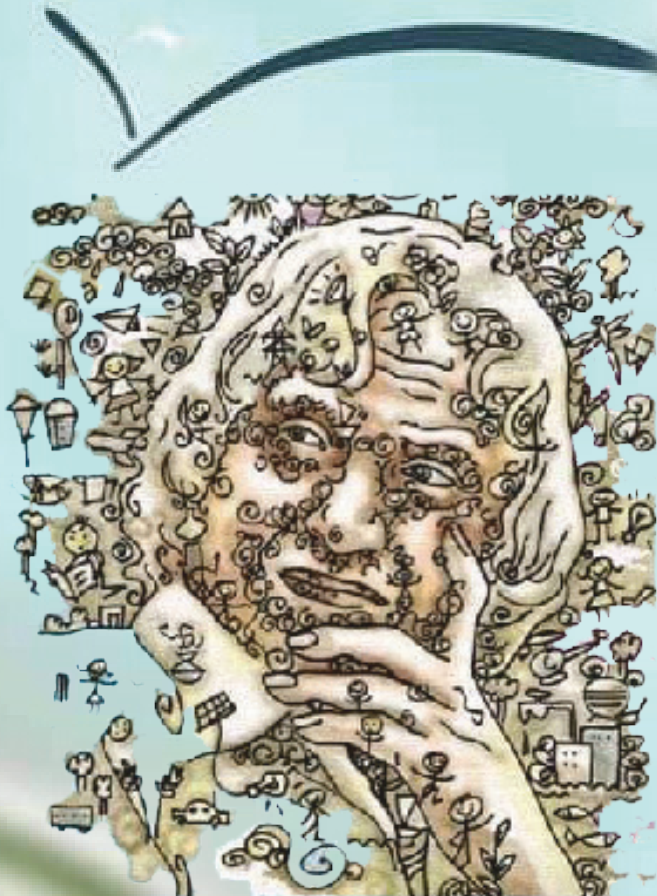Honey Bee Network

**Dr A P J Abdul Kalam
Ignited Mind Children Creativity
and Innovation Awards 2020**

Dr A P J Abdul Kalam Ignited Mind Children Creativity and Innovation Awards 2020

SRISTI

www.sristi.org

Introduction

Curious and compassionate children: Igniting their imagination

The Honey Bee Network (HBN) had been blessed by former President, Bharat Ratna, Dr. A P J Abdul Kalam very deeply. He not only started the tradition of Presidential award for grassroots innovators but also gave away the Ignite awards by National Innovation Foundation (NIF) after stepping down as President. The Honey Bee Network has started Ignited Mind awards in his memory since 2020 after NIF stopped the Ignite Awards. We are very happy that we have received more than 9000 entries through close cooperation of SRISTI, GIAN and numerous other HBN volunteers and we have decided to give 9 awards and appreciate the efforts of 6 students through consolation awards.

I want to make an appeal to the parents and teachers who mentor their children for various innovation competitions. It is quite understandable that they all want their children to make progress, shine in their life and will get more achievements, distinctions in future. But by spoon feeding or giving their ideas in the name of the children, they do a great harm to the ability of the children originally. Whether the children get the award or not, but the ideas should be novel and unique by themselves. Similarly, many industries have been emerged and they which are making the project for students and sell them in various science and innovation exhibitions that also stifle the creativity of the children. It is true that children cannot be expected to fabricate many complex ideas and thus need external help also which should be clearly stated and acknowledged. This time, SRISTI tried to get 11 functional prototypes innovations, made for the students. The ideas are to show to the children that their ideas can be translated into reality with expert help. In such cases, children need not be graded on the quality of prototypes which they have not made.

Right from the childhood stage, children should be helped to learn that they should take credit only for their own thinking and doing.

I am happy to see that many problems of women and elderly have attracted attention of the children. Some of these ideas have potential for wider dissemination. I hope that policy makers, public administrators, private sector, MSMEs and start-ups will encourage children in deserving cases to set up joint enterprises if possible. The Honey Bee Network (HBN) is committed to encourage the creative children of our country in every possible way through combined efforts of SRISTI, GIAN and all other volunteers.

In future, we are tightening the guidelines so that the children can work closely with this network and will be eligible for the awards also. We will continue to consider the entries from children directly or through volunteers without any endorsement of teachers or parents. We will aware that all the ideas will the productive and will come from original thinking of children and not guided by the parents and teachers. We are also trying that children get an opportunity to compete for these awards after the school also. We hope to get full support from the HBN volunteers and other well-wishers, teachers etc., in uncovering the talent of creative and compassionate children of our country. We are wishing all the participants and winners a great future in the service of the country and the humanity.

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

Highlights

- The HBN received overwhelming response from the students despite the fact that we sent out the announcements for the ignitedmind Awards during the lockdown. Reaching out to the schools for the purpose during the pandemic was also a challenge. But nothing could dampen the enthusiasm of the students who sent their entries in huge numbers.

- We promoted this activity through social media, volunteers of Honey Bee Network [HBN], teachers and other like-minded organizations. The HBN received around 3000 entries from online and 6000 from organizations associated with HBN including GIAN, InShodh, SIR Foundation, HBN Innovation Clubs of Haryana, Orrissa, Himachal Pradesh, SRISTI etc. The award and appreciated consolation award winning entries were nine and six respectively. After reviewing the entries, we could see the enthusiasm of the children in addressing the unmet social needs.

- The entries were received from students of all classes from rural government schools and private schools in metropolitan areas. We received entries from even dropout children. This clearly shows that awards are not restricted to students from any particular background and their creativity cannot be limited by any constraints.

- The children from non-metro cities bagged the most awards, primarily from tier-3 and 2 cities leaving only a small pie for the children from metro cities.

- The students did not restrict themselves to submitting their ideas to solve the current problems but also chose to give solutions to deal with future problems and unforeseen issues like Covid-19. It is very evident that given an opportunity, spirit of creativity and zeal of our children can make a positive difference in our society.

- We were also able to convert some of the award winning ideas into products for use by the common people. One such example is a sieving device to clean various grains ideated by Bodhisatva Ganesh Khanderao of Yavatmal, Maharashtra. He made nearly six different designs of the device (of which the latest one is selected for Ignited Mind appreciation award) and distributed such machines to 48 widows (did we fund it or make it, or did he get it made on his own?)

- There were also cases where we received ideas which have already been given shape in India or abroad and hence we could not accept such brilliant ideas for awards.

- These awards have reinforced a culture of innovation amongst children, their teachers and family members as well.   Children don't need endorsement or mediation of their parents or teachers in sending any number of ideas to the Network institutions, including GIAN, SRISTI and all other collaborators and volunteers at ignitedmind@honeybee.org. The HBN acknowledges their help and hopes that the support from them and new volunteers will continue to scout and resolve the unmet social problems.

