राष्ट्रीय नवप्रवर्तन प्रतिष्ठान - भारत
National Innovation Foundation - India

25 Years of Innovation

Celebrating Grassroots creativity

www.nif.org.in

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25 Years of Innovation

Celebrating Grassroots creativity

डॉ0 जितेन्द्र सिंह
राज्य मंत्री (स्वतंत्र प्रभार),
विज्ञान एवं प्रौद्योगिकी मंत्रालय;
राज्य मंत्री (स्वतंत्र प्रभार) पृथ्वी विज्ञान मंत्रालय;
राज्य मंत्री, प्रधान मंत्री कार्यालय;
राज्य मंत्री कार्मिक, लोक शिकायत एवं पेंशन मंत्रालय;
राज्य मंत्री परमाणु ऊर्जा विभाग तथा
राज्य मंत्री अंतरिक्ष विभाग
भारत सरकार

सत्यमेव जयते

Dr. JITENDRA SINGH
Minister of State (Independent Charge)
of the Ministry of Science and Technology;
Minister of State (Independent Charge)
of the Ministry of Earth Sciences;
Minister of State in the Prime Minister's Office;
Minister of State in the Ministry of Personnel,
Public Grievances and Pensions;
Minister of State in the Department of Atomic Energy and
Minister of State in the Department of Space
Government of India

MESSAGE

Innovation is the driving force behind a nation's progress, and India has long been a land of inventors, problem-solvers, and visionaries. The National Innovation Foundation – India (NIF) has been the torchbearer in forward march of this legacy of innovation. Since its inception, NIF has played a pivotal role in democratizing innovation, ensuring that ideas from rural and underrepresented communities receive the attention, support, and recognition they deserve.

The Government of India has been steadfast in its commitment to fostering an inclusive and self-reliant India through science and technology. Under the profound leadership and guidance of our Hon'ble Prime Minister, Shri Narendra Modi Ji, India is soaring forward every passing day across the knowledge domains. I am pleased to acknowledge that India has registered outstanding progress in the Global Innovation Index (GII). In the 2024 rankings, India is ranked 39th at position among 132 economies, reflecting a tremendous improvement from 81st place in 2015. Moreover, we have also become the third largest global innovation ecosystem. Such a remarkable progression is a ringing endorsement of our robust knowledge capital, dynamic startup ecosystem, and the dedicated efforts of all the stakeholders in our nation.

I congratulate the entire team of NIF on completing 25th year of its establishment with an impressive track record of contribution to national development. As India transitions into an innovation-driven economy, NIF serves as a model for an inclusive and sustainable development.

I appeal to the policymakers, entrepreneurs, researchers, students, and citizens to join the movement of grassroots innovations, and catapult our nation into *Viksit Bharat*.

(Dr. Jitendra Singh)
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प्रो. अभय करंदीकर
Prof. Abhay Karandikar

सचिव
भारत सरकार
विज्ञान एवं प्रौद्योगिकी मंत्रालय
विज्ञान एवं प्रौद्योगिकी विभाग
Secretary
Government of India
Ministry of Science and Technology
Department of Science and Technology

18th February, 2025

MESSAGE

Innovation is often perceived as the realm of high-tech research institutions and cutting-edge laboratories. However, India has shown that some of the most impactful solutions come from the real-life experiences of its people. For 25 years, the National Innovation Foundation – India (NIF) has been bringing together traditional knowledge, grassroots creativity, and modern science and technology. By reviving and integrating India's rich traditional wisdom with contemporary advancements, NIF has created a dynamic ecosystem where innovation thrives at every level.

The Department of Science and Technology (DST) takes immense pride in NIF's remarkable journey and lasting impact. As a national institution committed to innovation, inclusion, and excellence, NIF has played a key role in encouraging creativity, recognizing indigenous solutions, and supporting entrepreneurship. By empowering local communities, the foundation has helped create livelihood and employment opportunities across the country, ensuring that innovation becomes a driver of sustainable progress.

A great example of this commitment is the INSPIRE-MANAK initiative, which nurtures curiosity and a problem-solving mindset among schoolchildren and young innovators. By engaging with bright minds from diverse backgrounds, NIF is building a robust socio-technical knowledge architecture that will define India's future. This grassroots movement has already led to important solutions in agriculture, healthcare, energy, and rural livelihoods, showing that innovation, when based on real-life experiences, can truly transform society.

As we celebrate 25 years of NIF's dedication to innovation, we recognize its role in building an inclusive, self-reliant, and innovation-driven India. The journey ahead holds even more exciting breakthroughs, bringing together traditional wisdom and modern science to create a better future.

I congratulate entire team of NIF on the occasion of completing 25 years of empowering common citizens and their ingenuity.

(Abhay Karandikar)

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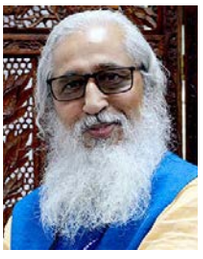
प्रो. अनिल सहस्रबुद्धे
अध्यक्ष
Prof. Anil Sahasrabudhe
Chairperson

राष्ट्रीय नवप्रवर्तन प्रतिष्ठान – भारत
विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार का स्वायत्तशासी संस्थान
National Innovation Foundation - India
Autonomous Institute of the Department of Science & Technology, Govt. of India



Message

It is with immense pride and joy that we celebrate the 25th Foundation Day of the National Innovation Foundation – India (NIF). Over the past two and a half decades, NIF has championed the spirit of grassroots innovation, empowering individuals and communities from diverse backgrounds to transform their creative ideas into applied solutions.

The Indian traditional knowledge systems, for centuries, have been the vast repository of wisdom guiding people at the grassroots to derive dynamic solutions to complex socio-economic challenges. The sheer dedication of individuals and communities at the ground level has led to remarkable growth in grassroots technologies and entrepreneurship avenues. By onboarding stakeholders across the spectrum viz., students, grassroots innovators, scientists, industry experts and policymakers, NIF catalyses our grassroots knowledge foundation through institutionalization of a resilient system of field research, value addition and R&D support, intellectual property protection and business incubation.

The distinguished prominence of NIF as an esteemed institution is grounded in its bottom-up approach to innovation which has resulted in large scale commercialization of ideas and technologies emanating from grassroots and community. The institute is working in concert to give expression to the collective curiosity and regard for creating Viksit Bharat.

NIF's journey, so far, is a reaffirmation of our commitment to fortify the architecture of grassroots innovation ecosystem and promoting resilient and self-reliant communities across Bharat.

On this occasion, I congratulate the entire team of NIF for their indomitable pursuit, and our splendid innovators for bettering our nation through social innovations.

With Best Wishes

(Anil D Sahasrabudhe)

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डॉ. अरविंद वं. रानडे
निदेशक
Dr. Arvind C. Ranade
Director

राष्ट्रीय नवप्रवर्तन प्रतिष्ठान – भारत
विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार का स्वायत्तशासी संस्थान
National Innovation Foundation - India
Autonomous Institute of the Department of Science & Technology, Govt. of India

February 21, 2025

Message

As we turn the pages of this coffee table book, we are not just commemorating 25 years of the National Innovation Foundation – India (NIF) - we are celebrating a quarter-century of imagination, resilience, and transformation. What began as a bold vision to nurture grassroots ingenuity has blossomed into a movement that redefines what is possible when creativity meets compassion.

I am proud to share that, since its inception in 2000, NIF has built a substantial database of 350,000+ innovations from over 700 districts of the country. Our efforts to safeguard Intellectual Property Rights have resulted in over 1,400 patent applications, with 718 granted. We've also secured 20 design registrations, 7 trademarks, and 43 plant variety registrations under PPVFRA. We've successfully licensed over 120 technologies. Also, collaboration with various eminent institutions has validated hundreds of grassroots technologies.

Over 25 years, we've witnessed miracles in seemingly mundane. The stories within these pages are not ours alone. They belong to the farmers who developed new varieties, the artisans whose crafts revived fading traditions, healers whose *sanjeevanis* brought groundbreaking solutions to healthcare, the students who dared to imagine, and many such people. They belong to the mentors, collaborators, and our humble innovators who turned ideas into waves of change. Together, we have proven that innovation isn't confined to labs or cities—it thrives in the heart of communities, fueled by curiosity and the courage to bring socio-economic and cultural transformation. This is the power of "grassroots"—the quiet force empowering the marginalized and reshaping Bharat.

Under the visionary leadership of Hon'ble Prime Minister Narendra Modi, India is steadily progressing towards the goals of Aatmanirbhar and Viksit Bharat. I am proud to say that in recent years, more than a dozen of NIF supported grassroots innovators have been conferred with the prestigious Padma Shri Award, the fourth highest civilian honour of the nation.

On this special occasion, I tender my sincere gratitude to former and present Hon'ble Ministers of Science and Technology; the Secretaries of DST; the Chairpersons of NIF; and the governing board members of NIF, for their eminent guidance and incessant support. I extend my sincere gratitude to Professor Anil Gupta for his pioneering contributions to the recognition and promotion of grassroots innovations through NIF. I also express my deep respect and appreciation to our humble and exemplary innovators, our partners and collaborators, and my entire team of NIF.

With best wishes,

Arvind C Ranade

ग्रामभारती, अमरापुर, गांधीनगर - महुडी रोड, गांधीनगर - ३८२६५०, भारत
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National Innovation Foundation - India

The National Innovation Foundation (NIF) – India, established in March 2000 with support from the Department of Science and Technology, Government of India, stands as the nation's premier institute dedicated to nurturing grassroots innovations and traditional knowledge. NIF's inception marked a significant step towards recognizing and promoting the creative potential of innovators from diverse backgrounds across the country. The organization plays a key role in transforming innovative ideas into concrete solutions that address real-world challenges by bridging the gap between grassroots ingenuity and institutional support. With Gandhinagar being the headquarters, NIF has offices located in NOIDA (Uttar Pradesh), Bhubaneshwar (Odisha), Guwahati (Assam), and Srinagar (Jammu & Kashmir).

Vision

To make India innovative and adding value to India's outstanding traditional knowledge base.

Mission

To help India become inventive and creative, and to become a global leader in sustainable technologies without social and economic handicaps affecting the evolution and diffusion of green grassroots innovations.

Festival of **Innovation** and Entrepreneurship (FINE)

The Festival of Innovation and Entrepreneurship (FINE) is a unique initiative by the Office of the Hon'ble President of India, organized in collaboration with the National Innovation Foundation (NIF) and the Department of Science and Technology (DST). Held annually, FINE serves as a national celebration of grassroots creativity and innovation, providing a platform for innovators, entrepreneurs, policymakers, and the public to engage and exchange ideas.

The festival features a diverse array of activities, including exhibitions showcasing grassroots innovations, Multipules roundtable discussions, and the Biennial National Grassroots Innovation and Outstanding Traditional Knowledge Awards ceremony.

Over the years, FINE has evolved into a significant event that not only recognizes and rewards individual innovators but also raises a supportive ecosystem for innovation and entrepreneurship across the country. By bringing together various stakeholders, FINE aims to build an inclusive and progressive society where every individual has the opportunity to realize their potential through innovative solutions.

In-Residence Scholars

Innovation Scholars In Residence Programme

Innovation Scholars with President Body Guard at Polo Ground

Innovation scholar with Vice President Shri Venkaiha Naidu

Innovation scholars with Hon'ble President of India, Shri Pranab Mukherjee

PM Shri Narendra Modi with Innovator Mansukh Jagani at President House

The Innovation Scholars In-Residence Scheme was launched by the Hon'ble President of India on December 11, 2013 in association with NIF with a view to promote the spirit of innovation and giving further impetus to grassroots innovation activities. Its main objective was to provide an environment to grassroots innovators in Rashtrapati Bhavan to take their innovative ideas forward. It also aims to provide them with linkages to technical institutions to strengthen their capacity to innovate and to provide mentoring and support so that the innovations can be used for the progress and welfare of society.

Since 2010, National Innovation Foundation (NIF)- India has been organizing exhibition on grassroots innovation at the Hon'ble President House. To leverage the uniquely frugal and empathetic model of grassroots innovations developed in India. the Hon'ble President's office decided to organize the Festival of Innovation (FOIN) at the Rashtrapati Bhavan during March 7 - 13, 2015, in association with NIF-India.

Festival of **Innovation** - 2015

The Hon'ble President of India Shri Pranab Mukherjee interacted with the grassroots innovators and motivated them with a message that country cares for everybody's innovations.

Festival of **Innovation** - 2016

The second weeklong Festival of Innovation (FOIN) was inaugurated on March 12, 2016 by the Hon'ble President of India Shri Pranab Mukherjee at the Rashtrapati Bhavan and it continued till March 19.

