



DIGITAL EMPOWERMENT foundation

**Empowering People**  
@the edge of information

# RURAL DIGITAL INNOVATIONS

From the Learnings and Experiences of  
Digital Empowerment Foundation



## ABOUT DEF

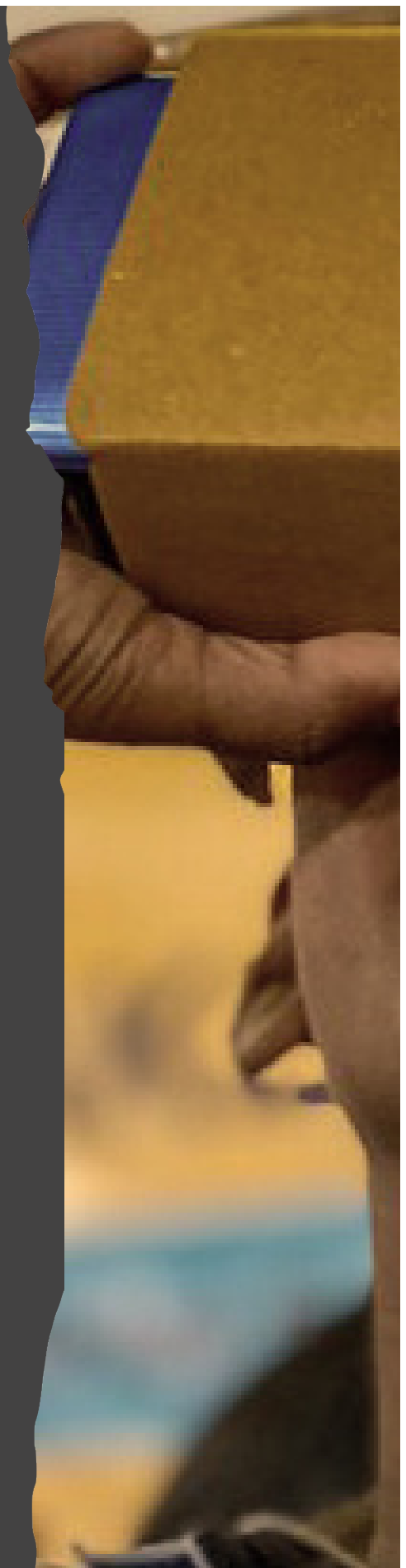
Founded in 2002, Digital Empowerment Foundation has been working to empower marginalised and unconnected communities living at the edge of information by enabling them with digital capacity, access and rights across the pillars of education and entertainment, livelihood and finance, health and agriculture, culture and heritage, with a special focus on digital rights for women and adolescents. With a 10,000 strong cadre of digital foot soldiers across India, DEF has interventions in 2,000 locations in 135 districts across 24 states in India. Additionally, DEF has a strong network in South Asia and is also an influential member of several global digital initiatives and organisations like Internet Governance Forum (IGF), Internet Society (ISOC), Association of Progressive Communications (APC), World Wide Web Foundation (WWW) and Global Network Initiatives (GNI). Going forward from 2021 to 2030, DEF is focused on working to connect the unconnected, as well as develop a healthy ecosystem wherein those who are connected can live a life free from fake news, misinformation and Internet shutdowns.

## Mission

To empower marginalised communities in information dark regions to access, consume and produce information online using digital interventions and ICT tools.

## Vision

To end information poverty and social backwardness by bringing about a digital revolution.





## IMPACT

**30 million**

Digitally  
Empowered

**20 million**

Women  
Digitally  
Enabled

**1,500,000**

People Aailed  
Entitlements

**100,000**

Artisans  
Digitally  
Empowered

**50,000**

Trained in  
Digital  
Creation &  
Dissemination

**10,500**

Digital  
Innovations  
Documented

**6,000**

NGOs Digitally  
Enabled

**1,500**

Digital  
Panchayat

**2,000**

Digital  
Resource  
Centres Set Up





In 2002, less than 17 million people had access to the internet, making up only 1.5% of the country's total population. DEF set out first to change this and, in time, bridge this digital divide through policy interventions and on-ground work. Fast forward two decades later, nearly 700 million people—about half of the country—can now access the internet.

Internet use has been slower to take hold in rural India, where around 65% of the population lives. While today's digital issues are far more complex and require comprehensive solutions, in many ways, the fundamental challenge remains the same: the digital divide is still holding the country back.

Digital Empowerment Foundation was established in 2002 with the aim of addressing information poverty in rural India. While our core values and goals remain the same, over the years, we have constantly innovated to make our work more inclusive, more effective and more relevant and to adapt to the fast-changing digital landscape. For example, our initial work was with the unconnected and under-connected. Currently, we have expanded our work to include problems arising from connectivity such as misinformation and disinformation.

**India's heart, soul and sustainability lies in its rural hinterland - for its culture, tradition, wisdom, economy, and diversified agrarian population. DEF was established to work in rural India with the conviction that the real knowledge and wisdom lies among the people of hinterland but they need to be seamlessly connected to the internet through digital adaptations to be an equitable mainstream. Here are some of the major innovations that DEF experimented, tried, scaled, and integrated into the national policy ecosystem.**





## 20 Digital Years: A Narrative of Inclusion and Exclusion

Over the past 20 years, the digital space and scenario have evolved, morphed, exploded, imploded, opened up opportunities, restricted freedom of speech, instilled confidence in the ambitious and also stunted growth succumbing to online bullying and fake news. With this backdrop, when one looks at “Digital Empowerment Foundation: Empowering People at the Edge of Information” today, two decades since its inception, the core intent is still relevant. To be more precise, providing the internet to people has become equivalent to providing food or shelter. On one end there is a lot of discussion on information society, surveillance, online hate speech, digital interference, virtual domination, and the list of digital jargons seems to be never ending, while on the other end, there is still a huge population reaching out to gain access. The journey of DEF has witnessed a very dynamic and complex evolution of the digital divide over the years in terms of impact. The continuous learnings have helped to empower the organisation to skillfully and creatively find solutions that aid in bridging the gaps of the digital world.

### The DEF Inception

We are not a poor country. We are a rich country but an “information poor” country. This became the crux of the theory of change of DEF. In December 2002 the main idea of creating a platform to push access to information through digital infrastructure was materialised as DEF. The intent was also to bring about a paradigm shift in the way the internet was perceived in India by encouraging the rural population, which is the major chunk of the national population, to become the producers of content and not just the consumers of it. This stemmed from an understanding that the people who just consume tend to get stagnant in the development cycle which would then demand a constant support mechanism to ensure inclusion. Such a set up would be on the verge of collapse sooner or later and leave the digital world more divided.

So, the approach has always been in not just connecting the unconnected, but empowering them so that they become the producers

of information. This has been challenging given that most narratives in the internet era are driven and dominated by western perspective, creating a dent in the diversity of the cultural spectrum. For instance, when we look at the Wikipedia pages, it is very rare to find content that provides the Indian perspective. But if we work on having a Wikipedia page per Panchayat (the local self-government) it would lead to a more diverse range of content. Thus, the efforts have been channelled to include local information on the internet keeping in mind that it is a permanent and transaction-oriented entity rather than just a broadcasting one.

