



Honey Bee Network

Dr A P J Abdul Kalam Ignited Mind Children Creativity and Innovation Awards 2024



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Introduction

The Honey Bee Network, SRISTI, and GIAN jointly recognise the creative talent of school-going students through an annual competition of innovative ideas/products/processes for improving our lives, avoiding waste, generating saving energy, improving the environment, increasing productivity or safety, or increasing convenience. This award is given to commemorate the legacy of Dr. A P J Abdul Kalam, Bharat Ratna former President of India, and a great patron and well-wisher of the Honey Bee Network.

To promote creativity and originality among children, students up to Standard XII or the age of 19 years, in or out of school, participate by sending their ideas, and innovations with or without proof of concept or prototypes. During 2024, the Honey Bee Network, through SRISTI and GIAN, received around 11,948 innovative ideas from children in 21 states of India, through both online and offline channels. A jury evaluated the shortlisted ideas and selected 10 students from seven different states. Prof. Anil Gupta recalled the support, guidance, and encouragement received from Former President Late Dr A. P. J. Abdul Kalam for all the innovation-related activities. He strongly believed that the early-stage recognition to creative children would help India become inclusive, self-reliant and also a developed country soon.

Many of these innovative ideas don't address only local problems but also national and, in some cases, global problems. Most of the students have shown deep "samvedna" about the unmet needs of society. The jury was particularly impressed with the identification of the problems by the children, which in some cases, even the grown-ups have missed. The Honey Bee Network appreciates the efforts of all those who participated in the competition, even if award and appreciation have covered only a few. The Network site will share all the relevant ideas soon after seeking the consent of the children. Some of the very relevant ideas could not be recognised because someone had developed those already, even if many of these were not available in the market. We did make an exception in some cases where the societal need is very high and recognising some of these ideas may draw the attention of designers, entrepreneurs and policymakers. Lest we forget, "Children are not just sink of sermons, but a valuable source of ideas", said Prof. Anil K Gupta. He cautioned children that AI should be used very carefully less it causes cognitive impairment. For generating ideas, one should rely on one's own samvedana but for



amplifying it one could use AI. He also hoped that fund will be available in future to convert idea into prototypes and products.

Dr. Anamika Dey, CEO, GIAN and Visiting Faculty, IIMA, welcomed the children and requested them to mobilise the entries from nearby government schools, keep focussing in social unmet needs and trying out new ideas. Chetan Patel briefed about the background of the award and how it required a lot of effort to screen almost 12,000 ideas to select the ten.

The awards were conferred by Dr. R A Mashelkar, FRS and former DG CSIR. Dr. Mashelkar recalled a few examples of innovations which touched his heart, for instance, he referred to Nikita from Bilaspur who had suggested a screening mechanism for two-wheeler which can detect potholes in the night or underwater. Similarly, he also referred to the idea of cup holder for Alzheimer-affected elderly people by Vebinesh Kumar, Tamil Nadu and a smart mobility device for elderly and mobility-impaired people by Kavya, Uttarakhand.

He recalled a quote of Dr Kalam, “Real dreams are those which don’t let you sleep, not the ones you see when you sleep”. He appreciated the ability of children to identify such unmet needs which even the adults missed. He also suggested given such a deep samevdana that children have, one could even announce some challenge awards to address large scale problem still not resolved. He appreciated the earnest effort of Honey Bee Network, SRISTI and GIAN to enrich the whole inclusive innovation ecosystem in the country. He especially appreciated that HBN tries to give voice, visibility and velocity to the creativity at all levels in the formal and informal sector grassroots up

He asserted that innovations do not require permission, and that there is no age limit to addressing unmet social needs through MLM innovations, that is, creating more from less, for more people. He concluded by emphasizing that what India needs most to become a Viksit nation is samvedana (empathy), boldness in thought, kindness in heart, and fearlessness in mind.

Prof. Anil K Gupta
CSIR Bhatnagar Fellow 2018-21
Founder, Honey Bee Network, SRISTI, GIAN & NIF
Visiting Faculty, IIMA & Academy Professor, AcSIR



Highlights:

Safety and Protection Systems

Innovations in this category focus on preventing accidents and mitigating hazards across different environments. To address the dangers of mining, a Class XII student of Thiagarajar College of Engineering, Vikaash Kumar S M developed an IoT-enabled smart safety helmet made from a lightweight luffa and glass fiber composite. This helmet integrates sensors to detect gas leaks, temperature changes, and structural risks, sending instant alerts to a central system to reduce fatalities. Addressing human-wildlife conflict, a Class VII student of Sacred Heart International School, Chrisbin Jaedon, created a portable, waterproof lifesaving torch that mimics fire-like illumination and produces loud noises to deter wild animals from entering villages without harming them. Additionally, for road safety, Nikita Jhalariya, a Class VIII student of Swami Atmanand Govt. Eng. Med. School (SAGES) designed a Night Safety Scanner for two-wheelers that uses ultrasonic or infrared sensors to detect potholes and depressions in low visibility, alerting riders via vibrations or audio signals.

Health and Medical Care

Student innovators have developed solutions ranging from emergency response to sustainable wound care. A Class XI student of Lotus Valley International School, Neil Arora introduced “Sanjeevani Sutra,” a smart first aid assistant designed to help untrained individuals perform CPR effectively. The system utilizes a smart glove equipped with pressure sensors and accelerometers to provide real-time haptic feedback on compression depth and rhythm while monitoring vital signs like heart rate and oxygen saturation. In the pharmaceutical sector, Jaithra Sharma, Aadi Jain, Atharv Abbott and Jaiaditya Manchanda, Class XI students of Amity International School, designed a Time-Temperature Indicator (TTI) that continuously tracks temperature exposure during the storage and transport of medicines



and vaccines, alerting stakeholders to deviations that could cause spoilage. Focusing on sustainability, Akshaya Srikanth Jayeshwari, a Class X student of JSS Private School, Dubai, developed “Biosolve,” an eco-friendly wound patch made from bacterial cellulose derived from organic waste, packaged in biodegradable mushroom mycelium.

