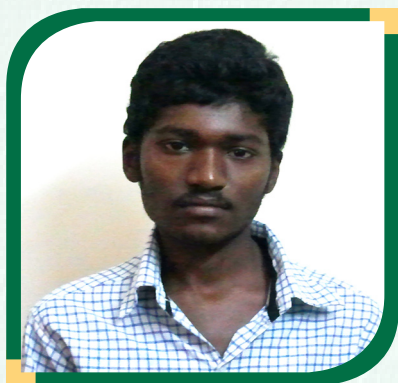


*Figure 20: Gareth Westler  
Sharing his experiences  
as Intern at TIDE*

My name is Gareth Westler, and I'm a graduate student in civil engineering at the University of Minnesota doing a 9 month fellowship at TIDE in 2014. My interests are international development and dissemination of appropriate technology, and I'm working on the food-drying project at TIDE. For the most part I've been working on a strategic vision for the food-drying centers, trying to develop a long term business solution so that the centers can be financially sustainable.

This has consisted primarily of collecting and analyzing data to determine when and what produce to purchase as well as what price to charge for the dried product, developing plans and spreadsheets for use in drying centers to keep track of orders and sales, and researching possible retail outlets and certifications that may get our products more exposure to consumers. In addition, I used part of my University of Minnesota Acara Venture Scholarship to donate a solar dryer to the Women's Technology Park in Aralaguppe, to be used for research in determining the viability of using solar dryers commercially.

My time at TIDE has been very educational. Not only am I spending 9 months living in a country that I had previously never been to before, but I'm working on a project that fits into my area of interest, is giving me excellent experience in working internationally, and lets me experience first-hand the issues faced by organizations trying to implement development projects in their own country. I hope that by the time I leave India in December, we will have a system in place for establishing new food-drying centers and integrating them with our already operating centers, a clear idea of what products to process at certain times, and a strategy for marketing and selling those products. My goal is to have at least one center regularly producing dried food and fully established as a commercial operation by the end of my fellowship here at TIDE.



*Figure 21: Santosh Sharing his experiences as Intern at TIDE*

Experience of Santosh, 'who was trained as an Environmental steward by TIDE as part of its project on Creating livelihoods through environmental stewardships', where youth are trained on energy assessments

Santosh is a 20 year old boy, son of a Civil works contractor, who executes rain water harvesting work for TIDE. After completing 10th standard, Santosh dropped out of school and started helping his father. When TIDE started the Steward training program, his father got Santosh to attend the same.

In Santosh's own words, he came reluctantly and just after the first day, got hooked on. After successfully finishing the classroom and field training, he is now enthusiastically carrying out the walk through energy assessments that he is trained on. Moreover he has gained his confidence and felt the need to complete his studies. After the training at TIDE, he completed his 2<sup>nd</sup> PUC and has recently joined B.Com at Bishop Cotton academy of professional management.

Santosh says 'I feel very proud that I can help others save energy. I have understood "Saving Energy is like saving future". Thanks to TIDE, I am doing something very useful today'.

### Testimonial by Ms Fathima, a woman entrepreneur trained by TIDE

Mrs Fathima, 45, is a resident of Kondli village in Gubbi taluk and is a member of Sri Sarasawathi SHG. She completed SSLC and has a Diploma in Seri Culture. As part of TIDE's project on initiating women into marketing of energy efficient products for livelihoods, she was trained by TIDE as an entrepreneur to sell energy efficient domestic lights in 2009. During this time, She had successfully introduced an instalment scheme for the lights in order to encourage people to use energy efficient lights in their homes.

Since March 2014, Fathima is involved in marketing low carbon Technology products through one of our projects. After an initial training by TIDE about these products, she has understood and done several awareness meetings on low carbon technology products, particularly solar products, in her village through SHG meetings, interaction with school children and teachers.





*Figure 22: Ms Fathima  
Sharing her experiences as Intern at TIDE*

Her enthusiasm and her marketing skills has got her several orders, which she is successfully fulfilling. This income goes towards supporting her family needs. She is interested in creating more awareness on solar products and motivate the people to use the solar lights based on her own experience in reducing electricity bill with these products.

