

International Week of Innovative Ideas 2022 (Innoweek 2022)

Green Innovations for Sustainable Development

Enabling mechanisms for technical cooperation to foster green innovation

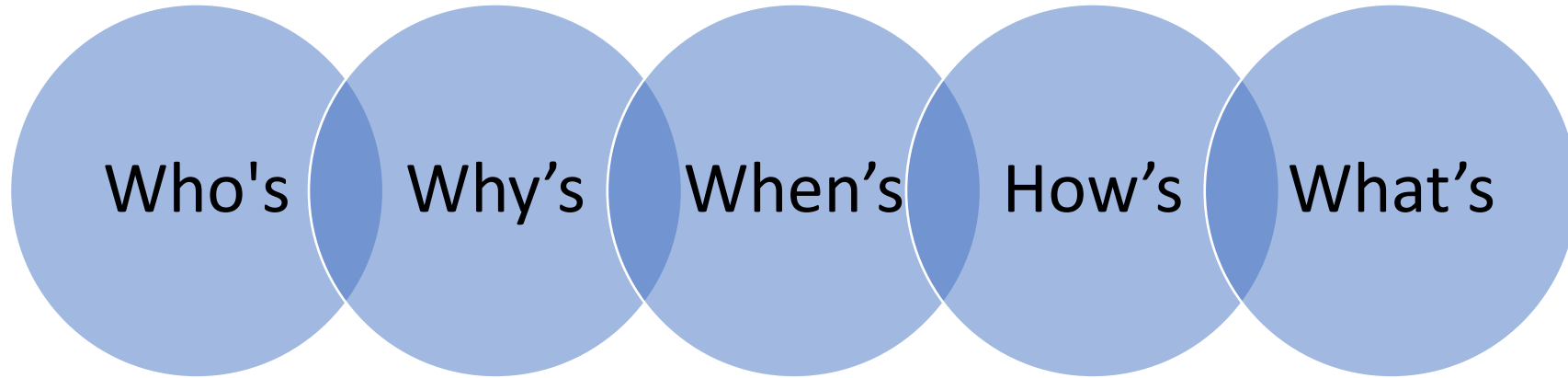
*Promoting grassroot **green** innovations – Examples and good practices*

Tushar Garg, India
Scientist



October 2022

The ...



of the grassroot **green** innovations

10 minutes

Analogy : Banking & Finance in day-to-day life

✓

X

Good: Bad = 4:3

Good: Bad = 3:4

Earn

Spend

Earn

Spend

Bad Txn 2

Good Txn 2

Bad Txn 1

Good Txn 1

Good Txn 2

Bad Txn 1

Good Txn 1

Bad Txn 2

Good Txn 1

Bad Txn 1

Good Txn 1



Analogy : Banking & Finance in day-to-day life... cont'd

Premise

Moral consequences of our transactions matters

Corollary

We'll always be confronted with a mix of perfect and imperfect choices we could potentially make, and hence, we should focus on “Maximizing the advantages” and “Minimizing the disadvantages” inherent in them

i.e., Advantages outweigh disadvantages

“Best available” solution outweigh “no solution” at all

Arriving at an acceptable **solution**

Analogy from the day-to-day life

If "advantages" > "disadvantages", then it is considered to be an acceptable solution



E - Environment
S - Social
G - Governance



An example of a new **green technology** that the world is increasingly accepting ...

Likewise, in India “Grassroots Innovators” are solving unmet needs of the society by generating acceptable solutions which on day zero may appear crude but as they get incubated their advantages & acceptance grow with time



Common people



When's

Upon confronting with an unmet need



Why's

There is a “Bold aspiration” to “rise to the occasion” & choosing “not to sleep with the problem anymore”