Assistive Technology for the Elderly and Differently-Abled

This specialization highlights devices designed to enhance independence and quality of life for those with mobility or dexterity challenges. S.M. Ve-binesh Kumar, a Class XII student of Rojavanam International School, created a “Disabled Friendly Cup Holder Stand” specifically for individuals with Parkinson’s disease, allowing them to access beverages safely despite tremors. To facilitate easier movement in public spaces, a Class IX student of PM Shri Government Girls Inter College, Kavya designed a Smart Mobility Trolley that supports elderly users with autonomous or guided navigation. This intelligent trolley integrates built-in luggage support to minimize physical strain and features clear audio-visual guidance to reduce cognitive load and confusion during travel.

Smart Home, Transport, and Daily Utilities

Innovations in this domain address everyday inconveniences and comfort. To solve the issue of wet or overheated motorcycle seats, a 180° flippable seat cover was designed by Pruthviraj Rane, a Class IX student of Rajasthani Vidyalaya, using flexible plastic that conforms to the seat’s shape. This cover features two sides, allowing the user to rotate it 180 degrees to expose a cool, dry surface if the other side has been exposed to sun or rain. For home management, Hridan Saikia, a Class VIII student of Delhi Public School, developed an Automatic Rain-Sensing Clothes Protector. This energy-efficient system employs a sensor to detect the first drops of rain and automatically deploys a motorized cover over drying clothes, protecting them from getting soaked without requiring manual intervention.



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Creativity is seeing the same
thing but thinking differently

-Dr. A.P.J. Abdul Kalam



Honey Bee Network
**Dr A P J
Abdul Kalam
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Creativity and
Innovation
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Honey Bee Network



AWARDS



Night Safety Scanner for Scooty



Nikita Jhalariya

Class: 8th

Swami Atmanand Govt. Eng. Med. School
(SAGES), Chhattisgarh



Problem

To prevent accident
and injuries at
night because of
potholes due to low
visibility





Solution

Night Safety Scanner is a smart safety device designed to prevent accidents and injuries caused by potholes and uneven road surfaces during night-time riding. Mounted on a scooty or two-wheeler, it uses road-sensing technologies such as ultrasonic or infrared sensors to continuously scan the surface ahead and detect sudden depressions or irregularities. The system processes this data in real time and provides instant alerts to the rider through audible warnings or handlebar vibrations. These timely alerts allow riders to slow down or maneuver safely, even under low-visibility conditions, thereby reducing the risk of accidents, injuries, and vehicle damage during night travel.



180° Flippable Seat Cover for Two-Wheelers



Pruthviraj Rane

Class: 9th

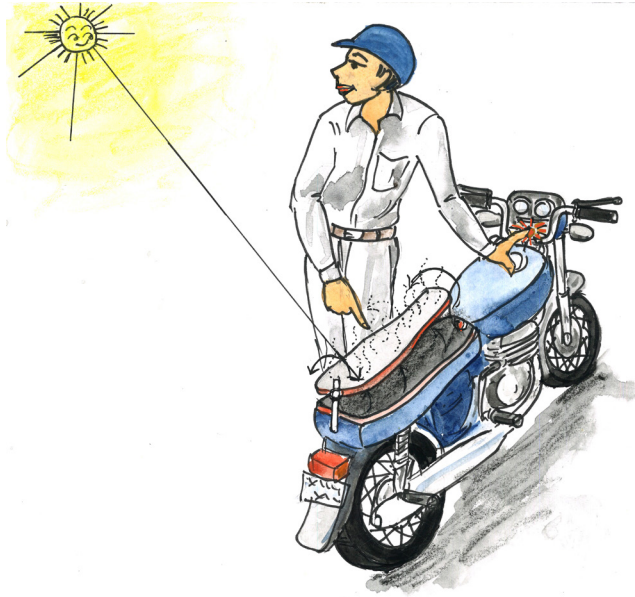
Rajsthani vidyalaya,
Maharashtra



Problem

To address rider discomfort caused by overheated seats in summer and wet, slippery seats during rain.





Solution

To solve rider discomfort from hot or wet motorcycle seats, a smart seat cover made of flexible plastic material is proposed. This cover conforms to the shape of any motorcycle seat when sat upon, ensuring comfort. It has two sides-A and B. When parked under sunlight, side A becomes hot; rotating the cover 180° exposes the cooler side B for use. The cover is cut precisely to match the motorcycle seat's shape and secured using a front screw fitting and a rear locking system. It can be fitted on any motorcycle, ensuring simple installation and hassle-free everyday use.



Life saving torch from wild animal attacks



Chrisbin Jaedon

Class: 7th

Sacred Heart International School, Kanyakumari,
Tamil Nadu



Problem

To prevent attacks
by wild animals
entering villages
near forests





Solution

A rechargeable torch has been developed as a safe and effective solution to prevent wild animals from entering villages located near forested areas. The torch produces fire-like illumination along with loud noise, creating a deterrent effect that mimics human presence and scares animals away without causing harm. Designed to be portable and waterproof, it can be easily used in fields, pathways, and village boundaries. Unlike traditional practices such as using crackers or open fire which can lead to accidents this device offers a safe, reusable, and user-friendly alternative. Using multiple torches together further amplifies the light and sound, enhancing protection and reducing human-wildlife conflict.



