



Women usually give priority to their family's nutrition and health needs but hardly take care of themselves

FITNESS page 3



Kuching in Malaysia's forested state of Sarawak is a contented little riverine town basking in its history

TRAVEL page 7



The name game as far the titles of films go was never as innovative or controversial as in the present times

ENTERTAINMENT page 8

Enter, harbingers of social change

A look at innovative entrepreneurs who use technology to effect social engineering

KAVITA KANAN CHANDRA

If technology is used in a prudent manner it can impact the lower strata of the society in a positive way. A few social entrepreneurs are doing yeoman service to the nation by bringing about a remarkable change in the quality of life of farmers, villagers and children of the disadvantaged sections of society. By bringing technology to the doorstep, they provide hands-on solutions. Their organisations have won numerous awards and accolades for their efforts but their greatest triumph is to bring smiles on the faces of the beneficiaries. RamjiRaghavan of Agastya, Rikin Gandhi of Digital Green and Sanchaita Gajapati Raju of SANA speak about their work.

Agastya: Focus on science education

The Agastya Foundation is bringing science education to the doorsteps of government schools and villages, thus enabling these children belonging to economically disadvantaged households to get quality science education. Through creativity lab, spread over the 172-acre campus in Kuppam (Andhra Pradesh), 80 science mobile labs, 36 science centres and the proposed 30 TechLa bikes, they are bringing science equipment and digital resources to rural areas through an initiative. Spread over 13 states across India, Agastya has reached over 5 million children and 150,000 teachers since its inception in 1999. It has 500 full-time employees and 300 teachers and imparts education to age group of 6-18 years. "India needs to unlock the creative potential of people," says RamjiRaghavan, founder and chairman of Agastya International Foundation. He says that the IQ

school for thousand mentored children, it has built an ecosystem for hands-on, interactive and investigative science education i.e. "raising the level of the ocean by even a millimetre we felt is more meaningful than filling a glass".

The "Young Instructor Leader Programme," where young children are trained to conduct and explain science experiments and "Operation Vasantha" (village night schools classes taught by older children) are both showing tremendous results. The goal is to replicate this ecosystem across India and positively impact 50 million children and 1 million teachers by 2020.

Digital Green: Becoming farmers' ally

Digital Green enables the farmers to make agricultural videos for other farmers so as to disseminate information on agricultural practices like sowing of seeds, pest management, composting and improving the small farmers' livelihood. Since its inception in 2008, Digital Green has produced over 2,300 videos, in 20 languages, reached 2,200 villages and 130,000 farmers in eight Indian states and four African countries (Ethiopia, Ghana, Mozambique and Tanzania). They interact with local individuals and organisations to share knowledge on improved agricultural practices, livelihoods, health and nutrition by using locally produced videos.

"These are simple videos starring locals that strike a chord with villagers. We have taken feedback and found 70-80 per cent farmers adopting new ideas as opposed to 10-15 per cent earlier by the traditional extension approach," says Rikin Gandhi, the CEO of Digital Green. With degrees in Bachelors in Computer Science (Carnegie Mellon), Masters in Aeronautical and Astronomical Engineering (MIT) and pilot training; Rikin from New Jersey aspired to be an astronaut. However a visit to rural India, he found farmers constituting 60 per cent of Indian population lagging behind due to the lack of knowledge and agricultural training. He came with the idea of training farmers to film whatever agriculture practice they were doing and then share it with other farmers in the neighbouring villages. Farmers benefit through Digital Green video hub and online knowledge platform. The Digital Green team believes that they are fostering change by building on the social networks of the world's most vulnerable section of the society and providing them a life of dignity.

The technology in use involves a data management framework COCO (Connect online, Connect offline) forming the foundation of their work. The videos are prepared with low-cost cameras and related equipment and screened through small, battery-operated Pico projectors (low-cost, user-friendly and durable). The data is uploaded on COCO that could operate offline in low and limited bandwidth locations, with uninterrupted usage in the browser. The tool requires Internet connectivity only when a user is ready to synchronise their data with Digital Green's global repository. The system is freely available and accessible online.