### Working in Public Domain

Back in 2002, with this main idea of resolving the issues around the digital divide and an inclusive and sustainable approach in mind, we publicly started sharing our opinion that every parliament or a government body should have a website which was mocked at. But you see today that, if you don't have a virtual presence, your identity is at stake. Even today although every Panchayat doesn't have a virtual presence, we advocate it strongly because public representatives should be accountable in public domains and there is nothing more public than the WWW domain. One of the projects that we got involved with was creating the whole framework for a public representative and designing how a constituency would look like in a virtual set up. This design was later converted to fit into the context of a Panchayat. It is quite ironic that 3 million Panchayat representatives, of which 1 million are women, under whom 29 subject based government funds are disbursed to improve sanitation, road and other basic things have no commitments to accountability apart from just providing financial or quantitative data. So, the further work involved enabling these elected representatives with infrastructure and capacity building so that they have a platform to engage with public and decide together how they want to utilise it.

### Means of Access: Digital or Digit All

With this kind of working dynamics established and with a clear understanding of the focus area of work, which was filling



the gaps that the public or government representatives created as an offshoot from lack of accountability, 'providing access' developed as the main theme. So, the most important aspect was: if people had the right to food, they should have access to it; if they had the right to information, they should have access to it. And on thinking on the lines of how to provide such access, we concluded that digital is the means. People often asked, "What about roti, kapada and makaan (food, clothing and shelter)?" We said all that will be taken care of under the umbrella of digital. Because earlier access to ration, housing, etc. was just a step ahead from signing or providing personal information in person. But today, that information is always beyond a digital firewall. If we look around, every house plot is monitored on GPS, biometric is necessary to authenticate one's identity, virtual presence in the database is as important as having a physical presence. The importance of access to such information was not understood or so relevant earlier. But now, given the digital divide, it plays a vital role in the survival of a huge population in India. Digital inaccessibility is actually an exclusion of all sorts.

## Connecting the Unconnected

To provide access through digital means, the primary work was to connect the unconnected. Of the 773 districts in India, 374 have been identified as educationally backward. The ones that are educationally backwards are also the ones that are effectively unconnected, sparsely connected or 2G connected; always buffering. This is not just a rural scenario, even in the cities, the slums are in a similar situation because affordability is less and hence data transfer rate is less. The main work has been to empower people from such backgrounds. What started out as the Soochna Seva (Information Service) project gradually and naturally evolved into the SoochnaPreneur (Information Entrepreneur) model through our learnings. We pick out entrepreneurs from the locality (who have a natural flair for entrepreneurship and are service-oriented) and train them, preferably women and persons with disability. They are empowered with digital tools and training to

run a business of providing services that are necessary in gaining access to information with the added benefit of helping the locals so that they don't have to travel far or get exploited. The entrepreneurship model is community centric and covers mainly 5 areas which serve as the basic pillars of a society. Along with health, education, governance, finance and livelihood aspects being integrated within the digital framework, the social issues like patriarchy are targeted with a gender inclusive model.

Based around this entrepreneurship model, over the years DEF's reach has expanded. DEF took off in 2002-2003 and set up its first digital centre in 2007. Before the Covid-19 pandemic, a few hundred centres were set up and now we are close to 2,000 centres across the country with a presence in more than 130 districts of 24 states. As the centres are entrepreneurial and digitally driven, these are further expected to expand on their own. The entrepreneurs are trained to do anything and everything from editing on phone, providing digital information, leading digitally driven campaigns, sending messages on COVID precautions, spreading the word about financial and digital literacy, fact checking, surveying, creating databases, providing banking services, linking to doctors online for health consultations, playing teacher and trainer for various digitally driven skills, etc. They take many forms from managing the business and family, to organising online consultations, resolving social issues, taking up grievances of the people, filing online complaints, and many more. Some details can also be read at the SoochnaPreneur website.

The purpose of Internet Saathi (2014-2017) was to reach as many rural women as possible in select Indian states with Internet literacy. DEF, the implementation partner of the project in Madhya Pradesh and Bihar, trained rural women in the use of the internet. These trained women then trained others like them, creating a ripple effect of basic digital literacy. Through its existing Community Information Resource Centre (CIRC)s and local partners, DEF reached out to 2 million women and girls through more than 9,000 Internet Saathis in 10,000 plus villages.



## **Empowering India's Artisan and Weaver Communities**

India's craft traditions and craft skills, passed on from generation to generation, are not just an important part of its cultural identity but a crucial means of sustenance for numerous communities. According to official figures, there are about 70 lakh artisans engaged in craft production for their livelihood. As per unofficial figures, there are about 20 crore artisans who form the backbone of India's non-farm rural economy.

Keeping this in mind, Digital Empowerment Foundation in partnership with the government and private organisations has initiated several projects that primarily involve inclusive and decentralised use of Information Communication Technology (ICT) and other digital tools in critical aspects of cluster development, especially improving and scaling up weaving skills, designs, marketing and entrepreneurship, along with creating sustainable livelihood options for youth in the clusters.

The development focus of the model allows the integration of both the social and economic capital needs of targeted artisan communities in an effort to lead them towards inclusive growth. Currently through the Digital Cluster Development Program, DEF is working in nine artisan and weaver clusters across seven states in India.

## **Making Public Libraries Relevant in the Digital World**

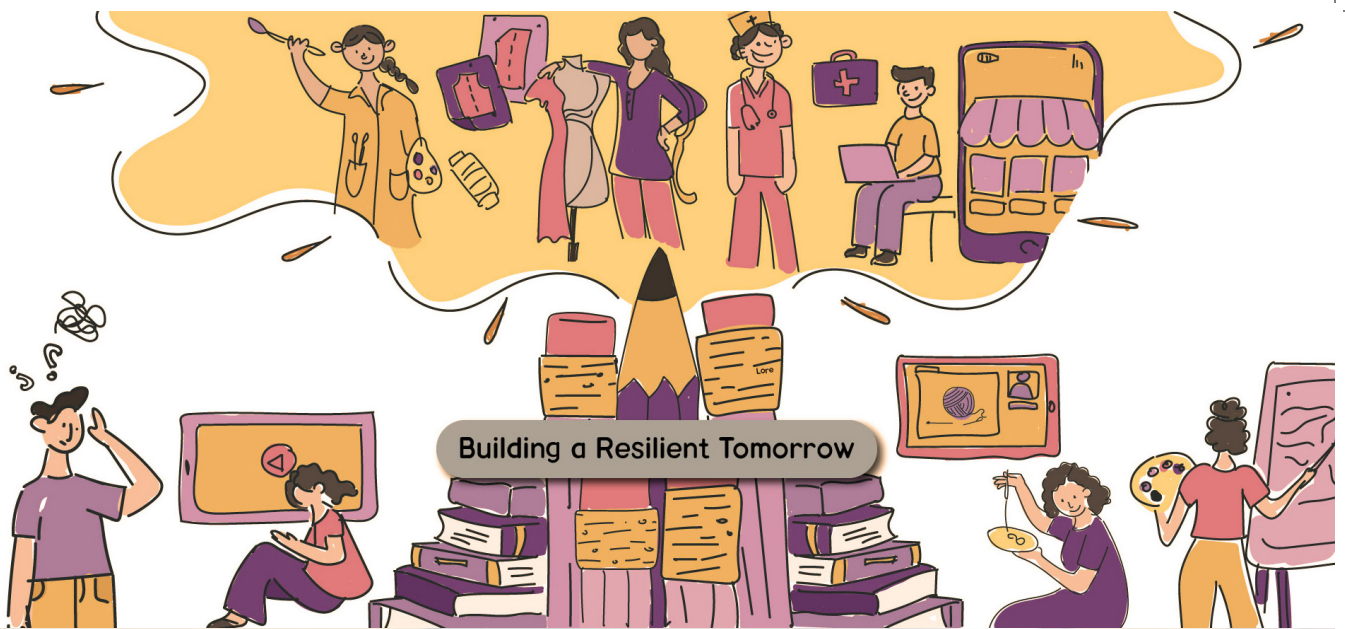
Public libraries have played an important role in democratising access to information in India which was considerably skewed in favour of the elites of the society in the past. Presently, the public library ecosystem extends from the national level to the state, district, block and village levels. However, in spite of their extensive spread and reach, their conventional mandate of offering reference and lending services did not change much. To a great extent, the Indian public libraries have not been able to leverage the benefits of the digital era that has revolutionised access to information and knowledge. Moreover, at the global level, public libraries are increasingly being seen as means to achieve 2030 Agenda

for Sustainable Development Goals (SDGs) of the United Nations (UN).