The Hon'ble President inaugurated the exhibition of grassroots innovations and was accompanied by Union Minister for Science & Technology and Earth Sciences Dr Harsh Vardhan, Union Minister for Minority Affairs Dr Najma A Heptulla, Prof Ashutosh Sharma, Secretary, DST, Dr R A Mashelkar, Chairperson, NIF and Prof Anil K Gupta, Executive Vice chairperson, NIF.

Festival of **Innovation** - 2017

The third Festival of Innovation (FOIN) was organized at Rashtrapati Bhawan during 4 - 10 March 2017. The Hon'ble President of India Shri Pranab Mukherjee gave away awards for grassroots innovations on 4th March.

FINE 2018 was organized at The Rashtrapati Bhawan during 19 - 21 March 2018. On March 19th The Hon'ble President of India Shri Ram Nath Kovind inaugurated the Festival of Innovation and Entrepreneurship and interacted with innovators.

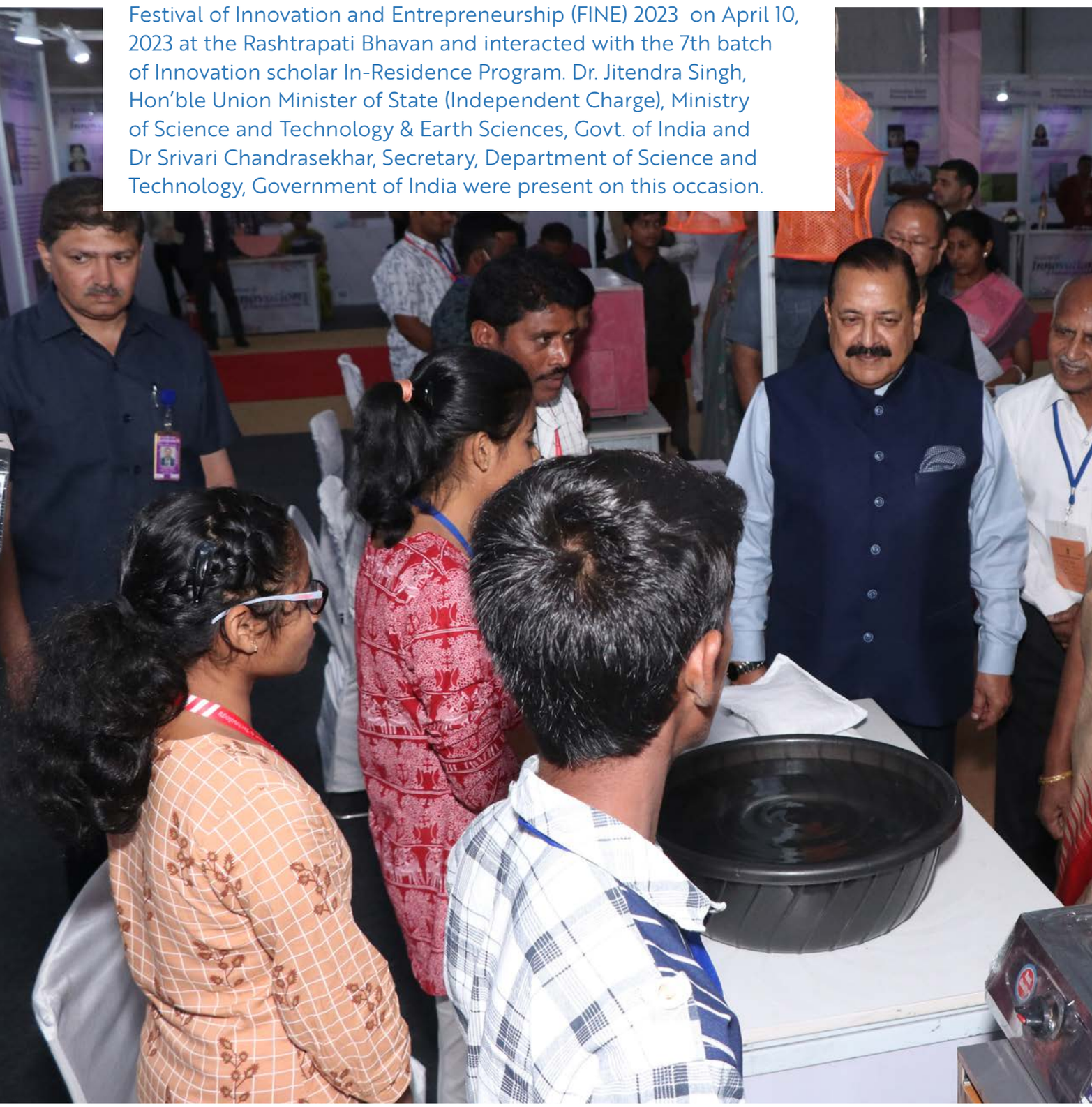
Festival of **Innovation** and Entrepreneurship (FINE) - 2018

Festival of **Innovation** and Entrepreneurship - 2019

FINE 2019 was organised at the NIF, Gandhinagar during 15 – 19 March, 2019. The Hon'ble President of India, Shri Ram Nath Kovind, inaugurated the Festival of Innovation and Entrepreneurship (FINE) 2019 at NIF, Gandhinagar on 15 March, 2019.

Festival of **Innovation** and Entrepreneurship - 2023

President of India, Smt Droupadi Murmu inaugurated the annual Festival of Innovation and Entrepreneurship (FINE) 2023 on April 10, 2023 at the Rashtrapati Bhavan and interacted with the 7th batch of Innovation scholar In-Residence Program. Dr. Jitendra Singh, Hon'ble Union Minister of State (Independent Charge), Ministry of Science and Technology & Earth Sciences, Govt. of India and Dr Srivari Chandrasekhar, Secretary, Department of Science and Technology, Government of India were present on this occasion.



The four-day Festival of Innovation and Entrepreneurship (FINE) 2023 consisted of a series of five roundtables on topics of contemporary importance viz. Scaling up and commercialization of innovations; Innovations for wealth creation and employment; Inclusive and sustainable development; Healthcare Innovations; Energy and Environment

ASEAN India Grassroots Innovation Forum

India has a primary focus on a strengthened relationship with Association of South-East Asian Nations (ASEAN) which comprises Indonesia, Singapore, Philippines, Malaysia, Brunei, Thailand, Cambodia, Lao PDR, Timor Leste, Myanmar and Vietnam. Networking and sharing of ideas had been at the core of this multi-faceted relationship. In this direction, The ASEAN-India Innovation Platform (AIIP) is a major element of ASEAN-India Science & Technology Collaboration. The AIIP comprises 3 sub-components viz. Social Innovations (being coordinated by National Innovation Foundation), Research Innovations (being coordinated by NRDC) and Product Innovation (being coordinated by FICCI).

ASEAN India Innovation Platform (AIIP) – Social Innovations create opportunities for grassroots innovators and student innovators of the ASEAN Member States (AMS) and India to learn from the expertise and experience of each other.

1st ASEAN India Grassroots Innovation Forum Indonesia

As a step in the direction to consolidate S&T cooperation, ASEAN India Grassroots Innovation Forum was organized as a part of the Puspiptek Innovation Festival (PIF) - 2018 in Jakarta, Indonesia at the Center for Research, Science and Technology, Indonesian National Science & Technology Park (PUSPIPTEK) Ministry of Research, Technology, and Higher Education during 27-30 September 2018. The forum comprised a seminar on grassroots innovation including keynote address sessions and panel discussions, a grassroots innovation competition and a student innovation competition, an exhibition of innovations with participation from India and majority of the ASEAN member states - Cambodia, Laos, Malaysia, Myanmar, Philippines, Vietnam and Indonesia.

2018

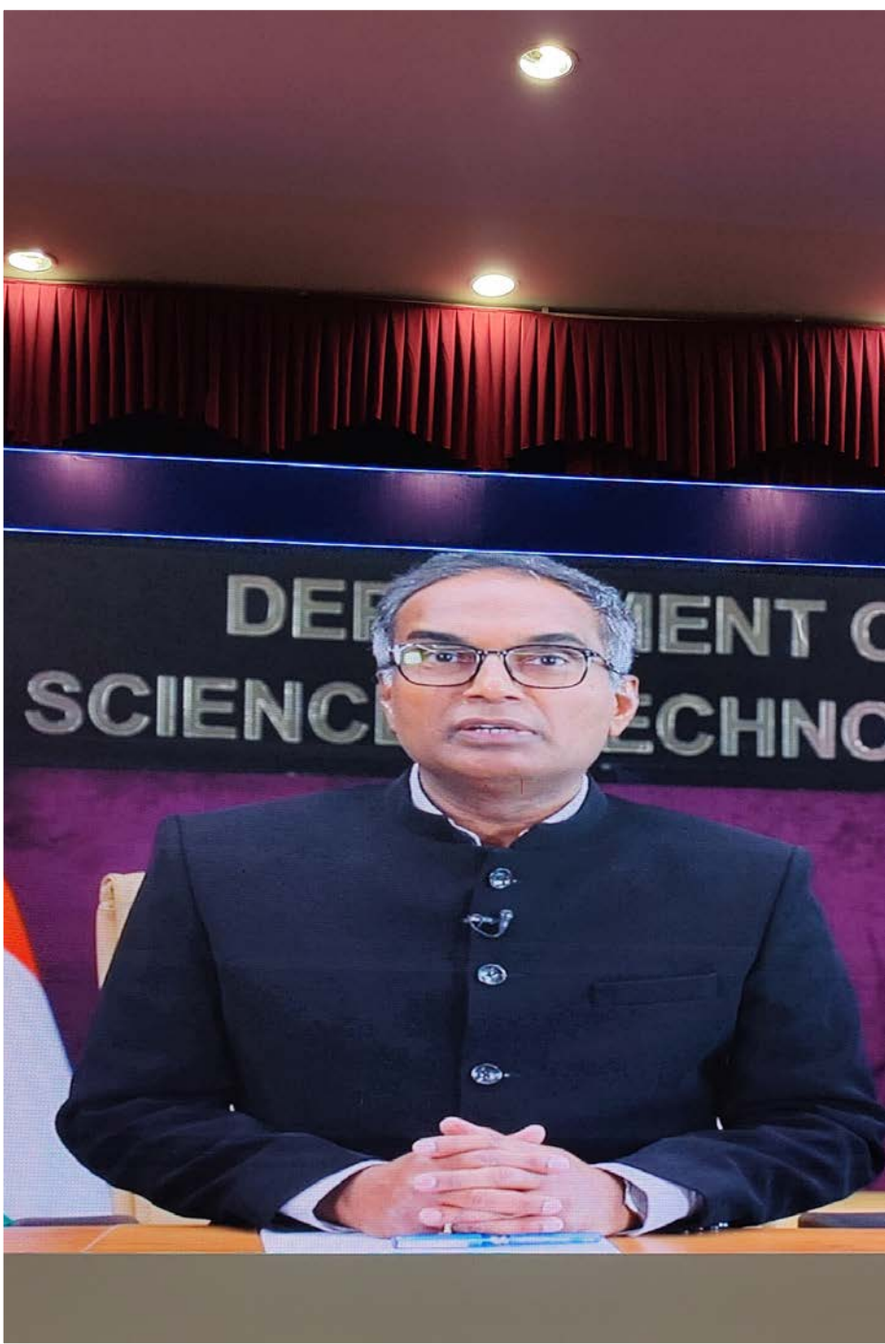
2nd ASEAN India Grassroots Innovation Forum Philippines 2019

The National Innovation Foundation (NIF) – India, Department of Science and Technology (DST), India and Department of Science and Technology (DST), Philippines organized the 2nd ASEAN India Grassroots Innovation Forum 2019 at Davao City, Philippines from November 20-22, 2019. The Grassroots Innovation Competition and Student Innovation Competition were major highlights of the forum, along with panel discussions by representatives from seven nations -- India, Philippines, Cambodia, Vietnam, Lao PDR, Thailand and Myanmar.

3rd ASEAN India Grassroots Innovation Forum Cambodia

The three-day 3rd ASEAN India Grassroots Innovation forum was organized by the ASEAN Committee on Science, Technology and Innovation (COSTI) in partnership with the Department of Science and Technology, Government of India and the National Innovation Foundation - India during December 19-21, 2022 at Phnom Penh, Cambodia. The forum consisted of a grassroots innovation competition, a student innovation competition, panel discussions, keynote speeches and an exhibition of innovations from India and the ASEAN Member States (AMS).