Disabled Friendly Cup Holder Stand



S.M.Vebinesh kumar

Class: 12th

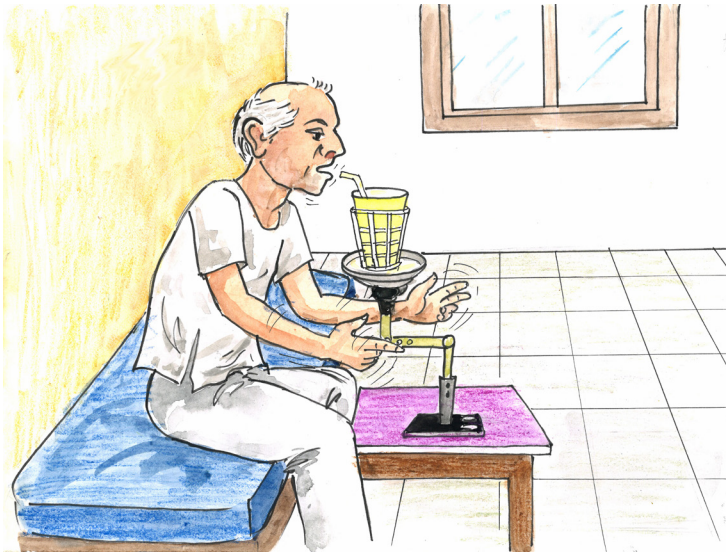
Rojavanam International School,
Puthugramam, Nagercoil, Tamil Nadu



Problem

Designing a portable, non-contact cup that helps individuals with Parkinson's disease safely and easily drink liquids despite tremors.





Solution

The “Disabled Friendly Cup Holder Stand” is an assistive device specifically engineered to enhance the quality of life for individuals with disabilities that affect mobility and dexterity. This device provides a practical solution to the common problem of safely holding and accessing beverages, which can be a challenge for individuals with physical limitations.



Smart Mobility Trolley: Empowering Independent Navigation for the Elderly and Mobility-Challenged



Kavya

Class: 9th

PM Shri Government Girls Inter College,
Uttarakhand



Problem

To enable elderly and mobility-impaired individuals navigate large public spaces with luggage without stress, delays, physical strain, and health risks.





Solution

A smart mobility aid designed as an intelligent, user-friendly trolley that supports elderly and mobility-impaired individuals in navigating large public spaces safely and independently. It integrates digital navigation with simple destination selection, providing clear visual and audio guidance to reduce confusion and cognitive load. The system features autonomous or guided movement, helping users reach their destinations without physical strain. Built-in luggage support minimizes the burden of carrying bags, enhancing comfort and safety. Together, these features reduce stress, delays, and health risks while improving confidence, mobility, and overall quality of life.



Biosolve wound patch



Akshaya Srikanth Jayeshwari

Class: 10th

JSS Private School,

2AL SAFA, Dubai, UAE



Problem

Traditional wound care products rely on non-biodegradable materials and plastic packaging, causing environmental harm while remaining costly and inaccessible for low-income populations.





Solution

Biosolve offers an innovative, eco-friendly wound care solution by combining sustainability, affordability, and medical effectiveness. The wound patch is made from bacterial cellulose, derived from bacterial fermentation of organic waste, making it highly biocompatible, breathable, and effective for healing. Its packaging uses mushroom mycelium grown from agricultural waste, ensuring the entire product is fully biodegradable and plastic-free. By transforming waste into valuable healthcare materials, Biosolve supports a circular economy, reduces environmental pollution, lowers production costs, and improves access to quality wound care for low-income and underserved communities.



Sanjeevani Sutra: Smart First Aid Assistant for Life-Saving CPR Support



Neil Arora

Class: 11th

Lotus Valley International School,
Noida



Problem

Untrained individuals struggle to deliver effective CPR due to lack of skills, confidence, and real-time feedback, leading to life-threatening delays.





Solution

Sanjeevani Sutra is an intelligent, user-friendly first aid assistance system that enables untrained individuals to deliver effective CPR with confidence and accuracy. It integrates a smart glove with pressure sensors and accelerometers to guide correct hand positioning, compression depth, and rhythm through real-time haptic feedback and alerts. A multi-sensor finger device continuously monitors vital signs such as heart rate, oxygen saturation, and blood pressure, transmitting data to an AI-based system for instant analysis and guidance. By providing step-by-step support, real-time correction, and clinical insights, Sanjeevani Sutra bridges the gap between lay responders and medical professionals, reducing delays and saving lives.



Detector for hazardous events in mining



Vikaash Kumar S M

Class: 12th

Thiagarajar College of Engineering,
Madurai, Tamil Nadu



Problem

To prevent accidents, injuries, and fatalities in mining, there is a critical need for reliable real-time detection and early warning systems for hazardous events.



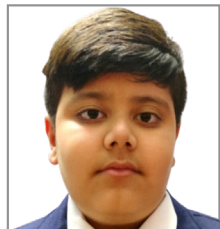


Solution

IoT-enabled smart safety helmet improves miner safety through real-time hazard detection. Made from a lightweight luffa and glass fiber composite, it offers superior impact protection. Built-in sensors monitor gas leaks, temperature changes, and structural risks, sending instant alerts to a central system. By enabling early warnings and rapid responses, this helmet effectively reduces accidents, injuries, and fatalities, ensuring a safer and more efficient mining environment.



Smart Time-Temperature Indicator for Medicine Safety



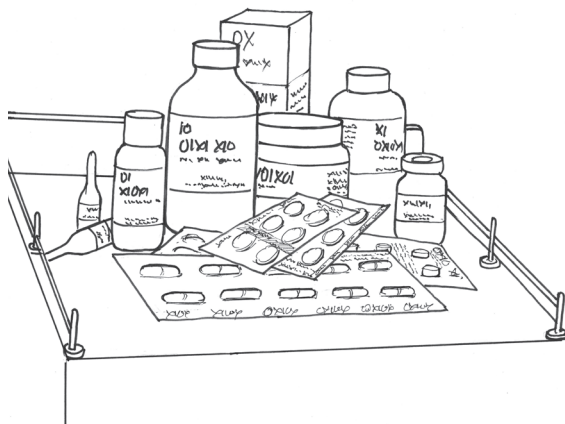
**Jaithra Sharma,
Aadi Jain,
Atharv Abbott,
Jaiaditya Manchanda**