# Collaborations

## Sustaintech Pvt Ltd

(<http://www.sustaintech.in>)

TIDE set up Sustaintech India Pvt Ltd with an aim to facilitate large scale dissemination of its technologies, mainly fuel efficient stoves. Sustaintech has successfully sold over 1700 stoves in two and a half years of operation. Well established in Tamil Nadu, Sustaintech is looking to expand its operations in more states including Karnataka, AP, and Maharashtra. TIDE and Sustaintech are mutually dependent partner institutions and enjoy a cordial working relationship.

## Ashden India Renewable Energy Collective

(<http://www.ashden.org/files/AIREC-brochure-web-18062014.pdf>)

The Ashden India Renewable Energy Collective brings together Indian Ashden Award winners to champion renewable energy, promote best practice and end India's vicious cycle of energy poverty. Having won the Ashden award in 2008, TIDE is an active member and resource partner of this collective.

## MGIRED

(<http://www.mgired.kar.nic.in>)

Mahatma Gandhi Institute for Rural Energy and Development was established in 2000, by the Department of Rural Development and Panchayath Raj (RD & PR), Government of Karnataka (GoK) with the assistance of Ministry of New and Renewable Energy (MNRE), Government of India, to cater to the training needs of Southern States /Union Territories in the field of Renewable Energy. Other than being a resource partner for renewable energy technologies and products, TIDE is also executing projects in fuel efficient stove construction in partnership with MGIRED.



# Acknowledging funders and Partners

TIDE wishes to acknowledge the support from our funding partners during the year 2013-14:

- SEED Division, Department of Science & Technology, Gol
- Department of Science & Technology, Gol
- Ministry of New and Renewable Energy, Gol
- Forest Department, GoK
- NABARD
- Mahatma Gandhi Institute for Renewable Energy & Development (MGIRED), Bangalore
- Central University Karnataka , Gulbarga
- SVP Philanthropy Foundation, Bangalore
- UNDP, New Delhi
- GEF-UNDP Small Grants Program
- Give India Foundation
- Give As You Earn (GAYE) Program from Charity Aid Foundation
- ETC, Netherlands
- GSRD Foundation, Amsterdam
- Practical Action Consulting, UK
- IRDWSI, Odisha

## Innovative skill building

TIDE has constantly kept tab of not only the latest technology solutions but also the evolving aspirations of people it works with and the changing market economics. TIDE has never shied away from novel approaches or picking up innovative skills to experiment with. During the last year, TIDE introduced some very unique skill building program as part of its training portfolio:

- Pressed flower collection and making of stationary products using pressed flowers
- Oyster mushroom cultivation using fruited bags
- Bore well Water level measurement
- Bakery and other value added products from Ragi

### Flower pressing



*Figure 19: Women learning how to press flowers and create stationary out of them*

### Steward training



*Figure 20: Training on borewell water level measurement*



## Financial Disclosures

### TECHNOLOGY INFORMATICS DESIGN ENDEAVOUR, BANGALORE

#### BALANCE SHEET AS AT 31<sup>st</sup> March 2014

PARTICULARS	Sch No	Current Year Amount	Previous Year Amount
<b><u>SOURCE OF FUNDS</u></b>			
Capital Fund	1	4,36,970.00	4,36,970.00
General Fund	2	3,988,574.51	4,699,221.56
Entrepreneur Development Fund [EDF]	3	767,347.61	477,051.36
Staff Welfare Fund [SWF]	4	501,424.20	414,645.20
	Total	5,694,316.32	6,027,888.12
<b><u>APPLICATION OF FUNDS</u></b>			
Fixed Assets	5	1,128,130.60	1,208,658.60
<b><u>Current Assets</u></b>			
- Advances	6	226,814.00	169,050.00
- Deposits	7	1,700.00	1,700.00
- Other Current Assets	8	200,306.12	227,067.64
- Receivables - Sponsored Projects	12	2,078,912.00	2,120,251.50
- Fixed Deposit with Bank	9	2,850,000.00	1,910,000.00
- Cash & Bank Balances	10	2,348,612.12	2,690,272.51
	[A]	7,706,344.24	7,118,341.65

**Less: Current Liabilities**

- Unspent Balances	12	3,073,202.52	2,231,686.13
- Sponsored Projects			
- Sundry Creditors	11	66,956.00	67,426.00
	[B]	3,140,158.52	2,299,112.13

Net Current Assets	[C = (A-B)]	4,566,185.72	4,819,229.52
	Total	5,694,316.32	6,027,888.12

Schedule 1 to 14 and significant accounting policies & Notes on Accounts (Schedule 15) form an integral part of the accounts.

