



TIDE

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20th ANNUAL REPORT
2012-13

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Legal and Financial details

TIDE is a registered society as per Karnataka Societies Registration Act; Registration number 131/93-94 dated 11th May 1993.

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

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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



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Secretary's Message

In most projects that TIDE implemented in the past decade up to say 2010 there was a lot of focus on scientific thought and action. We were developing technologies, methodologies, processes that were very unique, innovative but we were not replicating. This was possibly because we were more focused on delivering projects that had a short term goal. No doubt the short term goal was necessary and consistent with the vision of TIDE: "Addressing developmental concerns of needy communities through technological interventions".

But the question remained that with TIDE now a fairly mature organization as NGOs go, were we doing enough? What does an organization need to do if it must translate innovation into social impact? I am not sure whether it was through design or the fortuitous coming together of different circumstances, but the focus of TIDE activities and projects has subtly moved from technological innovation to innovations in processes, in engagement with communities and for achieving impact.

The root of this subtle institutional transition of working differently towards realizing its vision lay in the success of some projects where the impact indicators were very well defined. With success there was a clamour for replication / scaling up both internally and from external well wishers. The origin was probably in the change in the deliverables required from SEED Division, DST through projects like the Women's Technology Park and the Core grant where we were asked questions about business plans, techno-economics, scaling up models etc.

Simultaneously projects like the UNDP supported energy efficiency in the tea industry exposed us to a competent set of industrialists focused on expansion and growth and they took our initial tentative experiments to a

In the coming years TIDE would become an NGO with pan India operations initially at least through strategic linkages.



The vision for the Women's Technology Park has now evolved and we now conceive it as an incubation centre for women's enterprises.

completely new level. The confidence gained in working with academic institutions and industry experts plus the experiences with Sustaintech in commercializing cook stoves developed at TIDE gave us the confidence to revisit our processes.

Our internal self assessments and indicators for measuring impact changed and so also the style of resource generation for TIDE. The vision for the Women's Technology Park has now evolved and we now conceive it as an incubation centre for women's enterprises. We want to offer several services like market development support, business planning, financing, in addition to technology would be offered to rural women.

The All India Co-ordinated Research Project on Biomass dryers saw TIDE sharing technology and knowledge with other competent NGOs in the north and north eastern states. TIDE has also sent a proposal for a replication of the tea project in Assam. In the coming years TIDE would become an NGO with pan India operations initially at least through strategic linkages. This would help grow the eco-system for of innovation for social impact.

The fact that a small organization with a few committed people can actually dare to think big is because of the support that we have received from grant making organizations, the communities whose lives we are changing and from the staff who have always taken on difficult challenges with enthusiasm. In the past decade I cannot recall a single business as usual situation at TIDE. Completing two decades of existence in a difficult work environment is rare achievement for an organization and all the people associated with it.

Svati Bhogle

20 Years of TIDE – Looking Back

TIDE was founded in 1993 on three tenets:

- Appropriate technological interventions can make life better for a large number of people in India, in a sustainable manner.
- Indian scientists are capable of and will continue to generate concepts, prototypes and working models of technologies.
- When the needs and avocation of people on one hand matches with the technological package and the delivery mechanisms for dissemination, there would be no need for subsidies from the government.

TIDE was conceived as a link organization between research organizations and communities, in adapting technologies for various end uses. Over a period of 20 years, in addition to fulfilling this objective, TIDE has expanded beyond technologies to offer societal solutions for successful intervention in areas of RE / EE, Water & Environment, Women & Livelihoods and Local entrepreneurship.

Our milestones in 20 years

Technology Informatics Design Endeavour (TIDE) registered as a Society under Karnataka Registration Act

1993

TIDE Technocrats was spun off to take forward technology projects which have been successfully adapted for field by TIDE

1995

- A land mark project which firmly placed TIDE in RE / EE sector titled 'Dissemination of energy efficient

1998

	<p>biomass combustion technology in non formal industries in Karnataka and Kerala' was awarded to TIDE by Indo Canadian Environment Facility (ICEF).</p> <ul style="list-style-type: none"> • A sub group of TIDE focusing on economic development research was spun off as Centre for Budget and Policy Studies (CBPS)
2000	<ul style="list-style-type: none"> • 1st Core Grant received. DST gives core grant support to TIDE to explore new ideas without working in the confines of a project mode • At the start of millennium, focus areas at TIDE were: <ul style="list-style-type: none"> • RE (biomass and microhydel) • Rural process industries • GIS and Rs applications for development planning and monitoring
2002	<p>GIS company 'SPINFO' was spun off</p>
2004	<ul style="list-style-type: none"> • TIDE's Water & Environment group takes root with the project 'Community based sustainable water management in a micro-watershed' • Work in fuel efficient stoves extended to Tamilnadu, Andhra Pradesh and Chattisgarh
2006	<ul style="list-style-type: none"> • In its 15th year, TIDE is one of the four finalists of the social entrepreneur of the year
2008	<ul style="list-style-type: none"> • TIDE wins Ashden awards (Green Champion). • Landmark project by UNDP-GEF on 'Energy efficiency in tea processing' awarded to TIDE
2009	<p>TIDE spins off 'Sustaintech Pvt Ltd' as a social enterprise</p>
2010	<ul style="list-style-type: none"> • Forest department chooses TIDE's sarala stoves under its Hasiru Gram Yojane