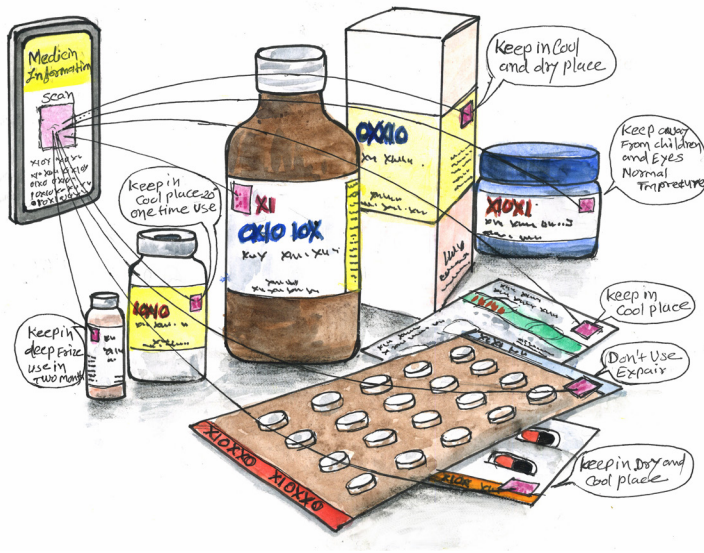
Class: 6th
Amity International School,
Gurgaon, Haryana



Problem

Medicines can spoil if temperature limits are exceeded, requiring real-time monitoring of storage and transport.





Solution

The Time Temperature Indicator (TTI) offers an effective solution for safeguarding temperature-sensitive medicines, vaccines, and biological products. By continuously tracking temperature exposure throughout storage and transport, the system provides a clear record of temperature history. Any deviations beyond safe limits are immediately indicated, allowing timely intervention to prevent spoilage, loss of potency, or therapeutic failure. Integrated real-time monitoring and alert mechanisms enable stakeholders—pharmacies, hospitals, and transporters—to respond quickly to potential risks. This approach ensures medicines remain safe and effective, reduces wastage, and strengthens public health by protecting patients from compromised treatments.



Automatic Rain-Sensing Clothes Protector



Hridan Saikia

8th Class

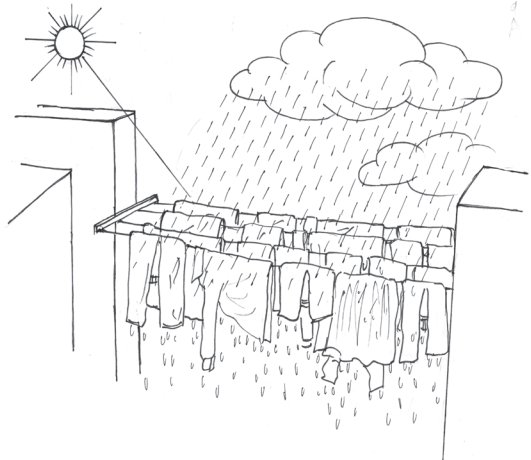
Delhi Public School,

Bangalore-South



Problem

Unpredictable rain soaks clothes left to dry outdoors, causing inconvenience, delays, and potential damage.





Solution

Rain protection system for outdoor clothes is an innovative solution to prevent wetting during unexpected rain. It features a weather-resistant rain sensor that detects even the first drops of rain. Upon detection, the sensor activates a compact, motorized mechanism that swiftly deploys a protective cover over the clothes, keeping them dry. The system is energy-efficient, easy to install on existing clotheslines or drying racks, and operates automatically without manual intervention. By providing timely protection, it ensures convenience, reduces delays in drying, and safeguards clothes from damage caused by unpredictable weather, making outdoor drying hassle-free.



Honey Bee Network



Honey Bee Network

The Honey Bee Network (HBN) is a social movement sustained by a large number of volunteers. It pioneered the culture of open innovation long before the term became popular. For the past 38 years, it has stood at the forefront of protecting the knowledge, resources, and rights of people who are economically poor but rich in wisdom.

Its core aims are (i) fostering cross-pollination of ideas and promoting lateral learning among creative individuals and communities, (ii) overcoming the anonymity of grassroots innovators and other knowledge holders, (iii) ensuring that any use of their knowledge is shared back with them in their local language, and (iv) guaranteeing that if profits or income are generated from their knowledge, a fair and just share returns to the people. The network has promoted creativity and green grassroots genius across several countries. Through its volunteers, it has facilitated the documentation of over 45,000 ideas, innovations, and traditional practices, along with numerous student projects. Over time, the Honey Bee Network has incubated a series of institutions to support grassroots innovators. It gave birth to the Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), the Grassroots Innovation Augmentation Network (GIAN), and the National Innovation Foundation (NIF), while also inspiring many national and international innovation policies. Today, HBN serves as a global platform where like-minded individuals—innovators, farmers, academicians, policymakers, entrepreneurs, and non-governmental organizations (NGOs)—come together to respect, recognize, and reward grassroots innovations. Volunteers play a vital role in scouting innovators, supporting and mentoring them, and helping disseminate their innovations widely.

The key areas of engagement:

- Scouting, spawning, and supporting innovations and outstanding traditional



knowledge at the grassroots. It links formal and informal science, seeks to validate and add value to sustainable innovative technologies, promotes creativity among children, and pursues learning from grandparents, particularly centenarians, about viable and green traditional knowledge.

- Promoting innovations and creativity among grassroots farm and non-farm workers, communities, and women's groups engaged with culture, folk art, school and college technical education, and institutions (particularly common properties or community-managed) for the conservation of biodiversity and natural resources.
- Mentoring individual innovators in various sectors and connecting them with each other and informal sector innovators. Lobbying for policy and institutional changes in support of grassroots creativity and innovations at regional, national, and international levels.
- Supporting knowledge and intellectual property rights (IPR) of economically poor people and young inventors, while encouraging them to share their knowledge with other self-employed individuals as part of Technology Commons. The transfer of people's knowledge to firms is facilitated on fair and just licensing terms with benefit-sharing.
- Linking innovators with formal research and development (R&D) institutions, markets, communication networks, and media, so that more people are inspired to find solutions to societal problems. SRISTI (www.sristi.org) and GIAN (www.gian.org) provide institutional support to the Network, along with other volunteers.