BANGALORE  
10/17/2014

A. N. JAYACHANDRA  
MEMBER - COM

SVATI BHOGLÉ  
SECRETARY

K. SUMATHY  
EXECUTIVE DIRECTOR

(N Ramesh)  
PARTNER  
CHARTERED ACCOUNTANTS

BANGALORE  
10/17/2014

REFER OUR REPORT OF EVEN DATE  
For RAO & SWAMI



**TECHNOLOGY INFORMATICS DESIGN ENDEAVOUR, BANGALORE**  
**INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31st**  
**March 2014**

PARTICULARS	Sch No	Current Year Amount	Previous Year Amount
<b><u>INCOME</u></b>			
Donation		2,500.00	17,300.00
Overhead Recovery	12	517,908.50	983,442.00
Usage of Tide Facilities	12	47,000.00	17,248.00
Project Surplus on completion	12	7,083.00	95,241.50
Other Income		8,000.00	9,000.00
Interest Received		56,176.45	173,302.27
	(A)	638,667.95	1,295,533.77
<b><u>EXPENDITURE</u></b>			
TIDE Programs	13	5,983.00	78,581.00
Secretariat Expenditure	14	1,145,507.00	1,148,852.00
Auditor's Remuneration		73,034.00	73,034.00
Project Expenditure on completion	12	24,858.00	385,182.50
Depreciation	5	99,933.00	111,066.00
	(B)	1,349,315.00	1,796,715.50
Excess of Expenditure over Income for the year	(A-B)	(710,647.05)	(501,181.73)

Schedule 1 to 14 and significant accounting policies & Notes on Accounts (Schedule 15) form an integral part of the accounts.

BANGALORE  
10/17/2014

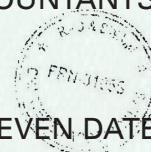
A. N. JAYACHANDRA  
MEMBER - COM

SVATI BHOGLE  
SECRETARY

K. SUMATHY  
EXECUTIVE DIRECTOR  
(N Ramesh)  
PARTNER  
CHARTERED ACCOUNTANTS

BANGALORE  
10/17/2014

REFER OUR REPORT OF EVEN DATE  
For RAO & SWAMI



## TECHNOLOGY INFORMATICS DESIGN ENDEAVOUR, BANGALORE

RECEIPTS AND PAYMENTS ACCOUNT FOR THE RIOS ENDED 31ST  
March 2014

PARTICULARS	Schedule	Amount	Amount
<b>RECEIPTS</b>			
<b>Opening Balance</b>			
- Cash on Hand	10	81,211.32	
- Cash at Bank	10	26,09,061.19	26,90,272.51
<b>Grant</b>			
- Grant-Specific Projects/ Programmes	12	75,51,765.89	
- Other Activities/ Reimbursements	12	1,04,945.00	7,656,710.89
<b>Overhead Recovery/Receipt-Per Contra</b>	12		517,908.50
<b>Usage of Facilities/Recovery/ Receipt-Per Contra</b>	12		47,000.00
<b>Donation Received</b>			2,500.00
<b>Interest Received</b>			
- Bank interest - TIDE		19,567.45	
- Bank interest - SWF		28,655.00	
- Interest on Loan - Staff (SWF)		4,525.00	
- Interest on I.T refund		3,429.00	56,176.45
<b>Travel / Project Advance Recovery</b>			
- Staff		902,310.69	
- Entrepreneurs / others		1,052,726.00	1,955,036.69





**Salary Deductions - Recovery**

- Professional Tax	20,000.00	
- Provident Fund	295,561.00	
- SWF Loan	66,400.00	381,961.00

**Other Recoveries**

T D S Recovery		200,976.00
----------------	--	------------

**Other Receipts / Refunds**

Surplus on SDTT-Greenhouse project closure		1,583.00
Interest Receivable on F.D (Receipt)		17,523.64
I.T - TDS (Refund from I.T Dept)		1,360,000.00
(excluding interest on IT Refund)		40,251.00