Thus, the District Library Project was started and it introduced digital interventions in district libraries to bring about integrated development and thereby rejuvenate the public spaces of knowledge. The programme tried to not only modernise libraries with digital resources but also convert them into major change agents for spreading digital literacy, improving access to critical information and encouraging learning and knowledge acquisition. Three district libraries in Unnao and Kanpur in Uttar Pradesh, and Bettiah in Bihar were transformed into vibrant public spaces of information access and community engagement. DEF is the implementation partner of the Indian Public Library Movement (IPLM) in Telangana where it is working with 13 public libraries in 10 districts to improve the access to critical information and knowledge resources for the library community by strengthening the capacities of the district public libraries as access and resource centers with the support of ICT tools.

## **Research and Advocacy for Impact**

When it comes to research and advocacy, the general approach has mainly been fragmentary in nature with very limited exchange between initial research, policy changes, implementation and actual impact. Lately, research for impact has been gaining a lot of popularity, especially given that the world order has been witnessing increasing complexity. DEF has been practising this intuitively right from its inception by ensuring a mechanism that facilitates continuous learning from the implementation and design perspective. Being outcome oriented and including the targeted community in the design and ideation process, DEF has been able to improvise its own programs and has been collecting information that helps in advocacy. The information collected by the digital foot soldiers, who help in last mile connectivity, is used for advocacy on a state or national level. All the collective knowledge comes from them. While we do a similar thing, we are different from any other advocacy or research oriented organisations by providing quantitative and qualitative



## Building a Resilient Tomorrow

first hand evidence of the effects of policies and programs. For example, many of the digital rights organisations are doing a lot of research on surveillance. But our experience from the ground tells us the story that at the end of the day, people want food and if they want more food, they will create 10 more identities. So what data means to the end users is different from how a research analyst, well versed in the vocabulary of the digital world, looks at data.

These shifts in outlook become prominent when quantitative data become the sole driver of policy change. Another example in this context is that of the Telangana government's initiative to develop AI for good. They had 29 departments through which they had collected data which were all merged to create a new database so that they could do better welfare to the citizens. But the accuracy turned out to be 78% which meant that several thousand people got deleted from the database and they were declared "not surviving". When you talk to people in the policy field, they will say "yes there was some error in the data" in a way that those lives didn't matter. But when we look into implementing digital rights literacy with the beneficiaries and through them by taking up examples like that of identity theft, or fraud on the basis of Aadhaar which they understand very well based on their experience, we add different weightage to the data collected. It is interesting to understand how the

perspective you get from the ground can question or motivate policies. In the current scenario, Aadhaar is a necessity for the poor to avail rights, food, education, etc., but the same individual is unable to fathom that the same Aadhaar number linking to his bank account is enabling ease of banking frauds or theft of data, his identity. DEF works at the cusp of this paradoxical situation and has to constantly balance the act of enabling the poor with digital tools and also ensuring that they understand the nuances of data and are literate enough about data rights.

Community Network Exchange was first started in 2017 to discuss sustainable business models around community networks with sound understanding of social and economic challenges; to identify various issues such as spectrum, technological, regulatory, content and localisation, among others, that need to be addressed in the national and international framework of policies; to develop a series of policy briefing papers that focus on regulatory issues that need to be addressed; to make community networks visible to policy makers so that they can be considered as an actor within the telecommunications ecosystem. The focus is on bringing together community network practitioners and enthusiasts of community-driven Internet connectivity to exchange ideas and serve as catalysts for the grassroots connectivity movement.



## Creating a Knowledge Hub

We have launched a series of awards recognising digital innovations and creating a knowledge hub.

Manthan Award is a conclusive exchange platform for ICT practitioners, content creators, e-domain experts, social media change-makers to create a complete ecosystem where the digital tools can be seen as tools for education, business & infrastructure and the holistic society empowerment for the 21st century.

Manthan Award South Asia is a first of its kind initiative to discover, recognise and honour the best use of ICT and digital tools for developmental purposes. The Award is less about technology and digital media but more about the right use of digital and technological tools to empower people.

The Award was launched on 10th October 2004, by DEF in partnership with World Summit Award, Department of Information Technology, Govt. of India, and various other stakeholders engaged in promoting digital inclusiveness for development in the whole of South Asia.

Since then it has come to define the very best in e-content and digital practices for development in all of South Asia. After 4 immensely successful years of holding it within India, the scope of the Award was expanded to cover all the South Asian countries and several countries from the Asia Pacific region.

The mBillionth Awards recognises and felicitates innovations and excellence in mobile tech solutions, innovations and initiatives in addressing key social, economic and sustainable development and transformation changes in the South Asia Region (SAR).

The mobile phone has become the most potent digital weapon for global empowerment as a result of the tremendous increase in the adoption of mobile technology across practically all socioeconomic strata. This is particularly prevalent in South Asia, the Asia-Pacific region, and other developing nations.

Recognising this phenomenon, in 2010 the Digital Empowerment Foundation (DEF) spun off from its highly successful Manthan

Awards a separate award – the mBillionth Awards – only for recognising excellence in mobile innovations for development.

The industry-driven and peer-acknowledged mBillionth Awards acknowledge South Asia as a key hub of the world's mobile and telecom market in terms of penetration and innovation.

However, there is a sizable digital gap in the area. These Awards acknowledge the fact that, currently, mobile phones have a greater regional reach than any other kind of media, including television, radio, the internet, newspapers, magazines, and landlines. Mobile platforms are increasingly the obvious choice for breaking down the information divide and making vital and cutting-edge digital services accessible to the largest possible swath of the public.

The Social Media for Empowerment (SM4E) Awards honours and recognises the best social media efforts in the region for addressing significant development and transformational changes via innovative use of social media (SAR). The New Delhi, India-based SM4E Award has been run since 2013.

eNGO is a flagship programme which aims to digitally empower the grassroots organisations across South Asia and Africa by equipping them with Information and Communication Technology (ICT) tools. The programme was rolled out in partnership with the National Internet Exchange of India in 2009 with the objective of helping grassroots nonprofits working in the development sector set up their own websites and go online with .in domain. Since 2011, eNGO programme has been further strengthened and expanded with support from global non-profit Public Interest Registry (PIR) which operates and manages the .org top level domain globally.

In 2014, DEF took its partnership with PIR further and began working towards the launch of two new top level domains – .ngo and .ong – to create global validated digital identities, specifically for NGOs.

Since its inception, eNGO has digitally enabled more than 5,000 NGOs by taking them online through their exclusive websites with .org or .ngo domains. The .ngo domain provides an exclusive extension to NGOs and gives them a specific platform for validation. eNGO has taken a step forward in this new beginning

of what is turning out to be an evolution for NGOs by elevating their online presence and visibility. This has enabled public and private sector donor agencies and global NGOs to readily find and identify genuine organisations that they would like to support and fund. Additionally, eNGO offers exclusive .ngo domain to all verified NGOs of India, supported by OnGood Global Directory, the largest database of legally recognized and validated NGOs worldwide.