- Curiosity triggers questions. Questions fuel search for solutions. Searching for solutions results in creativity and enthusiasm. with enthusiasm, immense energy is unleashed. With a generation of such a burst of internal energy to bring about an empathetic, social innovative change, one reaches a state of bliss. A person now looks for internal satisfaction and not external recognition. When this happens, society develops a durable and self driven culture of creativity and inclusive innovation. Children learn to be samvedansheel, srijansheel and sahyogi. We hope some of them will also become social and/or economic entrepreneurs in the future.

Contents

Annexures

- Honey Bee Network
- SRISTI
- Techpedia
- GIAN
- HBN Innovation Club

Creativity is seeing the same thing but thinking differently

-Dr. A.P.J. Abdul Kalam
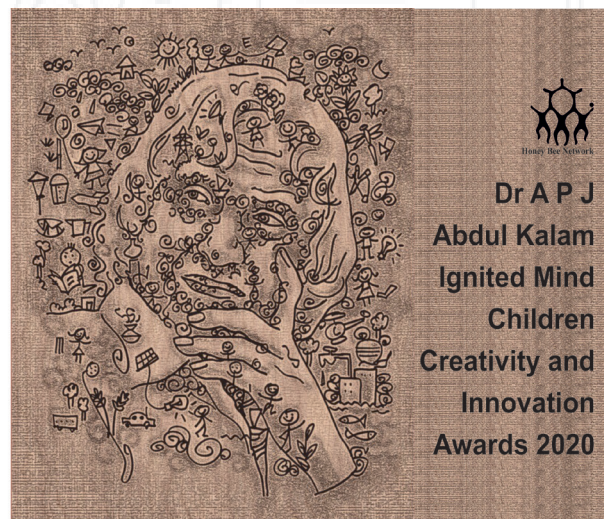
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Honey Bee Network

Award

An apparatus for measuring the tremor of a patient affected by Parkinson's disease

Jui Abhijit Keskar
Class 9
The Orchid School, Baner - Baner,
Pune, Maharastra

Problem

Non-availability of an effective device for measuring the tremor of a patient suffering from Parkinson's disease.

👍
Solution

As described in the drawing, the wearable device will track the 3-D movement of the limb of the patient sending signals thereof to the controller, connected to a database on the cloud. The web application on the cloud can generate the tremor profiling of the patient. The doctor and the patient can directly access the charts. This will help the doctor understand the intensity, spread, frequency, duration of the tremor and to decide an appropriate medication and physiotherapy plan. Further, the doctor can also get to know the anxiety level of the patient.

TYPHA: An organic water purifier bag

Sejuti Sarkar
Class 9
Jawahar Navodaya Vidyalaya,
Howrah, West Bengal

Problem

There is no affordable and simplified solution so far to purify water in small quantities.

Solution

After cleansing the roots of Typha plant, we need to gind it to powder form. We can then keep ten grams of this powder sealed in small bag in 500ml water for 25-30 minutes to get a completely purified and potable water. This affordable method of purifying water in small quantities would benefit all sections of the society.

Cycle-operated Low Cost Spraying Machine

Shreyash Gedam
Class 9
Dhyaneshwar vidyalaya, salebhata, Th lakhni, dist Bhandara,Mumbai, Maharasta

Problem

The need for a cost effective spraying machine remains unmet.

👍 Solution

This cycle-operated spraying machine helps in ploughing as well as spraying operation with much ease minimising the hardship. It is not only a low-cost but also a user-friendly solution.

A device for laying and wrapping school mat

Saurav
Class 9
Govt. Senior Secondary School Camp Yamu-
nanagar, Haryana

Problem

Absence of an effective solution to do the routine of laying out and wrapping up of sitting mats in schools.
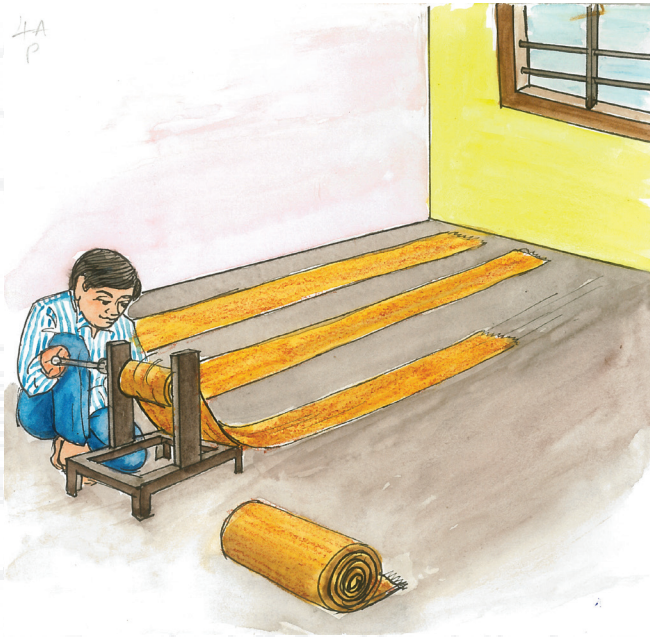
Solution

The student has designed a time saving device to do the chore of laying the sitting mat for serving mid-day meal to children in schools in proper manner and wrapping it up after use.

Supply of fresh air to the house through electrical fittings

Parthvi
Class 8
Mukund Lal Public School Sarojini colony
Yamunanagar, Haryana

Problem

Non-availability of a simplified and cost effective system to provide fresh air to all the rooms of a house.
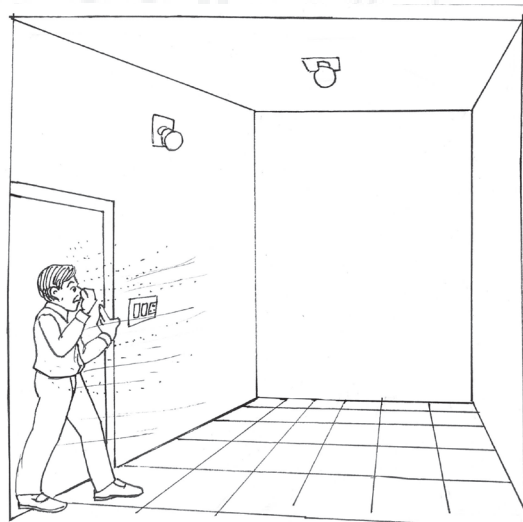
👍 Solution

We keep pipes of electrical fittings with its wires inside the walls in hollow soft plastic pipe of 3 to 6 mm. All the rooms, lobby and kitchen have these wires embedded in the switch boards. We will install an electric pump / blower at the top of the roof with filters to maintain the circulation of fresh air in the pipe. This pump will blow air through that 6mm soft pipe to all rooms, each of which will have an air opening in each electrical switch board. Fresh air will come inside the house through this opening placed in the switch board. This method will increase the oxygen level in the house. Even when we keep our windows and doors closed, we will still continue to experience fresh air flow in the rooms through the soft plastic pipes of electrical fittings.

Reduction of pressure on the ears due to the continuous use of mask

Digantika Bose
Class 12
Memari V. M. Institation Unit 2, P.O and PS-
Memari Distric-t Purba Bardhaman

Problem

Poor design of masks for longer duration of use by the people in public service.