2022



4th ASEAN India Grassroots Innovation Forum Malaysia 2023

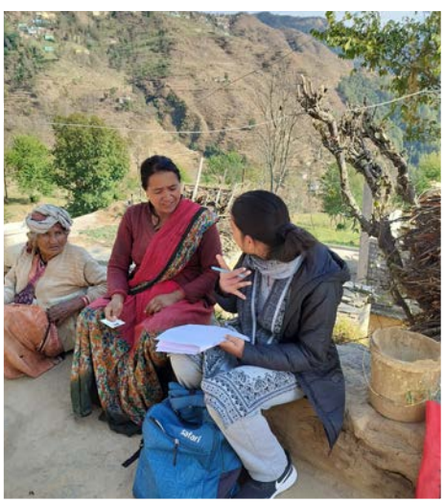
Similar to previous years, the grassroots and student innovators from India made the country proud by winning award in the competitions organized during the forum

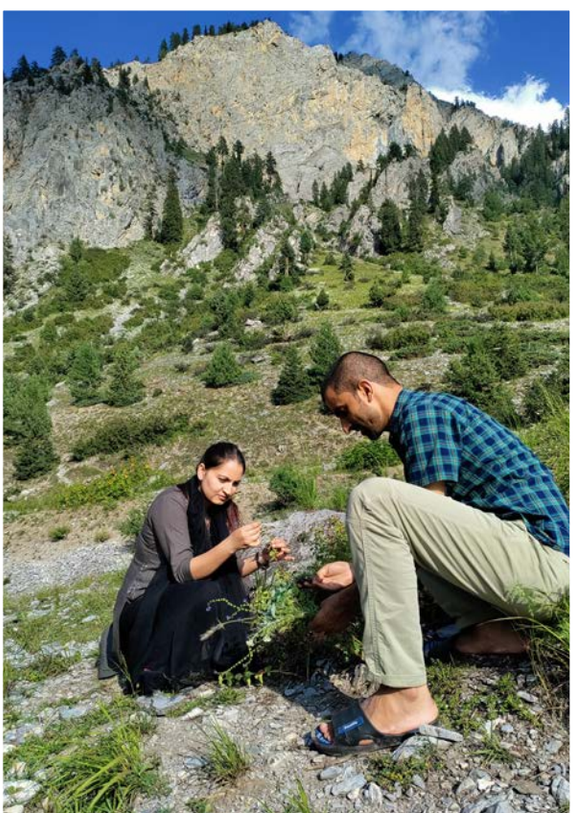
The opening ceremony for the ASEAN-India Grassroots Innovation Forum (AIGIF) 2023 was held on 28th November 2023 at the Grand Ballroom, Langkawi International Convention Centre (LICC), Langkawi. A total of four hundred and seventy-eight (478) attendees graced the ceremony, consisting of three (3) ASEC representatives, forty-six (46) grassroots innovators, forty-three (43) student innovators and professionals from both the public and private sectors, representing eleven (11) diverse countries: Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam and India.

Scouting, Documentation and Database Management

The initial step towards achieving NIF's goal is scouting for grassroots technological innovations and outstanding traditional knowledge practices in both rural and urban areas. Scouting involves extensive fieldwork, travel, and a search for "oddballs"—the experimenters, local communities, and knowledge experts. Ethically, obtaining Prior Informed Consent (PIC) from innovators and traditional knowledge holders is crucial. The PIC empowers NIF to act on their behalf, according to their preferences, and fosters trust and reciprocity between the innovator, NIF, its network, and other stakeholders involved in developing value chains around these innovations and traditional knowledge.


Apple variety for plains
Multi Tree Climber
Shri D N Venkat
Coimbatore, Tamil Nadu





Scouted knowledge is meticulously documented, verified, and codified in NIF's internal database, facilitating data search, retrieval, and analysis for incubation. NIF's efforts have amassed a database of over 3,50,000 technological ideas, innovations, and traditional knowledge practices (not all unique or distinct) from over 625 districts.

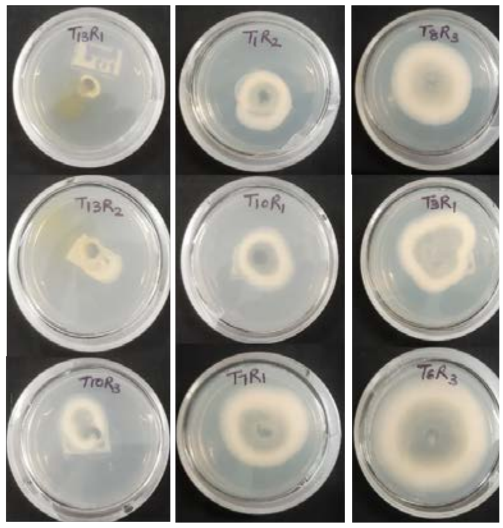
NIF's innovation portal (www.innovation.nif.org.in) showcases a portion of this database (approximately 140,000 innovations) spanning diverse domains like agricultural machinery, household gadgets, energy, transport, electronics, communication, general utility, plant varieties, herbal plant protection, and herbal veterinary practices. NIF encourages MSMEs and entrepreneurs to explore the portal, identify promising innovations for manufacturing or marketing, and contact NIF for further engagement. Researchers and other visitors can also explore the creative work of grassroots innovators and students nationwide.

Agriculture Innovations

Strengthening Farming with Indigenous Plant Varieties and Outstanding Traditional Knowledge

Farmers and grassroots innovators of NIF across India have developed unique plant varieties and herbal formulations, that address local challenges, improve yields, and enhance resilience against pests and diseases. These technologies, identified and developed by individual farmers, undergo validation and testing to assess their performance. The National Innovation Foundation (NIF) supports these efforts by facilitating scientific evaluation and filing for patents at IPO and registration under the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA). This section presents 25 innovative agricultural varieties developed by farmers from different regions, each demonstrating a practical approach to improving crop productivity and sustainability. Their contributions ensure that traditional knowledge and local biodiversity continue to thrive while meeting modern agricultural demands


AE-MeOH
PH-MeOH
HS-MeOH
RD-MeOH



HRMN-99: A Low-Chilling Apple for Tropical & Subtropical Regions

Hariman Sharma | Bilaspur | Himachal Pradesh

HRMN-99 apples grow beyond the Himalayas, with up to 1 quintal/tree average yield, it thrives in warmer regions without requiring chilling temperatures. Its early blooming cycle, scab disease resistance and sweet, soft pulp makes it a favorite among orchardist and consumers alike. Now cultivated in 23 states, it earned its innovator the Padma Shri (2025).

G-Vilas Pasand: An Adaptive Seasonal Delight in Guava

Ram Vilas Maurya | Lucknow | Uttar Pradesh

This round the year bearing guava's skin color changes to—striped golden-yellow in summer, plain golden-yellow in winter. Weighing up to 800 g, it has a high yield (50-60 kg/tree) potential suited for high density plantation. This soft seeded, aromatic, white-fleshed guava coupled with an extended shelf life, is ideal for food processing and has spread across ten states.

Sandip Pyaz: A High-Yielding Onion Variety

Sandip Vishram Ghole | Pune | Maharashtra

This disease-resistant onion variety produces round -globular bulbs with excellent shelf life. It resists major onion pests, has single axis ring, skin retention and keeping quality ensuring high market value. Adapted by thousands of farmers across Maharashtra, Karnataka, and Madhya Pradesh, it is suited for both table purpose and value-added processed powders and flakes.

Sanjeev Selection: An Early-Maturing Cauliflower

Sanjeev Kumar | Vaishali | Bihar

Evolved from a local cultivar, this cauliflower matures in just fifty days, producing compact, firm-textured curds under early sowing and water stress. Developed through selection from traditional variety, it ensures early market advantage for farmers and is popular in many states.

Sonali 45: Early Harvest Cauliflower

Mukesh Kumar Singh & Rajmani Singh | Vaishali | Bihar

This early-maturing cauliflower yields 18-20 tons/ha with medium compact white curds. Resilient to pests and diseases, and good cost-benefit ratio it's widely adopted in Bihar, Uttar Pradesh, Maharashtra, Uttarakhand, and Himachal Pradesh. Sold under Ramayan Seeds Farm, it's also gaining demand in Nepal.

Riyawan Silver: Long-Shelf-Life Garlic

Ishwar Lal Dhakad | Ratlam | Madhya Pradesh

This GI tagged, aromatic and flavourful compact garlic variety bears up to 20 lengthy and bold cloves per bulb, with a 10-month shelf life. Yielding 120 q/ha, it fetches higher market value, benefiting farmers in Gujarat, Maharashtra, MP, and Haryana.

SK 4: A High-Yielding Turmeric

Sachin Karekar | Ratnagiri | Maharashtra

With 4.64% curcumin, resistance to rhizome rot, and a 58.31 t/ha yield, SK 4 is a short-duration crop (160-170 days) that thrives in high-rainfall conditions. Attractive bright reddish-yellow colored, large rhizomes have good market potential suiting to food, cosmetic and pharmaceutical industries with over one lakh saplings are sold annually.

JPP 49: A Giant Cauliflower for High Yields

Jagdish Pareek | Sikar | Rajasthan

This high temperature tolerant, mid-early maturing cauliflower produces curds weighing up to 12 kg. Possessing attractive compact round white large curds with high yields it. commands premium seed price, making it highly profitable. Curds mainly used in hotels, farmers across Gujarat and Rajasthan are rapidly adopting it. Innovator recognized with the Padma Shri award.

AA Sorghum: A Dual-Purpose, Resilient Millet

Himmatbhai Lakkad | Bhavnagar | Gujarat

Thriving in dry regions, AA Sorghum matures in 100-110 days, yielding 25-30 q/ha grain, 220-250 q/ha green fodder, and 114-150 q/ha dry fodder. Flour rich in protein and minerals, is widely popular and adapted in Gujarat, Maharashtra, and Punjab, it is especially valued in Saurashtra and other drought-prone areas.

Sitara Sringar: A **Resilient Mustard**

Hukam Singh Lodha |Bharatpur | Rajasthan

Naturally hybridized and selected from Sengri and local mustard, Sitara Sringar yields 30-35 q/ha with 42% oil content. It resists waterlogging, Alternaria blight, and pod shattering and is popularly adopted by farmers in 11 states.

Sadabahar: A **Mango** That Fruits Year-Round

Kishan Suman | Kota | Rajasthan

This dwarf mango variety fruits in three seasons, producing low-fiber, deep-orange, sweet mangoes. Bunch bearing, thin stone and tolerant to major pests and disorders makes it ideal for high-density plantations and kitchen gardens.Grown in 22 states and Nepal, with over 50,000 grafted plants sold annually through Sadabahar Aam Nursery.

Kudrat 3 & Kudrat 9: **Pigeon Pea & Wheat** for Sustainability

Prakash Singh Raghuvanshi | Varanasi | Uttar Pradesh

Kudrat 3 Pigeon Pea is perennial, doesn't require re-sowing, and yields 35 q/ha. Long pods with bold seeds, it is suitable for both green and grain purpose. Kudrat 9 Wheat is high-yielding (60 q/ha), waterlogging-tolerant, and rich in protein, iron (47.58 ppm) and zinc (23.77 ppm). These varieties are grown across 15 states.

Richa 2000: A Highly Branched **Pigeon Pea**

Rajkumar Rathore | Sehore | Madhya Pradesh

Developed through simple selection, this variety offers dual harvests annually, producing 24 quintals per acre with minimal seed input. Richa 2000 features clustered pod formation and abundant branching, its 3–4 inch pods and strong disease tolerance make it a resilient choice for farmers across the country.

Durga 4: An Improved **Carrot** Variety

Madan Lal Devada | Jodhpur | Rajasthan

Durga 4 is a high-yielding carrot variety developed from local cultivar of Jodhpur region. It produces long (up to 60 cm), red, sweet carrots with high beta-carotene, iron, vitamins and extended shelf life. The variety is disease-resistant, with broad leaves that serve as nutritious green fodder. Attractive color, good crisp and sweetness coupled with superior Field Trial performance makes it a preferred choice for commercial cultivation across major carrot growing states.

Laxmangarh Selection: A Heat-Resilient **Carrot**

Santosh Pachar | Sikar | Rajasthan

Maturing in 2.5-3 months, this long, vermillion-colored carrot has a high yield (630 qt/ha), rich β-carotene, and iron. Its pest-resistance, less forked roots, thin, red coloured pith makes it suitable for sweet dishes and is in high demand in Gujarat & Rajasthan.

