

Civil Society



KERALA'S WONDER FARM



'REBUILD TEMPLE TOWNS WITH GREEN NORMS'

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Civil Society

READ US. WE READ YOU.

Raising the bar in Uttarakhand

THE mistakes of the past present an opportunity in Uttarakhand. In the debris of the temple towns and adjoining villages is Nature's message that her boundaries need to be respected. Relocation of these places of worship is not an option because this is where they have always been. Sentiment and history don't allow for a change of location. But rebuilding the temple towns with a reverence for the Himalayas and its river systems will give them a new sanctity. It could also change the way in which other ecologically fragile parts of India are accessed and used for human purposes.

Protection of the environment begins with awareness and the controls we exercise on ourselves. Governments have a responsibility. Citizens do too and should show they care by making demands and holding governments accountable.

Reconstruction in Uttarakhand will be a complex task. To be truly successful, it should go beyond officialdom, as it is understood. There is a need for drafting effective talent – result-oriented professionals with proven records for being innovative and forward-looking. The best examples in the world should be examined. How have others done it and what is it that we in India can learn from them about the kind of challenges we face in Uttarakhand?

An independent initiative of this kind could involve river experts, architects, geologists, anthropologists, urban planners and engineers. They should have a mandate of five or even 10 years during which the government gives them the umbrella support they need to deliver.

If such a mechanism works in Uttarakhand, it could be the model for disaster management across India, especially in contexts where an emphasis on prevention would be more useful. Heavy-handed development is not only taking a toll of natural resources, but also leading to intractable conflicts. Both industry and government have shown that they don't measure up to these challenges. A more evolved approach is needed and it must bring with it serious expertise and not mere slogan mongering.

Imagine the best-known places of Hindu worship coming back to life on the banks of its holy rivers as models of conservation and ecological balance. That would be a truly significant message a modern India can send out to the rest of the world of its capabilities.

Our cover story from Kerala similarly shows us what can be achieved when we roll up our sleeves and get down to work – setting politics and bureaucracy aside. The agricultural station we have reported on used to be in a shambles. But with vision and persistence it has acquired an awesome relevance to the areas it is supposed to serve.

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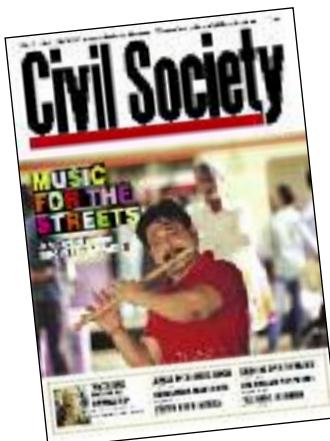
IN THE LIGHT

by SAMITA RATHOR

**SELFLESS SERVICE,
ENDLESS LOVE,
GIVES HIGHEST JOY!**



LETTERS



Music rocks

Your cover story, 'Music for the streets,' was very interesting. The National Streets for Performing Arts (NSPA) is implementing a really wonderful idea. Indian cities are so stressful: traffic jams, potholed roads, broken footpaths... I could go on and on. Introducing lilting music changes the mood. You can see happy faces, rapt in attention in the pictures.

Aisha Dadlani

NSPA is introducing real talent.

Vishnu

My daughter has just returned from a visit to Vienna and she told us how she enjoyed music by musicians on the street there. Street musicians are common in many Western countries but a novelty in India. NSPA's effort is really praiseworthy. I wish they could do something in Kolkata too. It would go a long way in soothing frayed nerves and the tired minds of the daily commuters of this overcrowded city.

Mrittika Bose

Landmine curse

In border areas incidents of landmine explosions hardly find mention in newspapers. More such stories, which inform us about human misery in all its realistic aspects, need to be reported by media so that the issue gets the kind of attention it deserves. It is a tragedy that children unknowingly playing with stray landmines get critically injured, maimed and mutilated. They need to be properly rehabilitated and taken care of.

Aditya Mahajan

Landmines are indiscriminate and inhumane weapons and therefore go against international humanitarian law. It is high time all countries adopt

a complete ban on the use of landmines. Their cost in terms of human misery and economic losses is huge. It is only ordinary people who get maimed or killed. Mostly the victims of landmines are naive children. India must take the lead in clearing planted landmines or at least neutralise them so that no more innocent lives are lost or left crippled for life.

Surinder Singh

Ganga panel

Himanshu Thakkar's analysis, 'Panel on Ganga blurs the facts,' was truly shocking. It seems to me the panel was simply set up to give its stamp of approval to hydropower projects. No honest assessment of the cumulative impact of dams on rivers and their surrounding environment was made. The government must seriously rethink its dam building ambitions, especially after the recent disaster in Uttarakhand.

Purohit Das

Goonj

Anshu Gupta and all the members of his NGO Goonj, are the real crusaders of the downtrodden people of the land. They help them live with respect like other citizens.