How's

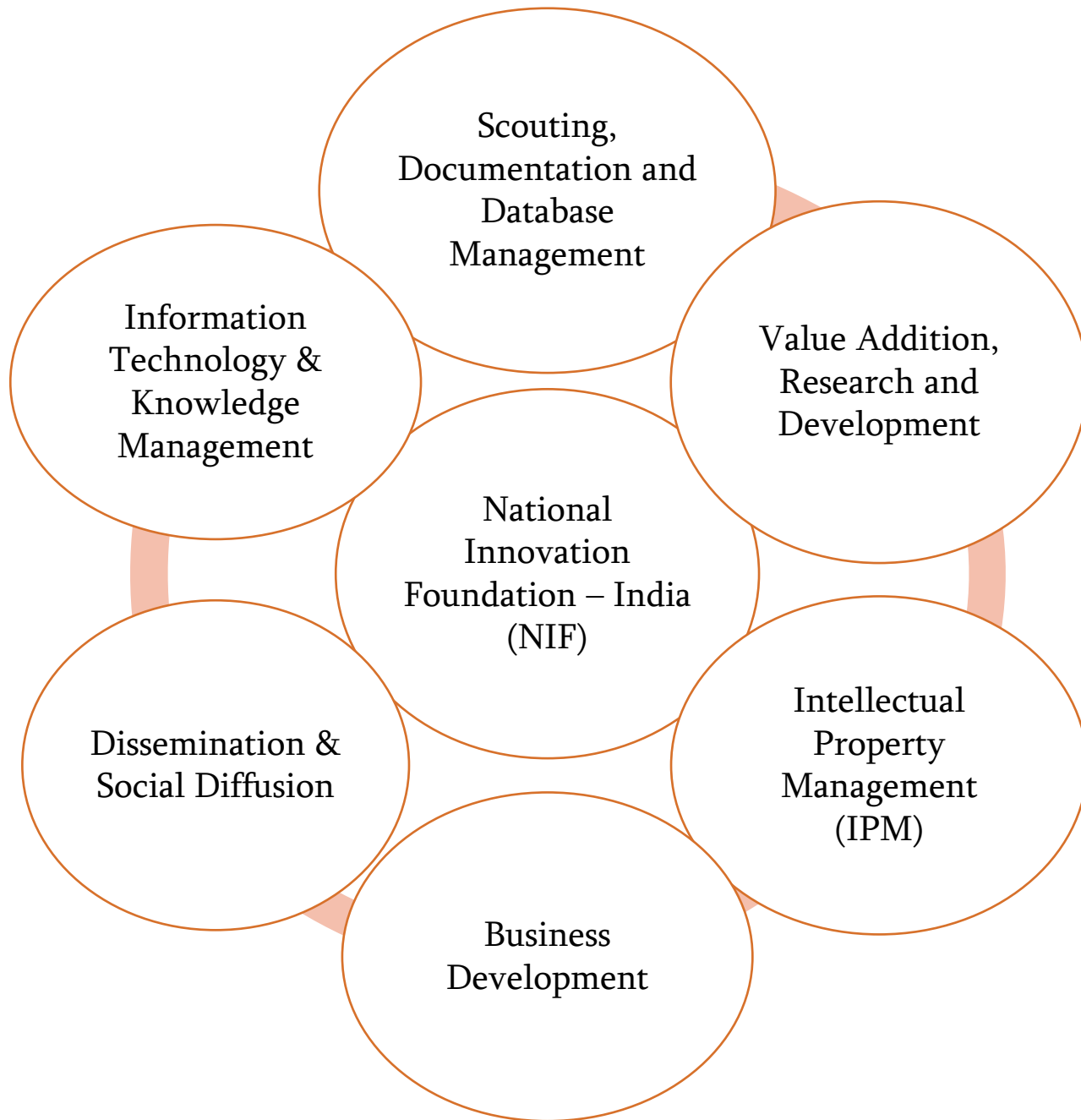
Optimally utilize the limited resources available around to arrive at a “Science and Technology based innovative solution” by application of their “wisdom



What's

A solution which is meritorious enough that
someone is willing to pay for it for
consumption & invest in it for social
dissemination & commercialization

In India, the process of *incubation* of “Green Grassroots Innovations” is institutionalized through the National Innovation Foundation (NIF) - India



Journey of a
grassroots innovation

...