2011

- TIDE sets up Women's Technology Park (WTP) at Tiptur taluk, Tumkur district in Karnataka under DST support with the objectives of providing rural women access to various technologies for livelihood and to provide them with a safe environment to work and earn a livelihood.
- Taking a cue from energy audits, TIDE starts water audits in tea plantations, schools and residential complexes.
- UNDP Asia Regional Office features the work of TIDE as best practices in energy access for the poor

2012

- Government of Karnataka awards 'Parisara Prashasti' award to TIDE Secretary.
- Emerging PAN India outlook in TIDE with projects and partners in Sub Himalayan, North East regions

Our impacts

- Implemented over 180 projects, in the interface of technology and community
- 30 technologies and products developed from the idea stage to securing livelihoods
- Entrepreneurs nurtured by TIDE in the past 10 years have had a total turnover of about 7 crores and earned profits of about 1 crore.
- 16 men and 20 women's groups engaged innovative environment friendly livelihood activities
- Energy entrepreneurs nurtured by TIDE contribute to a savings of about 50,000 MTs of CO₂ annually.
- The fuel efficient stoves installed through technology disseminated by TIDE have saved 75,000 tons of CO₂
- Water conservation through TIDE interventions is estimated to be 4 lakh kilo litres per annum.

Highlights of Programs

Core Grant Support

By SEED Division,
Department of Science of
Technology,
Government of India



Figure 1: Fuel efficient tea kettle



Figure 2: Recharge well being constructed



Figure 3: Women getting trained in mushroom cultivation

The Core grant support is extended to TIDE to develop its capabilities to fulfil its vision and mission, not necessarily confined to projects. Under this support,

In RE/EE sector, TIDE continued to design, develop and disseminate technologies on improved cook stoves with new varieties such as biomass fired tea stove, tava stove for making dosas/parottas and rotis, loose biomass fired stoves in two different sizes, charcoal biomass stoves. We have also developed accessories such as insulated doors for the areca stove and the textile stove, dryer hopper for feeding loose biomass to the stove, low cost chimney cap etc.

TIDE has conducted studies for improved quality assurance by using kitchen tests as per the Gold Standard Methodology for establishing the extent of fuel saving and CO₂ emission reduction. As per business plan drafted, field testing was successfully carried out and stoves were launched commercially by Sustaintech India Pvt. Ltd (SIPL), the commercial wing of TIDE.

In Water & Environment area, TIDE carried out a comprehensive survey encompassing social, technical and economical criteria to map the micro water shed in Aralaguppe village. Based on the data compiled, TIDE undertook activities which included bore well recharge, open well recharge, farm ponds, etc to give water security for irrigation needs. As part of a comprehensive water management program for the micro water shed, water conservation farming methods like drop and mulch irrigation were introduced. TIDE has put in place an exhaustive data collection mechanism to quantitatively monitor the impacts of the interventions. These include water levels, water quality, soil moisture, etc.

Extending its work on energy audits, TIDE developed a methodology for water audits and conducted the same in two tea gardens in Valparai and Nilgiris. This resulted in recommendations including roof top rain

TIDE delivered the following in the year 2012-13:

- Development of new stove designs and accessories
- Creation of facility for prototyping activities, fabrication of designs developed for stoves
- Facility for emission & performance testing of stoves
- Technology package standardization and repeat trials
- Building markets for the Technology packages
- Maximizing water harvesting potential
- Value addition to the agricultural/ horticultural produce using energy efficient technologies
- Capacity building of Core staff, TIDE staff and community

With Core grant support, TIDE created the following facilities:

- **Energy lab and fabrication facility:**
This includes all equipment required for carrying out minor repairs to stoves, making modifications and testing facility for measuring efficiency and emissions
- **Water testing lab:**
For water quality analysis and for field level data collection like bore well depth, water yield, salinity etc. Limited soil testing like soil moisture meter

water harvesting for labour colonies. TIDE also developed a methodology for audits in institutions like schools and apartments.

In Women & Livelihoods area, TIDE created linkage with UAS and IIHR to give trainings for women in various activities like value added products from Ragi, mushroom cultivation and flower pressing. At the Women's Technology Park set up in Aralaguppe village, TIDE continues to train women in various technologies. Business plans have been made for some of these activities and market linkages are being put in place along with financial linkages.



Figure 4: Children visiting the green house that supplies

School and Community Horticulture Enterprise: Nutritional Support for Primary Education

Funder - Sir Dorabji Tata Trust, Mumbai

The primary goal of the project was augmentation of nutrition content in school mid day meals and demonstrating a sustained livelihood option for women of self help groups. Women from 10 SHG's were trained in greenhouse horticulture enterprise and cropping activities. The SHG's in turn donated 50 grams of vegetables per child per school day to the school mid day meal scheme. Between them, they covered 9 schools and 1 BCM hostel in 10

different villages of Tiptur reaching 500+ primary school children.

The SHG members are involved in cultivation of high value crops like colored capsicum and high volume crops like beans. The project developed market linkages between the SHG members and Bangalore urban market for the purchase of coloured capsicums produced in the greenhouse. The women are earning an annual profit ranging from about Rs. 15,000 to Rs. 40,000 with 200 square meters of their land dedicated to the greenhouse. The women are contributing about 10-15% of their incomes towards nutritional support for the mid-day meal by providing 50 grams of vegetables / per day / per child to a school in their area. This is in addition to the vegetables provided in the mid-day meal scheme.