Ashok Sehra

Anshu, you are a real fighter. So please keep doing what you're doing. It is the right thing. It is a real fight for social reform.

Satyajit Saha

Young India

The article, 'What young India wants,' by Arjun Shekhar is a thought provoking piece. Most surveys about the young are consumer-oriented. But Arjun's piece closely analysed the youth and their aspirations, as citizens. The young are very socially conscious. It's not as if globalisation and liberalisation have made them indifferent to India's problems. On the contrary, they participate readily as volunteers for social causes and are voluble about the country's skewed development.

Shiny Singh

Indian youth are politically conscious. They have strong opinions on politics and the state of this nation. There is seething anger about poverty, the state of our cities, gender inequality and education.

Asha Kaur

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'Revere nature first in rebuilding of'

INTERVIEW

Chandrashekhar Hariharan

CHANDRASHEKAR Hariharan is what you can call a green developer. His buildings flow with nature, conserving and consuming as much as they need. Many of the technologies and techniques he relies on come from ancient ways of engineering structures. It has taken 20 years, but his company, Biodiversity Conservation India Limited (BCIL), has come to be known for homes that the forward-looking aspire to own. There have been innumerable international awards too.

Hariharan's journey began in the hills of Uttarakhand as a social activist and it was here that he first explored traditional construction and design. It was here too that he was involved in relief efforts after the massively destructive earthquake of 1991.

Hariharan is in several ways an insider to life in the Himalayas and the vagaries of the development that has taken place there – though he now lives in Bangalore and the properties he develops are all in the south.

Civil Society spoke to him on how the temple towns of Kedarnath and Badrinath can be rebuilt in ways that reduce their ecological footprint and make them safer for pilgrims. Can they, with the use of appropriate technologies, be made examples of environment friendly development? Is it possible to bring religion, science and nature together in a holistic union that the rest of the world will admire?

Many years ago you worked in rescue and relief operations after the giant earthquake in Uttarakhand. Now there has been this natural disaster. What were the lessons learnt at that time and how can they be applied today?

First, there will be disappointments and delivery of relief will fall short. It is inevitable.

Secondly, it is important to build a short-term rehab plan with all local stakeholders and empower panchayats as well as other local governance bodies. In this present phase the focus should be on trauma, health, education and transportation.

Thirdly, we need to work on a 10-year reconstruction plan. We can learn from the Japanese and German models of such planning. It is necessary to appoint officers with tenures of at least five years, set the objectives and disallow any other interests from interfering.

It is important to have a plan, because without it, once the focus of the media moves away, as it already has, the government machinery will go back to its bad old indifferent ways.



Ghats along the Ganga in Rishikesh after being swamped by the floods



Chandrashekhar Hariharan

LAKSHMAN ANAND

Pilgrim towns such as Badrinath and Kedarnath were located in the floodplains of rivers. The towns had expanded in a haphazard manner. Was the present tragedy a disaster waiting to happen?

Indeed it was. In 1994, a tectonic analysis was presented which saw the grave threat of larger dams being proposed in the Alakananda and the Mandakini valleys. Even earlier, in 1992, when news of the government's proposal of making the Tehri Dam on the Bhilangana Valley was announced, there was unrest. There were remonstrations from well-thinking opinion-makers, including development institutions. The Wadia Institute of Himalayan Geology in Dehradun presented the dire threats that would stem from increasing the density of human settlements on the Char Dham routes.

The Badrinath-Kedarnath roads alone invite over 15 million pilgrims in seven months of the year. A rash of hotels, restaurants and shops have grown with little or no intervention from

Old house survived, saved Delhi couple

Rakesh Agrawal

Dehradun

RISHABH Kumar, 45, and his wife Ananya travelled to Uttarakhand from Delhi to go on the Char Dham yatra in the first week of June. They completed their visit to Kedarnath on 16 June and were on their way to Gaurikund to begin the 14 km trek to a shrine dedicated to Lord Shiva. "It started raining very, very heavily," recalls Rishabh. "There was this loud sound as if thousands of truckloads of stones had fallen from the heavens."

The couple ran and took shelter in an old house built traditionally of stone with a slate roof. "From the verandah of that house we saw hotels, shops and homes collapse into the Mandakini river like a pack of cards," says Rishabh. "We escaped death by a whisker thanks to that old house."

Natural disasters are not unknown in this part of Uttarakhand. Rudraprayag district, where the Kedarnath shrine is located, has been hit by eight major monsoon disasters in the past 43 years. Traditional houses like the one Rishabh and his wife took shelter in were designed and built to survive nature's fury.

But over the years construction has taken place with brick and cement and little thought for terrain. The result is this time the damage is unprecedented. The task of reconstruction also seems overwhelming. All around there is ruin.

The Archaeological Survey of India, it is said, will undertake restoration of the Kedarnath temple. But the Temple Committee wants to undertake that task itself. "Although we respect the wishes of all concerned people and welcome contributions from them, we'll carry out this task ourselves," says Ganesh Godiyal, who heads the Badri-Kedar Temple Committee.