India is a leader in Frugal & demand-driven innovation: Francis Gurry

By [Vinay Pandey](#), [Ruchika Chitravanshi](#), ET Bureau | Updated: Mar 06, 2017, 01:27 AM IST



Save

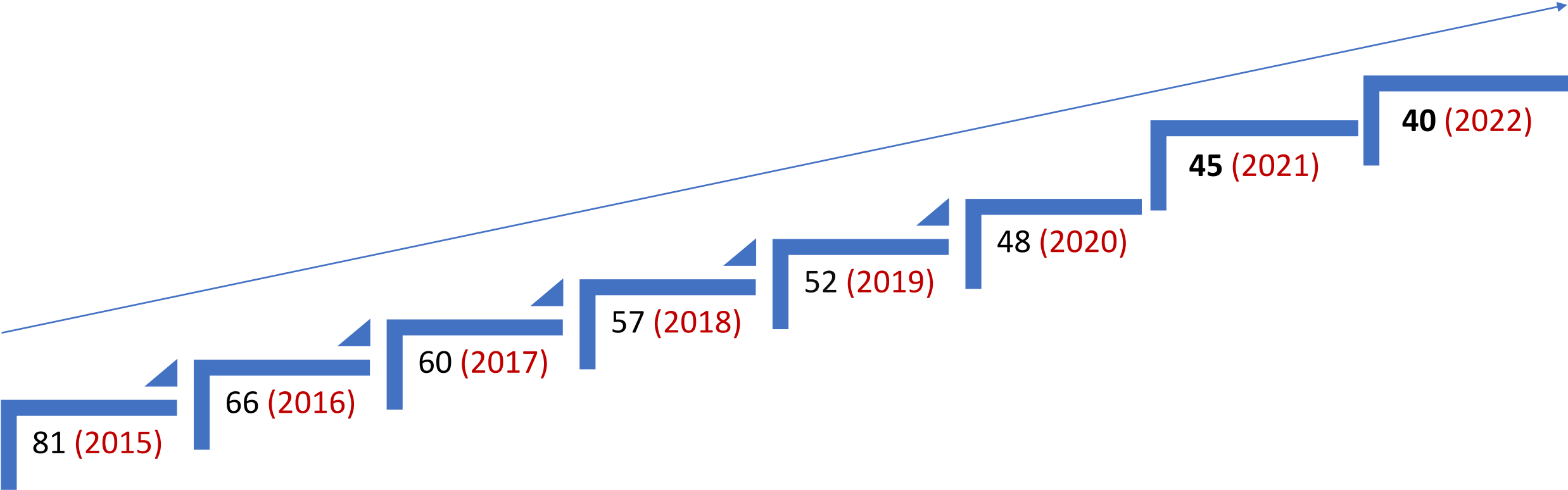


India is getting recognised as a leader in frugal innovation in a world where countries are competing on innovation plank and not labour costs, **World Intellectual Property Organization (WIPO) director general Francis Gurry** said in conversation with **ET**. He said demand driven innovation is a big opportunity for India that can address its social and environmental problems. Edited excerpts:

Employment is an integral part of human dignity, he said.

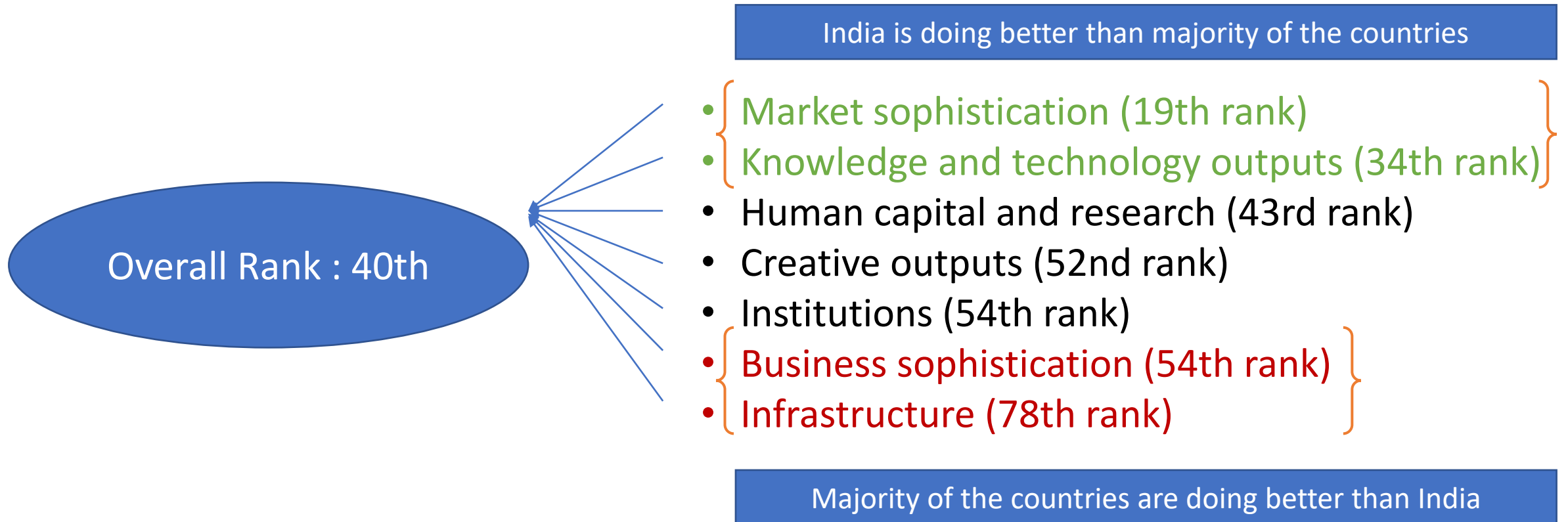
When we talk about intellectual property rights (IPR) there is an apprehension in the developing countries that it is an agenda pushed by the developed world...