The Digital Green team is upbeat as they claim that their approach was found to be 10 times more cost-effective and uptake of new practices seven times higher compared to traditional extension services. A recent study—undertaken in the states of Karnataka, Madhya Pradesh, and Odisha—estimated that an average farmer who adopted the new practices for rice cultivation and livestock featured in the videos would see an annual income gain of \$294. Typically, 44 per cent of



Mobile vans help to bring education at the doorstep of the disadvantaged sections

the farmers who receive video training will adopt at least one of the farming practices they learn as opposed to just 11 per cent of farmers who are exposed to conventional extension methods. With the Google award, Digital Green will provide agricultural training to one million farmers across 10,000 villages in the next three years and scale up more videos for agricultural training.

SANA: Using green technology

SANA or Social Awareness Newer Alternatives is working on water purification and sanitation infrastructure with green technology. Since its inception in June 2011, it has provided clean drinking water in 2012 at RPVV (Rajkiya Pratibha Vikas Vidyalaya) School in SurajmalVihar in East Delhi by purifying the local water resources. Around 1,000 economically deprived school students from neighbouring slums got access to five litres of clean drinking water daily for their family. It also had an integrated water purification and sanitation programme in N. Chamavaram village in Kakinada district of Andhra Pradesh. Now SANA is expanding the integrated social initiative to 10 villages of coastal Andhra Pradesh.

The aims is to bring clean drinking water and rural sanitation to the marginalised sections of society. They cite that it is unfortunate that 55 per cent of India's 1.2 billion population has no access to toilets. That's a breeding ground for diseases. Panchayats and villagers will be the stakeholders in each project. The panchayat could charge a nominal fee for the use of facilities so revenue is generated for repair, maintenance and salaries of local workers.

"Community involvement is a must for the success of any project. Only then it becomes a revenue-generating sustainable model," says Sanchaita Gajapati Raju, managing trustee and founder SANA. An alumnus of Vasant Valley School in Delhi, she has degrees in political science and law from Delhi University. It was as a part of the team making the documentary on the impact of agricultural practices on farmers' lives in Gulbarga that the idea of using technology to impact positive change struck her.

For water purification from existing water resources, SANA uses the uses solar-powered, micro-ionising water treatment station with a combination of RO, UV and membrane technology. The clean drinking water thus obtained is of WHO standards. The technology for bio-digester green toilets is developed by DRDE. The waste water generated from the water plant is

used in community biotoilets for flushing. The flushed water is then treated over a bio-reed bed and taken to the farmland for further use. Bio gas is used to light up the toilet area. The bio digester toilet is prefabricated and requires low maintenance. They do not need any sewage treatment or septic tanks. In three years, 54 million litres of clean drinking water will be provided. Community toilets will be made in 10 villages in the districts of Vishakhapatnam and East Godavari in coastal Andhra. Each village will have 20 toilets and all the projects would be in close participation with the panchayat.



Above: Students participate in Agastya's Lab-In-a-Box initiative
Right: Farmers being shown videos on agricultural practices by the Digital Green team



SANA's biogas toilets are low cost and help in maintaining sanitation and hygiene

and talent are good but it the EQ and CQ (creativity quotient) is required. Science education is a means to an end and its main aim is to foster curiosity and creativity in children and building confidence in them. Ramji is an alumnus of Rishi Valley School and the philosophy of its founder J Krishnamurthy inspired him. An MBA from the London Business School, with a postgraduate diploma in Development Studies from the International Institute of Social Studies, Netherlands; he worked in Citibank as Vice-President and set up business in New York. This banker turned to education to help children who are deprived of quality education. All the science centres, science campus, mobile vans, lab in a box, lab in a bike and ecology programme have trained teachers and cutting-edge technology. Their latest TechLaBike project is an outreach mechanism comprising of an Agastya-trained instructor who reaches schools on a motor-bike equipped with a "Lab in a Box" (LIB) and an Internet-enabled laptop. In three years, 30 TechLaBikes will generate over 1 million high-impact child and teacher interactions among 1,620 schools in Karnataka. Agastya believes that instead of building a

If you suffer from the following Symptoms:-

- ◆ Tiredness
- ◆ Frequent Urination
- ◆ Excessive Hunger
- ◆ Blurred Vision
- ◆ Weight Loss
- ◆ Excessive Thirst
- ◆ Vaginal Infection

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Rikin Gandhi is the CEO of NGO Digital Green



Sanchaita Gajapati Raju, founder and managing trustee, SANA



Ramji Raghvan, the founder and chairman of Agastya International Foundation