Solution

Health workers, police, and users have to wear masks for long durations causing constant pressure on the ears. The student has designed a support system out of a discarded plastic,(or flexible board) which will stick to the back of the head while using the mask. As a result, there will be no pressure behind the ears.

A height adjustable Chair for old and physically challenged people

Charmi B pandya
Class 10
Shri Vividhlaxi Vidhyamandir,
palanpur, Gujarat

Problem

Unfriendly design of chairs for the elderly and physically challenged.

👍
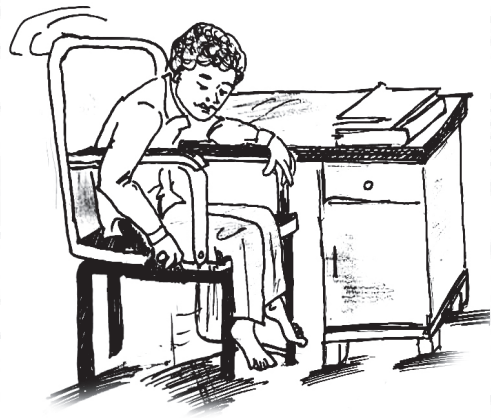
Solution

Many adult and physically challenged people face a serious discomfort while they attempt to sit on a chair. The student has designed a chair which would help the person to raise its height by the handle placed on the side of the chair. The physically challenged person sitting on such a chair can also stand by making the backrest of the chair raised to the desired level. This will make it easier for the person with disabilities to get up from the surface of the ground without hardship.

Mobile operated automatic sanitizing machine

Aniket Prashantrao Kakde
Class 10
School of Scholars, Yavatmal,
Maharashtra

Problem

Non-availability of a system to operate a sanitizing machine without direct human intervention.
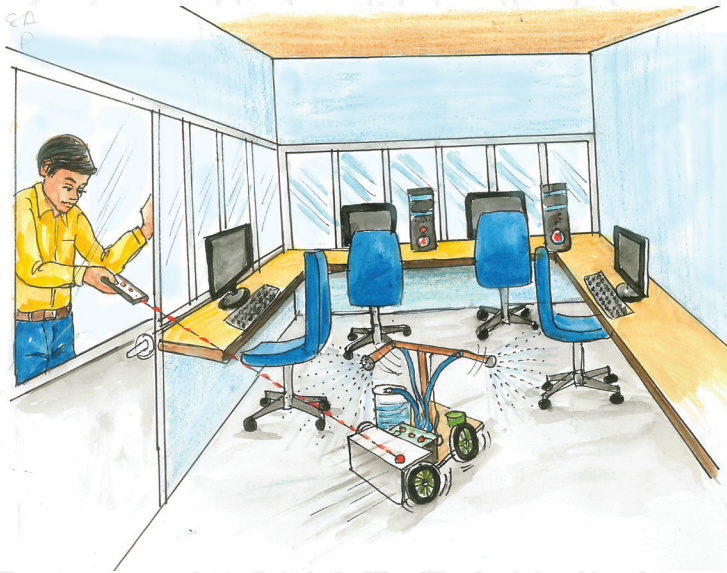
Solution

The student has developed a working model of mobile-operated sanitizer spraying device for use in various public and other spaces.

Device to detect and avoid accidental crushing of fingers

Sree Samhita Gundimeda
Class 10
Kendriya Vidyalaya No. 3 Gandhinagar cantt,
Army Cantt, Gujarat - 382042

Problem

Absence of an effective solution to avoid accidental crushing of our fingers when doors are automatically/ forcibly closed.
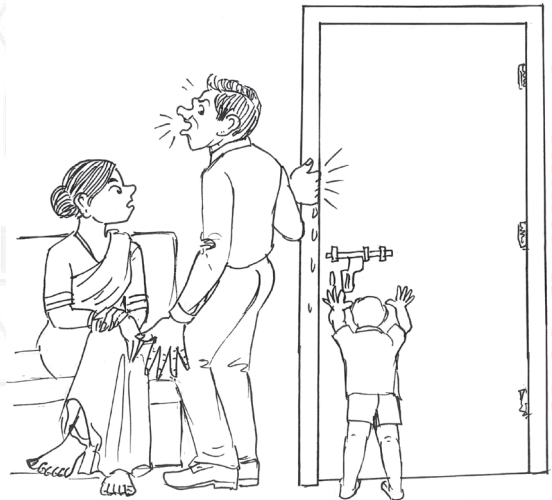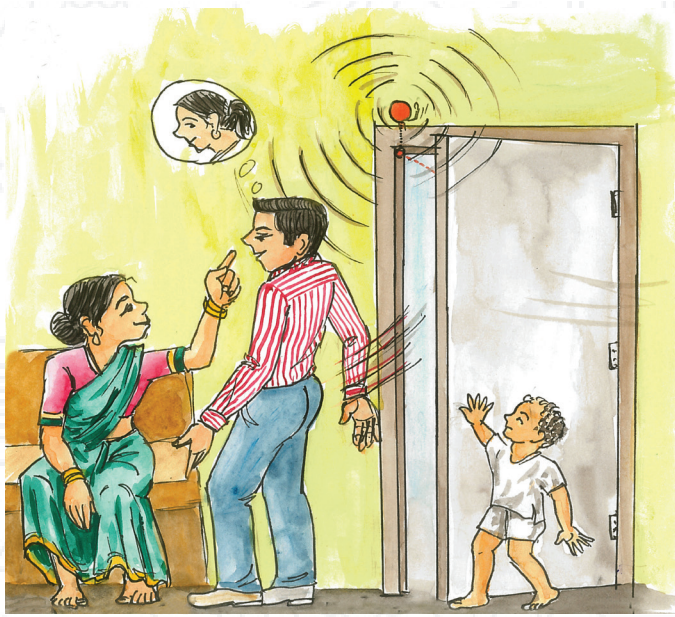
Solution

We start by connecting IR (infrared sensors) to detect obstacles (a human hand or finger) to the Arduino and feed that information to the micro-controller. The IR sensor has transmitters on the one side [up or down] and the receivers on the other side. We get all the IR transmitters and receivers connected to one Arduino. The IRs detect any object which goes to the Arduino and make the LED glow (as light indication). A voice message or alerts are also other possibilities. The photosensitive sensor or the programmed Arduino can sense the LED light. When IR sensors detect obstacles, it signals to the hinges to lock itself or put an obstacle in the middle. If we are using special lock hinges, we may have to design the same for this purpose.

*A*n innovator is one who does
not know it cannot be done.