With the clear objective of scaling up and replicating the model, TIDE carried out two kinds of exit activities:

- To extend the model with livelihood options other than green house – including non agricultural ones
- And to initiate activities in a new backward area with higher incidence of malnutrition

The year 2012-13 saw more livelihood activities tried in this model. These include manufacturing eco friendly plates from areca leaf sheaths, vermi-composting, trading in energy efficient lighting, and coconut based charcoal pith. The first two activities have been successfully introduced into the project. Trading in energy efficient lighting and coconut based charcoal pith showed encouraging results but was discontinued due to more interest in community to undertake the other options.

There were requests for replication in other areas like North Karnataka during the state level workshop



The women
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land

conducted in February 2012. Gadag was chosen as project location and vermi-composting was chosen as the livelihood option. Four units have been set up and a school was identified to receive the contribution from the community for nutrition augmentation.

Based on the experience in this project, we are now looking at scaling up the project by introducing more technologies as livelihood options and by bringing in more schools under the program. The potential for replication of project is enormous and technology options can depend on the suitability to the area and the choice of the SHG members. Local governing bodies like village panchayat can play a significant role in monitoring and promoting such projects which match the objectives of the Panchayat.

Micro Enterprises for Rural Women in Production of Horticultural Products Dried In a Biomass Dryer

Funder – NABARD



Figure 5 : Women using the biomass dryer

The project envisages creating awareness programmes for rural women and educates them on the use of biomass dryer for drying produce viz, onion and garlic.

TIDE has covered 140 women from 14 different SHGs and identified 14 women for further Micro Enterprise Development training. Out of these 14 women 10 women have undergone 3 different technical trainings for using cutting machine, using biomass dryer and using garlic bulb breaker.

The biomass dryer was constructed onsite and is now operational. Machinery required for slicing onion, breaking garlic bulbs, weighing machine, sealing machine and grinder for making garlic granules have been procured. Dried onion flakes and garlic granules are the two products which have been taken up by the women.

The trained women started the trial production and successfully made dried onion flakes and dried garlic pods. The onion flakes were packed in 100g while garlic pods in 30g. The samples were sent to University of Agricultural Sciences (UAS), Research Division for test and proved fit for consumption also tested for getting the nutritional attributes by the Certified Test house in Bangalore for displaying the same on the labels.

In the meanwhile, efforts are on to secure markets for these products. Samples have been distributed among some retailers for sales promotion.

Capacity building:

The women trained for drying also got training on Ragi products as value addition from UAS, Bangalore, Oyster mushroom growing and pressing natural flowers and foliage at Indian Institute of Horticultural Research (IIHR). They were also trained on innovative ideas like converting used flex banners into vermi bags for vermicomposting and making book marks & greeting cards using natural flowers and foliage.

All India Coordinated Research Project in biomass driers (AICRP)

Funder – SEED Division, Department of Science & Technology, Government of India

Networking with likeminded organizations:

- A) *SAMASTA*, Bangalore – Identified as catchment organization
- B) *RUDA* – NGO partner in Gadag



Figure 6: Chillies and onions loaded into trays for drying



Figure 7: Dried onion flakes

An appropriate technology to preserve horticultural produce is to dry it after it is harvested. This can reduce wastage due to spoilage, increase shelf life and enable cheaper and easier transportation thus increasing income to farmers. It is important that the drying is done close to the place of harvest. The biomass dryer is particularly relevant to remote and inaccessible areas where there is no electricity because these areas are also generally backward. Drying at the farm level would ensure that the harvest is not wasted and processed to obtain a finished product of good and consistent quality.

TIDE was awarded this project on biomass drying to meet the following objectives:

- i To identify geographical regions in the country where there is a great need for value addition of horticultural produce and partner NGOs in these regions.
- ii To identify horticultural produce that can be dried and define the quality parameters for the dried products developed
- iii To define and address research issues in biomass based drying of horticultural produce
- iv To train partner NGOs in local level drying and assist them in training local women in dryer operation and maintenance
- v To carry out all activities that would enable the partner NGOs to evolve mechanisms for women's enterprise development

Technology transfer and technical training on "Drying using a biomass dryer" was conducted for the 5 partners in Sahaspur, near Dehradun. Classroom and practical sessions covered all the aspects of the dryer, drying procedure, maintenance and trouble shooting and data management. The training programme demonstrated development of drying protocols for different products that the partners proposed to pursue in their projects.

TIDE made field visits to different partner locations and supported them with technical inputs during trial production, quality and shelf life studies. Data in specified formats was sent to TIDE regularly. The same was interpreted, and feedback sent to the partners.

Some of the techno-economically feasible and marketable products developed by the partners are

The following 5 NGO partners were identified in Sub Himalayan and North Eastern India:

- Appropriate Technologies India, Guptakashi, Rudraprayag district, Uttarakhand
- Bethany Society, Tura, Meghalaya
- Centre for Technology and Development, Sahaspur, Dehradun district, Uttarakhand
- Institute of Himalayan Environmental Research and Education (INHERE), Masi, Almora district, Uttarakhand
- Society for Technology and Development, Mandi, Himachal Pradesh

turmeric, ginger, garlic (ATI), chilli, malta peel, bael, (CTD) apple chips (STD), Eupatorium, Shatavari, Harad, Amla (INHERE) and areca, ginger (Bethany).

An experience sharing workshop was conducted with the 5 partners, to discuss the learning from their projects and to develop a framework for phase 2 of the project. Considering the success of the biomass dryer technology in these regions, TIDE has approached DST to introduce the technology in other regions of the country through Phase 2 of the project.

