Bridging the digital divide

Osama Manzar

Digital Empowerment Foundation

"Getting into the world of internet was like losing your way as a traveller. I had nothing to do with computers. But I could see the internet as a change maker. So while I saw internet as a big opportunity, it was obvious that we were not prepared to embrace it. And thus began Digital Empowerment Foundation (DEF) in December 2002. There was no office, no staff, except my spouse and me." The words of Osama Manzar indicated his journey and that of DEF on the Indian information highway as full of struggle, hope, aspiration and success. The going is good now and in the right direction.

Early years of schooling and roots in the villages of Bihar

Born in Champaran in Bihar, Osama spent his early years in Ranchi. His father worked in Heavy Engineering Corporation (HEC), a flourishing public sector enterprise then. Osama recalled that the upbringing was thus in cosmopolitan HEC quarters. Osama's father, an engineer, was passionate about education, and was an avid amateur historian and geographer. He and his friend established a school in Ranchi in 1974 through a public trust. Osama was one of the first few students of the school. It was mandatory tolearn five languages – Hindi, Urdu, Persian, Arabic and English. Osama's father strongly believed that childrenshould get the best education.

However Osama's memories of childhood are not so much about his formal schooling in Ranchi, but about the vacations that he spent with his maternal grandfather in the villages of Bihar. The summer vacations left a lasting impression that he remembers every journey vividly.

"My father was a strict person. He set high standards for us, his children. So vacation in my grandfather's place was a newfound independence for my three sisters, my brother and me. It was a joyful learning in an open environment with almost no restrictions. The journey in itself was a thrill, as we used four different modes of transportation - from steam boat, train and ferry to horse-drawn carts". Osama sees a strong influence of all those experiences in his current work.

After completing his schooling in Ranchi, Osama joined Aligarh Muslim University (AMU) for a degree in physics. However, he realised soon that science was not his calling. He took five years to complete a three-year course. On the advice of a friend, he joined the Indian

Air Force. During training he understood that he was not cut out for a regimented life, and quit.

The AMU life also opened up new opportunities and allowed Osama to learn what he eventually recognised as his first love. In AMU, he was probably the only student who subscribed to both English and Hindi newspapers right from day one. In addition, he was very active in the staff club and enjoyed interacting with members of the faculty. In his spare time, he went around the city, clicked photographs, some of which got published in local newspapers. While at AMU, on the occasion of a Science Day celebration, he drew some paintings that won him the second prize in a competition. His interest in painting, writing, and creative expression was spotted by a faculty member who advised Osama to study courses that would channelise and also challenge his talents. AMU at that time had two courses that suited Osama's talent: postgraduate course in fine arts and another in journalism.

When Osama joined a postgraduate programme in journalism at AMU, he enjoyed formal education for the first time. With gratitude Osama recalled the affection and encouragement he received from his teachers. On completion of the course, he went to Delhi, seeking a job. He never turned back!

Struggles in Delhi and the turning point

He narrated his journey from Aligarh to Delhi, "In 1990, I came to Delhi. I struggled for a foothold in the first four years. I did not have a fulltime job. I did some freelance work in developmental journalism, besides some odd jobs."For a while, he stayed in a slum called Dom colony, opposite the Jawaharlal Nehru University (JNU). Dom is a community in north India that cremates the dead. "That was why rents were the cheapest in that colony. I had no money to buy bus tickets and ran an informal credit line with shop owners, bus conductors and so on," he recalled. At that time, he met Shaifali, his life partner now, who was studying Russian at JNU. Her fellowship of Rs 500 a month became their big financial resource.

Finally in December 1994, Osama got his first job in *Computer World*, a magazine dedicated to the world of computers. The experience at work became a sort of foundation for what he has been doing for the last 20-odd years.

As part of the editorial team, Osama had the opportunity to meet many individuals who went on to lead and establish companies. The internet had made its entry and the computer industry in India was developing at an exponential rate. Later he set up the internet division of *Hindustan Times*, a leading newspaper published from Delhi. In three years, he developed it to a thriving division with a 40-member team working under him. In 2009, he published *The Internet Economy of India* and the book received critical acclaim. He was invited to share his insights at many for a within and outside India.