-Dr. R A Mashelkar(FRS)

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Honey Bee Network

www.sristi.org   www.gian.org   csir.res.in
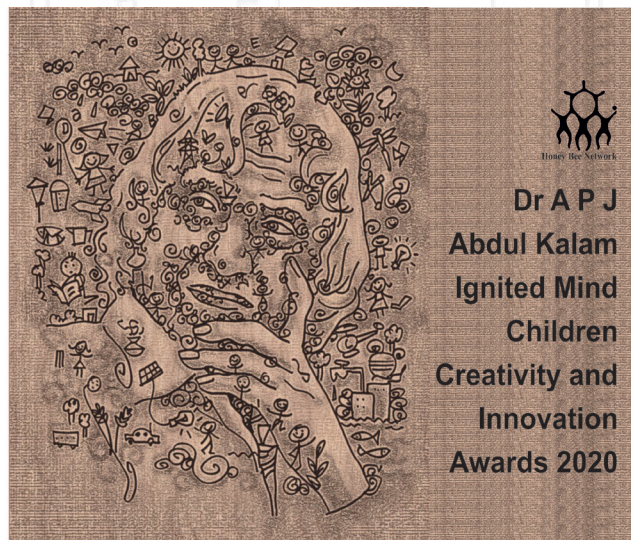
Appreciation

Thresher to separate groundnuts from the pods

Yash Gokul Kshirsagar
Class 8
Malojiraje Vidyalay, Lonand, Taluka Khandala,
Dist-satara Maharastra

Problem
Drudgery of manual separation of groundnuts from the pods.

👍

Solution

Separation of groundnut is a daily need in the kitchen. The student has made a thresher out of waste parts of a motorcycle and a bicycle. After filling the machine with the whole groundnuts, we can rotate its pedal to get the seeds and the crushed earpods out. Then, one can easily separate the seeds from the earpods. It can separate one kg of seeds in one minute and does not require any fuel. Its economical and ecofriendly.

Folding crutches with chair

Sandip biswas
Class 11
Jawahar Navodaya vidyalaya pirulia,
West Bengal

Problem
Unfriendly and
poor design of
crutches.

Solution

The student has designed crutches with a chair- like facility for sitting for the physically challenged. In this system, we can fold the two parts of a crutch shown in the diagram to form a chair for the user to sit comfortably without any extra efforts. This is much more helpful for them and we can also modify the existing crutches at low cost.

A machine making fuel from CO2

Priyanka Tirkey
Class 11
Holy Cross Higher Secondary School
Chhattisgarh

Problem

Non-availability of fuel free from causing pollution.

👍
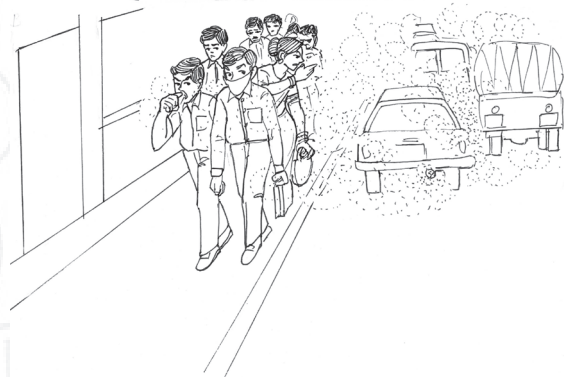
Solution

By using this machine which produces fuel out of atmospheric CO_2, we can, to some extent, escape the pollution caused by the use of diesel and petrol. The machine collects the CO_2 present in the atmosphere and heats the same at a very high temperature by using various chemical reactions for the purpose. While some scientists abroad have developed the technology, it is still at an experimental stage.

Battery powered rickshaw for sweeping the road clean

Vishal Kumar
Class 9
Government Senior Secondary School
Damla, Haryana

Problem

The problem of untidy roads requiring a low cost automatic sweeping machine.

👍

Solution

This rickshaw is solar-powered and battery operated. A broom attached below the rickshaw sweeps the street wherever it moves. It can sweep the garbage on one side of the road on the move.

A litmus-type paper strip to detect artificial sweetness injected into the fruits

Deg Busra Imtiyaz Adam
Class 8
Primary Mishra School, parkhet,
Bharuch, Gujarat

Problem

Lack of cost effective method to detect the artificial sweetness injected into the fruits/ vegetables.
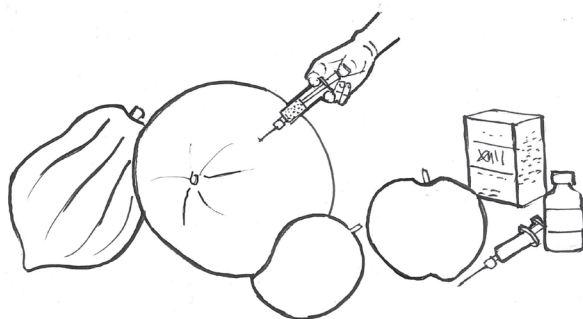
Solution

Now-a-days, the vendors inject artificial sweetner in the fruits to boost their sales and earn extra money at the cost of our health. We can use a litmus kind of paper to detect the extent of externally induced sweetness injected into the fruits/vegetables as distinct from the natural one. When the vegetables/fruits are put to test by this paper strip, the colour changes if artificial usage of sweetness injected into the fruits/vegetables.

Multigrain sieving machine to clean various grains

Bodhisatva Ganesh khanderao
Class 8
Kendriya Vidyalay Yavatmal

Problem

Drudgery involved in cleansing various grains and the absence of an easy to use and cost effective method to do this chore.

👍
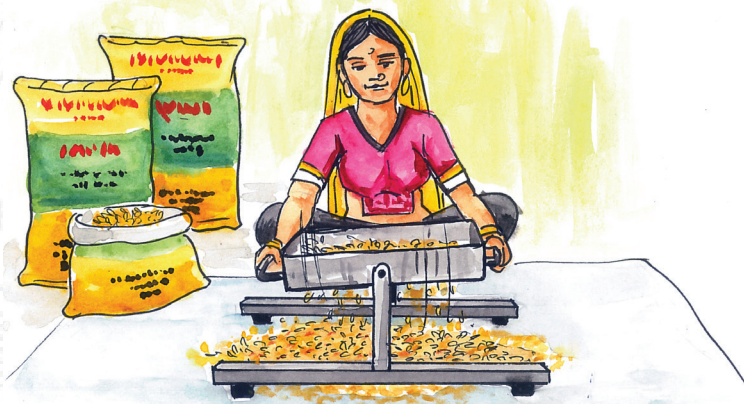
Solution

The student has designed this mechanical sieve to cleanse a huge amount of different types of grains. This is a very simple sieve which we can use manually or electrically. We can keep the sieve on a firm metal stand to be moved up and down like a see-saw to cleanse the grains. Further, we can change the mesh suiting the size of the grains.

Honey Bee Network

Honey Bee Network

The Honey Bee Network (HBN) is a social movement supported by a large number of volunteers. The network which had pioneered the open innovation culture much before the term became popular. For the past 33 years, it has been the vanguard of protecting knowledge, resources and rights of the knowledge rich, economically poor people. It aims at i) cross-pollination of ideas, promoting lateral learning among creative individuals and communities, ii) overcoming anonymity of the grassroots innovators and other knowledge holders iii) ensuring that whatever is done with their knowledge is shared with them in local language, and iv) if any profit or income is generated using their knowledge, a fair and just share should go back to the people. It has been promoting creativity and green grassroots genius in several countries. It has facilitated documentation of over 45000 ideas, innovations and traditional practices besides student projects through volunteers. Honey Bee Network has incubated a series of institutions to support green grassroots innovators and others. It has given birth to Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), Grassroots Innovation Augmentation Network (GIAN), National Innovation Foundation (NIF) and inspired many national and international innovation policies. It is 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. Various volunteers associated with the network help in scouting innovators, supporting them, mentoring them and provide help in disseminating the innovations as well.