Madhuvan Gajar: The Biofortified Carrot

Arvindbhai Vallabhai Marvaniya | Junagadh |Gujarat

Madhuvan Gajar, a high-yielding (50 t/ha), nutrient-rich carrot, boasts high β-carotene (277.75 mg/kg) and iron (276.7 mg/kg). It has purplish skin with orange colored core and is cultivated across 1000+ hectares in Gujarat and other states, it is suitable for value-added products like chips, juice, and pickle along with seeds in pharmaceutical industry. Innovator was recognized with National Award (2017), and the Padma Shri (2019).

Chingjin Thabi: High-Yielding Cucumber

Sapam Lukhoi Singh | Thoubal | Manipur

Derived from local selection, this disease-resistant cucumber produces tender, soft-seeded fruits with a high yield of 105 t/ha. Its long shelf life (10-15 days) and tolerance to leaf curl disease make it a consumer favorite. Now widely cultivated in Manipur and surrounding North eastern regions.

Parvati Sut 27: A Resilient Paddy Variety

Mrs. Aswari Poshattiwar | Chandrapur | Maharashtra

This blast-resistant rice variety matures in 120-130 days with a yield of 40-50 q/ha. Its short, slender grains have a mild aroma, good cooking quality, and non-lodging plants. Tested across Nagpur, Chandrapur, Bhandara, and Gadchiroli, it won the Krishithon Yuva Shetkari Mahila Puraskar (2023).

Kamaal: Multi-Utility Herbal Agro Products

Ishwar Singh Kundu | Haryana

Kamaal, a group of herbal products for crop pest and disease management, improve crop yields and soil health. Rich in organic carbon, zinc (27.35 mg/kg), copper (5.11 mg/kg), manganese (173.60 mg/kg) and free from heavy metals, these enhance water holding capacity of compact saline soils and improve soil micro-and macroflora. Widely popular and adopted across the country, these products reduce inputs costs upto 47%, offering green sustainable alternatives to chemicals for farming communities.

Zion Mundi: An Improved Black Pepper Variety

P.G. George | Idukki | Kerala

Zion Mundi, likely an open-pollinated progeny of Neelamundi × Thottamundi, features long, compact catkins with 80–90 berries. Trials confirmed high yield, disease resistance, and adaptability under shade. It contains 2.6% volatile oil and 7.45% oleoresin. Propagated via grafting and cuttings, it is widely distributed from the innovator's nursery, benefiting spice farmers.

Pepper Thekken: A Pepper Variety with More Berries

T.T. Thomas | Idukki | Kerala

Developed from the Azhukal variety, Pepper Thekken features highly branched spikes (60–80 branches) and produces 800–1000 berries per spike along with disease-resistance. With strong market demand, its high yield potential offers increased income opportunities for growers, showcasing the impact of farmer-led innovations in pepper cultivation.

JK-1: An Early-Flowering Hyacinth Bean

Jitabhai Patel | Sabarkantha | Gujarat

This early-flowering, high-yielding valol variety produces 5000 kg/acre of bright green beans. Developed over four years, it flowers in 40 days and follows an anti-clockwise twirling method for growth. Adopted in 15 villages, it won a Consolation Award (2002).

Souwriyamakkal: A High-Yield Nutmeg

Roy Mathew | Idukki | Kerala

With fruits growing in bunches (three per stalk) and high mace essential oil content (24-25%), non-volatile extract (33.1 %), Beta-pinene (12.69 %) and myristicin (25.95 %), Souwriyamakkal is prized for its superior medicinal properties. The variety ensures year-round production and generates higher income due to its high mace oil percentage, making it highly marketable.

Kochukudy: A Superior Nutmeg Variety

Jose Mathew | Ernakulam | Kerala

This thrice-flowering nutmeg variety produces bold dark brown nuts with thick red mace, ensuring higher oil content and 70 % dry mace recovery. Developed through budding on a wild variety (Kattujathi), high in oleoresins, essential oils and nutmeg butter, it is commercially available through Kochukudy Nutmeg Plantation & Nursery, reaching farmers across India and Germany.

Herbal composition for Insect pests and Nematodes

G. Chandrashekhar | Chittoor | Andhra Pradesh

The herbal formulation using Passiflora foetida leaves and Cocus nucifera oil effectively controls nematodes, sucking, and borer pests in crops.Field trials showed 42–66.6% nematode reduction, 13–25% yield increase, and lower soil cyst counts. Ideal for cereals, vegetables under protected cultivation, and pulses, it presents a promising eco-friendly alternative for sustainable agriculture.

Engineering Innovations

Innovation is the driving force behind progress, and these grassroots engineering solutions exemplify how simple yet powerful ideas can revolutionize industries. From optimizing traditional crafts to mechanizing labor-intensive processes, our NIF innovators have redefined efficiency, safety, and sustainability.

Whether it's enhancing agricultural productivity, improving accessibility, or creating cost-effective solutions for daily challenges, these engineering marvels are reshaping lives across India. Each technology not only simplifies work but also uplifts communities by making technology accessible, empowering individuals, and preserving heritage.

Natural Dye Wooden Artefacts

C.V. Raju | Vishakhapatnam | Andhra Pradesh

C.V. Raju from Etikoppaka revived traditional wooden toy-making by replacing harmful chemical dyes with natural colors derived from roots, barks, and fruits. His vibrant, non-toxic toys are safe for children and preserve a centuries-old craft. Raju's innovation not only empowered 200+ artisans but also gained global recognition, earning him the Padma Shri and revitalizing Etikoppaka's heritage.

Climbing Made Easy with a Pole Climber

Nannem Tirupathi Rao | Prakasam | Andhra Pradesh

Tirupathi Rao, an electrician, designed a pole climber to simplify electric pole climbing. Made with 16mm steel rods and leather sandals, it offers a safe, stair-like ascent, tested for 150 kg. The device is rugged, easy to use, and ideal for linemen, farmers, and cable operators. Its popularity continues, transforming hazardous tasks into safe, manageable jobs.

Extra Weft Handloom

Dipak Bharali | Kamrup | Assam

Dipak Bharali's 'Chanekee' weft insertion device revolutionized handloom weaving by automating repetitive tasks, reducing saree weaving time from 9-10 days to 2-3 days. It fits Jacquard looms, boosting productivity while preserving Assam's Muga silk tradition. Bharali's innovation empowered local weavers, enhancing their efficiency and preserving cultural heritage through modern technology.

Walker with Adjustable Legs

Shalini Kumari | Patna | Bihar

Inspired by her grandfather's struggle with stairs, Shalini Kumari designed an adjustable walker with self-locking legs. Light yet sturdy, it adapts to different stair heights, ensuring safe mobility. Suitable for all ages, it enhances independence for differently-abled and elderly people. The technology has been transferred to Vissco Healthcare Pvt. Ltd.

Natural Water Cooler

Arvindbhai Patel | Ahmedabad | Gujarat

Arvindbhai Patel's natural water cooler uses vapor absorption to lower water temperature by 5-10°C without electricity. Using copper coils wrapped in moist cotton, it is eco-friendly and ideal for areas with power shortages. Available in 150 lit capacity, this cooler redefined sustainable cooling solution and gained widespread acclaim for its simplicity and efficiency.

Motorcycle Driven Plough

Mansukhbhai Jagani | Amreli | Gujarat

Mansukhbhai Jagani's 'Bullet Santi' transforms a motorcycle into a plough by replacing the rear wheel with two smaller wheels for farming. It covers an acre in 30 minutes using just one liter of diesel, reducing costs and increasing productivity for small farmers. Dozens of mechanic are manufacturing Bullet Santi device across the Gujarat.

Cotton Stripper Machine

Mansukhbhai Patel | Ahmedabad | Gujarat

Mansukhbhai Patel created a cotton stripper machine to ease the laborious task of removing cotton lint from shells. With a 15 HP motor, it processes 400 kg of cotton per hour, increasing ginning efficiency and reducing drudgery. By automating this process, the machine helps eliminate the need for child labor in cotton farms, ensuring a safer and healthier environment for children

Nonstick Earthenware and **Mitticool Refrigerator**

Mansukhbhai Prajapati | Rajkot | Gujarat

Mansukhbhai Prajapati's Mitticool products include nonstick cookware and a natural refrigerator that keeps food fresh without electricity. Inspired by traditional cooling methods, his eco-friendly designs blend tradition with modern utility. From handmade pots to a ₹ 3 crore brand, Mitticool portrays sustainable innovation, earning global recognition for preserving cultural heritage.

Multipurpose Processing Machine

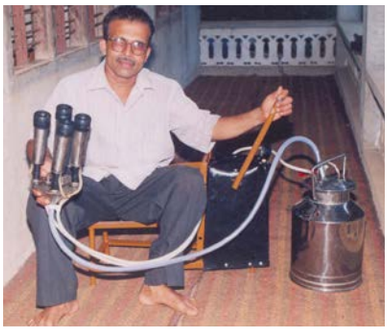
Dharamveer Singh Kamboj | Yamunanagar | Haryana

Dharamveer Singh Kamboj's multipurpose processing machine extracts oils, juices, and gels from herbs and plants. Portable and user-friendly, it performs tasks like grinding, boiling, and sterilization. Its versatility and cost-effectiveness empower small farmers and entrepreneurs, enhancing productivity. Recognized with the Biennial Award, it revolutionized rural processing with its multifunctional design.

Manual Walnut Peeler and Cracker

Mushtaq Ahmed Dar | Anantnag | Jammu & Kashmir

Mushtaq Ahmed Dar mechanized walnut peeling and cracking with his innovative machine, increasing productivity tenfold compared to manual labor. It processes over 80 kg of walnuts per hour and handles different sizes and shapes of walnuts and almonds. Empowering local farmers, his machine simplified nut processing and boosted their income.



Milking Machines

Raghav Gowda | Dakshin Kannada | Karnataka

Late Raghav Gowda's hand-operated milking machine uses pulsating suction technology. It ensures hygienic milking with minimal effort, drawing 1.5 to 2 liters per minute. Designed with food-grade materials, it's user-friendly and electricity-free. Late Gowda further developed battery operated and electric semi-automatic and automatic milking machines. His innovation transformed dairy farming for small-scale farmers, especially empowering women, and continues to benefit rural communities.

Portable Stove with High Efficiency

V. Jayaprakashan | Kozhikode | Kerala

V. Jayaprakash developed a double-chambered portable stove with two-level combustion, eliminating smoke and enhancing efficiency. It can use coconut shells and wood as fuel. Due to two level combustion, stove uses the fuel efficiently (thermal efficiency ~37 per cent) and results very less smoke . The stoves are available in different capacity domestic to industrial. Awarded for energy conservation, this stove redefined cooking with clean energy solutions.

Sugarcane Bud Chipper

Roshanlal Vishwakarma | Narsimhapur | Madhya Pradesh

In order to reduce plantation cost in sugarcane farming, Roshan Lal developed a device to chip buds from the node of sugarcane. The chipped buds can be sown directly in field or nursery may be raised, which can later be transplanted in the field; while the remaining cane can be sold to sugarcane factory for producing juice and its products. It has reduced plantation cost by over 80 %. Roshan Lal has developed manual (hand lever operated) device, followed by foot lever operated and power operated. Thousands of his devices have been sold across the country.

Tractor Operated Orchard Sprayer

Rajendra Chhabulal Jadhav | Nashik | Maharashtra

Rajendra Jadhav's orchard sprayer optimizes pesticide application with rotating blowers and radial fans, reducing wastage. Powered by a tractor, it sprays evenly up to 12 feet, consuming 100-125 liters per acre. The sprayer is available in 200, 400 and 600 lit capacity. The sprayer benefits grape, mango, and pomegranate farmers. The technology has also been used for sanitization in Municipal Corporation with minor changes. Hon'ble PM Shri Narendra Modi has mentioned about his innovation in Mann ki Baat.

Bamboo Stripper Cum Splinter

Lalbiakzuala Ralte & Lalpiangliana Biakthuama Sailo | Aizawl | Mizoram

Lalbiakzuala Ralte and Lalpiangliana Sailo designed a manual bamboo stripper-splinter to safely and efficiently make bamboo strips. Their device slices bamboo into 1.2 mm thin strips and splints, producing about 5000 splints per hour. It reduces labor dependency and production costs, empowering bamboo artisans while preserving traditional craftsmanship with modern efficiency.

BamHum - A Bamboo Wind Musical Instrument

Moa Subong | Dimapur | Nagaland

Moa Subong created the BamHum, a unique bamboo wind instrument played by humming into it. Inspired by Naga culture and folk fusion music, it produces melodious tunes effortlessly. Lightweight and easy to master, BamHum gained international recognition through the band Abiogenesis. Celebrated as the world's simplest musical instrument, it resonates cultural pride and creativity. He gained recognitions including the Padma Shri.