Women's Technology Park (WTP)

Funder – SEED Division,
Department of Science & Technology,
Government of India



Figure 8: Women making eco friendly plates at WTP

Department of Science & Technology's unique initiative to set up Women's Technology Park (WTP) in each state has the broad objectives to promote development and adaptation of appropriate technologies, transfer of proven technologies and demonstration of live technology models to benefit women.

TIDE has set up WTP for Karnataka at Aralaguppe Gram Panchayat, in Tiptur taluk of Tumkur district in southern Karnataka. In keeping with TIDE's mission, all the technologies being installed in the WTP would

ensure the sustainable development of the local communities. Our goal is to empower rural women by increasing their awareness and by initiating some of them into technology related enterprises. Women who opt to become entrepreneurs are provided technical and Enterprise training at the WTP.

Awareness meetings have covered 16 villages reaching about 800 Self Help Group women over the last 30 months on various aspects like energy efficient domestic lighting, greenhouse cultivation, organic farming, Solar home lights, water conservation, biomass dryers, and environmental conservation. Seven technical training programs and three Micro Enterprise trainings have been completed. Technical training on Areca leaf plate production, value addition of ragi and mushroom cultivation were conducted.

During the year, we developed linkages with University of Agricultural Science for value addition of ragi. Indian Institute of Horticulture Research was the partner for Mushroom cultivation. We also worked with local NGOs for bringing more women to WTP and promoting the activities. Market linkages were developed for Areca leaf plates at Tiptur and Gubbi taluk of Tumkur district.

The role of the WTP has been not only to make the facilities available to the women for their enterprises, but also provide motivation and guidance which will help in build their capacities in handling all aspects of production and enterprise confidently or realize their capabilities as entrepreneurs. WTP has been contributing to make women aware that livelihoods for them need not mean only working as labour but also owning an enterprise.

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Diversifying business opportunities of grass root clean energy entrepreneurs

Funder – GSRD Foundation



Figure 9: Loose biomass stove in use

TIDE has been associated with GSRD Foundation for the past five years and this association has helped TIDE to catalyze business development for clean energy entrepreneurs. TIDE has past experience of creating livelihood opportunities for grass root entrepreneurs and the activities explored were areca and jaggery processing, herbal medicine preparation, bath water heating, silk reeling, rubber band vulcanizing, coconut, areca, spice drying, commercial cooking etc. The earlier project focused on training entrepreneurs to develop biomass based combustion devices for various applications. These devices have been in use for five years and the entrepreneurs have given a feedback that customers prefer services like repair and maintenance for device rather than replacements. Thus it became imperative that these enterprises be augmented with new technologies and designs for spares and ancillaries so as to replace the obsolete ones.

Creating options for entrepreneurs to transition from onsite construction to on site assembly through development of replaceable knock down models.

The objectives of the project were –

- Development of prefabricated stove components and knock down models.
- Stimulating entrepreneurship in spares and accessories.
- Training and enabling enterprises in offering annual maintenance contracts.
- Creating options for entrepreneurs to transition from onsite construction to on site assembly through development of replaceable knock down models.

A number of prefab components were developed and were demonstrated to the entrepreneurs during the entrepreneur meet. The components developed were Collapsible Chimney, Improved fuel feeding system, Combustor for loose biomass fuels, Prefab insulation panels, Sloping grate for burning loose biomass, Knockdown model of household stove, Replaceable door, Charcoal grate, Briquette grate, Reducer, Modified top plate for tava. Some of these products like collapsible chimney were not developed further. This was because though it had potential in reducing the transport cost of chimneys, the economics did not work out. The rest of the components were modified according to customer feedback and the final prototypes have been welcomed by the entrepreneurs and customers.

TIDE introduced the concept of annual maintenance contract (AMC) which was hitherto unknown to the enterprises. We held workshops for entrepreneurs to sensitise them about the benefits of AMC and familiarizing them with preventive maintenance. TIDE developed draft of AMC and service call reports and presented it to the customers. Upon request from the enterprises, TIDE also developed user manuals, maintenance manuals and troubleshooting procedures

for knowledge transfer. One of the entrepreneurs specifically asked for Inventory management software. TIDE engaged with consultants of Tally the accounting software provider and asked them to do inventory management training for Phoenix. The cost for the same was borne by the project.

One of the major objectives was development of knock down models for onsite assembly. Initial design was based on prefabricated soil cement blocks, but it encountered problems like faulty assembly and high weight and cost. Material of construction was changed to mild steel and further designs were developed. A 6 component knock down model of the Sarala stove made from mild steel, stainless steel, insulation board and thermal blanket was developed and was distributed to women entrepreneurs for feedback. The women were happy with the performance and there were request for chimneyless version which was subsequently developed. There were also requests to make a mild steel insulation version of the onsite cook stove. Two designs of the same were developed, (Multi purpose stove 80 cms diameter and a sloping grate stove) tested in the field and designs transferred to fabrication manufacturers. The marketing entrepreneurs were linked to the fabrication entrepreneurs.

The project has succeeded in increasing the business opportunities of the enterprises and in exposing them to new technologies and marketing techniques. It has reiterated the belief that clean energy projects are viable business propositions and the success depends on adapting to new technologies with time.



Creation of “share and learn” platform as Informal Learning Environment for Children and their Mothers

Funder wishes to remain anonymous



Figure 10: Exhibition Cum Learning Centre

This project addressed the needs of school children, provided an opportunity to mothers to develop their skills and spend sufficient time with their growing children in activities that would lead to skill development, environmental awareness and child nutrition. It was implemented in Tiptur taluk.