The key areas of engagement:

- Scouting, spawning, and supporting innovations and outstanding traditional knowledge at grassroots. It links formal and informal science, tries to validate and add value in sustainable innovative technologies, promotes creativity among children and also 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, institutions (particularly common properties or community managed) for conservation of biodiversity and natural resources.
- Mentoring individual innovators in various sectors and linking 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, young inventors and encouraging them to share their knowledge with other self-¬employed people, as a 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, market and communication institutions & networks, media etc., so that more and more people are inspired to find solutions to problems of our society. SRISTI (www.sristi.org) and GIAN (www.gian.org) provide institutional support to the Network, along with other volunteers.

Linking technology students with small industry, entrepreneurs and informal sector through techpedia.in and facilitating Gandhian Young Technological Innovation [GYTI] Awards by SRISTI. Creating world's largest open-source pool of sustainable solutions developed by people without outside help, accessible to communities worldwide. Bringing out Honey Bee quarterly newsletter, a unique voice of creative and innovative people at grassroots in different languages. Motivating commercial organizations and 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 born in 1993, to support the activities of the Honey Bee Network (1987-88) to recognize, respect and reward creativity at the grassroots level.

SRISTI, as a developmental voluntary organization strengthens the spirit of creativity and innovations by knowledge-rich, economically poor individuals and communities. It builds bridges between informal and formal science, protects intellectual property rights of grassroots innovators and helps in conserving and augmenting biodiversity and associated knowledge systems.

It supports eco-friendly solutions to local problems being scouted, spawned and spread by the Honey Bee Network volunteers for the last 27 years. It also nurtures ecopreneurs engaged in conserving biodiversity, common property resources, cultural diversity and educational innovations. There are five pillars of Honey Bee Network which SRISTI is committed to backstop:

[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 so that curiosity, collaboration, and compassion grow through art, literature and crafts; [4] Technological innovations and traditional knowledge dealing with human, animal, plant and ecosystem health, and [5] Policy reforms to generate frugal innovations for sustainable development at all levels, with specific reference to youth, children, women and elderly.

Essentially, it aims at improving access of knowledge-rich, economically poor people to various informal and formal institutional resources to trigger self-reliant development process as per the Gandhian ethics and principles.

OBJECTIVES:

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

BIODIVERSITY

- Providing intellectual property rights protection and risk capital support.
- Extending necessary support for in-situ and ex-situ conservation of local biodiversity and associated knowledge system.
- Empowering the knowledge-rich, 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 the knowledge systems, build 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 which are based on grassroots innovations through commercial or non-commercial channels. Embedding the insights learnt from grassroots innovations in the formal educational, policy and institutional systems in order 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 distinctive traditional knowledge based business incubator, an entity funded by BIRAC (Biotechnology Industry Research Assistance Council, Department of Biotechnology, Govt. of India). Innovations based on 'out-of-the-box' thinking, traditional knowledge, grassroots level knowledge systems, ideas of university students and even children are supported for successful product development and commercialization. Innovations from both formal and informal sectors are supported. The incubator caters to sectors like biotechnology, biological sciences, environmental sciences, food technology, medical science and technology, nanotechnology, pharmacy, rural development and other allied areas. Currently there are 28 incubatees incubated at SIIE-SRISTI BioNEST.

CHILDREN'S CREATIVITY:

The Children's Creativity and Co-creation Workshops aims to empower children to not only identify and articulate their own problems but also identify an try to solve problems of socially disadvantaged segments, individually and/or collectively. This workshop aims to involve children in solving the social challenges faced by community and thus help us mobilize the creative potential of children around the world. The aim is to overcome persistent social inertia in emerging and sometimes even in advanced geographical regions. It is hoped that many of these children will grow into empathetic, creative, and compassionate leaders in future and will try to work towards making an inclusive and sustainable society.

INSHODH - "TEACHERS AS TRANSFORMERS"

Teachers as Transformers is the initiative of Educational Innovations Bank (EI Bank), which is partnered with SRISTI and Honey Bee Network and based at the Ravi J. Matthai Centre for Educational Innovation, Indian Institute of Management Ahmedabad (RJMCEI-IIMA). EI Bank is a clearing house for effective educational innovations developed and implemented by elementary school teachers working in the public system. Teachers in the public system continue to play an important role in ensuring education for the marginalized sections of our society. In spite of the increase in the share of private sector enrolment, the precariously placed socio-economic strata will continue to depend on this system in the foreseeable future. However, the quality and other educational outcomes of the public system have often been criticized for their less than desirable levels. The EI Bank assumes that top-down reform is necessary but not sufficient: learning from those who have performed in spite of constraints that are common to many teachers, valorizing and supplementing their work and converting this work into a resource, will expose teachers to a solution-augmenting approach to local educational reform, and motivate them.

SHODHSANKAL

The concept of Shodh Sankal (a chain of experimenting farmers) to generate a lateral learning environment among grassroots innovators was started by SRISTI in 1996. The idea was to bring together experimenting farmers and discuss the results of trials that farmers have taken up on their own to solve various local problems.

The discussion also enhances the esteem for local knowledge systems apart from speeding up the process of technological change in regions where formal technology generation system has not been very successful - such as dry regions, mountainous regions and other disadvantaged areas.

SOCIAL INNOVATION FUND

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

SRISTI INNOVATIONS

A sec 8 company was set up with the objective of strengthening the capacity of grassroots inventors, innovators and ecopreneurs in the area of conserving biodiversity and developing eco-friendly solution to local problems and is engaged inter alia in the areas of documentation, experimentation, search, development and diffusion of sustainable technologies and institutions. It now hosts the BioNEST incubator besides publishing HBN newsletters and other books in Hindi, Gujarati and English languages. It also develops commercialization products ensuring a fair share of benefits going back to knowledge providing communities.

Gandhian Young Technological Innovation (GYTI) Awards celebrates the spirit of students' innovation in engineering, biotechnology, agriculture, pharmacy, material science, design and other applied technological domains through extremely affordable/frugal solutions or the ones pushing the technological edge. It is SRISTI initiative to foster youth-driven tech innovations. Gandhian Young Technological Innovation Awards 2019 were given by the Vice President of India, Shri M. Venkaiah Naidu at Rashtrapati Bhavan, New Delhi on July 06, 2019.