Linking technology students with small industries, entrepreneurs, and the informal sector through techpedia.in, while facilitating the Gandhian Young Technological Innovation (GYTI) Awards by SRISTI, the Honey Bee Network has also been creating the world's largest open-source pool of sustainable solutions developed independently by people and made accessible to communities worldwide. It brings out the Honey Bee quarterly newsletter, a unique voice of creative and innovative grassroots communities in different languages, and continuously motivates commercial organizations as well as public systems to become more empathetic in providing extremely affordable services and products to common people.



SRISTI (www.sristi.org)

INTRODUCTION:



SRISTI, which means creation in Sanskrit, was established in 1993 to support the activities of the Honey Bee Network (1987–88) in recognizing, respecting, and rewarding creativity at the grassroots level. As a developmental voluntary organization, SRISTI strengthens the spirit of creativity and innovation among knowledge-rich but economically poor individuals and communities. It builds bridges between informal and formal science, protects the intellectual property rights of grassroots innovators, and contributes to conserving and augmenting biodiversity along with associated knowledge systems.

For the past 33 years, SRISTI has supported eco-friendly solutions to local problems scouted, spawned, and spread by Honey Bee Network volunteers. It also nurtures ecopreneurs engaged in conserving biodiversity, common property resources, cultural diversity, and educational innovations.

SRISTI is committed to backstopping the five pillars of the Honey Bee Network:

- [1] Educational innovations by school and college students, teachers, and other stakeholders.
 - [2] Institutional innovations at community and other levels in managing natural and other resources.
 - [3] Cultural creativity to foster curiosity, collaboration, and compassion through art, literature, and crafts.
 - [4] Technological innovations and traditional knowledge addressing human, animal, plant, and ecosystem health.
 - [5] Policy reforms to generate frugal innovations for sustainable development at all levels, with specific reference to youth, children, women, and the elderly.
- Essentially, SRISTI aims to improve access for knowledge-rich but economically poor people to both informal and formal institutional resources, thereby triggering a self-reliant development process rooted in Gandhian ethics and principles.



OBJECTIVES:

Systematic documentation, dissemination, and value addition of green grassroots innovations, along with support for biotechnological innovations by communities, technology students, and others, for a sustainable future.

BIODIVERSITY

- Providing intellectual property rights protection and risk capital support.
- Extending support for in-situ and ex-situ conservation of local biodiversity and associated knowledge systems.
- Empowering knowledge-rich but economically poor people by adding value to their innovations, traditional knowledge, and associated biological diversity, including microbial diversity.
- Linking formal and informal science to enrich both knowledge systems, while building databases of innovations by farmers, artisans, mechanics, technology students, teachers, and other social innovators.
- Providing early-stage risk capital and mentoring support to grassroots innovators, students, and other mavericks to scale up their products and services based on grassroots innovations through commercial or non-commercial channels. Embedding the insights gained from grassroots innovations into formal educational, policy, and institutional systems to expand the conceptual, cognitive, institutional, and policy space available to these innovations.

INITIATIVES:

BIRAC's BioNEST

Sanctuary of Innovation, Incubation and Entrepreneurship

(SIIE) SRISTI-BioNEST is an innovation and grassroots traditional knowledge-based business incubator, funded by BIRAC (Biotechnology Industry Research Assistance Council, Department of Biotechnology, Government of India). It supports innovations arising from out-of-the-box thinking, traditional knowledge,



grassroots-level knowledge systems, and ideas contributed by university students and even children, enabling successful product development and commercialization. Both formal and informal sector innovations are nurtured. The incubator caters to diverse sectors including biotechnology, biological sciences, environmental sciences, food technology, medical science and technology, nanotechnology, pharmacy, rural development, and other allied areas. Currently, 28 incubatees are being supported at SIIE-SRISTI BioNEST.

CHILDREN’S CREATIVITY:

The Children’s Creativity and Co-creation Workshops aim to empower children not only to identify and articulate their own problems but also to recognize and attempt to solve the problems of socially disadvantaged segments, individually and collectively. These workshops engage children in addressing the social challenges faced by communities, thereby mobilizing the creative potential of children worldwide. The objective is to overcome persistent social inertia in emerging regions and, at times, even in advanced societies. It is hoped that many of these children will grow into empathetic, creative, and compassionate leaders of the future, committed to building an inclusive and sustainable society.

INSHODH - “TEACHERS AS TRANSFORMERS”

Teachers as Transformers is an initiative of the Educational Innovations Bank (EI Bank), partnered with SRISTI and the Honey Bee Network, and based at the Ravi J. Matthai Centre for Educational Innovation, Indian Institute of Management Ahmedabad (RJMCEI-IIMA). EI Bank serves as a clearinghouse for effective educational innovations developed and implemented by elementary school teachers working within the public system. Teachers in the public system continue to play a vital role in ensuring education for marginalized sections of society. Despite the growing share of private sector enrolment, socio-economically disadvantaged groups will remain dependent on this system in the foreseeable future. However, the quality and educational outcomes of the public system have often been criticized for falling short of desirable standards. EI Bank recognizes that top-down reform is necessary but not sufficient. Learning from teachers who have succeeded despite constraints common to many, valorizing and supplementing their work, and converting it into a resource can expose educators to a solution-augmenting



approach to local educational reform and inspire them to improve outcomes.

SHODH SANKAL

The concept of Shodh Sankal (a chain of experimenting farmers) was initiated by SRISTI in 1996 to create a lateral learning environment among grassroots innovators. The idea was to bring together experimenting farmers to discuss the results of trials they had undertaken on their own to address various local problems. Such discussions not only enhance the esteem for local knowledge systems but also accelerate the process of technological change in regions where formal technology generation has not been very successful—such as dry regions, mountainous areas, and other disadvantaged zones.

SOCIAL INNOVATION FUND

The main objective of the Social Innovation Fund (SIF) is to provide mentoring, financial support, fabrication, validation, and value addition facilities in labs, fields, and R&D institutions for nurturing creativity in culture, education, technology, and governance.