Global Innovation Index (GII) – India’s ranking during last 8 years



Source: WIPO

Global Innovation Index (GII) 2022



Technological Innovation areas

Engineering

Agriculture plant varieties

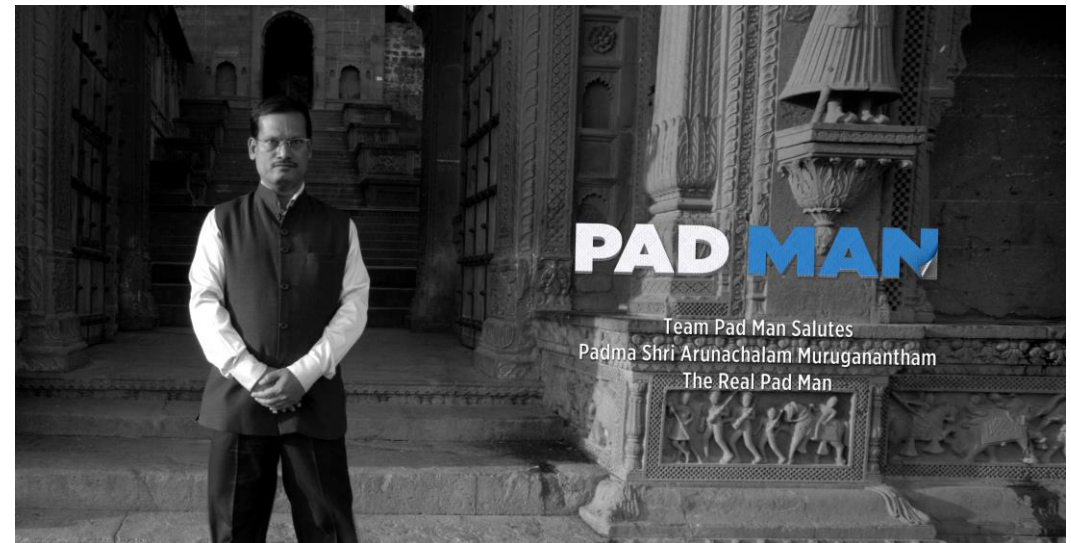
Veterinary Science

Human Health



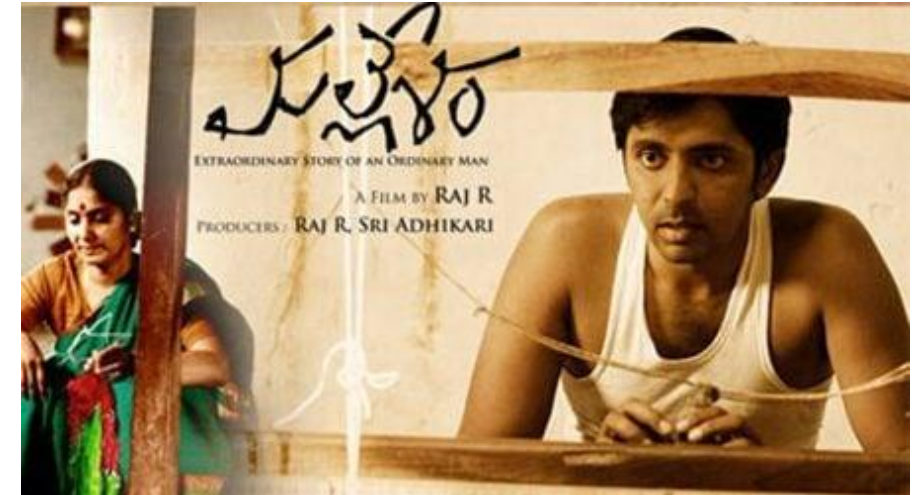
Selected Notable stories of Grassroots Innovators from India