## **Attributes of DEF's Ethos**

Looking back at what DEF has done differently that has resulted in having good impact and success stories from the ground, we would always steer towards the clarity about intent which drives us to ideate, design, implement and improvise with an end goal of finding sustainable solutions with an inclusive approach. A few examples that resonate with this are the SochnaPreneur program and the Digital Literacy program.

In comparison with other similar programs like that of Common Service Centre (CSC), with digital kiosks set up in different locations, which DEF also worked for in formulating in 2007, SochnaPreneur model was never an entrepreneur centric model. Our learnings from writing the scheme and policy for CSC helped us understand that if the importance is given to village level entrepreneurs, they would tend to be money makers and provide services that bring them better commission rather than provide those services that are actually required by the locals. So the key aspect that was kept in mind was to pick the right kind of SochnaPreneurs who share the interest to serve the people. We realised the need for a very sensitive and socially conscious entrepreneur who would take up local problems with empathy and solve them as a service and yet sustain herself/himself. As a result, SochnaPreneur has emerged as a scale model of what Telecenter.org and CSCs envisaged.

On similar lines, another scheme was National Digital Literacy Mission which was started by Intel in partnership with DEF and NASSCOM Foundation in India that became a national program. But we never followed the same curriculum for our own Digital Literacy program. What we learnt on the ground is that they don't want to learn hardware and

software. The learning of the communities is need based. They want to watch Bollywood movies for which knowing 3 clicks of a mouse is enough. They will also tell you what they perceive from the keyboard. So, as trainers, we ask, "if you learn the keyboard, do you learn them as an alphabet or as a symbol?". We realised that symbol-based learning is more natural which is also why children draw a lot. Once they are familiar with these symbols, they can expand their learning using YouTube, etc. So, the whole digital literacy turned out to be a different ball game altogether. The important thing was the goal to impart digital literacy while the means we used was symbol based training, or oral and visual based training. Now, if we want to teach digital financial literacy, we will teach about the four most important banking apps that one uses or digital tools represented by icons on the mobile. Everything else is usually figured out amongst themselves. Teaching through examples was found to be the most effective way. As a result, in 1 to 2 years, we made 5 million women digitally literate. This cannot be achieved unless we figure out a way to include peer learning. Just introducing them to creating groups on Telegram using audio visuals helped them learn a lot more from each other. It should also be noted that although the means of introducing content is symbol based, such a model would not work unless there is a proper structure to guide and intervene in the learning process to check continuous progress.

## **Impact on Social Values**

The case stories from the beneficiaries reflect much more than the expected outcomes. They all share aspects of breaking some social bondages, improved self-esteem, enhanced sense of social responsibility, etc. The methodologies have always considered the impacts on the social behaviour of the community and some of the important takeaways in this regard have been: the effectiveness of peer learning, self-regulatory aspect of community oriented and inclusive digital design, methodologies that encourage more participation from the beneficiaries are more effective and that every digital model needs to be designed from sector perspective. This is ensured by including a baseline and endline survey under each category to help in customising deliverables for each sector.





Another key learning so far is that design and methodology is more important than technology when it comes to implementation. The methodology should be non intrusive in terms of social standards and yet stimulates change. One such example was in designing a mentorship platform using an already existing communication tool, WhatsApp, to help in mentoring girls who could have conversation with their female mentors with the consent of their parents. So, the stress has mainly been on the design. GOAL (Going Online As Leaders) is a perfect example of designing a program based on given conditions. We all know that our girls in villages live under severe patriarchal practices, they hardly utter their wishes and have almost no freedom. We also know that their access to mobile is restricted and at best need based. We simply designed a scheme that smartphone is available only for the girls in the village and the deliverable is that she will get a two hour session to get in touch with a female mentor in the city to get access to counselling and education of her own desire in a video based call in a free flowing manner. None of the parents objected, and all selected girls got a smartphone and in a pool of 4-5, they would talk to their mentors on a weekly video call and discuss anything and everything in life. As a result, all the girls became open, started talking, started working on their capacity to achieve their desires and turned out exercising all possibilities to become something that they had dreamt for. Just because of the design of the program, we had gender digital inclusion, fought patriarchy and created entrepreneurs. We did not develop any curriculum, we linked haves and have-nots on an equitable platform; we did not create any new technology but just used existing tools and infrastructure.

## **Government's Role**

One such attempt has been pointed at the effort to introduce optic fibres to ensure last mile connectivity. But outcomes seek to be similar to the Bharat Sanchar Nigam Limited (BSNL- the public sector communication provider) era where wires are seen hanging but no connectivity is achieved. In terms of last-mile functionality of making the infrastructure usable and serviceable, there hasn't been any progress as it is a design implementation issue rather than a program

issue. To be more precise, the BharatNet program that promised and claimed to connect all Panchayats with more than 100 MBPS connectivity is not yet functional even after making the infrastructure reach to all panchayats. The immediate question would be: Why? The reason is that we do not know how to design things to serve people comprehensively but we are in the habit of designing things to tick the check box.

Another recent initiative is PM WANI which is based on DEF's work of developing community networks which use 2.4 and 5.8 Gigahertz of the free spectrum and distribute it locally. One doesn't have to bother about creating last-mile connectivity in a very physical way. Connectivity can be brought to one location from any telecom company (telco) and travel using WiFi to another location. Without much infrastructure, connectivity is made available. But then there will arise a need to create plumbers and electricians to engineer these things locally as no one else willingly goes to work in these villages. These engineering aspects can be approached in a non-technical way by focusing on the how to engineer rather than the why. In other words, the last mile connectivity under the new scheme called PM-WANI can be achieved without the participation of telcos, but yet the telcos have to facilitate in providing backhaul of the internet so that new, private, independent entrepreneurs could organise their own infrastructure to develop and establish last mile internet connectivity for the bottom of the pyramid.

If these things are put in place, many digital solutions can be put into practice to make a lot of things better, even for the government. For example, schools can provide live updates about teachers and progress that adds accountability. But the government is yet to tap into it. In the meantime, we might slowly move towards a thought process of decentralising the internet and finding an alternative mechanism to keep the exchange going. We are curious to see if we will soon have the Intranet.



## Essence of the Organisation

Adding further to what has facilitated the organisation to thrive for 20 years in public service and still be on a growing curve, it can be said that the essence of constantly working towards solutions has held the space for creative ideation, improvisation based on learning from doing more than talking, continued research and advocacy to bring impact and collaborative spirit of working along with skillful utilisation of funding opportunities that supports the whole effort to bring change.

Digital Empowerment Foundation works and ensure that all its effort is translated to be "access and digital tools for poverty alleviation". Digital Empowerment Foundation's work is organized into six verticals with education being the highest priority. Our work, however, goes beyond the education vertical while using it to improve other verticals such as access & infrastructure, governance & citizen services, markets & social enterprises, knowledge hub & network and advocacy & research.