SRISTI INNOVATIONS

A Section 8 company was established with the objective of strengthening the capacity of grassroots inventors, innovators, and ecopreneurs in conserving biodiversity and developing eco-friendly solutions to local problems. It is engaged, inter alia, in documentation, experimentation, research, development, and diffusion of sustainable technologies and institutions. The company now hosts the BioNEST incubator, in addition to publishing HBN newsletters and other books in Hindi, Gujarati, and English. It also develops commercialization products, ensuring that a fair share of benefits returns to the knowledge-providing communities.

Other Activities:

SATTVIK FOOD FESTIVAL:

SATTVIK is a festival that celebrates traditional nutritious food and associated knowledge systems. It was started fourteen years ago at IIMA to provide market-based incentives for conserving agro-biodiversity and to create demand for rarely



or less cultivated, nutritionally rich crops and varieties, thereby stimulating their cultivation. In regions with low rainfall, minerals in the soil do not leach much, and hence crops grown there—such as millets, sorghum, and pulses—are rich in nutritional value. The paradox of development is that the food consumed by the rich is often nutritionally poor, while the food grown by the poor in disadvantaged regions is nutritionally rich. SATTVIK aspires to bring these lesser-known but nutrient-rich foods from various states to the plates of urban communities, encouraging healthier food habits and lifestyles. The festival also seeks to motivate farmers to cultivate more nutrition-rich crops, thereby helping them augment their incomes. <http://sattvik.sristi.org/>

SHODHYATRA

Shodhyatra is a journey into some of the remotest areas of the country to discover knowledge, creativity, and grassroots innovations. Initiated by SRISTI, it is founded on the belief that the hardships and challenges of natural surroundings are prime motivators of creativity and innovation. The journey seeks to unearth traditional knowledge and grassroots innovations while fostering mutual exchange and sharing of wisdom.

Knowledge and practices pooled during various Shodhyatras are shared back with villagers in subsequent journeys, along with access to the databases of the Honey Bee Network. Women and children are actively involved, showcasing their ecological knowledge through recipe competitions and children's contests. Over the past 27 years, 53 Shodhyatras have been organized, covering all the states of the country. <https://www.sristi.org/shodhyatra/>

SRISTI LAB:

SRISTI believes that adding value to indigenous knowledge will help local communities coexist with biodiversity by reducing primary extraction and generating long-term benefits. This approach aims to enhance sustainable resource use and support livelihood systems. To achieve this, SRISTI conducts research-based activities.



The rationale behind establishing the Sadbhav SRISTI Sanshodhan Natural Products Laboratory was to create a facility that transforms local knowledge and resources into value-added products. This initiative includes developing processing facilities in rural regions rich in natural resources.

The work at SRISTI lab focuses on validating and adding value to grassroots innovations and traditional practices. We aim to develop eco-friendly, non-chemical options for pest management and animal healing. Additionally, we prioritize generating and sharing wealth with grassroots innovators by distributing financial benefits from the commercialization of new products and technologies to local innovators and communities. This initiative includes creating products for both non-commercial and commercial distribution, organizing entrepreneurs, and bridging the gap between informal and formal knowledge through scientific discipline. Throughout this process we also ensure capacity building of local communities and skill development for students. More at <http://www.sristi.org/sristi-lab/> One



TECHPEDIA (www.techpedia.in)

Techpedia, an initiative of SRISTI, aims to place the problems of micro, small, and medium enterprises (MSMEs), the informal sector, grassroots innovators, and other social sectors on the agenda of young technology students across the country. For the past sixty years, India has not utilized much of the technological output of millions of students—but this apathy will continue no more. Can a knowledge society really afford to ignore the immense talent distributed across thousands of polytechnics, diploma, and degree colleges of engineering, pharmacy, medical science, agriculture, and related fields? SRISTI is providing a platform for industry and academic institutions to collaborate, co-create, and foster distributed and horizontal frugal innovations.

Goals of Techpedia:

Promotion of originality among technology students is ensured by making it impossible for them to repeat what has already been done before. This is possible only when they can access and identify prior work. Techpedia hosts 204,000 technology projects completed by about 600,000 students from more than 600 colleges across India.

- Connecting technical students with the problems of informal, unorganised sectors and grassroots innovators.
- Harnessing collaborative potential of students across disciplines and colleges to solve persistent problems in both formal and informal sectors.
- Exploring the kho kho (relay) model of product development, where one student group advances a solution to a certain stage and the next group, from the same or another department, builds upon it to take it forward.
- Posing challenges for students to address unsolved societal problems. Gandhiji had announced an award of 7,700 pounds (Rs 100,000) to redesign the charkha (spinning wheel). Today, the value of this prize would exceed Rs 10 crore. Industry associations, government, and others can offer attractive prizes for solving long-standing problems.



- Developing high-tech capabilities through network platforms so that India becomes a hub for high-tech outsourcing in the future, rather than serving only low-tech needs.
- Promoting both IPR-protected and open-source technology, with the eventual goal of developing techpedia.in into an online virtual sanctuary of innovations, not just an incubator.
- Creating a real-time online National Mentoring Network (NMN) to harness the skills, insights, and experiences of senior tech experts for mentoring young students, along with remote reverse mentoring by young start-ups and students.
- Encouraging innovations through the SRISTI Social Innovation Fund, recently established to promote frugal and extremely affordable socially useful ideas.
- Leveraging policy and institutional changes to make the innovation ecosystem more responsive to societal needs and the aspirations of young talent.
- Organizing summer schools to address specific social challenges, enabling young students to overcome institutional inertia by developing new prototypes to eliminate child labour, enhance women's safety, and support the autonomy of physically challenged individuals.
- Building global linkages so that collaborative open-innovation models pioneered by the Honey Bee Network are further diffused among student communities worldwide.

Summer School on Inclusive Innovations

SRISTI has been engaging with children to tap their creativity in addressing unmet social needs for over 33 years. Across the world, children are often treated as recipients of sermons rather than as sources of ideas.