Modified Combine for Maize Harvesting

Gurtej Singh | Moga | Punjab

Gurtej Singh's modified combine harvester features a triangular rotating reel for efficient maize harvesting. It covers 4.5 to 5 acres per hour at a speed of 5-6 km/h, preventing crop damage. Compatible with all combine models, it enhances productivity and reduces labor costs. His innovation modernized maize farming, benefiting farmers with efficient mechanization.

Biomass Gasifier System

Rai Singh Dahiya | Jaipur | Rajasthan

Rai Singh Dahiya's biomass gasifier system converts biomass (Dry wood, coconut shell, coconut husk, etc) into producer gas.. It features improved filters and cooling units, ensuring smooth engine operation with low costs. Available in 5 to 100 kVA capacities, in both open and closed system (sound proof design, having canopy) as per the requirement of customer. This renewable energy solution empowers rural electrification while reducing dependency on fossil fuels.

Compost Aerator and Tree Pruner

Gurmail Singh Dhonsi | Ganganagar | Rajasthan

Gurmail Singh Dhonsi's compost aerator accelerates organic waste decomposition, reducing the process from 3-4 months to 20-45 days. His tree pruner, mounted on a tractor, trims tall trees efficiently, covering 20 ft height in minutes. Both innovations reduce labor and enhance agricultural productivity. His ingenuity transformed farming with practical and powerful machinery.

Modified Boiler

Subhash Ola | Alwar | Rajasthan

Subhash Ola has modified conventional boiler in which the used steam is recirculated instead of condensing. This has resulted significant saving in fuel and water. The boiler was first modified to make khoya and other milk products, and portfolio of offerings / application was later extended to other domains viz. textile, milk and food, pharma, plywood, paper mills, hot water boiler generator, plastic recycle, laundry, hospitals, jaggery plant, etc. His startup Genius Energy Critical Innovation Private Limited was adjudicated start-up of the year during Amazon Smbhav 2022.

Sanitary Napkin-Making Machine

A. Muruganantham | Coimbatore | Tamil Nadu

A. Muruganantham developed a low-cost sanitary napkin machine to make affordable hygiene products. His manually operated machine produces 900-1000 napkins daily, while the semi-automatic version makes up to 3000. It empowers rural women by creating employment through micro-enterprises. Padma Shri A. Muruganantham, (the real man behind the movie PAD-MAN), turned a simple yet powerful idea into a movement that revolutionized menstrual hygiene in India.

Coconut Tree Climber

D.N. Venkat | Coimbatore | Tamil Nadu

D.N. Venkat's coconut tree climber features a seat with safety belts and a locking system for secure and easy climbing. Operated by hand and leg frames, it allows users to ascend up to 40 ft in just 5 minutes. Lightweight and safe, the device is suitable for all ages. His invention enhanced safety and efficiency in coconut harvesting.

Asu Making Machine

Chintakindi Mallesham | Nalgonda | Andhra Pradesh

Chintakindi Mallesham's Asu Making Machine mechanized the labor-intensive yarn winding process for Pochampalli sarees. Traditionally, the 'Tie & Dye' process required a labor-intensive hand-winding of yarn, involving thousands of repetitive hand movements over 4-5 hours. The Asu machine automates this tedious process, significantly reducing manual effort and time (from 6 to 1.5 hours), while preserving the saree's traditional beauty. Reducing the time required for Asu process from 6hours to 1.5 hours per saree. Most of the weavers in the region are using his machine currently. Mallesham, honored with the Padma Shri, inspired a Telugu movie that was released in theaters.

Tea Processing Machinery

Durlov Gogoi | Dibrugarh | Assam

Durlov Gogoi, a serial innovator, has developed many tea processing machines, which include mini tea steamer, round tea dryer, reciprocating tea dryer, semi-automatic tea dryer, turmeric slicing machine, tea breaker, etc.The reciprocating tea dryer is also called as a push-pull tea dryer/to-fro tea dryer.Slider crank mechanism is used for the reciprocating motion of the drying trays. The drying capacity of the dryer with 14 plates is about 20-30 kg (wet weight) resulting in about 6 kg (dry weight) dried tea leaves in 40 min. Gogoi's innovation supports local tea farmers, boosting productivity and profits.

Tea Processing Machinery

Suren Barua | Tinsukia | Assam

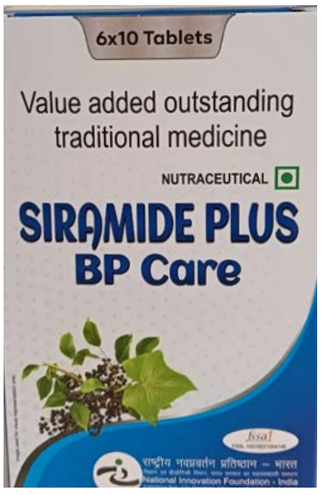
Suren Barua, a serial innovator has developed many innovative machineries like BSD dryer, tea rolling table, tea steamer, domestic room heater and many more. His Belt System Dryer (BSD) efficiently dries green tea and other edibles with smooth, continuous airflow. Available in turbo, L-type, and straight variants, it ensures quality drying. Barua's creations enhance comfort and productivity, empowering small-scale producers.

Healing with Nature: Herbal Technologies in **Human Health & Veterinary**

For centuries, nature has been a source of healing, offering remedies for both human and animal health. Outstanding herbal practices are sustained by communities, individuals and continue to provide effective, sustainable and eco-friendly alternative to modern medicines.

This section highlights technologies in herbal treatment in management of Hypertension, Arthritis, Obesity and Cataract (eye ailment) —offering solution to public health. On the veterinary front, natural formulations had addressed important dairy health diseases viz., mastitis, infertility, ecto and endoparasite infestation and for poultry health so as to avoid chemical based therapies.

Development of technologies with scientific validation assist in mainstreaming these outstanding indigenous herbal practices. These herbal practices redefine healthcare, safeguarding sustainable solutions for the well-being of people and livestock alike.



Management of Hypertension

Shri Rameshwar Prasad Yadav | Bihar

High blood pressure is a growing health concern, often requiring lifelong medication. A traditional herbal supplement, clinically validated for its effectiveness, was found to naturally regulate blood pressure within 90 days. It reduced systolic pressure by 15 mmHg and diastolic pressure by 8 mmHg—comparable to standard medicines—while alleviating clinical symptoms like headache. This patent accorded product presents a promising herbal alternative for managing hypertension.

A Natural Remedy for Cataract

Ms. Muthulakshmi | Tamil Nadu

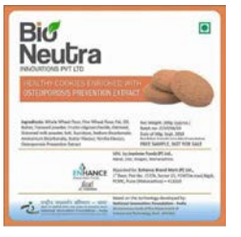
Cataract, an eye ailment is a leading cause of vision impairment worldwide. An indigenous herbal eye drop, tested clinically, successfully demonstrated arresting the progression of age-related cataract. Confirmed through advanced imaging, the treatment offer a non-invasive, herbal alternative for vision preservation. With patent protection granted, this innovation provides hope for millions at risk of vision loss.

Eco-Friendly Herbal Solution for Ticks

Community Knowledge

Tick infestations in cattle reduce milk production and cause severe infections. A polyherbal formulation, incorporating neem and nagod extracts, eliminated ticks within 48 hours while preventing re-infestation. This low-cost, eco-friendly alternative to chemical acaricides is recommended by veterinary institutions as package of practice and can be prepared by farmers in their farmfield in management of recurrent tick infestation. This will reduce input cost to livestock farmers

Management of Osteoporosis through herbal supplementation



Shri Jindu Ram | Himachal Pradesh

Bone loss increases fracture risk in osteoporosis. A study using the bone biology model demonstrated this herbal formulation's ability to enhance Alkaline Phosphatase (ALP) activity, crucial for bone mineralization. With proven benefits in strengthening bones and promoting cell growth, this herbal innovation serves as a natural alternative for osteoporosis management

ZENRELAX: Fast-Acting Herbal **Pain Relief**

Shri Thapa Tara Shankar | West Bengal

Pain, whether from headache, muscle strain, or joint stiffness, can disrupt daily life. ZENRELAX, a herbal roll-on formulation, provides instant relief through its natural analgesic properties. Designed for rapid absorption, it soothes discomfort within minutes, offering a convenient and effective alternative to synthetic pain relievers. This herbal product is now patent-protected.

Herbal Relief for **Arthritis**

Shri Ropan Mahto | Jharkhand

Arthritis, a painful joint condition, affects mobility and quality of life. A clinically tested herbal formulation demonstrated significant improvements in joint flexibility, pain reduction, and stiffness alleviation within 12 weeks. Patients showed enhanced movement, with effects comparable to Ayurvedic treatments. This traditional herbal remedy, now patent protected, is a natural approach to managing osteoarthritis.

Herbal Formula for **Obesity Management**

Shri Sheikh Abdul Gaffar | Jammu & Kashmir

Obesity is a growing global health issue, contributing to heart disease and diabetes. A herbal supplement, validated through clinical trials, significantly reduced Body mass index [BMI], triglycerides, and cholesterol levels in 12 weeks. The formulation, based on traditional knowledge from Kashmir valley, supports healthy weight loss while maintaining overall well-being. This herbal remedy presents a natural solution to weight management.

Traditional **Medicine** for Sustainable **Weight Loss**

Shri Abdul Gani Hajam | Jammu & Kashmir

Using herbal supplements for weight loss, this clinically tested formulation effectively reduced Body mass index [BMI] and cholesterol level. When used alongside standard Ayurvedic treatments, this natural remedy offered a safe, effective approach to obesity management. Now patent-protected, it highlights the potential of traditional medicine in tackling metabolic disorders.

Herbal Cure for **Mastitis** in **Dairy Cattle**

Shri Becharbhai Devgania | Gujarat

Mastitis, an inflammatory disease in dairy cattle, affects milk quality and farm productivity. A polyherbal gel formulation, clinically validated, reduced inflammation and improved udder health. This cost-effective, antibiotic-free solution minimizes public health risks while enhancing quality of milk production. This patent granted product is now available commercially.

Wormivet: Herbal Solution for **endoparasite Control**

Shri Harshadbhai Patel | Gujarat

Endoparasites in livestock lead to weight loss, anemia, and reduced productivity. A herbal deworming solution successfully eliminated intestinal parasites, improving animal health. This sustainable, chemical-free remedy, developed into a commercial product named Wormivet, is now widely used in livestock management. The technology is patent-protected and available for veterinary use.

Estrona: Restoring **Reproductive Health in Cattle**

Shri Khumaji Badaji Kataviya | Gujarat

Infertility in cattle impacts farm productivity. A herbal formulation, Estrona, helped restore normal reproductive cycles by enhancing ovarian function and improving conception rates. This natural remedy supports fertility in cows and buffaloes, offering farmers an effective alternative to hormonal treatments. Estrona is commercially available in veterinary stores.

Herbal Feed Additive for Healthy Poultry

Shri Kalipada Maity | West Bengal

Stress in poultry affects growth, immunity, and egg production. A herbal feed supplement improved nutrient absorption, strengthened immunity, and enhanced overall vitality in birds. Scientific trials confirmed its ability to prevent stress-related disorders, making it a natural alternative to synthetic additives.

Herbal Treatment for Liver Protection

Shri Surajmal Kanaji Pandor | Rajasthan

Liver diseases impact millions globally. A study on a carbon tetrachloride-induced hepatotoxicity model confirmed this herbal formulation's ability to control elevated levels of liver enzymes Aspartame amino transferase (AST), Alanine transaminase (ALT), and Alkaline phosphatase (ALP). By maintaining normal liver function, it presents a natural, affordable alternative to synthetic drugs, offering hepato-protective function

Herbal Therapy for bacterial Mastitis

Shri Petharajanna | Andhra Pradesh and N Govindan | Tamil Nadu

Mastitis in dairy animals leads to reduced milk yield and economic losses. A clinically validated herbal formulation, rich in antibacterial compounds, effectively addressed udder health inflammation due to bacterial infection without the use of synthetic antibiotics. This safe, sustainable remedy, now patented, is commercially available for dairy farmers, ensuring improved udder health in cattle.

Business Development

Community Empowerment and Knowledge Management

Grassroots innovations offer a huge business potential, primarily because these solutions originate from people having a first-hand experience of all the problems involved. This need-based, cost-effective and sustainable solution-centric approach acts as a key differentiator and increases the probability of their acceptance in the market, not only within the country but also in the global markets.

Grassroots Innovation - Bamboo strip making machine at Alipore Central Correctional Home, West Bengal

NIF is committed to making these innovative products available to the masses through a market mechanism or otherwise. The basic goal of BD department at NIF is to build a value chain around these innovations which could facilitate their transition into self-supporting sustainable enterprises.