Access to information is a basic right for every citizen and DEF works towards providing this access by connecting remote communities to the Internet through its Wireless for Communities initiative across more than 150 villages in India. Wireless for Communities or W4C aims to connect rural and remote locations of India, where mainstream Internet Service Providers (ISPs) are not willing to provide internet connectivity as they feel their operations would not be commercially viable. W4C involves line-of-sight and low-cost Wi-Fi equipment, which utilize the unlicensed spectrum bands — 2.4 GHz and 5.8 GHz — to create community-owned and community-operated wireless networks in rural and remote locations of India to democratize access and make it available to all. These community networks are created for knowledge sharing, content creation and dissemination of other information and issues relevant to the local context of each location. Women are trained to become engineers who maintain and manage these networks.

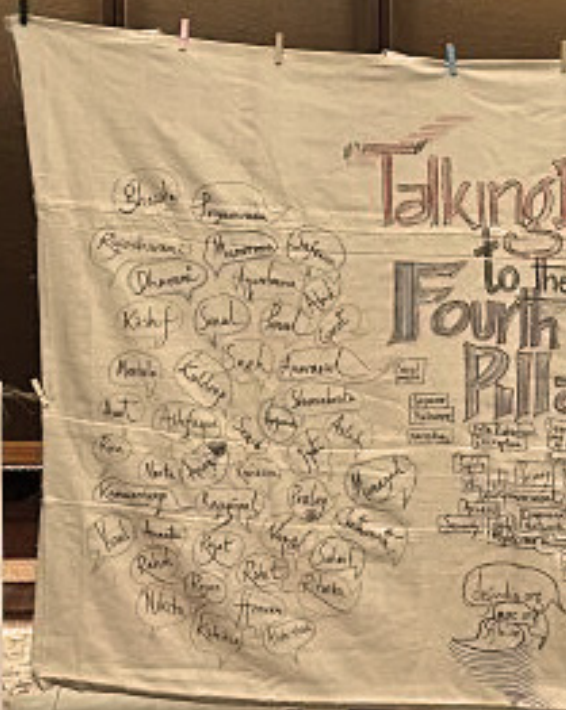
Zero Connect is one of the community network initiatives of the organization wherein using an internet van, the Agariya community

in Little Rann of Kutch, a desert in Gujarat in the Western region of India was connected to the internet for the first time. They gained access to the internet and vital information from which they had been cut off for decades.

PM-Wani is a flagship program of the government of India and DEF is playing a role in piloting this program in 25 locations. Currently providing access to the internet is centralized and this program strives to simplify the process and make it accessible to village level entrepreneurs enabling them to create another income stream while providing access to the internet to their communities.

Access to information goes beyond just setting up the infrastructure so that communities can gain that access, it is also essential to provide meaningful access- giving context to that access. DEF does this through its e-governance vertical. Communities are provided the right kind of information and connected to government entitlements and schemes. It is difficult for the common man to access government schemes and DEF works towards providing this access by helping them apply for schemes that they are eligible for. Through this initiative more than 500,000 community members have received digital services and government entitlements. This is done through SoochnaPreneurs (Information Entrepreneurs) who are identified from the community and trained in digital tools enabling them to become leaders of their communities who provide reliable information to their people.

The SoochnaPreneur program empowers entrepreneurs by creating a source of income for them. The first step of the program is to identify a community member who shows signs of entrepreneurial skills and instincts. Once the entrepreneur has been identified, she is trained in digital tools with the perspective of using those tools for community development. With this knowledge of digital and social entrepreneurship skills, she is equipped to become a community leader who serves her people using digital tools. She does this by providing access to information, access to government entitlements, access to digital finance and access to education. By obtaining a banking correspondent license they become mobile ATMs for their village as most villages don't have ATMs so people have to travel to neighbouring villages for







cash. With her knowledge of digital tools the SoochnaPreneur also provides digital literacy to students.

Most of the 2,000 SoochnaPreneurs are women or persons with disabilities. Women are identified to promote gender inclusivity and also because over the past 20 years DEF's experience has shown that at the village level women are more reliable and accountable for their work and to their communities. A woman SoochnaPreneur also makes other women of the community comfortable with coming to the center and availing the services provided. Special focus is also given to persons with disabilities who struggle to find a stable livelihood. Following this model DEF has reached 2,000 locations across 24 states and 135 backward districts serving underserved, marginalised and unconnected communities.

Selected 200 SoochnaPreneurs (termed DigitalSarthaks) are providing entrepreneurship and capacity building along with counseling to 16,000 women entrepreneurs. The training includes digital financial literacy, recordkeeping, and other business methodologies that are enabling the village level entrepreneurs to expand their businesses.

Under our Market and Social Enterprises program, we train artisan clusters in digital design and using digital communication tools for marketing. However, these digital literacy

training sessions can also be considered under the education vertical.

Through A-CODE (Art & Collectives for Digital Empowerment) initiative under our Knowledge Hub and Network vertical, we explore ways to enhance collaboration among civil society organizations working in different sectors and advocating for a more pivotal role for inclusion of art in social change.

Research and Advocacy is a core component and an important vertical for DEF. While we have been providing digital functional literacy to communities across India we are also aware of the evils of digital such as misinformation, disinformation, fakenews and hate speech. The impact that misinformation and fake news has on communities is immense and to counter that we develop programs and conduct research involving community members and advocating with the government and social media platforms. Using our knowledge and experience working on the ground we advise other civil society organizations, the government and the corporate sector through advocacy regarding digital development in India. DEF also works in the field of data addressing privacy issues, data justice and data rights. The advocacy pillar is supported by the work we do on the ground, and we use our advocacy to make policy changes that would make digital development more fruitful to the communities we work with.

## WOMEN Empowerment

- Photocopy
- Aadhar changes
- Pan card
- Government entitlements
- ATM
- Smart card
- other online services





## Pillar Wise Programs and Activities

Digital Empowerment Foundation (DEF) currently works across six programmatic verticals: Access & Infrastructure, Education & Empowerment, Governance & Citizen Services, Markets & Social Enterprises, Knowledge Hub & Network and Research & Advocacy. However, components of capacity building, citizen service provision and entrepreneurship are built into most of our programs thus covering multiple verticals. Over the years, some of the programs under these verticals have evolved to become our flagship programs that support other projects and assure convergence across verticals. In the following paragraphs, we will be listing some of these ongoing programs that have evolved over the years as well as some new but promising projects.

### Access & Infrastructure

Under Access & Infrastructure, DEF establishes community information centres in rural areas and equip them with digital infrastructures such as computers, cameras, printers, projectors and scanners. We also provide them with internet connectivity via Wi-Fi and broadband. These centres facilitate access to information, digital devices, connectivity and services to the local communities. These centres at different locations may undertake different kinds of activities and offer different packages of services but all of them facilitate digital access for all, and allow the community to avail their daily needs using digital and communication tools. These centres enable DEF to undertake a multi-dimensional approach to the task of digital inclusion. They also provide the basic infrastructure needed to roll out various other DEF projects to address various programmatic verticals. Read more about the program on [www.circindia.org](http://www.circindia.org).

DEF also creates village level hubs by taking these centres to the next level. These hubs have multiple computers, STEM labs, and meeting spaces enabling them to host multiple projects. Multiple grassroots information entrepreneurs are associated with these hubs as well. As such, these hubs cater to a much larger population than a single

centre. These hubs were designed with the idea of transforming rural villages into Smart Villages. Smart Village is conceptualised as a digitally integrated ecosystem where people leverage digital tools to bring efficiency in daily lives, transparency in governance, economic prosperity for households, social cohesiveness, and ease of access to various kinds of services and information. Please read more about the program in <https://smartpur.in/>

In rural and remote locations of India, mainstream Internet Service Providers (ISPs) are not willing to provide internet connectivity as they feel their operations would not be commercially viable. DEF with the support of our funding partner, stepped into fill this gap by launching the Wireless for Communities (W4C) program. W4C involves line-of-sight and low-cost Wi-Fi equipment, which utilizes the unlicensed spectrum bands — 2.4 GHz and 5.8 GHz— to create community-owned and community-operated wireless networks. Over the last 12 years, W4C program has been providing affordable and democratically controlled Internet access in rural regions of India. Read more about the project on [www.wforc.in](http://www.wforc.in).