Other Activities:

SATTVIK FOOD FESTIVAL

SATTVIK is the festival to celebrate 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 creation of demand for rarely or less cultivated nutritionally rich crops and varieties to stimulate their cultivation. In the regions with low rainfall, minerals inside of the soil don't leach much and hence crops which are grown there- like millets, sorghum, and pulses- are rich in nutritional value. The paradox of development is that the food that rich eat is often poor while food that poor grow (in poorer regions) is rich in nutritional value. This festival aspires to put the lesser known but nutrient-rich food from various states on the plate of urban communities, helping them to adopt healthier food habits and lifestyle. The festival also hopes to encourage farmers to grow more nutrition-rich crops and thus help them in augmenting their incomes. http://sattvik.sristi.org/

SHODHYATRA

Shodhyatra is a journey in some of the remotest areas of the country to search for knowledge, creativity, and innovations at the grassroots. It is an attempt on the part of SRISTI with a firm belief that the hardships and challenges of natural surroundings are prime motivators of creativity and innovations. It aims at unearthing such traditional knowledge and grassroots innovations. It is also a journey of mutual exchange and sharing of knowledge. Whatever knowledge and practices that are pooled in over various Shodhyatras are also shared back with the villagers during subsequent Shodhyatras, along with sharing of the various databases of the Honey Bee Network. During Shodhyatras also include women and children to display their ecological knowledge through recipe and children competitions respectively. Over the past 21 years, 45 Shodhyatras have been organised 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 co-exist with biodiversity by reducing primary extraction and generating long term benefits. Such an approach will lead to augmenting sustainable resource use and livelihood support systems. it converts local knowledge and resources into value added products with simultaneous development of processing facilities in rural region where natural resources exist but not enough in situ value addition takes place.more at http://www.sristi.org/sristi-lab/

AASTIIK

Academy for Augmenting Sustainable Technological Inventions, Innovations, and Traditional Knowledge (AASTIIK) began as an independent programme in 2005. It aims at creating a virtual and real knowledge community of professionals and experts in the field of invention, innovation and traditional knowledge

TECHPEDIA (www.techpedia.in)

Techpedia, an initiative of SRISTI, aims at putting the problems of micro, small and medium enterprises (MSMEs), 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 utilised much of the technological outputs of millions of students. But, this apathy will continue no more. Can a knowledge society really afford to ignore the huge talent, distributed in thousands of polytechnics, diploma and degree colleges of engineering, pharmacy, medical science, agriculture etc.? SRISTI is providing a platform for the industry and academic institutions to collaborate, co create and foster distributed and horizontal frugal innovations.

Goals of Techpedia

Promotion of originality among technology students by making it impossible for them to repeat what has already been done before. This will be possible only when they can find out what has been done before. Techpedia has 204,000 technology projects done by about 600,000 students from more than 600 colleges in India.

- Connecting the technical students with the problems of informal unorganised sectors and grassroots innovators.
- To harness collaborative potential of students across disciplines and colleges to solve persistent problems of our country in formal and informal sectors.
- Explore kho kho model (relay) of product development; the idea is that if one student group has brought the solution of a particular problem to a specific stage, the next group of the same/other department should be able to build upon it and take it forward.
- To pose challenges for students to address unsolved problems of our society. Gandhiji had announced an award of 7,700 pounds (Rs 100,000) to redesign charkha (spinning wheel). Today, the value of this prize will be more than Rs 10 crore. Industry association, government and others can offer attractive prizes for solving those problems which have remained unsolved for so long.
- Developing high-tech capabilities through network platforms so that India

becomes a hub for high-tech outsourcing for the world in future and does not serve only the low-tech needs.

- Promoting both IPR protected and open-source technology and eventually develop techpedia.in into an online virtual sanctuary of innovations and not just an incubator.
- Creating real-time online National Mentoring Network (NMN) to harness skills, insights and experiences of senior tech experts, for mentoring young students. Also, remote reverse mentoring by young start-ups and students.
- Encourage some of the innovations through SRISTI Social Innovation Fund, set up recently to promote frugal and extremely affordable socially useful ideas.
- Leverage policy and institutional changes to make innovation ecosystem more responsive to societal needs and aspirations of young talent.
- Organize summer schools to address specific social challenges so that young students can try to overcome institutional inertia by coming out with new prototypes for removing child labour, enhance women safety or supporting autonomy of physically-challenged people etc.
- Build 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 for tapping their creativity to address unmet social needs for over 30 years. World over, children are often treated as a sink of sermons rather as a source of ideas. The children creativity workshops are organized see the societal inertia through the children eyes. They are empowered to do research and identify the unmet social needs, and suggest solution. Later, the engineering and other students take some of these ideas besides others for fabricating solutions for addressing these problems.

Purpose is to generate extremely affordable solutions over next three weeks which improve the quality of life of poor children, women, workers and other disadvantaged social segments. It is possible that solutions developed during summer school may not be fully finished. We will give opportunity to some of the participants or external designer to finish these in coming months in partnership with the potential users.

Even if some of the problems remain unsolved, there will be better appreciation

of the pathways that will not resolve these problems. SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions) has organized this Summer School on Inclusive Innovation through open, reciprocal and responsible frame work guided by the Honey Bee Network Philosophy. It is hoped that young students will learn not to be patient with inertia. They may be sharpen their perceptions to learn the transition from samvedana to srijansheelta (empathetic way of creative problem solving).

A palm leaf broom maker has to beat the leaves on a wooden plank mounted with nails to tear a leaf into fine fibres. The drudgery involved in this act drains much of the energy of women who generally do this task.

Similarly, hundreds of thousands of tribals have to crack mahua nut to get the seed out for oil extraction. The construction workers carry brick on their heads straining their necks and spines. Women in Saurashtra and many other regions get hurt while harvesting the fruits from cactus like opuntia growing on the field bunds. Amla harvesting in the forest often involves cutting branches rather than just harvesting the fruits.

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

Every institution in the country will have to take the responsibility of mapping the unmet social needs in their hinterland and address them through student projects and summer and winter schools. Like every initiative that Honey Bee Network has taken, it may take years before policy and institutional reforms follow. The structure of governance in any society cannot remain indifferent to the persistent problems of the disadvantaged people for too long.
Email: summerschool@sristi.org Web: ss.sristi.org

IGNITED MIND

In the 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. Dr. A.P.J. Abdul Kalam Children Ignited Mind Creativity and Innovation Award competition accepts entries from students up to class 12 and also from school dropouts. This award aims to develop a culture of the "Samvedna" among children to find solutions to the local problems addressing unmet social needs. The idea is to make children aware of the problems and hardships which are faced by common people in their day-to-day life, problems with which many of us have learned to adjust and adopt. It is believed that if children start becoming impatient with social inertia at an early age, it is likely that they will bring about more creative and compassionate changes in the society as they grow up.

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, Govt. of India) has been organizing a three-week SITARE BIIS (Students Innovations for Translation & Advancement of Research Explorations-Biotech Innovation Ignition School) for validating, value-adding and product development around grassroots innovations since 2017. The BIIS tries to develop solutions for grassroots applications for humans, animals, and agricultural applications including herbal technologies, medical devices, and microbial applications.