During these years, Osama was on a relentless search. In his own words, he traced those years, "I was reading and referencing on the internet almost 18 hours. It was a new medium in 2001. I wrote blogs and articles for Indian and international publications on how internet could change the world of business."

Osama ran a company called 4CPlus where he used internet to spur business opportunities. Prior to that he ran INOMY, sending weekly e-newsletters. "I could visualise the vast potential of this new medium. I had travelled from print medium to web and also ran a software company. The experience from each domain started converging and around 2002 I decided to establish Digital Empowerment Foundation."

DEF and its footprints

From a small beginning with no office, no funds and no staff, Digital Empowerment Foundation (DEF) has grown to be a thriving organisation in 15 years, with more than 400 staff members across 170 locations in 80 districts of 22 states. Its annual budget in 2015-2016 was Rs 20 crore. DEF has an international presence with partnerships in more than ten countries.

CIRCs for digital literacy

Community Information Resource Centre (CIRC) is the flagship project of DEF. CIRCs provide basic infrastructure necessary for spreading digital literacy among rural populations who do not have any access to digital information that are easily and freely available. CIRCs are digital hubs that help rural residents access information related to education, skill development, government schemes, citizen entitlements, farm inputs, farm produce rates and the like. So most of the centres are located in rural areas. The CIRCs have computers, printers, scanners and have the necessary equipment for internet access.

The first CIRC was established in 2003 but the major expansion happened in 2012. Shahid Siddiqui of DEF explained the rationale behind the expansion, "When I joined DEF, I could not understand the logic of having a computer centre where people didn't have food to eat. I wondered how a CIRC would help rural people when farmers didn't have electricity supply to run their pumps and water the fields." But as he began interacting with rural communities, he noticed their hunger to seek information related to agricultural operations and government schemes.

CIRC proved to be an attraction among youth. So the team asked school children to visit CIRC whenever they had time. Soon farmers learnt to get information on how and where to sell their produce. There was information about job cards and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) work. "We see CIRC playing the role of e-commerce platforms that urban dwellers use to buy and sell products. In

Chanderi, our weavers sell their intricate handloom fabric through CIRC. In Barabanki, communities have purchased solar lamps using the CIRC platform," Shahid revealed.

The initial cost to establish a typical CIRC is about Rs 12 lakh. The cost is for setting up the infrastructure such as furniture, computers, scanner, printers, etc. The cost also covers salaries of the trainer and coordinator. The running expenditure from second year onwards is estimated at around Rs 7 lakh. Companies help establish CIRC through their corporate social responsibility (CSR) funds. Udita Chaturvedi of DEF mentioned that DEF establishes CIRCs in public places easily accessible to the community. It ensures that CIRCs are located in neutral places without religious and political connections. In spite of precautions, sometimes caste-based prejudices prevent some people from accessing CIRCs.

The ultimate aim of a CIRC is its effective functioning and to this end DEF can convince stakeholders. For example, in a CIRC funded by the CSR wing of a telecom company, DEF used the services of another telecom company as they had the fastest network available in that area.

The number of computers in a CIRC ranges from three to about 20, depending on the population that the CIRC caters to. DEF pays the salaries of a CIRC's trainer and coordinator, who are usually from the same locality. The CIRCs run courses offered by Intel or Microsoft. In some places, CIRC collects a nominal registration fee but in most of the locations the courses are offered free of cost.

We visited two CIRCs on the outskirts of Pune, in what is locally known as Nagari Vasti Vikas Prakalp (Urban slum area improvement project sites). Since October 2014, the CIRC in Viman Nagar has trained over 1,000 people including students and adults. The centre offers courses approved by the National Digital Literacy Mission (NDLM) of the Government of India. Students who complete the one-month course and complete NDLM's online test are awarded certificates. According to the coordinator Mohini Jagtap, the students who have passed the NDLM test can be called digitally literate.