An extension of the project for 13 months was sanctioned from October 2011- October 2012. The activities and outputs proposed in the extended period were changed, but sought to achieve the same objectives as the original project, Viz. to stimulate learning by the creation of an informal learning environment for children.

The activities proposed for the extended period were completed and are detailed below:

Mothers to develop their skills and spend sufficient time with their growing children in activities that would lead to skill development

These include:

- Working models to demonstrate renewable energy, energy efficiency and conservation that were set up are:
- Solar devices (lights, fan, and water heater, solar pump)
- Mitticool: a clay refrigerator
- Vegetable preservator- a device that uses evaporative cooling to keep vegetables fresh for a longer time than if let outside.
- Smokeless, energy efficient household biomass burning stove
- Hot box, which is a thermocol cylinder that demonstrates energy conservation, as it completes cooking that, has been started on a traditional fire.

Technical training for trainers in greenhouse cultivation:

To ensure that the trainers continue to create awareness among school children and mothers, it was proposed to train them as entrepreneurs in green house cultivation of vegetables.

Initiating trainers into GH enterprise:

Training in microenterprise development was conducted for the 7 trainers, to familiarise them with basic aspects of running a business. They were introduced to the basic concepts of an enterprise, marketing, accounts and book keeping and planning for a business.

Building and Setting up an Exhibition Cum Learning Centre (ECLC)

The exhibition cum learning centre consists of a room measuring 234 Sq ft and open area in about 2 acres of land forming the premises of TIDE's Women's Technology Park. It was equipped with various sustainable, low carbon products and demo technologies to create awareness.

TIDE organized visits by 6 schools in the region to the centre, where the trainers had conducted awareness meetings in the previous years. Enquiries were received from other schools in the region, about the possibility of bringing their school children to the Centre. These schools brought their children later at their cost.

The Block Education Officer (BEO) has urged the headmasters of the schools in the region to visit the ECLC along with the school children too

An experience sharing workshop was held in which the project team presented the objectives of the ECLC. School teachers and children who had visited the ECLC spoke about it and gave their feedback. The workshop enabled promotion of the ECLC among more than 40 schools in the region.

A total of 700 Children and 400 mothers have visited the ECLC during the year.

Energy conservation in small sector tea processing units in south India

Funder - United Nations Development Fund (UNDP), Global Environment Facility (GEF)



Figure 11: Tea estate labour colony- Roof top rain water harvesting

This project gave TIDE an opportunity to work with UNDP-GEF, the Tea Board under the Commerce, Govt. of India and the tea industry. The project was conceived by TIDE to enable the tea sector in south India to transition to energy efficient options while simultaneously realizing significant energy savings. The approach adopted for the project implementation was to first identify barriers to energy use reforms through carefully evolved processes and to develop strategies to reduce/eliminate them. The project also succeeded in developing replication strategies for energy efficiency and energy conservation interventions within tea processing industries in south India.

The impact of the project in factories of south India has evinced interest from factories in north east too

In the year 2012, the project focussed on implementing the exit strategy and other closing activities of the project. The project team developed the documentation of its activities in the past four years of active implementation. Some of the documentation developed included process documentation, films capturing project processes, a report on the learning from 100 energy audits and case studies of 3 factories. The web site was designed as a site for knowledge capture and all documents, newsletters, reports and presentations were uploaded. All photographs and videos including video tutorial called destination efficiency were also uploaded.

The final stakeholder meeting of the project was held at Coimbatore in June 2013. During the meeting the Chairman of the Tea Board Mr MGVK Bhanu gave away mementos to factories that had implemented the highest number of energy audit interventions and made investments in energy efficiency. The terminal evaluation of the project showed that the CO₂ mitigation during the project period through electrical energy interventions was 43,862 tons and through thermal energy interventions 649,227 tons. The impact of the project in factories of south India has evinced interest from factories in north east too. The Tea Board has requested the same team to develop a project proposal for the north east sector and same has been done. TIDE is awaiting the formal sanction of the same.



Capacity building of rural persons in the construction of smokeless stoves (Sarala Stove)

Funder - Department of Forest, 'Aranya Bhavana' Bangalore under "Hasiru Grama Yojane"



Figure 12: Training in sarala stove construction

Focus of the Project: A Rural Woman becomes Healthy & Wealthy Woman Entrepreneur

Indoor air pollution (IAP) or smoke generated by traditional fires and stoves used in homes in developing countries contribute to 2.7% of the global disease burden (source WHO report 2002). It affects more than 50% of the world's population and claims lives of 1.5 million people worldwide. About 0.5 million of these deaths occur in India affecting mostly women and children. WHO also estimates that pollution levels in rural Indian kitchens are 30 times higher than recommended.

In response to this reality, TIDE has been engaged in training rural women to build fuel efficient smokeless stoves for themselves and in their neighborhoods and to create smoke free kitchens in rural Karnataka for the last 4-5 years. It has been popularizing the Sarala

WHO also estimates that pollution levels in rural Indian kitchens are 30 times higher than recommended

Our dissemination strategy is unique, in that, it is designed as an income generation activity for rural women

stove a fuel-efficient smokeless wood burning stove ; it stove is built using a mould (made of MS) and uses locally available materials like mud, bricks and an AC chimney pipe.

Our dissemination strategy is unique, in that, it is designed as an income generation activity for rural women. About 10 women trained by TIDE as stove builders have built more than 10000 stoves and have earned about Rs.2.3 lakhs as income, in spite of several socio-cultural obstacles. They have used this income for better nutrition, healthcare and education for their family. One of the more enterprising woman stove builder has been awarded the [CII Woman Exemplar Award for the year 2007](#).