Wireless Women Engineers is also a supplementary program meant to support the implementation of the W4C project as well as to address the structural biases that limit women's access to digital literacy and digital services such as education, healthcare and social security benefits. This program aims to digitally empower women from rural communities, bridge the gender gap and enable them to serve their villages to provide access to internet connectivity.

In addition to these pan India programs, DEF also has ongoing projects to address lack of digital infrastructure, literacy and lack of adequate access to specific marginalized communities. One such program is Internet Roshni. DEF envisages upgrading tea gardens into a digital access point for improving and enabling access to critical public schemes information and entitlements digitally. All the 50 internet enabled centers are operated by our rural entrepreneurs who provide primary services under five key areas of development — health, education, livelihood, governance and finance. The rural entrepreneurs run and sustain the internet

with coupon-based internet services at low costs and strive to ensure 'Internet for everyone' in the community. CILs will serve as internet liberating points for the locals to connect to information, opportunities and critical entitlements and benefits. The use of Infrastructure for the community and their empowerment is done by our SoochnaPreneurs.

## Education & Empowerment

Over the years, we have worked to innovate our grassroots information entrepreneur program and centres to cater to varying needs of varying communities. One such program is Digital counselling and education program for farmers where we provided services for Financial Education and Counselling to 250000 farmers for value chain actors under the World Bank-financed Assam Agribusiness and Rural Transformation Project (APART).

Certain programs that work with the young population are Digital Financial Inclusion for Youth, which aims to build digital financial

skills of youth between the ages of 13 and 24 years, and micro and nano women entrepreneurs in the age group of 18-30 years. This program was designed to advance digital equity focusing on providing courses and skilling to youth and women entrepreneurs from economically weaker sections, differently-abled, minority groups, Scheduled Class (SC) and Scheduled Tribes (ST). Another program is Digital Literacy Classroom which promotes and inculcates digital literacy among the students of Government school and the local community, with the aim of empowering them to access, analyze, consume, produce and leverage information using digital interventions and Information and Communication Technologies (ICT). Digital Didi is also one such program aims to create a cadre of women entrepreneurs in DEF intervention areas for addressing menstrual hygiene and digital literacy through the use of Smart Pads for women and young adolescent girls. Women and girls can access these self-learning modules (SKILLBOT) through a QR code printed on the cover of





the reusable sanitary pads, provided by the local information entrepreneurs. These sanitary pads are designed and made by artists associated with the digital cluster development programs.

In our grassroot entrepreneur variant, we have safeguarding rural India through critical digital literacy, where we wish to build the capacities of our fellow citizens to produce, disseminate, and consume digital content critically. Through this project, learners will be trained in functional digital literacy, digital financial literacy, critical digital literacy and facilitating access to citizen services. Another variant of our grassroots entrepreneur program is our women wireless training program. In addition to providing digital services to the local community, they also work as master trainers who provide digital literacy training to local women entrepreneurs in order to build their capacity on the efficient and safe use of digital tools.

In addition to these programs, DEF also have focused education/capacity building

programs either focusing on specific communities or specific thematic areas of literacy. Providing digital devices to all these initiatives has not been easy even with the donor support. COVID-19 pandemic also made us aware of the pressing need to distribute more devices in the rural areas of India as lack of devices and connectivity prevented school going students from continuing education under lockdown conditions. It also prevented families from accessing much required services like telemedical consultation. Digital Daan is rooted in the philosophy of giving and believes in redistribution from those who have more to those who have less—from the privileged to the underprivileged, from the haves to the have-nots.

During COVID-19, DEF partnered with UNICEF to initiate another program to educate citizens on covid sensitive behaviour. Risk Communication & Community Engagement was designed to address COVID-19 Vaccine hesitancy and misinformation related to the COVID-19 pandemic. The three main themes of the program are: COVID-19 Appropriate behavior (psycho social care and home isolation), COVID-19 sensitive behavior (health, nutrition, immunization, diet, toilet use, and supporting continuation of school education and learning at home for the students. Implementation of the awareness and community mobilization plan was done through several activities like wall paintings, announcements, WhatsApp messaging, door-to-door visits, community and youth meetings, Chatbot tools, and social media. The RCCE program has been able to reach out to people through the existing network of digital entrepreneurs present across the intervention areas.

The STE(A)M (Science, Technology, Engineering, Art, Mathematics) programs with an active presence in 18 states and more than 100 districts have transformed education spaces into thinking-based learning centers that encourage young boys and girls to develop scientific temperament and hone creative skills along with targeting social issues of gender bias, superstitions, and misinformation. Integrating such spaces within the framework of the community promotes MakerSpace that enhances the growth of every individual. A digitally integrated ecosystem like that of Digital



Excellence Center where people can leverage digital tools to bring efficiency in daily lives, transparency in governance, economic prosperity for households, social cohesiveness, and ease of access to various kinds of services and information. A series of capacity-building curriculums has been developed by DEF and hosted on DEF Academy platform.

In our grassroots entrepreneur variant, we have safeguarding rural India through critical digital literacy, where we wish to build the capacities of our fellow citizens to produce, disseminate, and consume digital content critically. Through this project, learners will be trained in functional digital literacy, digital financial literacy, critical digital literacy and facilitating access to citizen services. Another variant of our grassroots entrepreneur program is our women wireless training program. In addition to providing digital services to the local community, they also work as master trainers who provide digital literacy training to local women entrepreneurs in order to build their capacity on the efficient and safe use of digital tools.

### **Governance & Citizen Services:**

The aim of this pillar is to strengthen and improve access to digital information, access to services, opportunities, education, government schemes for the community The

projects under Government & Citizen services are aimed at strengthening grassroots democracy to improve efficiency and effectiveness of governance and participatory democracy.

One such programme is focused on strengthening access to social security for tea garden workers in West Bengal where we reach out to 80000 individuals covering 16 tea gardens across 4 districts of West Bengal to strengthen access to social security benefits.

To highlight the importance of government schemes and ensuring participation, especially when unavailability of necessary medical equipment, lack of knowledge about COVID-19 appropriate and sensitive behaviour, myths, fake news, misinformation/ disinformation about COVID-19 2.0 and vaccination, DEF launched an ICT-enabled and community-specific relief programme, COVID-19 Digital Emergency Relief Programme (CDERP) where our information entrepreneurs reach out to people through messages in the form of audio, videos and infographics. They also disseminate verified helpline numbers through WhatsApp and Facebook. They helped people to access local aid through COVID Information Vans, in collaboration with State Governments as well.

As a part of this pillar, a pool of rural entrepreneurs, SoochnaPreneurs, are created in order to strengthen and democratize the environment of public schemes





information dissemination, services and final benefit gains for focused groups and other beneficiaries. Using mobile devices equipped with connectivity and other tools, the project seeks to create a nexus of services, provided on demand to rural consumers. These centres are run by youth selected from local communities, who are then trained by DEF. They facilitate access to government schemes and benefits to the local communities. Additionally, we are also looking at this program as a means of bridging the gender digital divide and including persons with disabilities in the narrative. India has about 80 million persons with disability. Under this program, our Samarth SoochnaPreneurs are digitally enabled to become sustainable village-level entrepreneurs who not only earn a livelihood for themselves but are also able to serve the community. Hence, this program provides persons with disabilities with an independent livelihood to support their family, subsequently increasing their confidence and standing in the community.