**Other Income**

-Income on Awareness Training on Stove usage & its benefits	2,000.00	
-Income on sale of Mould	6,000.00	8,000.00

**Staff Welfare Fund**

- Contribution	89,153.00	
- Staff loan recover	89,500.00	178,653.00

**Group Gratuity Fund (SWF)**

10,990.00

**Entrepreneur Development Fund**

- Contribution	237,885.00	
- Bank interest	52,411.25	290,296.25

15,415,838.93

**PAYMENTS**

**Project Expenditure**

- Specific Projects / Programmes	12	6,780,513.00	
- Other Activities / Reimbursements	12	12,700.00	6,793,213.00
TIDE Programmes	13		5,983.00

<b>Secretariat Expenditure</b>	14		1,145,507.00
--------------------------------	----	--	--------------

<b>Auditor's Remuneration</b>			73,034.00
-------------------------------	--	--	-----------

**Travel / Project Advance**

- Staff		912,310.69	
- Entrepreneurs /Others		1,044,610.00	1,956,920.69

**Other Advance**

- Annual ASD (BESCOM)		5,850.00	
- Rent Advance / Deposit (TIDE-SGP-ENERGY STORE)		50,000.00	55,850.00

<b>Fixed Deposit</b>			2,300,000.00
----------------------	--	--	--------------

**Salary Deductions - Remittance**

- Professional Tax		20,000.00	
- Provident Fund		295,561.00	
- SWF Loan		66,900.00	382,461.00

**Other Recovery/Remittance**

T D S Remittance			200,976.00
-I.T -TDS - Grantors / Bank			13,908.00

**Staff Welfare Fund**

- Staff Loan		100,000.00	
- Gratuity premium / contribution		2,374.00	102,374.00





**Fixed Assets** 19,405.00

**Other Payments / Debits**

Interest Receivable on FD 17,595.12

**Closing Balance** 10

- Cash on Hand 10 45,124.97

- Cash at Bank 10 2,292,687.15

- Cheque on Hand 10 10,800.00 2,348,612.12

15,415,838.93

Significant Accounting Policies  
and Notes on Accounts 15

BANGALORE  
10/17/2014

A. N. JAYACHANDRA  
MEMBER - COM

SVATI BHOGLÉ  
SECRETARY

K. SUMATHY  
EXECUTIVE DIRECTOR

(N Ramesh)  
PARTNER  
CHARTERED ACCOUNTANTS

BANGALORE  
10/17/2014

REFER OUR REPORT OF EVEN DATE  
For RAO & SWAMI

## Details of board members

No	Names	Position in the board	Salary withdrawn
1	Mr. N.V. Krishna	Chairman	Nil
2	Ms. Svati Bhogle	CEO & Secretary	3,66,000
3	Dr. R Shylaja	Member	Nil
4	Mr. A.N. Jayachandra	Member	Nil
5	Mr. Harinatarajan	Member	Nil

Reimbursment to board members - Nil.