Mr Arunachalam Muruganantham – Sanitary Napkin Making Machine



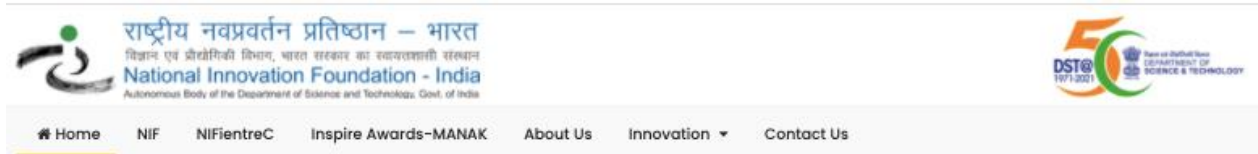
Selected Notable stories

Mr C H Mallesham – Laxmi Asu Making Machine



Mallesham was conferred with Honorary Degree of Doctor of Letters by GITAM (Deemed to be University)

The Innovation Portal of NIF : 1.3 Lakh Innovations in public domain



Beyond the boundaries of formal institutions, a large number of individuals in the informal sector have been engaged in innovative technological pursuits of their own. Over the last two decades, the National Innovation Foundation - India (NIF) has been earnestly scouting and documenting such technological ideas and innovations of the people at the grassroots and school students from all parts of the country to identify the novel innovations and practices to be taken forward for incubation.

This portal is an initiative of the NIF to bring into the public domain the database of technological ideas, innovations and herbal knowledge available with it. These innovations pertain to various domains such as agricultural machinery, household gadgets, energy, transport, electronics, and communication, general utility, plant varieties, herbal plant protection practices, herbal veterinary practices, among others.

NIF encourages MSMEs and entrepreneurs to explore the portal, identify innovations for manufacturing and/or marketing, and get in touch for further discussion. Other visitors such as researchers, readers, etc may relish going through the creative work undertaken by grassroots innovators and school students from all parts of the country.



<https://innovation.nif.org.in/>



INNOVATIONS



Modified Combine Harvester

Profile: Mr. Surendra Prasad hails from Sant Kabir Nagar district of Uttar Pradesh. Due to poor economic conditions and a father's ill health, he had to leave studies at an early... [View More](#)



Tractor Operated Paddy Transplanter

Profile: Innovators Mr. Shyamvir Singh and Mr. Ved Prakash are originally hailing from Uttar Pradesh. They are farmers with knowledge of fabrication and machinery. Ved Prakash tried his hands at farming... [View More](#)



Extra Weft Handloom Machine

Profile: Innovator Mr. Dipak Bihari hails from Kamanupa district of Assam. Purpose Shri. Dipak has developed a machine that ensures weaving of better quality fabrics. Technical details the device consists... [View More](#)



Modified Palmyrah and Coconut Tree Climber (Seating Type)

Profile: Innovator Mr. D. N. Venkat hails from Coimbatore district of Tamil Nadu. He had studied up to 8th standard. He was working in khadi spinning unit as daily wage... [View More](#)

Manufacturing – Keeping pace with the times ...