## Markets & Social Enterprises

One of our flagship program Digital Cluster Development Program (DCDP) has initiated several projects that primarily involve inclusive and decentralized use of Information Communication Technology (ICT) and other digital tools in critical aspects of cluster development, especially improving and scaling up weaving skills, designs, marketing and entrepreneurship, along with creating sustainable livelihood options for youth in the clusters. According to official figures, there are about 70 lakh artisans engaged in craft production for their livelihood. As per unofficial figures, there are about 20 crore artisans who form the backbone of India's non-farm rural economy. DEF's DigiKargha program also supports mainstream designers' demand for fabrics at the cluster level, which provides an additional source of income to the artisans and gives them exposure to changing market demands. The development focus of the model allows the integration of both the social and economic capital needs of targeted artisan communities in an effort to lead them towards inclusive growth.

Another avenue of this pillar is the capacity-building and promoting financial literacy

for women entrepreneurs. The activities in this include rigorous training on usage and features of digital tools, along with query resolution support. The targeted beneficiaries are 2500 micro and nano women entrepreneurs spread across seven states and 14 districts.

## Knowledge Hub & Network

Knowledge Hub & Net addresses the goal of creating a knowledge network and platform for dialogue to identify and showcase best practices in the field of ICT for development across South Asia. A-CODE (<https://acode.defindia.org>) is one such effort towards finding ways to enhance collaboration among civil society organizations that are working in different sectors and advocating for a more pivotal role for the inclusion of the arts in social change. The collective would deal with several important issues that cut across the work of civil society organizations, define, and indicate social change in areas including the following: Freedom of Expression, Social and Economic Marginalization, Displacement and Migration, Gender Inequality, Youth Empowerment, Conflict and resolution, Misinformation and Hate Speech, Environmental Degradation, Access to Healthcare, Digital Access and Internet Freedom, Discrimination and Racism. Another such program is Community Network Exchange (<https://cnxapac.org>) which focuses on bringing together community network practitioners and enthusiasts of community-driven Internet connectivity to exchange ideas and serve as catalysts for the grassroots connectivity movement.

## Research & Advocacy

In the Research & Advocacy pillar we trace the impact of digital interventions and the effects of digital exclusion in an effort to uphold internet rights and encourage policy changes. Some of the focus areas under this pillar are misinformation, data justice, data rights and cyber-crime. One program under this pillar that looks at privacy, policy change and tackling fake news is in collaboration with APC is an effort to democratize the data protection discourse by building the capacities of media professionals. All of these illustrate the need for data protection legislation that protects the interests of

the democratic state. In this context, it is important to educate journalists including mainstream and citizen journalists on privacy and data protection and to build a consensus for better data protection regimes that uphold human rights. Another such advocacy area is aimed at strengthening grassroot organisations in developing/ revising their websites both as a source of useful information as well as an effective marketing strategy. This support is aimed at building the technical capacity of organizations. As part of this process, their websites will be upgraded to be suitable for the target audience. To read more about our research avenues <https://www.defindia.org/publications/#researchreports>

## **Preservation of Cultural Markers in Rural Destinations**

In the world of rapid digitization, it's imperative that we connect arts and culture to the digital world in order to bring together organizations/individuals who are using art, heritage, folk, culture, storytelling and other artistic mediums of expression. In an effort to bring several 'Community of Practice' to be a part of the collective that would work together to advocate for the inclusion of arts in social change. We call it 'A-CODE: Art and Collective for Digital Empowerment'. A-CODE is a digital knowledge network that aims to bring together organisations who are using art in any form to support the rights of marginalised communities. A-CODE is a digital knowledge network that aims to bring together organisations who are using art in any form to support the rights of marginalised communities. Currently through our cohort, we represent endangered music practices, local street performers, local art practices, puppetry, poetry and prose, alternative livelihood practices for rural communities in India, and focusing on bridging together community network practitioners for grassroots connectivity movement.

Another project that works toward the preservation of cultural markers, particularly in rural destinations, is focused on creating an online directory and of GI Tags (Geographical Indication Certificate). This initiative aims to harness the rich tapestry of India's cultural heritage and geographical diversity to propel

the nation forward on several fronts. First and foremost, such a directory is poised to become a potent tool for boosting tourism. By consolidating information about the distinct products and traditions associated with specific regions, the directory can guide travellers towards immersive experiences that showcase India's unique cultural identity. Furthermore, this endeavour is deeply intertwined with economic empowerment. By promoting products under GI protection, local communities stand to gain new entrepreneurial opportunities, enabling them to leverage their traditional skills and resources to create sustainable businesses. Ultimately, the directory serves as a conduit for the preservation and celebration of India's myriad cultural markers. By safeguarding and promoting the significance of GI-tagged products, the initiative plays a pivotal role in ensuring that India's rich heritage continues to thrive, fostering a sense of pride and connection among its people while captivating the world with its captivating stories and offerings.

## **Special Purpose Technology Products**

In the last two decades, the internet penetration has relatively increased especially in rural India where a section of underserved communities are now able to access mobile phones, and are as well being provided with other Information Communication Technology (ICT) tools. However, there is still a significant lack of access to adequate digital infrastructure among the majority of the country's rural population. Even among those who have access to internet connectivity and ICT tools, women in most households are deprived of it owing to the patriarchal value system. Today, DEF stands at the forefront of a digital transformative movement, digitally empowering marginalised and vulnerable communities through innovative digital tools. By fostering the power of these digital innovations and tools, DEF ensures that communities are not only connected to vital services and entitlements but can also harness the power of digital at the grassroots level. DEF has created digital tools and innovations to enable rural communities to harness the power of the digital landscape.

SkillBot is made to cater digital empowerment



training through oral and audio-visual medium effectively across areas like digital literacy, digital skilling, financial literacy and inclusion, jobs and livelihood and entrepreneurship among other things.

MeraApp is a platform to provide information and facilitate the delivery of welfare schemes in an effort to empower communities through access to rights and benefits under the core areas of health, education, social security, finance, disability and livelihood. The app is also equipped with Management Information System and a real time data dashboard which makes project management efficient and smoother. The content of the information

in the app is also customisable as per the requirement of different projects, making it a useful interactive platform for the social sector.

Neerjal is India's first attempt at bringing forth hard facts about drinking water and sanitation issues through community participation. It is a web-based, transparent, simple and interactive system that has a repository of bottom-up information on drinking water, its source, availability, quality, quantity, ways of preservation and optimum usage. It is a unique project because it's a first-of-its-kind village-level water data and information system.