Population around the CIRC in Rahul Nagar area of Nigdi suburb in Pune consisted of Muslims and Dalits. During our visit, we observed a number of Muslim school girls and their mothers at the CIRC. The local corporator made sure that CCTV cameras were provided, to ensure the safety of women and girls coming to the CIRC. The girls were searching for information for their school projects. They had individual email IDs for communication. According to the coordinator, the centre enjoyed good patronage. Today DEF has close to 180 CIRCs in 22 states, covering 80 districts. Some of the CIRCs have been generating partial revenue for their operations through services such as photocopying, ticket booking, printing, filling up application and scholarship forms, information on land records, etc. DEF visualises CIRCs as enterprises that would be financially viable over the years.

CIRCs for citizen services

DEF sees CIRCs' roles not limited to providing IT education and digital literacy but also citizen services. The Soochna Seva project that began in 2014 is a joint initiative with the European Union. The aim of Soochna Seva is to aggregate and disseminate information on all the central and state government schemes and entitlements, and help communities in backward regions access this information easily. It has developed a mobile application that can provide information on all the citizen services at the click of a button.

The project involves setting up 1,200 public scheme information delivery and access points called Panchayat Soochna Seva Kendras, for final gains in entitlements in five identified backward districts. The six key areas that would be covered in the next five years are education, health, livelihood, employment, financial inclusion and social security. The project also includes a Soochna Vahan or information van, that will disseminate the same information about public schemes.

Wireless for Communities (W4C) programme

In many rural and semi-urban areas, whether remote or not, mainstream internet service providers (ISP) do not extend services, as they feel that their operations would not be commercially viable. DEF in partnership with Ford Foundation and then with global non-profit organisation Internet Society (ISOC) overcame this problem by using free unlicensed spectrum provided by the government in the 2.4 GHz and 5.8 GHz bands. In the Wireless for Communities (W4C) programme, DEF connected 12 CIRCs –spread in Rajasthan, Madhya Pradesh, Jharkhand and Meghalaya, using inexpensive Wi-Fi equipment.

DEF was the first to pioneer the use of free, unlicensed wireless technology that has emerged as one of the least expensive technologies to bridge the connectivity gap in remote areas. The successful pilot project evoked keen interest among professionals globally. DEF trained 170 people from the local community to operate and maintain the wireless facilities. Based on the successes of the pilot project, DEF is planning to connect more CIRCs located in areas where mainstream ISPs do not provide any service.

In Osama's words, the W4C initiative was an ideal example of using alternate technology to ensure last mile connectivity. "We demonstrated to the government that it was a cost-effective technology. The government did take notice and in 2016 came out with a policy for Virtual Network Operators (VNO)," he said.

Empowering community radio stations

DEF along with Commonwealth Educational Media Centre for Asia (CEMCA) pioneered the concept of establishing community radio stations, developing content and facilitating technology. Later, DEF along with CEMCA and Ministry of Information & Broadcasting set up the community radio facilitation centre to train people in setting up community radio stations and helping them obtain community radio licenses.

Now DEF has switched to the next phase of helping community radio stations in using digital technologies and digital media. It focuses on the use of mobile phones, messaging and internet as tools to enhance the effectiveness of community radio stations. DEF helps community radio stations use social media, photo streaming, podcasting, e-radio, etc., so that they provide a common platform to other community radio stations, to benefit from each other. In December 2016, the government announced a new policy that encouraged starting community radio stations in rural areas and in the northeast by offering 90% subsidy. DEF is a pioneer as the team had demonstrated the benefits of community radio five years earlier.

DEF provides Tilonia Radio with technical, strategic and content advisory support. Radio Jagriti in Birni village of district Giridih in Jharkhand and Radio Bulbul in Bhadrak district of Odisha are two other community radio stations for which DEF provides financial, technical, strategic and content support. Henvalvani Community Radio in Chamba region of Uttarakhand is also a partner for DEF's Soochna Seva programme in the state.

Minority cyber gram yojana

In February 2014, the Ministry of Minority Affairs in partnership with DEF launched the Minority Cyber Gram Yojana to impart digital literacy to villages inhabited by minorities. Chandauli, a hamlet about 12 km from Alwar, was selected for implementing the pilot project for one year as the village and surrounding areas had a high concentration of Meo Muslims, a minority community. Also the whole area had become notorious for high crime rate due to low levels of literacy and lack of livelihoods.