Model 1: Technology Transfer

Example: The Technology Tractor operated paddy transplanter was transferred to John Deere



Technology Transfer model for incubating innovations based on ideas of students

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for the first time
in India

**dura
STEP
WALKER**

A walker that helps you
move and go up & down
the staircase independently
PC No. : 2941

KEY FEATURES:

- Unique lever mechanism to adjust rear and front legs
- Ergonomically designed for stability & support
- Easy to unfold & fold
- Adjustable height (81-91 cm)
- Strong & lightweight



PRODUCT SPECIFICATION

Minimum Height	Maximum Height	Overall Width	Overall Length	Width	Length
81 cm	91 cm	59 cm	43 cm	47 cm	35 cm
Folding Width	Up Step	Down Step	Weight Bearing Capacity	Net Weight	
15 cm	17 cm	16 cm	130 Kg	4.650 Kg	



To get additional 2 months warranty
register on www.vissco.com/comfortmypain

For enquiry contact: Phone: 022 4333 0333 / 300 | Email Id: customer-care@vissco.com



Innovation: Manual waste lifting and dumping cart, based on Idea of Master Sikanto Mandal who was conferred with INSPIRE Awards – MANAK. Later Technology was transferred to a start-up enterprise - Sarjan Innovations Private Limited, Gujarat (Start up India Certificate # DIPP7141)

Innovation: Walker with Adjustable Legs, based on Idea of Shalini Kumari who was conferred with IGNITE Award. Later Technology was transferred to Vissco, India's leading manufacturer of orthopaedic products and is now available through brick and mortar stores and also through Amazon

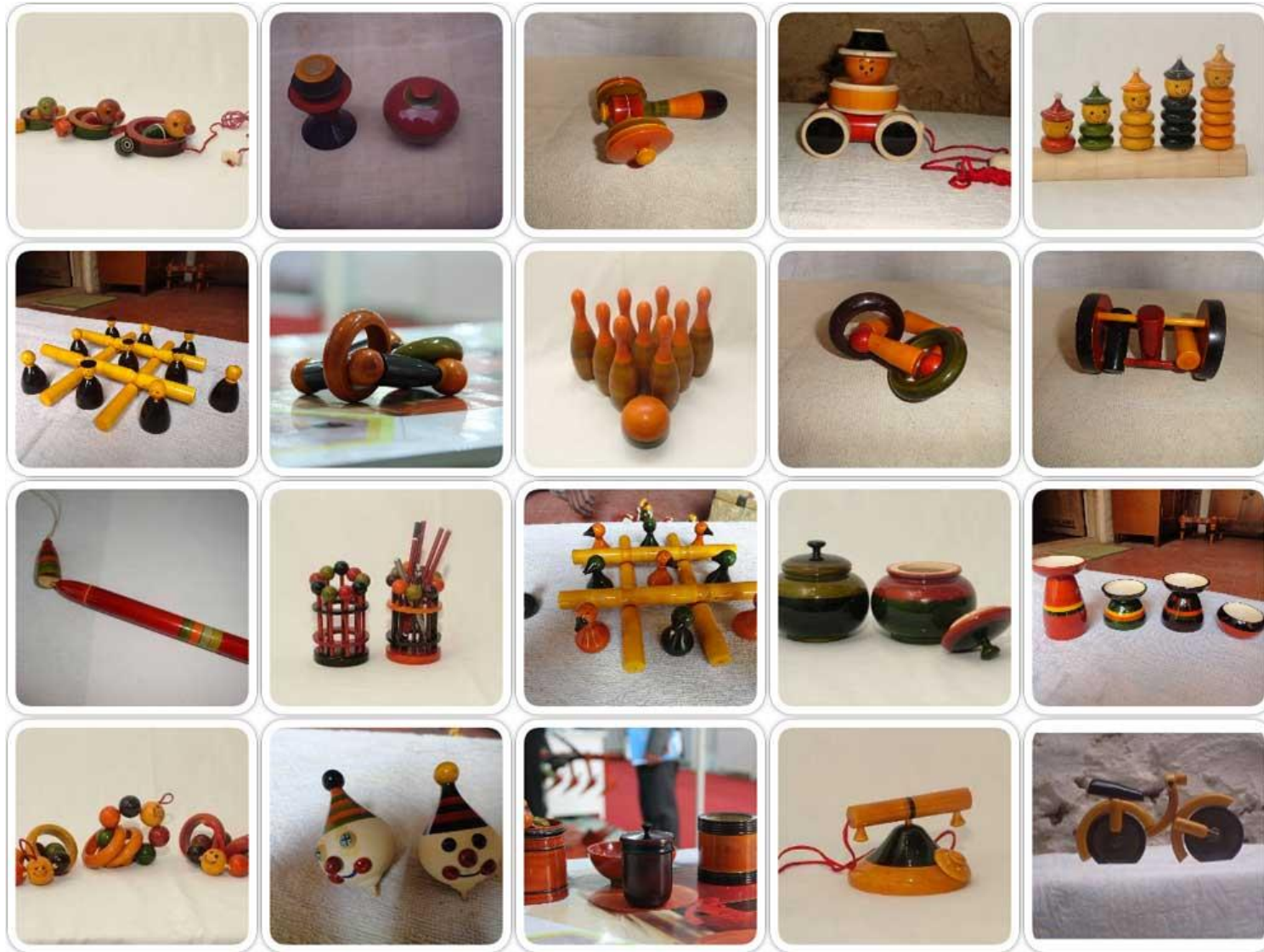
Manufacturing – Keeping pace with the times ... cont'd