Forest Department in the state of Karnataka has sanctioned grants to TIDE to give training to rural women on Sarala stove construction. These Sarala stoves will be constructed in houses adjoining forest areas, thereby reducing firewood consumption. The rural women who showed interest and aptitude to become entrepreneurs were imparted the training. During the training, each woman constructs five stoves and then later goes onto train other women.

This unique initiative is fulfilling dual goals of reducing household indoor air pollution and generating income for rural women in the process.



Training rural women in brick-making with energy efficient kiln for Income Generation – Phase II

Funder – ETC Foundation, Netherlands



Figure 13: Women using brick making machine



Figure 14: Women loading the brick kiln



Figure 15: Fired bricks

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 project has evolved from phase I where interested rural women were inducted into brick making as a livelihood activity.

Main project objectives in the second phase were:

- To continue brick making as a livelihood activity for rural women in the women's technology park
- To train women in production of burnt bricks (first production of unfired or green bricks and then in brick burning)
- To create 2 new women's enterprises and expand the established women's enterprise around brick making and ensuring its sustainability.

Under this project 7 awareness meetings were conducted where 78 women participated and thirty women showed interest in the enterprise. A brick making machine made available to the women generated interest as it was time saving and drudgery reducing. Eight women came forward to take up the brick making enterprise. The women were given technical on brick production, taken through techno economics and also given enterprise training.

Currently the enterprise has grown to include 18 women carrying out production of green bricks, firing and marketing.

The enterprise has produced 31500 green bricks and fired them. TIDE assisted the women to develop the marketing linkages and the women have successfully sold 26000 bricks till date and earned profit of about Rs 31000 collectively.

This facility has been an eye opener for rural communities and the exposure to different opportunities and equipment has been very well received. 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.

GAYE (Give As You Earn)

Funding facilitator: CAF

The financial support through GAYE program has enabled us to demonstrate and disseminate practical solutions for water and energy conservation. We have used this support to positively impact the living conditions and standard of life of people who cannot otherwise afford them.

Global Burden of Disease concluded after a systematic analysis that House hold Air Pollution (HAP) from cooking with solid fuels kills 4 million people annually worldwide. HAP is primarily attributed to the smoky environment resulting from traditional cook stoves.

In this regard, TIDE has pioneered the use of fuel efficient and less polluting cook stoves to replace the traditional stoves. These stoves significantly reduce House hold Air Pollution (HAP), reduce cooking time and save fuel. TIDE has customized the designs of these stoves for various cooking needs, fuel type and for domestic and commercial cooking.

Impact

- St Annes home at Bangalore now has smoke free kitchen and hence provides healthier work environment for their cooks.
- The homes save 35% cost in fuel and 50% of cooking time.

We have used this support to positively impact the living conditions and standard of life of people who cannot otherwise afford them

Graduate Entrepreneurship Training through Information Technology (GET-IT)

Funder – Hewlett Packard (HP)

The objective
of this training
is to help
under- or
unemployed
young people
with business
and IT skills



Figure 16: GET_IT training in progress

TIDE is authorised by HP to conduct training program on Technology based Microenterprise Training for students or unemployed youth. The objective of this training is to help under- or unemployed young people with business and IT skills. TIDE has been trained by Microenterprise Acceleration Institute (<http://www.meai.org>) to conduct these programs.

During the period April 2012 to March 2013, 78 vocational training students of Raza Foundation were trained in this program. Get it training was used to provide additional skills to the trainees.

Institutional development

Staff Development & other Programs

- Workshop on Proposal writing was held on 29th and 30th August 2012 for TIDE staff. It was conducted by 'Communication for Development and Learning, Bangalore'.
- Project engineer and Project executive from Water group attended workshops conducted by CGWB on 'Aquifer information system and aquifer management plan' on 18-22nd February 2013.
- Project engineer in water group attended the National workshop on 'Innovations and best practices in water conservation' conducted by CGWB on 14th March 2013.
- TIDE participated at the 'TechCamp' conducted by US Consulate and Samhita at Mumbai on 19th and 21st February 2013.
- TIDE participated in CII events in Bangalore related to natural resource management.
- Secretary TIDE invited for a practitioners workshop by World Resources Institute Washington. Also invited to speak in a session on green inclusive markets in the Rio+20 Summit.

Partnerships and Alliances

Since inception, TIDE has consciously forged relationships with academia, research organizations, think tanks, CSOs, and others who are potential stakeholders in the development sector. In addition to our existing partners, interesting addition to our network in the last year include IITs, banks and MFIs.

- IIT Bombay for research collaboration of cook stoves
- Institute of Energy Studies, Anna University for initiating energy conservation activities in the tea factories
- IIHR Bangalore for knowledge sharing and technical training
- Better Futures: development of soft skills for grass root enterprises
- IIT Guwahati and Tezpur University as academic partners for energy conservation activities in tea factories in North east India.
- Samvada and Raza Educational Trust for ICT for data management, communication, financial management
- SKDRDP for micro financing and reaching SHGs
- TIDE's Secretary holds advisory position in the board of Selco Incubation centre for business development and consumer financing
- Ashden India Collective – TIDE Secretary holds an advisory position in the board
- TIDE Secretary is 'Energy Champion' in Action for India

TIDE's Social Enterprise Partner



Sustaintech Pvt Ltd is a social enterprise founded with funds from a 2008 Ashden Award to TIDE. Sustaintech's mission is to promote the rapid adoption of sustainable energy technologies and products, thus taking forward the mission of TIDE into a wider and commercial market. Through Sustaintech, TIDE has had a better reach to rural markets. Exposure to these markets has helped TIDE in designing appropriate technology packages relevant for rural areas. Significantly, Sustaintech provides the last mile link to many of TIDE's projects where the technologies are actually deployed in the communities.