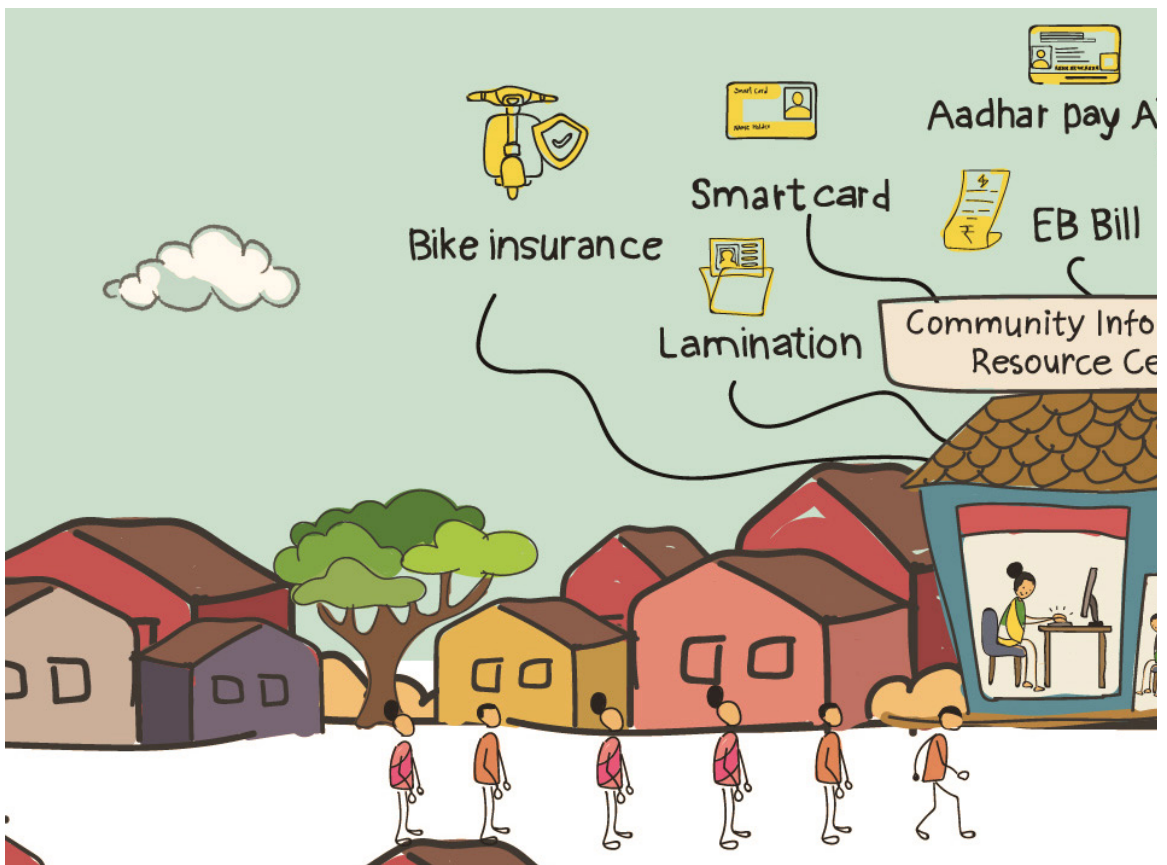
## Future Plan

In the next five years, DEF plans to strategically expand its physical presence through digital entrepreneurship model to cover almost all backward districts of the country which will translate to having Sochnapreneur Model and CIRC model combined provide digital access and infra through SochnaPreneurs to at least 3500 locations. The idea is to cover assumingly 250-300 districts, which translates to about 3500 Blocks and about 100,000 Village Councils. With the presence of about another 2000 plus digital community centers such as CIRC, and SochnaPreneurs up to 100,000, DEF would be able to cover and fight the digital exclusion and hopefully provide infra and access to meaningful connectivity and almost all digital services at the doorsteps of the most marginalised and inaccessible people of the country.

Through various programs and projects DEF envisages to enhance digital functional literacy reach to at least another 100 to 200 million people in the next 5 years. However, the next phase of outreach and digital empowerment would include Media and Information Literacy so that at each village level there is a digital cadre who will function like a fake news buster or fact checker and the ability to safeguard people from the evils of digital access

In the next 5 years, DEF would like to also increase its STEAM based and MakerSpace based approach reach to more rural youth population to generate innovations and creativity. From the current number of 50 Makerspace cum STEAM centers, DEF expects to go up to 500 STEAM and Makerspace centers across the rural landscape of the country.

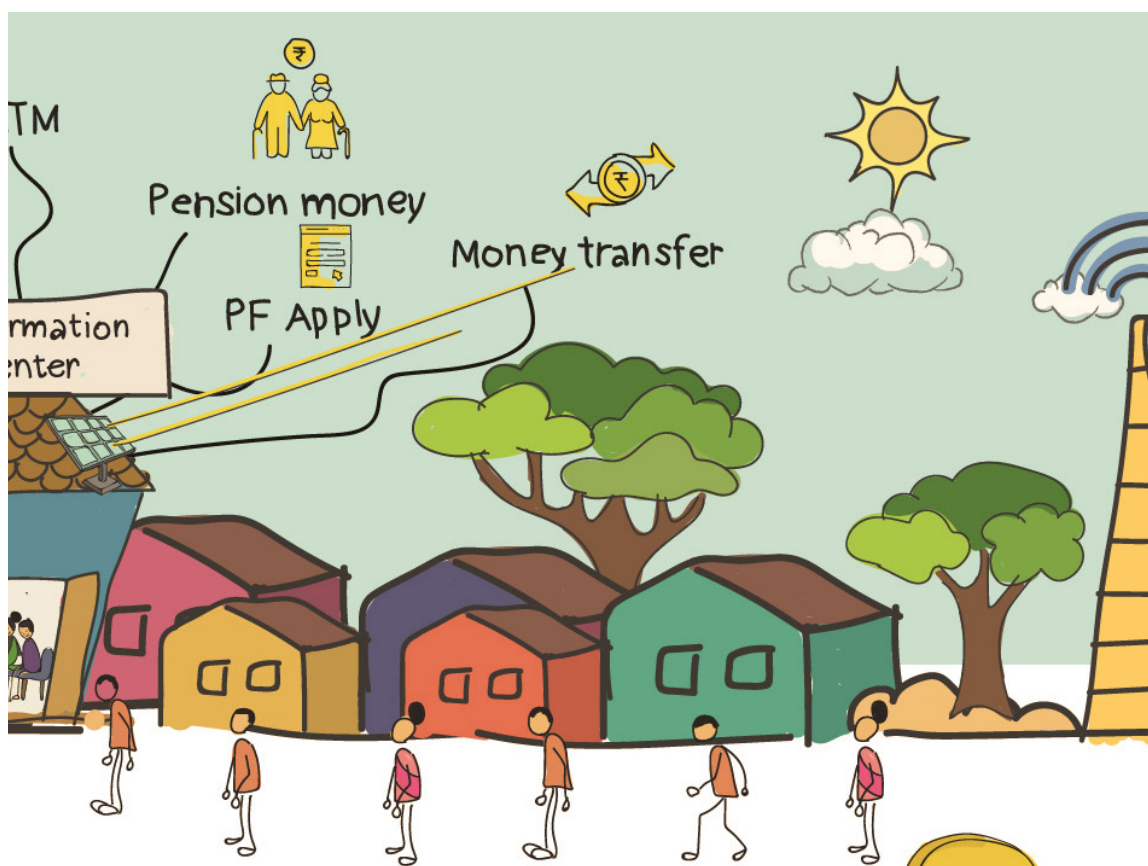
The pace with which DEF has transformed it all programs to be feministic and gender





In the next 5 years, DEF is also working on to enhance its portfolio to be a network organisation, and mentoring organisation, and also become inclusive of funding organisation. In that endeavor, DEF would like to strengthen its eNGO Program to reach at least 50,000 NGOs to digital empower them and ensure that they are internally and externally digitally integrated.

DEF is also expected to diversify itself to work more meaningful and closely with provincial states and create state level partnership with the state government to strengthen digital thinking and digital integration among government micro and mega bodies.



## Flagship Programs



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