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

The topics for the online course BIIS are designed based on the following fields and as a part of webinar we will assign some projects to the students primarily in five action-research areas drawing upon the Honey Bee Network Database:

1. Pharmacognosy/Phytochemistry - SRISTI's Grassroots database contains many traditional knowledge practices as well as contemporary innovations from across the country. These projects would involve validation/ value addition to these practices. A few of these practices are presented here- http://www.sristi.org/hbnew/honeybee_database.php
2. Soil Microbiology-SRISTI has a Microbial diversity bank containing 8000+ organisms (bacteria, fungi, and actinomycetes) isolated from the soil samples collected during ShodhYatras (learning walks for scouting and sharing innovations and local practices) in different parts of the country (http://www.sristi.org/cms/shodhyatra). An extensive study of screening these isolated microbes for novel human, animal, and agricultural applications would be conducted.
3. Veterinary Medicine- Validation of traditional practices for the improvement of livestock health, nutrition, and productivity.
4. Agriculture- Validation of grassroots practices by conducting trials in the lab, on the station, and in the field for product development/improvement.
5. Medical devices- Value addition/product development of any of the open-source projects listed on our summer school website (http://summerschool.sristi.org/) or medical devices for human and animal health care or meeting any other unmet social needs.

Eligibility to apply:
Students pursuing bachelors programs in life sciences can apply. The student should have a valid ID issued by the Institution/University. A few seats are reserved for post graduates too. In exceptional cases, even school children with interesting ideas may be considered.

The reading material for each subject will be shared with the selected students in advance. The participants would be expected to do literature review before joining the School. These students will be having expert lecture of various life science fields like, microbiology, agriculture, medical devices, biostatistics, phytochemical extraction procedures, live experiments and demonstration of various lab equipment (AAS, HPTLC, HPLC, ELISA, PCR, BSL-I & II etc.) during the webinar.

They are likely to develop a project proposal as well as work plan. These students would receive an expert feedback on their proposals from the reviewers.

The assignment, quiz and work done by students during the BIIS webinar will be assessed on the last day of the school. The outstanding studies (up to 10 per BIIS) may be identified for further support of INR 1 lakh each as SITARE-Appreciation Award Grant. The grantees are expected to conduct further research on the topic given either at home institution or at SRISTI lab.

Above all, students would get an invaluable opportunity to interact with both national and international experts as well as grassroots practitioners/innovators in their respective fields. It is hoped that each participant becomes a volunteer of the Honey Bee Network which has helped in scouting and disseminating rural creativity and innovation over the last three decades.

All the output will be credited to the grassroots knowledge providers and can be published thereafter with prior written concurrence of the BIIS team and knowledge providers.

Highest ethical code of biotech research is expected to be followed. Team spirit and willingness to develop open source solutions will be highly encouraged. Peer learning will be strongly encouraged. The findings will be shared with knowledge providers in local language with the help of SRISTI and Honey Bee Network team. Undergraduate student from life sciences can apply through the link https://birac.nic.in/ gyti_registration.php?scheme_type=23

gian
www.gian.org

Grassroots Innovation Augmentation Network [GIAN]

One of the major reasons why grassroots innovations are not able to scale up in many regions and sectors is lack of handholding support for reducing their transaction cost in leveraging linkages with investors and entrepreneurs. The grassroots innovators cannot often make or present a business plan, nor can they construct scenarios under different assumptions of demand subject to availability of varying capacity for fabrication, manufacturing or development of other products and services. GIAN was set up in 1997 as a follow up of ICCIG (International Conference on Creativity and Innovations at Grassroots) held at IIMA in collaboration with Society for Research and Initiatives for Sustainable Technologies and Institutions [SRISTI] and Honey Bee Network.

The golden triangle for rewarding creativity thus became the purpose of GIAN. The reduction in ex-ante and ex-post transaction cost of innovators, investors and entrepreneurs was to be achieved by several operating principles: Never to ask innovators to come to office, instead provide them support at their doorstep; and organize financial, intellectual property, product and business development and dissemination support.

With a small team and limited funds, GIAN has achieved an admirable track record. So much so that it shared the best incubator award with IIT Madras at the hands of the then President, Dr. A.P.J.AbdulKalam by Department of Science and Technology, 2003. GIAN worked in close collaboration with SRISTI which scouted various innovations for incubation purposes.

In fact, the model of GIAN was scaled up in 2000 in the form of National Innovation Foundation [NIF].

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

Genesis

Being a pioneer is not easy. One has much higher expectations from pioneers. There is no template to copy from and much of learning takes place by doing.

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

Having got the best Incubator award in 2002? At the hands of then President, Dr A P J Abdul Kalam, jointly with IIT Madras, it made a point. India's first grassroots innovation incubator was a viable pathway to reduce transaction cost of innovators, investors and entrepreneurs. The golden triangle (see fig one) for rewarding creativity, now well known, summarizes the purpose of GIAN, handholding a grassroots innovator in her journey to become a social and/or economic entrepreneur. With passage of time, GIAN has expanded its scope work. It now works with women's groups, tribal communities, students of ITIs and polytechnics particularly women polytechnics besides farmers.

It works in all sectors of human survival and adds value to people's knowledge in collaboration with other HBN institutions such as SRISTI and NIF. It has an independent board having three additional chief secretaries of agriculture, Industry and rural development departments, independent industry reprsentatives, faculty, IIMA, Director, EDI and Director, IIMA and NID are permanent invitees.

Mission

GIAN aims at sustaining the spirit of innovation, encouraging experimentation and nurturing creativity at grassroots level of knowledge rich economically poor people, students, mechanics, workers, young start-ups by contributing to the creation of a knowledge network. This Network empowers the innovators, stems the erosion of traditional knowledge systems, recognises and augments contemporary innovations, and facilitates 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 Honey Bee data base which are amenable for scaling up, prototype development, diffusion with or without further value addition.
- To participate in the process of value addition being done 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 and high net-worth individuals to strengthen the ecosystem of grassroots innovations.
- To undertake market research, project development, provide design, IP related and entrepreneurial support and help in protection of their intellectual property protection.
- To influence policy at micro and macro level to make it more responsive to the needs and expectations of green innovators so that society becomes 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 the innovators
- To trigger a rural development process that provides an alternative model of poverty alleviation in a fair, just and dignified manner through local resources, knowledge or otherwise

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 in Gujarat, Maharashtra and Goa. However, it can mobilize innovation from any other regions for application in these states. Likewise, it can disseminate innovations from this region in other parts. It has recently started work with the students of ITI and polytechnic, besides school children. It has set up community innovation labs in one of the government primary schools in Ahmedabad. It has also experimented with community food and nutrition lab so that poor people [but also others] can

get more nutrition out of available food materials for healthier future. It is well known that despite economic growth, many regions in our country suffer from high anaemia among women and malnutrition among children.