Model 2: **Empowering Grassroots Innovators** to kick start their entrepreneurship journeys

Mitticool Refrigerator: IS 17693: 2022 Non-electric Cooling Cabinet Made of Clay



Eco friendly toys



Hon'ble Prime Minister of India Shri Narendra Modi mentioned about Shri C V Raju in his 68th Mann Ki Baat with the nation.

Lakshmi Ganesha idols made from cow dung

Production



Distribution

ARADHNA

₹ 1,499

Handcrafted 8.5" Brass Pooja Thali with 5 Accessories in the plate

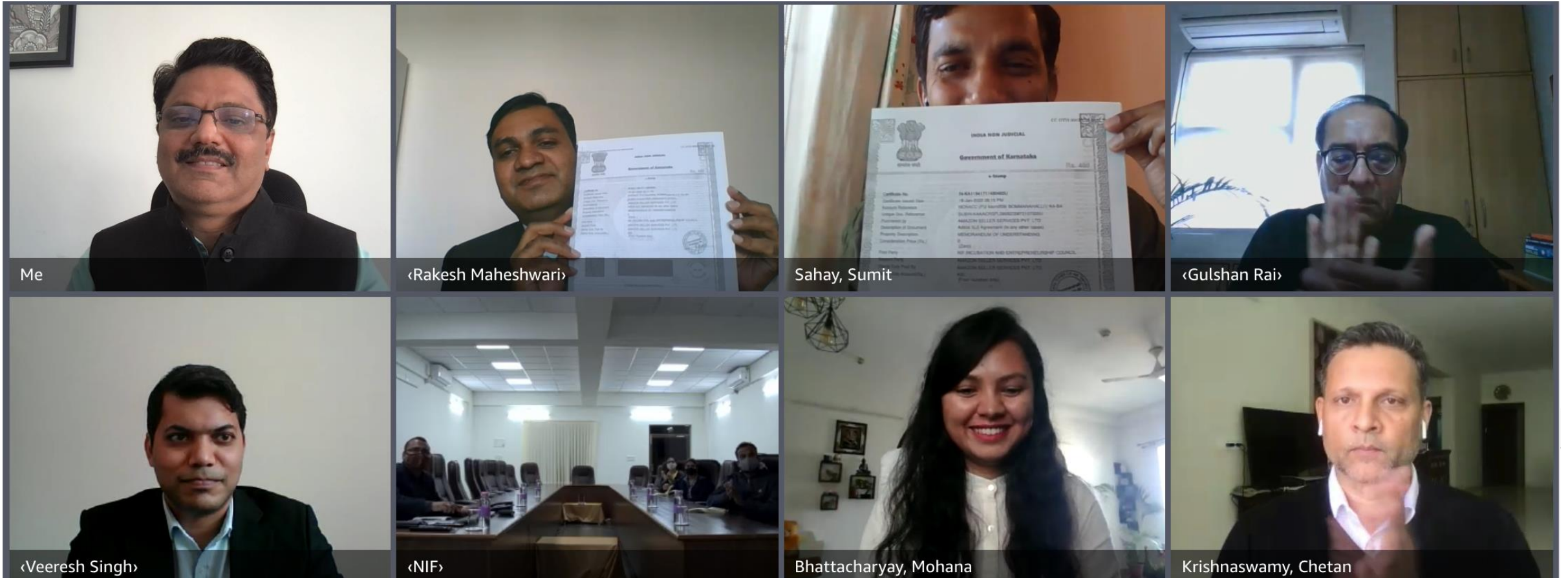
*Eco-Friendly Lakshmi Ganesha idols available separately.