Sustaintech's mission is to promote the rapid adoption of sustainable energy technologies and products



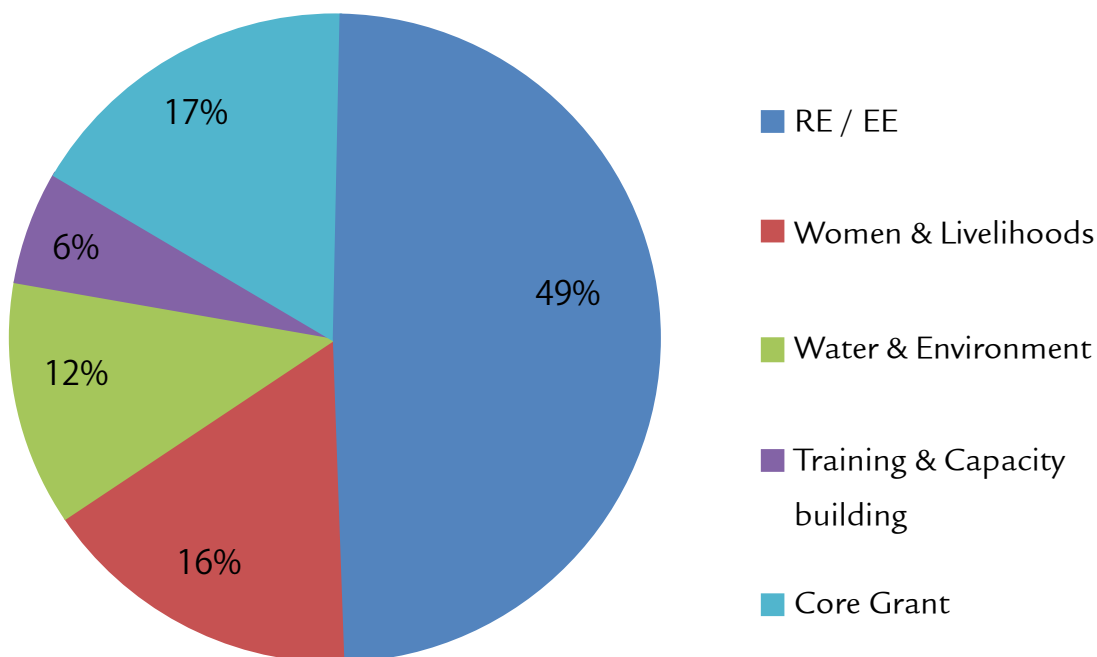
Governance

TIDE is governed by a 5 member Committee of Management.

Name	Position/Title
Dr Rajagopalan	Founder and permanent invitee
N V Krishna	Chairman of Board, TIDE
Svati Bhogle	Secretary and CEO, TIDE
R Shailaja	Member
A N Jayachandra	Member
Hari Natarajan	Member

Financial Highlights

TIDE - Sector wise expenditure in INR, 2012 - 13



TECHNOLOGY INFORMATICS DESIGN ENDEAVOUR, BANGALORE

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31st March 2013

PARTICULARS	Sch No	Current Year Amount	Previous Year Amount
INCOME			
Donation		17,300.00	127,400.00
Service Charges	12	983,442.00	1,293,880.00
Usage of Tide Facilities	12	17,248.00	124,000.00
Project Surplus on completion	12	95,241.50	42,660.00
Other Income		9,000.00	31,740.00
Interest Received		173,302.27	184,327.96
	(A)	<u>1,295,533.77</u>	<u>1,804,007.96</u>
EXPENDITURE			
TIDE Programames	13	77,531.00	175,944.00
Secretariat Expenditure	14	1,148,852.00	915,681.00
Auditor's Remuneration		73,034.00	71,695.00
Project Expenditure on completion	12	385,182.50	2,230.00
Advances / Deposits -written off		-	21,300.00
Depreciation	4	111,118.00	80,108.00
	(B)	<u>1,795,717.50</u>	<u>1,266,958.00</u>
Balance			
- Excess of Income over expenditure (+)			537,049.96
- Excess of Expenditure over Income (-)	(A-B)	(-) 500,183.73	
for the year carried to Balance sheet			

Schedule 1 to 14 and significant accounting policies & Notes on Account form an integral part of the Accounts

TECHNOLOGY INFORMATICS DESIGN ENDEAVOUR, BANGALORE

BALANCE SHEET AS AT 31st March 2013

PARTICULARS	Sch No	Current Year Amount	Previous Year Amount
SOURCE OF FUNDS			
Capital Fund	1	436,970.00	236,970.00
General Fund	2	4,700,219.56	5,200,403.29
Entrepreneur Development Fund [EDF]	3	477,051.36	950,849.85
Staff Welfare Fund [SWF]	4	414,645.20	347,456.20
	Total	6,028,886.12	6,735,679.34
APPLICATION OF FUNDS			
Fixed Assets	5	1,209,656.60	1,231,568.60
Current Assets		1,209,656.60	1,231,568.60
- Advances	6	170,750.00	548,962.00
- Other Current Assets	8	227,067.64	257,260.58
- Receivables - Sponsored Projects	12	2,120,251.50	1,313,585.50
- Fixed Deposit with Bank	9	1,910,000.00	4,910,000.00
- Cash & Bank Balances	10	2,690,272.51	4,304,074.27
	[A]	7,118,341.65	11,333,882.35
Less: Current Liabilities			
Less: Current Liabilities	12	2,231,686.13	5,764,771.61
- Sundry Creditors	11	67,426.00	65,000.00
	[B]	2,299,112.13	5,829,771.61
Net Current Assets	[C = (A- B)]	4,819,229.52	5,504,110.74
	Total	6,028,886.12	6,735,679.34