The children's creativity workshops are organized to view societal inertia through the eyes of children. They are empowered to conduct research, identify unmet social needs, and suggest solutions. Later, engineering and other students take up



some of these ideas, along with others, to fabricate solutions for addressing these problems. The purpose is to generate extremely affordable solutions within three weeks that improve the quality of life of poor children, women, workers, and other disadvantaged social segments. Some solutions developed during the summer school may not be fully finished, but opportunities are provided to participants or external designers to complete them in the following months, in partnership with potential users.

Even if certain problems remain unsolved, there will be a better appreciation of the pathways that do not lead to resolution. SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions) has organized this Summer School on Inclusive Innovation through an open, reciprocal, and responsible framework guided by the Honey Bee Network philosophy. It is hoped that young students will learn not to be patient with inertia, sharpening their perceptions to transition from *samvedana* to *srijansheelta*—an empathetic way of creative problem solving.

For example, a palm leaf broom maker must beat the leaves on a wooden plank mounted with nails to tear them into fine fibres, a task that drains much of the energy of women who generally perform it. Similarly, hundreds of thousands of tribals must crack mahua nuts to extract seeds for oil, while construction workers carry bricks on their heads, straining their necks and spines. Women in Saurashtra and other regions often get hurt while harvesting fruits from cactus-like *opuntia* growing on field bunds, and amla harvesting in forests frequently involves cutting branches rather than simply collecting the fruits.

These and many other problems have been mobilized by the Honey Bee Network to challenge young people to design solutions that overcome the indifference or inertia of formal design and technology institutions.

Every institution in the country must take responsibility for mapping unmet social needs in their hinterland and addressing them through student projects and summer or winter schools. As with every initiative of the Honey Bee Network, it may take years before policy and institutional reforms follow. Yet, the structure of governance in any society cannot remain indifferent to the persistent problems of disadvantaged people for too long.

Email: summerschool@sristi.org ; website: ss.sristi.org



IGNITED MIND

In memory of Dr. A.P.J. Abdul Kalam, the Honey Bee Network, SRISTI, and GIAN have jointly organized an annual competition of innovative ideas by students. The Dr. A.P.J. Abdul Kalam Children Ignited Mind Creativity and Innovation Award accepts entries from students up to class 12, as well as from school dropouts. This award seeks to foster a culture of Samvedna among children, encouraging them to find solutions to local problems and address unmet social needs. The idea is to make children aware of the problems and hardships faced by common people in their daily lives—issues that many have learned to adjust to and accept. It is believed that if children begin to grow impatient with social inertia at an early age, they are more likely to bring about creative and compassionate changes in society as they mature.

SITARE BIIS: Opportunity for technology students to work on grassroots innovations

SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions), in collaboration with BIRAC (Biotechnology Industry Research Assistance Council, Department of Biotechnology, Government of India), had been organizing a three-week SITARE BIIS (Students Innovations for Translation & Advancement of Research Explorations – Biotech Innovation Ignition School) since 2017 for validating, value-adding, and product development around grassroots innovations. BIIS aimed to develop solutions for grassroots applications for humans, animals, and agriculture, including herbal technologies, medical devices, and microbial applications.

Due to the COVID-19 pandemic, BIIS was conducted as a webinar (BIIS-5: June 8–June 27, 2020; BIIS-6: September 22–October 12, 2020; BIIS-7: December 1–December 21, 2020; BIIS-8: January 25–February 14, 2021; and BIIS-9: May 20–June 9, 2021). The prime focus was to build the capacity of primarily undergraduate students to develop skills in phytochemistry, pharmacognosy, extraction, separation of compounds, microbial diversity screening, pest control, and the development of extremely affordable solutions for farmers, livestock keepers, pastoralists, and human applications, along with training in patents, biostatistics, and ethical guidelines for work on grassroots knowledge and innovations.



The topics for the online BIIS course were designed around the following fields, and as part of the webinar, projects were assigned to students in five action-research areas drawing upon the Honey Bee Network Database:

- Pharmacognosy/Phytochemistry – SRISTI's grassroots database contains many traditional knowledge practices as well as contemporary innovations from across the country. These projects involved validation and value addition to such practices. A few examples were presented here: Honey Bee Database (sristi.org in Bing).
- Soil Microbiology – SRISTI maintains a microbial diversity bank containing over 8,000 organisms (bacteria, fungi, and actinomycetes) isolated from soil samples collected during ShodhYatras (learning walks for scouting and sharing innovations and local practices) in different parts of the country (ShodhYatra). Extensive screening of these microbes was conducted for novel human, animal, and agricultural applications.
- Veterinary Medicine – Validation of traditional practices for improving livestock health, nutrition, and productivity.
- Agriculture – Validation of grassroots practices through trials in the lab, on stations, and in the field for product development and improvement.
- Medical Devices – Value addition and product development of open-source projects listed on the Summer School website (<http://summerschool.sristi.org/>), or medical devices for human and animal healthcare, as well as for addressing other unmet social needs.



Grassroots Innovation Augmentation Network (GIAN)

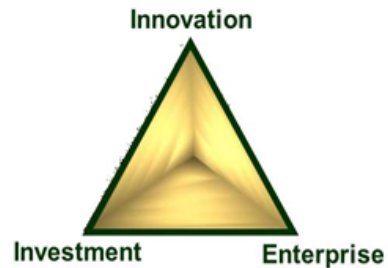
GIAN

One of the major reasons grassroots innovations have not been able to scale up in many regions and sectors is the lack of handholding support to reduce transaction costs in leveraging linkages with investors and entrepreneurs. Grassroots innovators often cannot prepare or present a business plan, nor can they construct scenarios under different assumptions of demand, subject to varying capacities for fabrication, manufacturing, or development of other products and services.

GIAN (Grassroots Innovations Augmentation Network) was set up in 1997 as a follow-up to the International Conference on Creativity and Innovations at Grassroots (ICIG) held at IIMA, in collaboration with SRISTI and the Honey Bee Network. Its purpose was to strengthen the “golden triangle” of rewarding creativity by reducing ex-ante and ex-post transaction costs for innovators, investors, and entrepreneurs. This was achieved through operating principles such as never asking innovators to come to the office, but instead providing support at their doorstep, and organizing financial, intellectual property, product, business development, and dissemination support.