The Rajiv Gandhi Gram Seva Kendra had originally been established with more than 40 computers to enable the gram panchayat to become digitally empowered. But it never became functional as there was no internet connection. When DEF proposed to connect Chandauli using wireless technology, the authorities handed over the Rajiv Gandhi Gram Seva Kendra to DEF, to set up a CIRC. In just one year after DEF's intervention, changes could be observed in Chandauli in Rajasthan. Of the 3,500 households in the area, 2,650 have at least one digitally literate person. Almost all the children of the village have taken to computers. Parents who would never have allowed their young female wards to go out earlier, except to school, now allow them to frequent the CIRC. Farmers use the internet to

learn about best practices in farming. Businessmen and traders use the internet to gain knowledge and flourish.

Today Chandauli is an astounding success story that it elicited a visit from Facebook founder Mark Zuckerberg in October 2014. The TIME magazine in its December 2014, issue wrote about DEF's work in Chandauli. In the article, Osama was quoted thus: "The kids feel they are at par with the rest of the world. It psychologically empowers them so much."

Instituting awards and beyond

To those in the developmental sector, DEF is linked with many of the awards it has instituted. Manthan awards were the first and in a way the mother of all awards in the digital domain. Manthan was instituted to recognise talents in the ICT for Development sector. The awards did not offer any cash prize but offered many intangible benefits to the recipients. Manthan opened up possibilities for many budding social entrepreneurs to showcase their innovations and get a stamp of approval from industry stalwarts. Many of the early awardees later attracted attention of venture funders.

Early awardees such as OLA, Red Bus, Paytm, Digital Hunt, The Better India are now household names. Many of them have become viable businesses with significant business volumes. For many awardees, when their journey began, they were just struggling to grab the attention of the world. Manthan and other awards provided them a credible platform, besides opportunities of networking with industry stakeholders, investors, bankers, and professional consultants. Osama and his team offered active handholding and mentoring support to some of the awardees. Manthan and other awards have brought together over 7,500 innovative ideas in the last ten years.

Osama reflected on the journey of the awards that DEF instituted. "The awards were strategic intervention for us. The awards became a sort of an industry event for stakeholders, funders, innovators and donors to converge. It became a reference point for funding entrepreneurs. We have sourced close to 8,000 best practices over the years."

The Manthan awards subsequently spun off into many different awards — mBillionth Awards, eNGO Challenge and Social Media for Empowerment Awards. Most recently, BRAC, the renowned institution in Bangladesh, instituted BRAC Manthan award in 2016.

The eNGO Award is a platform for NGOs to share their innovations. In the last five years, when the number of cell phone users multiplied manifold, DEF instituted a separate category award that promoted innovations in applications that are cell phone-based. This was the mBillionth Awards. After the number of nominations in the social media category under mBillionth awards began to overwhelmingly increase, the Social Media for Empowerment Awards were made into an independent category.

In 2008, the scope of Manthan awards was extended to South Asia and in 2012 to the entire Asia Pacific region, receiving nominations from 36 countries ranging from Afghanistan to Vietnam.

Mobile for Good Awards

As the spread of the mobile phones increased, DEF sensed a new opportunity to tap the vast potential of the cell phone technology. DEF instituted a separate category of awards to recognise innovations in applications that are cell phone-based. A programme called 'Mobile for Good' to help mobile-based applications benefit communities in the domains of education, women's empowerment, agriculture and livelihood was launched in 2011 in partnership with Vodafone Foundation. Mobile for Good programme in India has identified and supported 18 projects by diverse not-for-profit organisations spread across the length and breadth of the country. In 2014, Mobile for Good Awards became separate from mBillionth Awards.As a result of wide publicity and by the sheer fact that there was a platform to recognise the talent,40 mobile interventions were recognised and awarded cash prizes in 4 years.