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

BANGALORE
12/14/2013

N.V. KRISHNA
CHAIRMAN

SVATI BHOGLE
SECRETARY

BANGALORE
12/14/2013

REFER OUR REPORT OF EVEN DATE

CHARTERED ACCOUNTANTS



TIDE in the media



In electronic Media

Articles

1. Fuel for food, The Hindu, June 8, 2012,
<http://www.thehindu.com/features/magazine/fuel-for-food/article4791478.ece>
2. Eco friendly stove maker, Dec 31, 2012
http://informed-giving.org/story_details.php?id=MTkz
1. Sustaintech's stoves have given a healthier alternative to street food vendors, March 22, 2013
<http://entrepreneurindia.in/people/innovators-inc/sustaintechs-stoves-have-given-a-healthier-alternative-to-street-food-vendors/18462/>

Blogs

1. Enabling Green and Inclusive Markets : Four Entrepreneurs' Perspective, August 16, 2012
<http://www.nextbillion.net/blogpost.aspx?blogid=2909>

Entrepreneur Leelavathi A.V.



Mrs. Leelavathi W/o of Mahesh Aralaguppe resides at Aralaguppe village of Tiptur Taluk and has completed PUC education. She belongs to the Parvathi YTP Women group - Aralaguppe and after marriage she was actively involved in food processing activity mainly pappad making business. She also works with her husband in agricultural activity. Has participated in a lot of agricultural related training programmes conducted by the Agriculture department that motivated her to cultivate /grow organic crops and she in turn motivates her SHG women to grow organic farming activities recognized by the Agriculture department. She has received an award called “Yuva Raitha Mahile’ (Model agricultural women.)

From TIDE field staff she came to know about the Women’s Technology park in Kollihattli village of Aralaguppe and she visited the center with her group members. She subsequently requested TIDE to involve her in some of the training programmes and she showed

interest in making eco friendly areca leaf sheath plates business, pappad making. She was looking for marketing support from TIDE.

She participated in a lot of awareness meetings organized at WTP mainly on organic farming, solar lighting, Energy & water conservation , technical training on areca leaf plate making, and Micro enterprise training. She also attended a 2 days technical training on value addition of ragi at UAS & 2 days training on Mushroom cultivation training at IIHR.

Post training in production and marketing, she has started to make ragi pappad and ragi nippattu. TIDE has helped her in developing marketing linkages. She is supplying the products and stabilizing the production and is very confident of growing the enterprise.

She says, “I am so happy that WTP is set up in our village and it is very helpful for women like me. Through WTP, I got lot of awareness , trainings, especially MED has helped me to plan my business, book keeping, various marketing and communication skills. The training on value addition of ragi encouraged me to start producing various value added products of ragi. I like the way the training is done by TIDE at WTP and their support to women in technical aspects and marketing”.

Rain water harvesting to ease the water woes of a slum school



Kamala is studying in Std IV at a school run in her shack, which is hemmed in by posh residences. She is one of the 45 kids from the slum who are being given free education by a philanthropic Foundation. This year 22 students joined the school, this despite the fact that parents in the slum expect their children to do household chores like cooking, cleaning and taking care of their younger siblings. The school authorities had a tough time convincing the parents to send their children to school and even after that only one out of ten parents were willing to give it a try.

If convincing reluctant slum dwellers to send their kids to school was one of the hurdles which the school authorities faced, a bigger problem was the lack of water for school use. The water requirement for the school was 40-50l/day. The monthly consumption works out to be 1100L. With no water source in the premise, the school had to buy water in cans. This was costly, unreliable and quality was suspicious. In addition, the water cans had to be carried quite a long distance. Previously a person was supplying water in cans daily for a

monthly payment of Rs 200. The school an exorbitant sum for water as tanker water cost Rs 100 for the same amount. The quality of water was unknown and in view of increasing student strength in school, the feasibility of this arrangement was under question. If all these reasons were not good enough, the students and teachers had a tough time carrying the water cans from the slum gate to the school premises.

So what was the solution? TIDE suggested rainwater harvesting. It helped the school in putting in place a rainwater harvesting unit. The unit consisted of conduit pipes, a filter and a syntex tank fitted with an overflow system to discard the first rain water. The tank had a dispenser to collect the water. The whole unit had to be designed with no permanent fittings as the school was in a land under dispute. The unit was up and running in no time and the investment was close to Rs 3000, excluding the cost of the syntex tank.



Now the school does not have to depend on an external water source for their water needs. The tank water is sufficient for all the non potable purposes like washing plates, cleaning and for toilet use. The school authorities are maintaining a log book to record the days when there was rainfall and when the tank overflowed. They say that they have not faced any problems with the system and that they have more than enough water for their requirements.

This rainwater harvesting system has not only eased the water woes of the school but the teachers say it has also taught the students valuable lessons regarding conservation of natural resources. And isn't it good news that with a lesson on conservation instilled so early on, it is certain that these tiny tots will grow up to be responsible citizens who will not take water for granted and probably teach a thing or two about conservation to their elders.





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