A photograph of a handcrafted Lakshmi Ganesha idol. The idol is dark brown with a red cloth draped over its head. It is placed on a brass plate with five accessories: a small pot, a bowl, a conch shell, a bell, and a small lamp. The entire set is presented in a white box with a gold infinity symbol on the lid. The box is placed on a white cloth on a wooden surface.

End user

Distribution – Keeping pace with the times ...

Brick & Mortar **plus** online marketplaces



Graduating distribution mechanisms of existing Technologies : Walker with adjustable legs

Making them available through brick-and-mortar stores & mainstream online marketplaces

VISSCO
From pain to peak performance

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for the first time
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STEP
WALKER**

A walker that helps you
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WARRANTY
6 MONTHS
WARRANTY

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For enquiry contact: Phone: 022 4333 0333 / 300 | Email Id: customercare@vissco.com

amazon.in

Seniority
Live evergreen

Dotagestore
It's all about senior care

**Wheelchair
Store**

Mobility Wheelchair

**trade
india.**



Dissemination of HRMN 99, an apple variety incubated by NIF, was organized at Bandwar village, Begusarai, Bihar

Farmer: Shri Hariman Sharma, Himachal Pradesh



NIF's dissemination efforts with a purpose to bring Inclusivity

Grassroots Innovations are being deployed for Skill Development and Livelihood in Correctional Homes





Herbal mosquito repellent cream

Miscellaneous innovations related to Agri mechanization



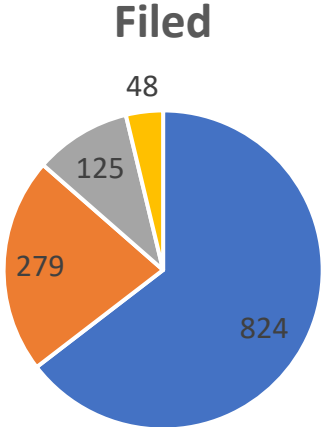
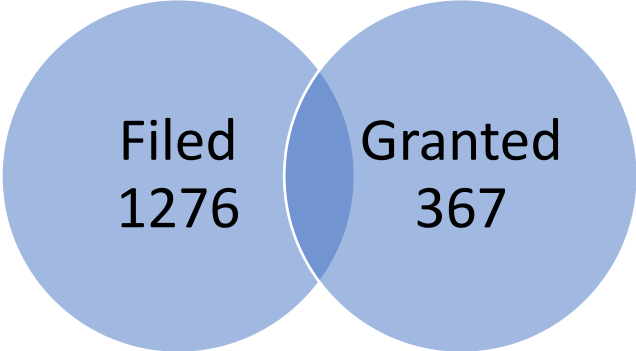
Miscellaneous improved plant varieties



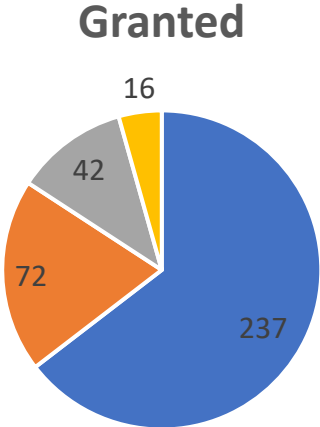


Respect, Recognition & Reward: National Grassroots Innovation & Outstanding Traditional Knowledge Awards

Intellectual Property Rights (IPR) – Patents at a Glance for Grassroots Innovations



- Engineering
- Human Health
- Veterinary
- Herbal Formulations



- Engineering
- Human Health
- Veterinary
- Herbal Formulations

Giving visibility to the work of innovative common people of the country



Motivating children and students for creativity and innovation



Grassroots Innovations are in conformance with the requirements (Needs, ~~Wants~~, ~~Desires~~) that its end users demand, offering advantages that are expected over existing alternatives available, are inclusive & best available solutions to solve perennial problems

Hence, they are quality solutions in the eyes and experience of those consuming them ...

They have always cared for ESG

Are Socially Responsible

Have a value-oriented (green) approach to sustainability...

Thank you !

Tushar Garg

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INDIA