With a small team and limited funds, GIAN achieved an admirable track record. It shared the Best Incubator Award with IIT Madras, conferred by the then President Dr. A.P.J. Abdul Kalam in 2003 under the Department of Science and Technology. The model of GIAN was later scaled up in 2000 in the form of the National Innovation Foundation (NIF).

GIAN has an independent board and a small team of professionals experimenting with new models of incubation, innovation, and inculcation of experimental ethics at different levels in society.





Genesis

Being a pioneer is never easy. Expectations from pioneers are always higher, and with no template to follow, much of the learning takes place by doing.

GIAN was set up in collaboration with the Gujarat Government, IIMA, and SRISTI, along with volunteers from the Honey Bee Network, as a follow-up to the International Conference on Creativity and Innovations at Grassroots (ICCI) held at IIMA. Its only assets were the commitment of the state government to support grassroots innovations in becoming entrepreneurial, access to SRISTI's Honey Bee Network Database of innovations by common people, and the guidance and support of IIMA faculty and students.

Receiving the Best Incubator Award in 2002, jointly with IIT Madras, from the then President Dr. A.P.J. Abdul Kalam, validated its purpose. India's first grassroots innovation incubator had proven to be a viable pathway for reducing transaction costs of innovators, investors, and entrepreneurs. The "golden triangle" for rewarding creativity—now well known—summarizes GIAN's mission: handholding grassroots innovators in their journey to become social and/or economic entrepreneurs.

Over time, GIAN expanded its scope of work. It now engages with women's groups, tribal communities, students of ITIs and polytechnics (particularly women's polytechnics), as well as farmers. It operates across all sectors of human survival, adding value to people's knowledge in collaboration with other Honey Bee Network institutions such as SRISTI and NIF.

GIAN has an independent board that includes three additional chief secretaries from the agriculture, industry, and rural development departments, independent industry representatives, faculty from IIMA, the Director of EDI, and the Directors of IIMA and NID as permanent invitees.

Mission

GIAN aims to sustain the spirit of innovation, encourage experimentation, and nurture creativity at the grassroots level among knowledge-rich but economically poor people, students, mechanics, workers, and young start-ups by contributing



to the creation of a knowledge network. This network empowers innovators, prevents the erosion of traditional knowledge systems, recognizes and augments contemporary innovations, and facilitates the diffusion of grassroots green innovations through commercial as well as non-commercial public, private, and voluntary channels.

Objectives

- To identify socially, economically, and ecologically viable innovations from the Honey Bee Database that are amenable to scaling up, prototype development, and diffusion, with or without further value addition.
- To participate in the process of value addition undertaken by other research organizations in grassroots innovation so that eventual scaling up can be achieved effectively.
- To mobilize resources from regional, national, and international private, public, and other organizations, as well as high net-worth individuals, to strengthen the ecosystem of grassroots innovations.
- To undertake market research, project development, and provide design, IP-related, and entrepreneurial support, along with assistance in protecting intellectual property.
- To influence policy at both micro and macro levels, making it more responsive to the needs and expectations of green innovators, thereby fostering a society that is more inventive and accommodative of local knowledge systems, innovations, and practices.
- To publicize innovations and products through exhibitions, Shodhyatras, media, and workshops.
- To organize entrepreneurial development workshops in collaboration with expert institutions for innovators.
- To trigger a rural development process that offers an alternative model of poverty alleviation in a fair, just, and dignified manner through local resources and knowledge.



What does it do?

GIAN provides product development, business planning, innovation augmentation through design and development, dissemination, and entrepreneurship support. It supports farmers and artisans, primarily in the informal sector across Gujarat, Maharashtra, and Goa. At the same time, it can mobilize innovations from other regions for application in these states and disseminate innovations from this region to other parts of the country.

Recently, GIAN began working with students of ITIs and polytechnics, as well as school children. It has established community innovation labs in a government primary school in Ahmedabad and has also experimented with a community food and nutrition lab to help poor communities—and others—derive greater nutrition from available food materials for a healthier future. Despite economic growth, many regions in India continue to suffer from high levels of anaemia among women and malnutrition among children, challenges that GIAN seeks to address through such initiatives.

How can you support GIAN?

Besides CSR and other forms of funding support, GIAN welcomes professionals for short-term sabbaticals, internships, and apprenticeships with innovators or incubators. It also values remote mentoring support, exposure opportunities for its staff, infrastructural assistance, mobile food and nutrition labs for women, community innovation labs, and sponsorships for summer and winter schools on inclusive innovation to address unmet social needs, as well as Shodhyatras.

GIAN further seeks to collaborate with SRISTI in offering online courses in different languages on how to invent and innovate. It also aspires to organize mobile exhibitions, establish a stationary centre for inclusive innovations, publish books, and collaborate in bringing out the Honey Bee Newsletter, started 29 years ago, in multiple languages.



Trust, transparency and accountability

GIAN is committed to upholding the highest standards of ethical responsibility in managing resources and other non-material contributions. It welcomes opportunities for social audits, allowing the communities it works with to evaluate its functioning and various contributions.

Dr A P J Abdul Kalam Ignited Mind Children Creativity and Innovation Awards 2024

.....Celebrating children as
source of ideas and not just

- You can send any number of entries with or without a proof of concept (POC) or prototype, those who have converted their idea into a POC will get additional credit. It is earnestly requested to parents/teachers not to send their ideas in children's name, they can submit their own creative ideas at HBNCRIIA@honeybee.org for separate awards.
- The children from families associated with Honey Bee Network institutions will not be eligible to apply for awards, though they can submit creative ideas.
- The Children should be allowed to share their ideas on their own without any outside tutoring or help.

If you are aged under 19 years and have original technological ideas to solve day to day problems.....send your entries at
a sink of sermons!

Email: ignitedmind@honeybee.org

WhatsApp: 9925320793