Dissemination and Social Diffusion

Empowering communities by generating livelihoods, reducing drudgery, and improving quality of life through technological grassroots innovations and dissemination of useful technological information. These innovations, born from ingenuity and local knowledge, often address specific needs and challenges more effectively than conventional solutions, leading to sustainable and equitable development. Furthermore, sharing these solutions fosters a sense of community spirit and encourages further innovation at the grassroots level.


Project on Dissemination of
Low Chilling Apple Cultivars for
Commercial Cultivation
(HRMN-99, Anna & Dorsett Golden)
Project duration : 2019 -2022

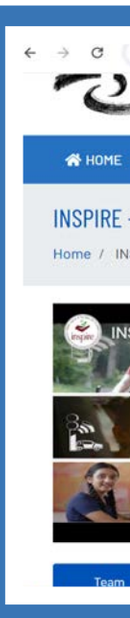

TRAINING
ON
FOOD PROCESSING & OIL EXTRACTION
Organized by
NATIONAL INNOVATION FOUNDATION (NIF) - INDIA
AND
STATE COUNCIL OF SCIENCE, TECHNOLOGY & ENVIRONMENT (SCSTE), MEGHALAYA
Date: 31st TO 26th January 2021
Venue: CFC Umsiang, Jhilong

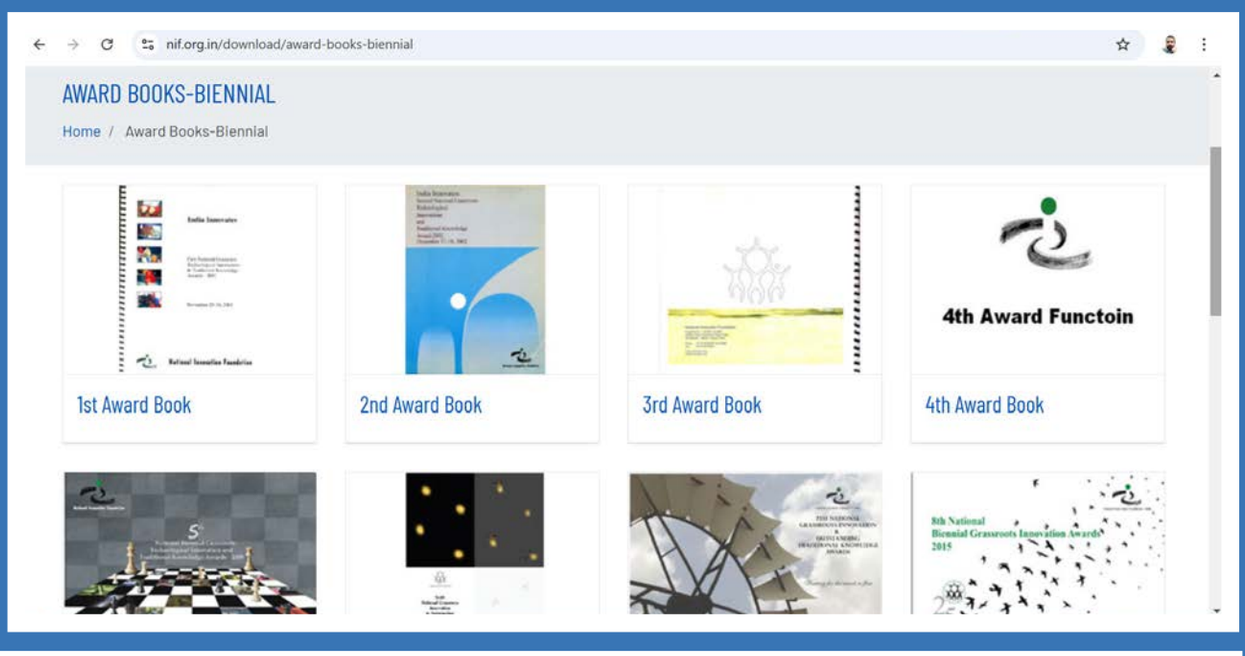

राष्ट्रीय नवप्रवर्तन प्रतिष्ठान-भारत
National Innovation Foundation - India
Autonomous Body of Department of Science & Technology, Govt. of India
कृषक खेत पाठशाला
फसलों में परंपरागत ज्ञान आधारित कीट नियंत्रण
Farmers Field School
Traditional Knowledge Based Insect Pest Management In Crops
Grambharti, Amrapur, Gandhinagar-Mansa road,
Gandhinagar- 382650, Gujarat
Tel: 02764-261131/ 32/ 38/ 39
Website: www.nifindia.org.in

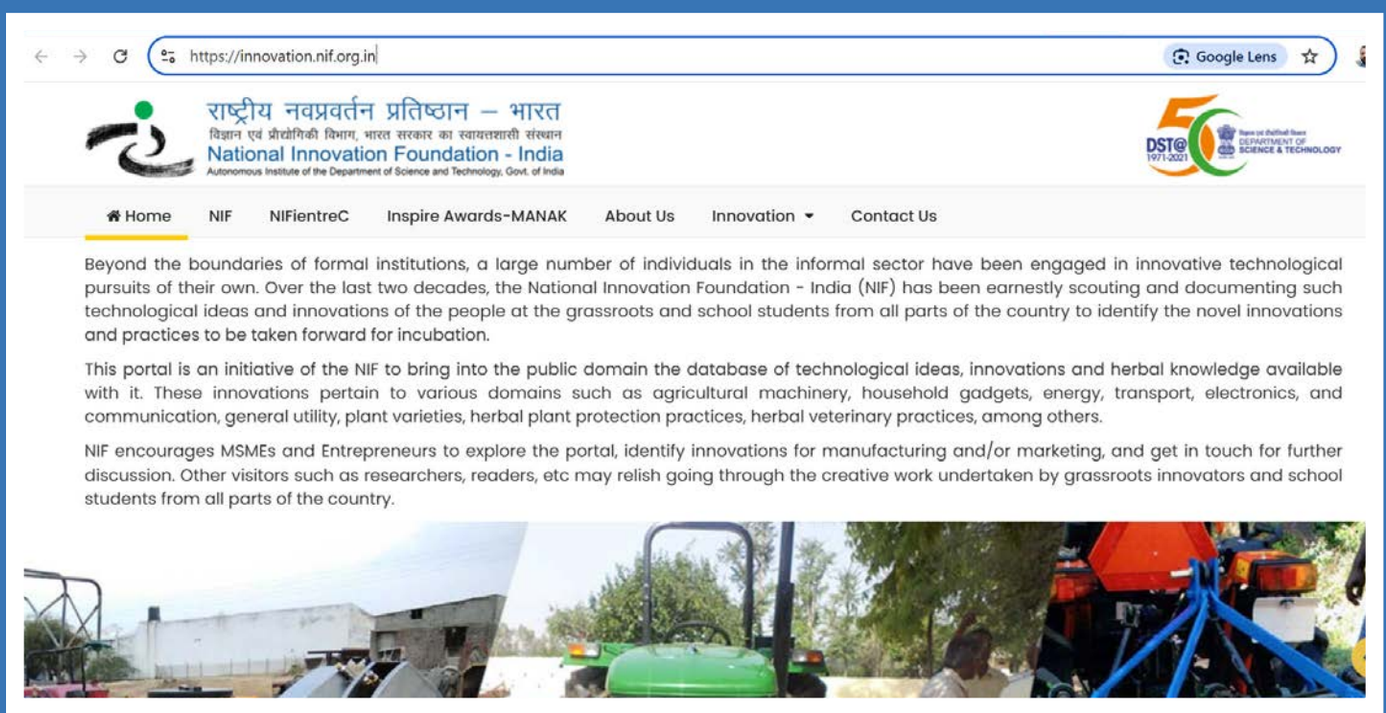
NIF undertakes activities related to the social diffusion of grassroots innovations all across the country with special emphasis in tribal, backward and far-flung areas. Many innovations are fabricated locally, enabling people to adapt and improvise them to suit local conditions. This fosters self-reliance and empowers communities to address their specific needs.

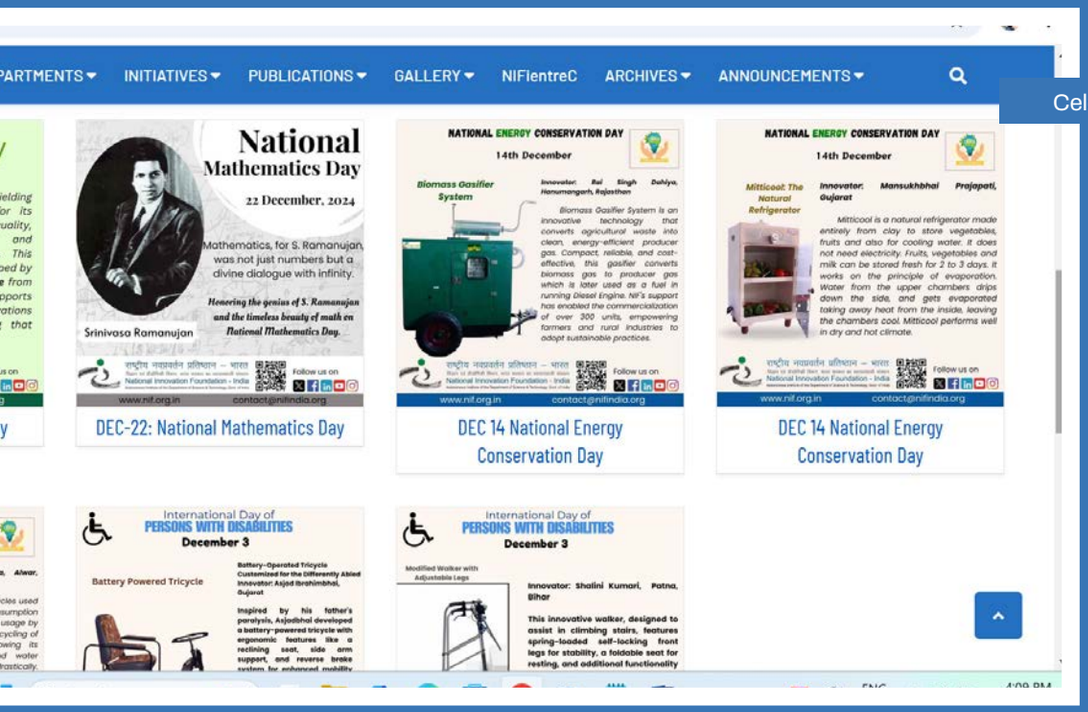
Information and Communication Technology (ICT)

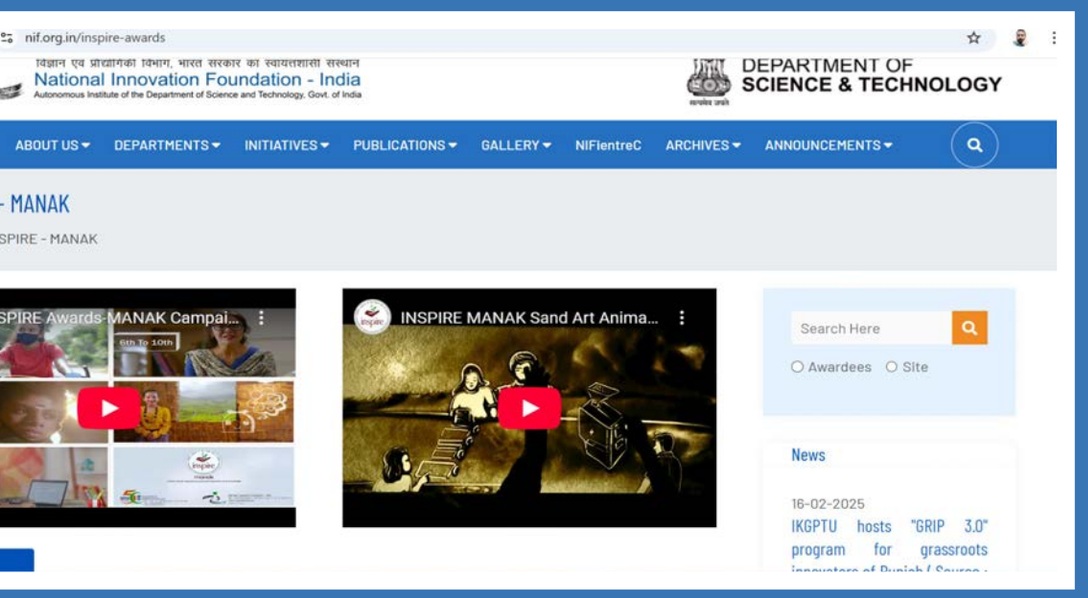
Information and Communication Technology (ICT) Department synergize its efforts by enabling the documentation and classification of grassroots innovations and strategically disseminate information through various communication channels to reach out stake holders. ICT tools are used to maintain large databases of indigenous knowledge and inventions, ensuring that traditional and contemporary ideas are accessible for research and development. ICT facilitates communication between innovators, researchers, and industries, fostering collaboration.