In an effort to identify how social media platforms have been utilised for their campaign-and-cause-based programmes, DEF instituted Social Media and Empowerment Awards in 2013 covering social media platforms that are playing a critical role by involving millions of people in real time. DEF sees social media as a potent democratic tool of empowerment, promotion, participation, commerce, cause, campaign and activism, among others. In two years since inception, it led to creation of a database of 286 interventions where social media are used for development and good governance. Last year, it received 360 nominations.

e-NorthEast Awards

The North East Development Foundation in partnership with DEF launched the e-NorthEast Awards in 2010 to recognise best practices in information communication technology for development and governance in North East India. The award seeks to bring into focus practices in as many as 12 categories that have impacted development and governance processes for good. The award platform has so far a repository of more man 200 best practices from the region. It has established itself as a unique platform and a movement to contribute to the emerging ICT environment in the region.

e-NGO: platform for NGOs and connectivity

DEF initially rolled out the e-NGO programme in partnership with National Internet Exchange of India (NIXI) in 2009 to help grassroots organisations in the development sector set up their own websites. Since 2013, the programme has been further

strengthened and expanded in partnership with the global non-profit Public Interest Registry (PIR) which operates and manages the .org domain globally. Since 2014, DEF has been working with PIR to launch a new top level domain (TLD) - .ngo- exclusively meant for verified non-profit institutions (NPIs)/NGOs/CBOs/SHGs. The project brought visibility and presence on the internet for non-profits and civil society organisations to have their own websites and online presence through a .ngo or a .org platform. In the last seven years, DEF has helped more than 5,000 NGOs have an online presence.

Access, connectivity and leverage: the trinity of digital empowerment

Osama explained the logic behind DEF's venture into different projects, such as the one in Guna, that has many Chanderi saree weavers. "In Guna, with the positive encouragement of the member of the parliament (MP), we undertook this project to connect 38 square km of the area. Here connectivity and literacy were closely aligned, as the weavers lacked the latter. We see a three stage process in connectivity. First is access to technology, second is the skill to use the technology, the last is to leverage the potential of the technology for various purposes."

DEF connected weavers in the Chanderi cluster to the customers, designers and raw material suppliers. This helped the weavers get to know of customer preferences and trends in national and international markets. The Chanderiyaan project, as it is called, has now expanded to include seven more handloom clusters including Barabanki in Uttar Pradesh and Narayanpeth in Telangana. The artisan weavers in these towns can connect to domestic and international markets,with technology acting as a bridge.

Documenting oral history

On the horizon is the e-Heritage project under which DEF documents oral histories of important historical places across the country for national and international audience. Osama said with some frustration, "When we go abroad, we are treated to local cuisine. Here we have so much local wisdom and yet we don't have world class products. We have diverse culinary history. Still foreign branded snacks are easily available when our own *aam panha, alu tikki and pakoda* are missing from the market; I feel angry. We need to do something about this rich cultural heritage. We have yoga and we are chasing allopathy medicines." So DEF is trying to bring this vast wisdom of India to a digital platform. Osama wants to show the world that we are not just consumers but producers of this wisdom.DEF has initiated e-Heritage along with UNESCO and Indian Heritage Cities Network (IHCN). It is a capacity-building programme, which empowers cities to create a digital presence of their heritage. Currently, the project is active in Shahjahanabad(Old Delhi) and Chanderi (Madhya Pradesh).

Technology that triggers aspirations and hope

DEF's team members observed that people have used access to technology in many creative ways. Once connected, women in rural areas have exchanged notes on cooking recipes and embroidery designs. Some of them who did not have opportunity to ever cross the village boundaries have travelled virtually to famous places like Taj Mahal and the Qutub Minar using Google Images. In Madhya Pradesh, when we interacted with a school student from the Saharia tribe, one of the most backward tribes in the country, the girl mentioned to the centre coordinator of DEF, "I can also be something. I want to pursue my studies up to MA." In West Bengal, in a village where the Parania tribes live, one of the teachers learnt computers in a CIRC along with his students. The students prepared a PowerPoint presentation on World Malaria Day, showing causes of and remedies for malaria eradication. In Latur of Maharashtra, Deepak Dangde gifted a computer to his mother on her birthday showing that digital divide could be bridged irrespective of age and gender barriers. Osama and his teams have many such inspiring anecdotes to share how slowly and silently digital connectivity has the potential to bring about empowerment and transformation among the most marginalised sections of the communities.