How can you support GIAN?
Besides CSR and other kinds of funding support, GIAN will appreciate professionals on short term sabbatical, internship, apprenticeship with innovators or incubators; remote mentoring support, exposure for its staff, infrastructural support, mobile food and nutrition labs for women, community innovation lab, sponsorship for summer and winter schools for inclusive innovation to address the unmet social needs, shodhyatas, etc. GIAN also wishes to join hands with SRISTI in online courses in different languages on how to invent and innovate. GIAN wishes to organize mobile exhibition, also build a stationary centre for inclusive innovations; public books, collaborate in bringing out Honey Bee newsletter started 28 years ago, in different languages.
Trust, transparency and accountability

GIAN is committed to uphold highest standards of ethical responsibility in managing resources and other non-material contributions. GIAN welcomes opportunities for social audit where the people with whom it works evaluate its working and various contributions.

Honey Bee Network Innovation Club

Search

Unless young students go out into the field, villages, urban workshops, slums and other MSME clusters to find out innovations by common people as well as others, they would not know the creative potential that already exists in our country. They can mobilize ideas from school children, college students, roadside mechanics, farmers, artisans, homemakers and others for solving various problems or improving the quality of life through incremental innovations. Every time a hidden innovation is brought to surface, many more people feel encouraged and may start trying to solve problems through their own genius. If every college and university starts mapping creativity in its hinterland, the whole society will bristle with positive energy and unleash tremendous dynamism in the economy. The innovations in different fields such as technology, education, institutions, public services, private enterprises, cultural creativity, governance at different levels, etc., will be documented first in a synoptic way and then detailed documentation will be taken up of the more significant ideas. In different courses, these ideas and documentation can be incorporated as a part of curriculum. The social, cultural, ecological, industrial and institutional connect are extremely important for overcoming possible alienation of people in certain areas.

Spread

Diffusion of existing innovations whether sourced from Honey Bee Network and National Innovation foundation [NIF] or other depositories have to be shared with the local communities in a systematic manner through various creative pedagogies and performances. In fact, searching innovations without sharing may neither appear very credible nor even ethical. In the process of sharing, the students and faculty will themselves become aware of how creative our country is and how limited is the support extended to these people/communities by the formal sector including academia. Such a realization will do more to trigger introspection and generate empathetic culture for blending ideas from formal and informal sector. The students can organize exhibitions, have street theatre performances or follow other means of creating awareness about innovations in the nearby villages, schools, communities, clusters of industry, government departments, etc.

Sense

There are a lot of problems in our society which have remained unsolved for long. Unless we benchmark the persistent problems and try to address them within the means available, we may develop an attitude of living with them indefinitely. Such an attitude will never let our society progress in the long term. Idea here is that students from different discipline should benchmark unsolved problems or challenges in different sectors, at various scales affecting numerous social groups. In technology institutions, third year students can go to both MSME clusters and units and informal rural and urban sector and benchmark the problems to be addressed. They can be given credit for identifying the problem and writing a synopsis on it. In the final year, they can take up projects to address these problems in one or two terms. Accordingly, they can get credit for that too. Practical examples of such a process are given at www.techpedia.in. The innovative solution can be given prizes at university level and also at national level through competition like Gandhian Young Technological Innovation Awards. In social sciences, one can identify gender and other cultural problems and address them likewise through action research approach. Language related students can help improve the linguistics skill of school children and develop innovative pedagogies. If every student develop one lesson for any one topic and for any class, a huge repository of open source local language lesson for school children can be developed to overcome the asymmetry in access to basic education. Different challenges can be sensed and responded.

Celebrate

During the interactions with different social and institutional segment, a lot of outstanding achievers. Will be identified in the hinterland. There may be an outstanding doctor who may have contributed in big way for making the communities almost disease free or a teacher who has created a very rich learning environment in a school or an innovator who has solved a problem or a public or private functionary who has created public goods for larger social development. There may also be outstanding artists, writers or other change agents who need to be invited in the universities to inspire students and create and insatiable desire to excel and serve society.

Honey Bee Network Innovation Clubs can be coordinated by the students under the oversight of empathetic faculty members. Students should have as much flexibility and freedom as possible. They should organize interaction with innovators in different fields and try to add value where possible, help in diffusion, create markets, provide linkage with other innovators and stakeholders and forge a knowledge network

around innovations. They should not remain restricted only with local innovations. They should also mobilize ideas from outside for local development and vice versa. If a few session can be organized in different course to rigorously analyze the heuristics, triggers, motivations, outcomes and ecosystem characteristics, more and more student feel encouraged to take risk and try new ideas.

HBN will support the value chain development in the case of innovations from informal sector and by school children. The mandate of HBN is restricted to support ideas, innovations and outstanding traditional knowledge practices from the unorganized sector by individuals or communities who have not received any professional training or support. The educational, cultural, institutional and other governance related innovations will be pooled by Society for Research and Initiatives for Technologies and Institutions [sristi.org] and linked to various other programmes. In due course, support may be mobilized to give traction to these ideas. At present, the major contribution will be to give voice and visibility to the innovative ideas in various sectors. Volunteers from among faculty, staff and students will hopefully join hands with the innovators at different levels and in different sectors to ensure widest application for creative and compassionate ideas. Collaborative culture is likely to emerge when learning across formal and informal boundaries get reinforced. During the visit of the Hon'ble President, such clubs can be inaugurated and the team of volunteers can be blessed by the President so as to motivate them to excel in search, spread, sense and celebrate the creativity and innovation in our country.

NOTE

Honey Bee Network

Creativiy & Inclusive Innovation Awards HBN CRIIA

Submit your
- Ideas
- Innovations
- Prototypes

Do you have any creative & Innovative idea or Traditional Knowledge practice which solves day to day problems faced by us, animals or environment, anywhere in the world ?

Anyone around the world can A P P L Y!

Selected ideas and social innovations will be conferred HBN CRIIA Award and also given incubation support

Send your entries to
HBNCRIIA@gian.org or post them to GIAN
Bungalow No.1, Satellite Complex,
Nr.Mansi Crossroads, Satellite Complex,
Ahmedabad – 380 015
Call us at +91 8511600455, 079 26769686

Last date to send your entries is 31 August, 2021

Dr A P J Abdul Kalam Ignited Mind
Children Creativity and Innovation Awards 2021

Students are there not just to teach to, but they should be
seen as a crucible of creativity in themselves.

If you have ever thought of a solution to any common, day-to-day life
problems and have devised or thought of any method to solve them, and
if you are a student from class 1st to 12th, then send us your innovative
ideas on below address or email ID, or simply fill out the Google form
given below to participate in the competition.

- A student can send more than one entry.
- You can send a sketch or drawing of your idea/innovation with your
  submission, though it's not compulsory.
- If a teacher is involved with a student in devising any idea, s/he will
  also be awarded.
- Kindly ensure that you send your original ideas only unaided by
  anyone ingenerating the ideas. Teacher's/parent's involvement
  would be accepted only at the application/designing/prototyping
  stage.

Email : ignitedmind@honeybee.org
Link : https://bit.ly/Ignitedmind2021
(M) 9313246772

For teachers and parents: Kindly make sure that you don't send your
ideas in the name of a student. If you have any idea/s, you may submit
the same separately at hbncriia@honeybee.org.

Last date to send your entries is 31 August, 2021

www.sristi.org   sristiinnovation.com   www.gian.org   csir.res.in