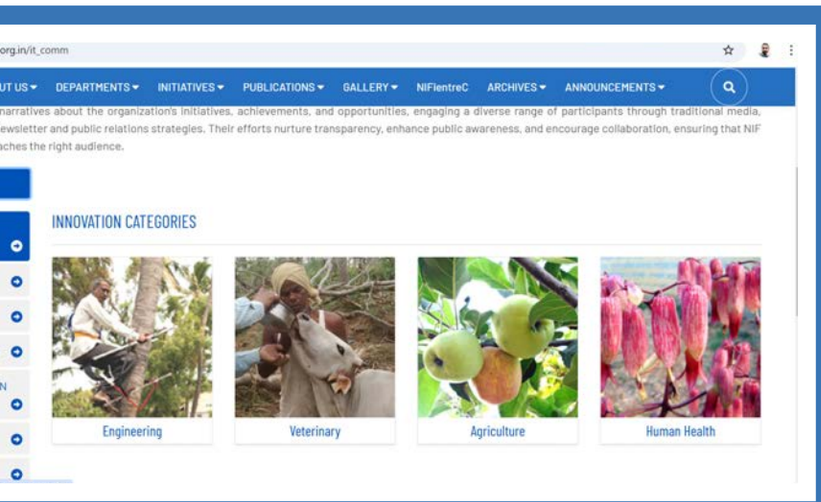












The Communication team is dedicated to strategically manage and disseminate. Efforts are made to nurture transparency, increasing public awareness, encourage collaboration, and ensuring that NIF India's message reaches the right audience.

The department integrates advanced technology with effective communication strategies to drive the organization's mission. The IT team is responsible for the development, implementation, and maintenance of robust digital platforms and secure data management systems. By utilizing cutting-edge IT solutions, they ensure efficient handling of NIF India's extensive database of innovations and intellectual properties, facilitating seamless collaboration and optimizing processes across various projects.

Initiation of the Grassroots Innovations Accelerator program during Festival of Innovation and Entrepreneurship (FINE) 2023, at the Rashtrapati Bhavan on April 11, 2023

NIFientreC

The NIF Incubation and Entrepreneurship Council (NIFientreC) is a technology business incubator established in 2015 by the National Innovation Foundation – India (NIF) with the support of the Department of Science and Technology (DST), Government of India. Its primary mission is to enable incubation and commercialisation of technological ideas and innovations of grassroots innovators.

NIFientreC's work aligns with the Government of India's vision of Aatma Nirbhar Bharat, promoting self-reliance through local solutions that create employment, improve livelihoods, and boost productivity. The incubator has supported over 90 grassroots innovations, with more than 95% successfully commercialized and available in the market. By providing financial support, technical mentorship, and market linkages, NIFientreC ensures that innovators can scale their ideas beyond their local communities, reaching national and international markets.

One of its key initiatives is the Grassroots Innovation Accelerator Program, launched in collaboration with Publicis Sapient. This program specifically focuses on transforming agriculture through technology adoption, helping farmers reduce drudgery, increase productivity, and improve their livelihoods. By supporting grassroots innovators, the program also aligns with Sustainable Development Goal (SDG) 9, which aims to build resilient infrastructure, foster sustainable industrialization, and promote inclusive innovation.

With its comprehensive support ecosystem, NIFientreC not only helps grassroots innovators bring their ideas to life but has also contributes to job creation, rural economic development, and sustainable growth, reinforcing its role as a catalyst for India's grassroots innovation movement.

Glimpses of Business Mentoring Workshops organized across the country for capacity building of grassroots innovators

Glimpses of "Intellectual Property Summit" organised on 25th and 26th April 2024 at Ahmedabad

National Competition of Grassroots Innovations and Outstanding Traditional Knowledge - Biennial Awards

The NIF started organizing Biennial award function from the year 2001 onwards to celebrate the efforts of grassroots innovators. A step further, Hon'ble former President of India Dr APJ Abdul Kalam embarked upon the initiative to give these awards to grassroots innovators from the year 2002 onwards.

From March 1, 2000, to January 31, 2001, with about 1600 ideas, innovations and outstanding traditional knowledge examples being received. The 1st National Award Ceremony was held on November 29-30, 2001, at the IARI Campus, New Delhi, where 88 innovators, knowledge holders and communities were recognised. The awards were given by Hon'ble Shri K C Pant, Deputy Chairman, Planning Commission.

From February 1, 2001, to December 31, 2001, with about 13500 ideas, innovations and outstanding traditional knowledge examples being received. The 2nd National Award Ceremony was held on December 17-18, 2002, at the NCL Campus, New Delhi, where 52 innovators, knowledge holders and communities were recognised. The National awards were given by His Excellency, the President of India, Dr. APJ Abdul Kalam.

From January 1, 2002, to December 31, 2002, with about 21000 ideas, innovations and outstanding traditional knowledge examples being received. The 3rd National Award Ceremony was held on January 5, 2005, at the IIM Campus, Ahmedabad, where 98 innovators, knowledge holders and communities were recognised. The National awards were given by His Excellency, the President of India, Dr. APJ Abdul Kalam.

From January 1, 2003, to December 31, 2004, with about 15000 ideas, innovations and outstanding traditional knowledge examples being received. The 4th National Award Ceremony was held on February 11-12, 2007, at the IARI Campus, New Delhi, where 87 innovators, knowledge holders and communities were recognised. The National awards were given by His Excellency, the President of India, Dr. APJ Abdul Kalam.

From January 1, 2005, to December 31, 2006, with about 37000 ideas, innovations and outstanding traditional knowledge examples being received. The 5th National Award Ceremony was held on November 18, 2009, at the IARI Campus, New Delhi, where 83 innovators, knowledge holders and communities were recognised. The National awards were given by Her Excellency, the President of India, Smt. Pratibha Devisingh Patil.

From January 1, 2007, to January 31, 2009, with about 36000 ideas, innovations and outstanding traditional knowledge examples being received. The 6th National Award Ceremony was held on March 9, 2012, at the President House, New Delhi, where 46 innovators, knowledge holders and communities were recognised. The National awards were given by Her Excellency, the President of India, Smt. Pratibha Devisingh Patil.

From February 1, 2009, to March 31, 2011, with about 19000 ideas, innovations and outstanding traditional knowledge examples being received. The 7th National Award Ceremony was held on March 7, 2013, at the President House, New Delhi, where 54 innovators, knowledge holders and communities were recognised. The National awards were given by His Excellency, the President of India, Shri Pranab Mukherjee.

From April 1, 2013, to March 31, 2015, with about 33500 ideas, innovations and outstanding traditional knowledge examples being received. The 9th National Award Ceremony was held on March 4, 2017, at the President House, New Delhi, where 55 innovators, knowledge holders and communities were recognised. The National awards were given by His Excellency, the President of India, Shri Pranab Mukherjee.

From April 1, 2015, to June 30, 2017, with about 12500 ideas, innovations and outstanding traditional knowledge examples being received. The 10th National Award Ceremony was held on March 15, 2019, at the NIF Campus, Gandhinagar, where 59 innovators, knowledge holders and communities were recognised. The National awards were given by His Excellency, the President of India, Shri Ram Nath Kovind.

From July 1, 2017, to March 31, 2019, with about 15000 ideas, innovations and outstanding traditional knowledge examples being received. The 11th National Award Ceremony was held on April 10, 2023, at the President House, New Delhi, where 50 innovators, knowledge holders and communities were recognised. The National awards were given by Her Excellency, the President of India, Smt. Droupadi Murmu.

Dr APJ Abdul Kalam **IGNITE** Award

NIF dedicated the IGNITE Awards in the loving memory of Dr APJ Abdul Kalam. To promote creativity and originality in children, NIF organised IGNITE - a national competition of original technological ideas and innovations by children, up to classa XII or the age of 17 years, in or out of school. IGNITE competition is an annual national competition where students are invited to send their original and creative technological ideas and innovations. All practical and useful ideas/innovations are given financial and mentoring support. In deserving cases, patents were filed in the students' name at no cost to them.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National Innovation


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IGNITE Award – 2008

The 2008 IGNITE award function was held on November 26 at IIM- Ahmedabad. Awards were given by the former president Dr. APJ Abdul Kalam. 961 ideas were received from schools and colleges from 62 districts of 19 states in the country.

IGNITE Award – 2009

IGNITE Award – 2010

The 2010 IGNITE contest (October 16, 2009 to September 15, 2010) received participation from 161 districts of 29 States and Union Territories of the country. A total of 2139 entries were received.

IGNITE Award - 2011

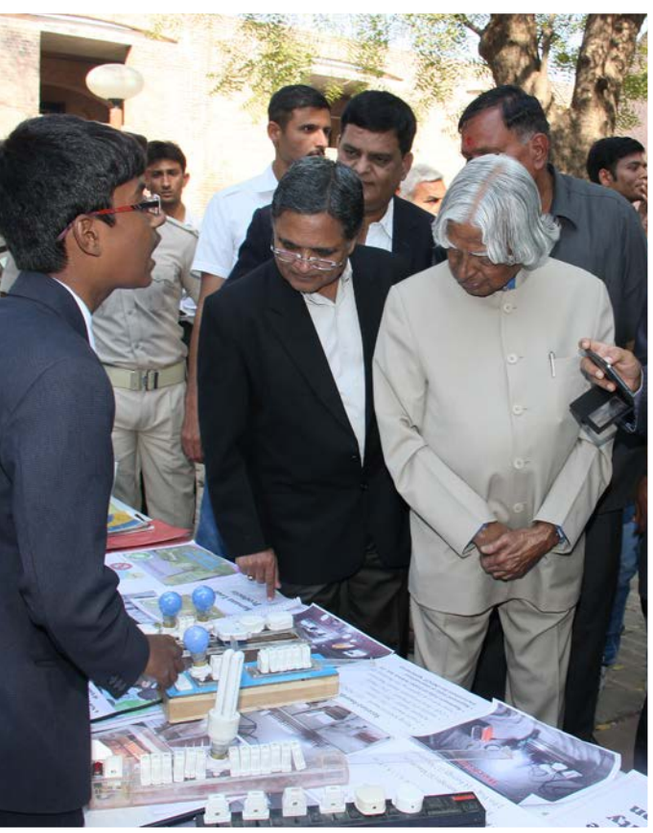
NIF organized the 2011 IGNITE award function on November 11 at Indian Institute of Management - Ahmedabad. Awards were given by the former Hon'ble president Dr. APJ Abdul Kalam.

2012

Selected creative students received IGNITE 2012 Awards from Bharat Ratna Dr A PJ Abdul Kalam on 10 November, 2012 at Indian Institute of Management – Ahmedabad.

IGNITE Award – 2013

On 19th February 2014 at the Indian Institute of Management, Ahmedabad, Gujarat, the former President of India and Bharat Ratna, Dr. APJ Abdul Kalam distributed the Young Scientist Awards to the winners of the Ignite Science Competition. For IGNITE 2013, a total of 20,836 projects were received form different parts of the country.



IGNITE Award – 2014

In IGNITE 2014, a total of 28 students from 22 districts of 15 States and Union Territories were awarded by Dr APJ Abdul Kalam for their ideas/ innovations on November 19 at IIM Ahmedabad. Over 27000 submissions of students from 359 districts of 35 States & Union Territories of the country were received during the competition, which ran from September 1, 2013 to August 31, 2014.

IGNITE Award – 2015

In the year 2015, a total 31 ideas by 40 students of 27 districts from 18 states were awarded for their ideas/innovations. Overall, 28,106 submissions of students from 425 districts of all the states & union territories of the country were received during the IGNITE 15 competition, which ran from September 1, 2014 to September 10, 2015. The award ceremony was held on November 30, 2015, during which Hon'ble President of India, Shri Pranab Mukherjee gave away the awards in Ahmedabad.

IGNITE Award – 2016

Presented by the President of India to young innovators for their original technological ideas, where the competition ran from September 1, 2015 to August 31, 2016, with the winners receiving their awards from President Pranab Mukherjee at Rashtrapati Bhavan. Among the dignitaries present on the occasion were Smt. Maneka Gandhi, Union Minister of Women and Child Development; Dr. Harsh Vardhan, Union Minister of Science & Technology; Prof. Ashutosh Sharma, Secretary, Department of Science and Technology and Prof. Anil K Gupta, Executive Vice-Chairperson, National Innovation Foundation.