Recognition and policy work

Osama serves as a member or expert in working groups and expert panels of various ministries. He was a British Chevening Fellow in 2002. He was invited by US State Department for International Visitors Leadership Programme in 2011. He contributes weekly columns to popular dailies.

He is a sought-after speaker at many international and national events, thanks to his early pioneering work and his ability to connect seamlessly to both brick and mortar and the digital world. DEF's office space in Kalu Sarai in South Delhi is notably different, has an inviting appearance and bears Osama's stamp in design and layout. The office has an excellent library, hosting several state of the art publications and books. Osama says with modesty that he is good at referencing books but acclaims the voracious reading ability of Shaifali, his wife, who has been his support. DEF has scores of publications to its credit. All the publications and reports are open source material, with links available on the website of DEF.

Perspective of a funder

"We begin the work and then go out to seek funding," is the approach of DEF explained by Osama. A number of leading national and international donors such as NASSCOM Foundation, Tata Trusts, Gates Foundation, UNESCO, Vodafone and a number of corporates through their CSR projects have supported DEF over the years.

Anirban Mukerji of Qualcomm Foundation, one of the many funders of DEF, narrated his observations about Osama's and DEF's journey so far. "I have known DEF's work for quite some time but as a funder only in the last couple of months. Osama single-handedly focused on and built DEF's work around (Information and Communication Technologies for Development) ICT4D. The awards that DEF gives every year also tell a story. DEF award process is very transparent."

An employee's perspective

Ravi has been with DEF since 2014. Ravi currently heads the communication portfolio that includes design, content, print, television and awards/ events management. There are 20 members in his team. His observations about DEF and its work are significant not just as an employee but also as a person who has worked in the commercial communication sector. "This is my first job in the developmental sector. There is so much to learn every day. We are addressing issues of information poverty through technology. To give an example, we conduct workshops in small towns on the theme of social media and citizens. We train youth in small cities how they can effectively use social media tools to talk to the administration and get their concerns addressed. The response is huge. Common people know that social media connects them directly to the decision makers and there is no need to wait for hours outside a district magistrate's office to get an appointment. We are now trying recording oral histories through folk tales."

The path ahead

Osama shared his vision on DEF's future. "The coming world is digital. We have to ride on the wave. The digital world is democratic. I am aware that digital has to happen along with brick and mortar. If the digital is pushed without adequate infrastructure, more exclusion will happen."

"I want to move from a grant-based organisation to a social enterprise model organisation. Already, we are spending almost Rs 1 crore every month. I would like to see every activity of DEF becoming an enterprise. In some areas, we are already on course like in the Chanderi project. Whether we remain small or big in operation is immaterial to me. DEF as an institution has to survive and strengthen. I need to be replaced by four people, people who are CEOs or have that capability. To find such people is a challenge."

On being asked about work pressure and the journey so far, he was candid, "My confidence has come from my inner voice. I do put in 18 hours a day sometimes. Extensive travelling is part of the work but I don't feel stressed out. There is a difference between stress and feeling exhausted. I don't have mental tension as I have a loving family. I am surrounded by many well-wishers. I also feel that I am guided by a divine power."

"As for my personal goal for next five years, I dream to travel from village to village on foot. I want to observe all the villages. Every day, during the travel I will communicate with the world what I see. I will share tweets, blogs, and photographs. That is my personal ambition. I don't know when I will get that opportunity!"

About Osama Manzar

- Founded in 2002, Digital Empowerment Foundation (DEF) bridges the digital divide across 80 districts of 22 states, besides in ten countries
- Community Information Resource Centres (CIRC), located in rural areas, one of DEF's flagship projects, brings digital literacy and access to digital information on education, government schemes, entitlements, agricultural information, etc. to rural population
- Uses free unlicensed spectrum provided by the government to bridge the connectivity gap in remote areas without internet service
- Partners with government ministry concerned, to impart digital literacy and access to villages with predominant minority population, helping them be on par with the others
- Has been presenting Manthan, mBillionth, e-NGO Challenge and other awards, to recognise the talents and innovations in the digital domain

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