## Other disclosures

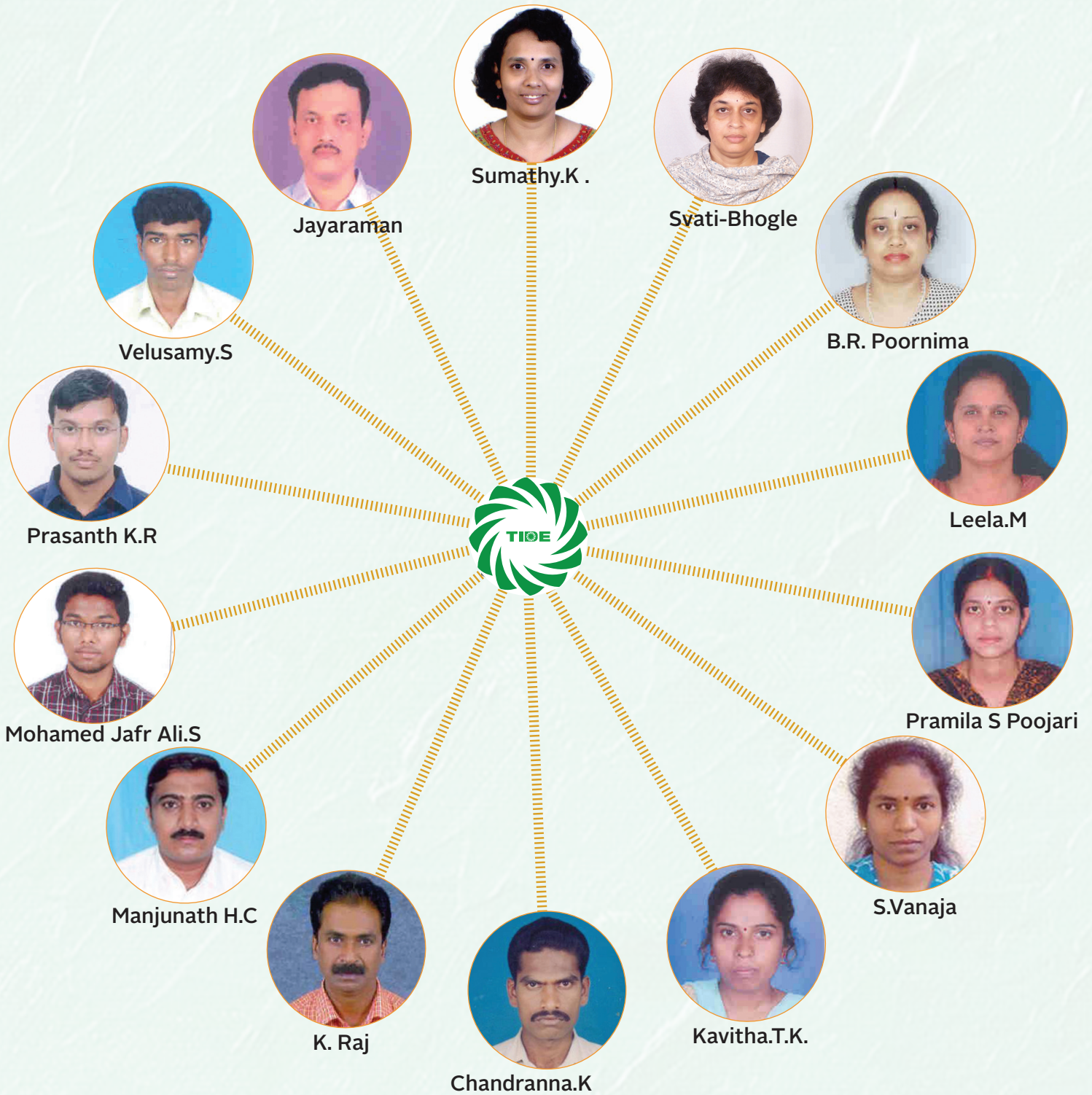
	Names	Designation	Remuneration (in Rs.)
Operational Head of the organisation (including honorarium)	Ms. Svati Bhogle	CEO	366000
Highest paid person in the organisation (staff or consultant)	Ms B R Poornima	Consultant	420000
Lowest paid person in the organisation (staff or consultant)	Ms. Kavitha	Project Assistant	71856

Slab of gross salary (in Rs) plus benefits paid to staff (per month)	Male staff	Female staff	Total staff
Less than 5000	0	0	0
5,000 – 10,000	1	2	3
10,000 – 25,000	5	3	8
25,000 – 50,000	0	0	0
50,000 – 1,00,000	0	0	0
Greater than 1,00,000	0	0	0

The total cost of international travel by all personnel (including volunteers) is NIL.



# TIDE Staff



## **TIDE**

19, 9<sup>th</sup> Cross, 6<sup>th</sup> Main, Malleswaram, Bangalore – 560 003

Ph : 91-80-2331 5656

Fax : +91 80 23344555

E mail : [tide@vsnl.com](mailto:tide@vsnl.com), [info@tide-india.org](mailto:info@tide-india.org)

Web site : [www.tide-india.org](http://www.tide-india.org)

Linked in : <http://www.linkedin.com/company/technology-informatics-design-endeavour-tide->

Facebook : <https://www.facebook.com/pages/Technology-Informatics-Design-Endeavour/108424802574316>