IGNITE Award – 2017

Former President of India, Pranab Mukherjee, gave away the 10th Dr APJ Abdul Kalam IGNITE Awards 2017 to 56 creative and innovative students at National Innovation Foundation (NIF) in Gandhinagar, Gujarat.

IGNITE Award – 2018

On November 17, 2018 the former President Shri Pranab Mukherjee gave awards to most creative thirty one students. NIF mobilized thousands of ideas from all parts of the country.

IGNITE Award – 2019

Hon'ble former President of India and Bharat Ratna Shri Pranab Mukherjee gave away the Dr A P J Abdul Kalam IGNITE Awards 2019 to 21 creative and innovative children for their 18 distinct ideas and innovations. The winners of the 2019 competition were announced on the 15th October, 2019 on the birthday of late Dr APJ Abdul Kalam, which is celebrated as the Children's Creativity and Innovation Day by NIF.

Shri Acharya Devvrat, Hon'ble Governor of Gujarat presented the first copy of Dr APJ Abdul Kalam IGNITE 2019 award book to Hon'ble former President of India and Bharat Ratna Shri Pranab Mukherjee.

INSPIRE - MANAK

'Innovation in Science Pursuit for Inspired Research' (INSPIRE) scheme is one of the flagship programmes of the Department of Science & Technology (DST), Government of India. The INSPIRE - MANAK (Million Minds Augmenting National Aspirations and Knowledge), being executed by DST with National Innovation Foundation – India (NIF), aims to motivate students in the age group of 10-15 years and studying in classes 6 to 10. The objective of the scheme is to target one million original ideas/innovations rooted in science and societal applications to foster a culture of creativity and innovative thinking among school children. Under this scheme, schools can nominate 5 best original ideas/innovations of students.

INSPIRE - MANAK is an initiative to foster a culture of innovation and creative thinking amongst school students to address social needs through Science and Technology by targeting one million original ideas/innovations rooted in science and societal applications

7th National Level Exhibition and Project Competition (NLEPC) 2019

In 2017-18 and 2018-19, the program saw participation from 2,58,902 and 2,88,936 students respectively across all states and Union Territories. Out of these, 30,866 and 50,279 students advanced to the district level and subsequently 839 students participated at the national level.

Ideas/ innovations from students are aligned with need of society, requirement of the citizens, and offering ease of living.

8th National Level Exhibition and Project Competition (NLEPC) 2021

In the year 2019-20, program saw participation of 3,92,486 students across all states and Union Territories, with 42,143 students advancing to the district level, and 581 selected to participate in the 8th National Level Exhibition and Project Competition (NLEPC).

A humble beginning in the right direction, a right mix of both the scale and quality solutions. An unprecedented attention to outreach in initial years by the DST and NIF, coupled with strong support that education fraternity provided at their respective State and UT levels, lead to a strong reciprocation by students par excellence.

9th National Level Exhibition and Project Competition (NLEPC) 2022

In the year 2020-21, program had participation of 6,53,000 students across all states and Union Territories, with 53,021 students advancing to the district level, and 556 selected to participate in the 9th National Level Exhibition and Project Competition (NLEPC).

It is interesting to note that certain problems are common across states and UT's but the approach that students have adopted to solve them are distinct.

10th National Level Exhibition and Project Competition (NLEPC) 2023

In the year 2021-22, program had participation of 7,05,308 students across all states and Union Territories, with 52,720 students advancing to the district level, and 441 selected to participate in the 10th National Level Exhibition and Project Competition (NLEPC).

The participation of students in the program give them an opportunity to grow their exposure, the single most important dimension that a future scientist needs.

11th National Level Exhibition and Project Competition (NLEPC) 2024

In the year 2022 - 23, program had participation of 7,96,189 students across all states and Union Territories, with 43,381 students advancing to the district level, and 360 selected to participate in the 11th National Level Exhibition and Project Competition (NLEPC).

The 11th NLEPC under the flagship INSPIRE– MANAK (Million Minds Augmenting National Aspirations and Knowledge) scheme was inaugurated by Professor Abhay Karandikar, Secretary, Department of Science and Technology (DST), Government of India.

The NLEPC, which was open to the public from September 17-18, 2024, stands out due to the diversity of innovations, representing geographical balance and addressing issues that align with the nation's vision of a sustainable and inclusive future.

Creativity supported by NIF

- India's entertainment industry and legendary personalities have joined hands with NIF towards harnessing and widely disseminating the message around children creativity and innovations by young people in the country
- Few noteworthy instances
  - Student of the Year 2 & Super 30 (Hindi, 2019) supported NIF in attracting ideas and innovations from students across the country for the flagship scheme - INSPIRE MANAK
  - Kids channel Nickelodeon India supported NIF in the year 2016 towards inspiring the winners of annual IGNITE Competition for creative children
  - Legendary voices of India namely Late Shri Ameen Sayani, Shri Harish Bhimani and Shri Shammi Narang have lend their voices to attract young boys and girls to participate in INSPIRE MANAK during 2018, 2019 and 2020 respectively
  - Noted personalities like Ms Manushi Chhillar (Winner of Miss World 2017 pageant), Chetan Bhagat (Author and Columnist) and Mary Kom (Indian Olympic boxer) have supported NIF in strengthening the reach of INSPIRE MANAK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SUPER 30
राष्ट्रीय नवप्रवर्तन प्रतिष्ठान – भारत
National Innovation Foundation - India


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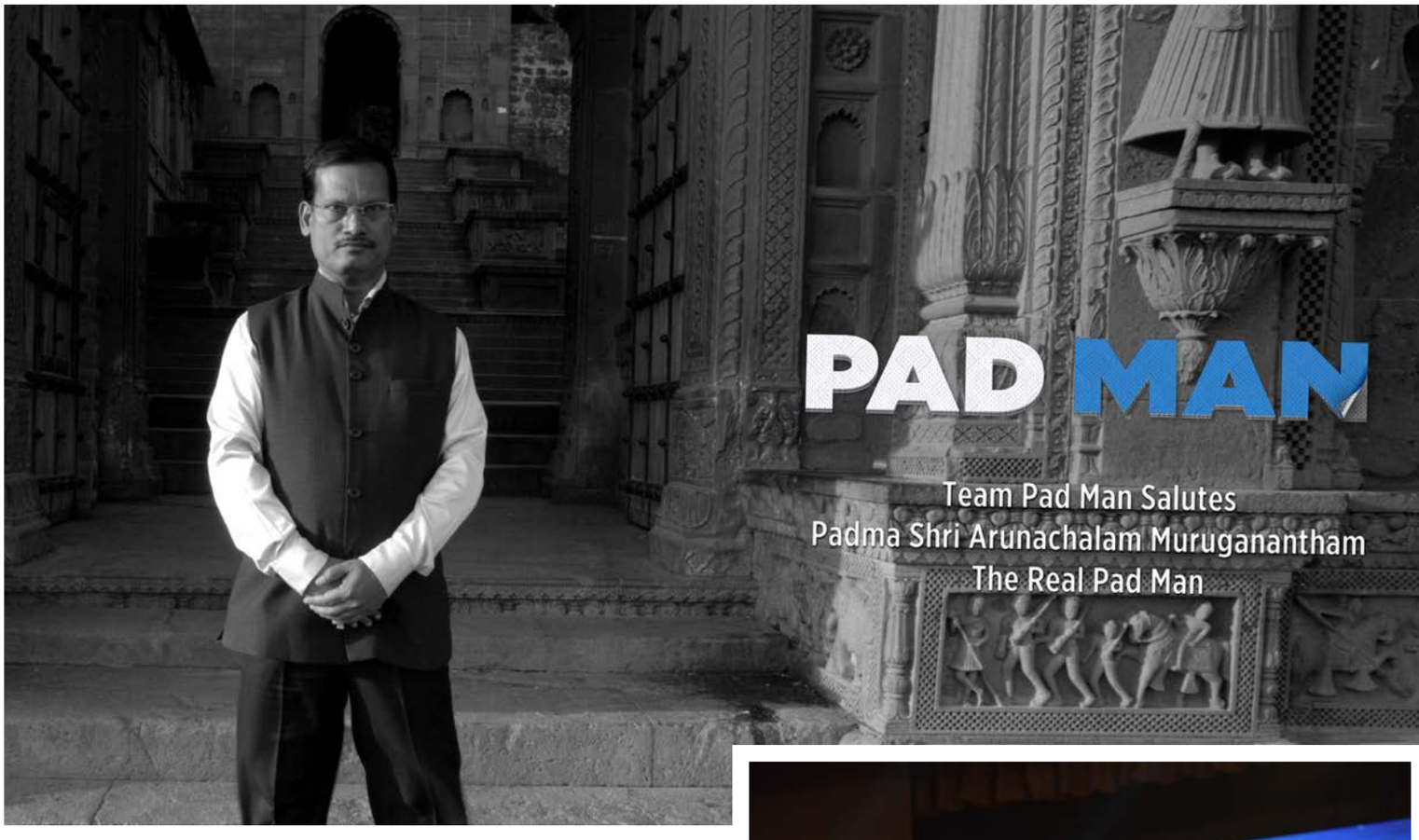
STUDENT OF THE YEAR 2
राष्ट्रीय नवप्रवर्तन प्रतिष्ठान – भारत
National Innovation Foundation - India



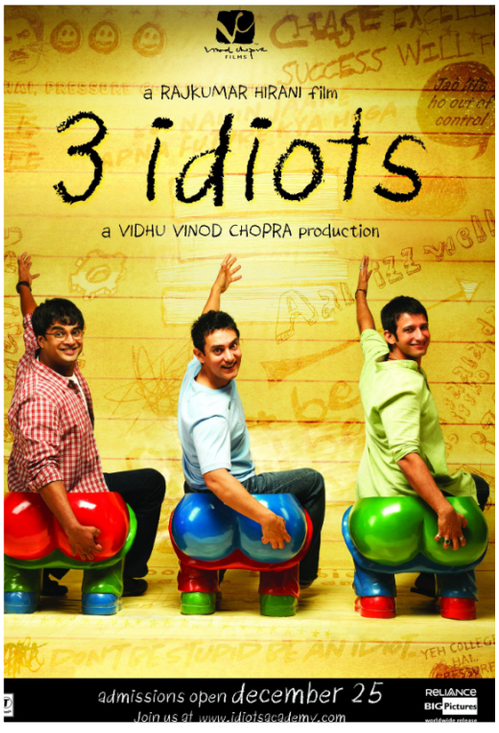
Padman (Hindi, 2018) and Mallesham (Telegu, 2019) were biographies of Shri Arunachalam Muruganantham & Shri C H Mallesham respectively - Grassroots innovators supported by NIF

Innovations inspiring India's film fraternity

During NIF's journey of 25 years it has been fortunate enough to receive unwavering support from India's film fraternity to further amplify Grassroots Innovations movement in the country

Cinema is a cultural force which mirrors society and often become a vehicle for social change - Adaptation of Grassroots Innovators Life for celluloid in India bears testimony to a fact that audience was waiting to be inspired !

Mission Mangal (Hindi, 2019) supported NIF in advancing its idea of frugal innovations and strengthened its scouting from deepest pockets and last mile locations of the country



3 idiots (Hindi, 2009) inspired our generation to think differently deployed a couple of grassroots innovations in the film namely Scooter Mill by Sheikh Jahangir Sheikh Usman & Sheep shearer by Mohammad Idris Chidda thereby enhancing the effectiveness of message

I do appreciate and admire the work being undertaken by The National Innovation Foundation – India, presenting news and updates from a series of research projects on grassroot innovatios, harnessing local ingenuity directed towards all round local development – one being "Padman" the story of Arunachalam Muruganantham – a Grassroot innovator turned Social Entrepreneur who dealt with the sensitive issue of Women ostracism.

Warm regards,

Amitabh Bachchan

Legendary actor Shri **Amitabh Bachchan** has penned down his observations about the movie **Padman** and appreciated the work of NIF

Innovation yatra

To celebrate Atmanirbharta, the NIF with support of Ministry of Culture organized an 11-day Innovation Yatra. Starting from four locations, it covered 7500 km across 13 states, showcasing 35 rural innovations. Over 12,000 people participated, and 36,000 informational materials were distributed. The yatra also documented over 1,000 grassroots innovations and traditional knowledge.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DEPARTMENT OF SCIENCE & TECHNOLOGY
National Innovation Foundation - India
Ministry of Culture
Government of India
Rural Innovations


ग्रामीण नवाचारों के माध्यम से आत्मनिर्भरता का उत्स
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Innovation yatra
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