Grassroots Innovations

pathways for inclusive development

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Honey Bee Network values

Towards our Common frugal and inclusive future
Underlying values of Honey Bee Network influencing public policy and institutions
Shodhyatra: learning walks to fertilize our imagination by scouting, recognizing and sharing frugal grassroots innovations & knowledge systems
Fertilizing Imagination

Can tail wag the dog:

Every grassroots innovation questions inertia

Is a response to an unmet needs
Towards Our common frugal future:
inclusive innovation eco-system
Pathways for sustainable frugal future

- Scouting and documentation of GRI
- Validation and value addition
- Risk fund/grants/trial/demonstration/dissemination, MVIF
- IPR protection as well as sharing as DIY/open source
- Technology commons
- Multimedia-multilanguage Database for wider access
- Policy modulation
- Standards, public procurement, inclusion in institutional recommendation
Accessibility
- Adaptability & flexibility

Affordability
- Reliability, Environmental suitability & circularity

Availability
- Redesignability
- Acceptability
Frugal

sustainable

Inclusive
GRIs may help to overcome six kinds of exclusion

- Spaces
- Sectors
- Seasons: risky environments
- Social segments
- Skills and knowledge
- Structure of governance

Inclusive Innovation
A change not monitored is a change not desired:

how often have we scouted and spawned creative innovative voices from outside the company in our respective verticals. Are we listening, learning and leveraging the innovations from/for Grassroots/shopfloor, vendors, members supply chain and users to reach the unreached bypassed/neglected 6-S spaces, sectors, time/seasons, skills, social groups and structures of governance
Drivers of bottom-up grassroots innovations

Unmet needs
- Under-utilised resources
- Under-utilised skills
- Repurposing used materials
- Need for environmental care
- Impatience with inertia
- Desire to improve livelihood
- Intrinsic or extrinsic motivations
- Just Playfulness
Mind to market:
the case of herbavate, a skin ointment

Novelty through pooling of traditional knowledge
Herbvate: a skin ointment

• It is based on the knowledge of seven innovators from six districts Sabarkanth, Panchmahal, Dang, Mahsana, Patan and Bhavnagar of Gujarat. Herbavate exhibits remarkable properties against eczema and variety of inflammatory and infectious skin conditions.

Six community reps were invited at the launch of the product, Royalty shared by SRISTI with six communities every year.
Try to forget the pain of back bending centuries of paddy transplanting: inertia of 2000 years

Source: https://picasaweb.google.com/lh/view?pq=paddy+transplanting+image&hl=fr&sugexp=gsis,i18n%3Dtrue&cp=31&gs_id=n&xhr=t&q=paddy+transplanting+image+india&nord=1&gs_sm&gs_upl&bav=on.2,or.r_gc.r_pw.&biw=1360&bih=624&ion=1&um=1&ie=UTF-8&sa=N&tab=wq#5225312498863276162
Gandhi announced a Global innovation challenge for addressing an Indian unmet need

Mahatma Gandhi's Announcement of a Design Competition, 24th July 1929 One Lakh Rupees or 7700 Pounds Prize!

Akhila Bharatiya Charkha Sangh Worker's Samiti has decided to organize this contest for inventors and engineers all over the world that if they could come up with a Charkha or a Samyukta Yantra which - for making the thread and cloth that satisfies the following criterion - shall be awarded prize money of 1 Lakh Rupees or 7700 pounds.

Can we have such prizes for different location specific challenges for each priority sector and district ??
https://youtu.be/QLKiQg4dQp8
A recent news

A woman dies by falling of cluster bus in east delhi

but years ago, four school students R Santhosh 11, K Rathna, A Nivashini, J Rajasekar, 10, Tiruvarur, TN from TamilNadu suggested to have a simple sensor on the steps so that if anyone is standing on the steps, the bus will not start

How many more should die before the standards for bus design for urban transport should be revised?
If a person is sitting on the chair in a wrong posture, an alarm will start ringing and not stop until the person corrects the posture. Else, a camera in computer device or TV screen will sense the wrong posture and display a message, “sit properly before u can work”
**Inclusive Innovation**

**Modified walker with adjustable legs**

*Shalini Kumari, then Class eight  
Bihar*

Shalini’s grandfather used a walker to assist him while he walked. But she noticed that he could only use the walker comfortably while walking on a level surface. Shalini came up with the idea of the modified walker with adjustable legs. She has also thought of including a folding seat so that the user can rest for a while when required and fitted a horn and a light to it as well. NIF licensed this technology to a company recently.
The Problem

- *Eichhornia crassipes*, commonly known as *(common) water hyacinth*, is an aquatic plant and *invasive species*
- Almost all the urban lakes are suffering from this invasion
- The only way of removing it, till now involves use of human labour in a big way which is cost ineffective and unsuccessful.
Godasu Narsimha removes aquatic weeds

- Narsimha is a fisherman from Muktapur village, Pochampally Mandal, Yadadri dt, from Telangana
- grassroots innovator, barefoot engineer par excellence.
- The machine can cut and remove about 2 tonnes every 10 mts or 70 tonnes per day (8 hours)
- The ideal time of removal is during summer and before October.
- Exported to Kenya through HBN and Ministry of External Affairs facilitated by Palle Srujuna
Transformation of a lake
Tree cum pole climber by Mr. Venkat D.N, TN

The device makes it simple and easy to climb trees. It is operated by using hand and leg. Upper frame is operated by hand and lower frame is operating by leg. By up and down movement of upper and lower frame one by one, a person can climb on tree. Due to sitting arrangement, the climbing person can rest when tired or where work is to be done.
Innovator has developed various innovative clay products like Mitticool refrigerator, Non Stick Clay Tawa and Clay cooker. His annual turnover is more than one crore.
Mansukhbhai Jagani, Gujarat, India

Using the self-fabricated chassis, 10 HP diesel engine, local gear box coupled with transmission assembly and local differential, Mansukhbhai developed a three wheeled farm equipment with a tool bar at the rear wheel to fit various farm implements.

Designing a traction device for small farmers who can’t afford tractors and have difficulty to find fodder for bullocks due to drought in that year:

- Smaller than the tillers and tractors, but stronger than draft animals
- Fuel efficient, sturdy, easy to handle and operate
- Because of light weight, it prevents soil compaction, can be used for orchards and plantations crops
Bullet Santi – Operations

Sowing

Interculture

Spraying

Farm transportation
Concept of Technology Commons

- Over 200 fabricators are making derivative innovations versions of Bullet Santi
- Over 10,000 santis deployed in the farms
- A successful story of large scale diffusion of a grassroots innovation.

- The concept of ‘Technology Commons’ implying no restrictions for other innovators to copy and adapt. But commercial firms will need a license from members of the ‘Technology Commons’.

- The concept is based on the need to bundle lead technological innovation and its derivative innovations so that people to people learning, imitation and replication would not only be tolerated but even encouraged.
Learning, derivative innovation, modification & replication
Legend
Santi Manufacturing
Model No.
- ▲ 1 - 4  Manshukhbhai Jagani
- ▲ 5  Shaileshbhai Chauhan
- ▲ 6  Mekaranbhai Der
- ▲ 7  Rajubhai Chikhaliya
- ▲ 8  Rashikbhai Siddhpura
HONEY BEE FRUGAL TILLER
(SANTI/SHUJAA, Kenya)
Mansukhbhai Jagani - Gujarat, India
Leveraging partnerships

Towards an inclusive Ecosystem: partnerships, platforms, processes and performance

Partnership with
• pro bono IPR firms
• Science and Technology institutions in public/private/civil society sector
• Commercial and non commercial diffusion networks
• Educational institutions etc., designers, fabricators
How can Honey Bee Network help

Share the operational knowhow
About the workbook and Help in strengthening GRI Ecosystem
Search, spread, celebrate, sense unmet social needs:
Honey Bee Network innovation hubs
How did it happen:

The Honey Bee Network, an informal global social movement, started in 1987-88,

SOCIETY FOR RESEARCH AND INITIATIVES FOR SUSTAINABLE TECHNOLOGIES AND INSTITUTIONS (www.SRISTI.org) info@sristi.org
1993

GRASSROOTS INNOVATION AUGMENTATION NETWORK (www.GIAN.org) 1997

NATIONAL INNOVATION FOUNDATION (www.NIFindia.org) info@nifindia.org 2000

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The journey.....
Creativity counts
Knowledge matters
Innovations transform

Incentives inspire

(not just individual, but also collective, not just material, but also non-material)

Join the Honey Bee Network!
For rewarding indigenous/grassroots creativity and innovation