Shops and homes lie shattered. A travel agent in Dehradun angrily blamed tourists and pilgrims for the mess. "Structures were built along the river bank to cater to environmentally illiterate and irresponsible tourists. They hate to walk even 50 metres."

Local people and environmental activists also point to dams. "Hydropower projects with their relentless construction of tunnels and blasting operations have shaken the hills and are causing landslides," says Laxman Singh Negi, secretary of Jandesh, an NGO in Joshimath. It is important to put a stop to large-scale mining and dam construction, he says.

Not a single river has been spared from frenetic construction. Travel operators, hoteliers, small businessmen and religious leaders have con-

Continued on page 8

ancient temple areas'

NAZIM ABBASI



Should pilgrim towns along the Char-Dham route be rebuilt on their old location?

Yes. Both for strategic reasons of national security and to ensure that more hill slopes and mountains are not ravaged for new road routes. We should only restore the existing roads. The Border Roads Organisation (BRO) since the mid-1960s, post the China aggression, has done a commendable job of creating and maintaining those roads. In several stretches before Pipalkoti and on the gorge past Joshimath there is need for more intelligent engineering on the *khals* or mountain passes to ensure that blasting for additional width for roads does not make the hillsides more vulnerable.

Where should such pilgrim towns be rebuilt?

This is not in the domain of engineering and management or even strategic security. These are holy lands blessed by many ancient thinkers. The region represents the quintessential soul of India. There are references from the hoary times of the Puranas to these beautiful valleys to the northern reaches of Garhwal.

India's silent millions have sought spiritual succour for thousands of years with visits to these temples. And they will continue to do so for many generations to come. So the location of the pilgrim towns cannot be changed.

What can be altered is the planning of the settlements. Buildings should be built with lighter roofs and there should be quakeproof systems for the foundations of all buildings. Also, implement strictly river zone regulations for buildings – with punitive penalties for deterrence. The next disaster waiting to happen is a large earthquake in the region spanning the Western Himalayas (Himachal Pradesh) right up to the northeast Himalayas.

A complete ban on all dams is an absolute imperative. The government may lose a tidy sum on projects that are already in progress. But if graft, greed for development of a kind that will feed water and power to distant Delhi or Uttar Pradesh is not stopped at once, we will bring far greater calamities upon ourselves.

What are the three features you would include in the urban design of the pilgrim towns?

Relief measures kept at hand in every major town at 30 km on all the four roads from Rishikesh up into the mountains. This should cover both the arterial roads to Badrinath-Kedarnath and Gangotri-Yamunotri. Equipment and aerial transport must be ready for deployment when needed. We need a lot more doctors in the region, with far greater attention and funds than the state government can afford.

With this opportunity that the natural disaster has provided, we must build sanitation systems

Continued on page 8

the government. There was a comprehensive plan for urban settlements that was made, I recall, in the late 1990s, but it wasn't implemented.

We have seen no efforts to recognise the time bomb that is ticking away in the entire sub-Himalayan region. We have to remember that the South Asian plate of the Indian sub-continent has been moving at about 3 mm a year northward into the vast mass of the Asian continental plate. The Himalayas are a baby at 20 million years old compared to the Eastern Ghats that are 700 million years old and the Western Ghats that are 400 million years old.

The soil of the Himalayas is alluvial and prone to massive shifts on a scale that the human species is incapable of comprehending. On several of these roads over many years of travelling in the region, I have personally seen nearly every alternate day cattle and livestock dying on the roads and the hillsides because of the unexpected sliding of vast chunks of earth – during normal times.



The Kedarnath temple and the settlement around it in ruins

Old house survived, saved Delhi couple

Continued from page 7

structed hotels, shops and ashrams along the Bhagirathi, Mandakini, Alaknanda, Vishnuganga, Goriganga, Pinder, Dhauli, Kali, Gori Ganga and Ramganga rivers.

Pawan Jain, an architect in Dehradun who has years of experience in designing structures for the hills, says that buildings should not be constructed alongside rivers and homes must use appropriate technology. "We should use fine cut stones that neatly fit into one another both for laying the foundation and for erecting walls. He recommends Ashlar masonry that melds stones to create walls and foundations.

"If we are building alongside the banks of the river, we should keep river history in mind so that hotels being made for tourists don't become

deathtraps," says noted environmentalist, Chandi Prasad Bhatt.

Villagers living alongside rivers want dumping

'Instead of investing so much money in dams we should begin green development. We need to concentrate on watershed development and afforestation.'

of debris into rivers banned and safety walls built wherever feasible, says Bahadur Singh Rawat, ex-pradhan, Syun village, Chamoli district. More than 1,000 villages remain cut off since bridges were washed away. "Sadly, we used 1920s technology for bridge construction. The bridges were very narrow. Whenever rivers swell up, bridges collapse," says Jain.

Environmentalists say the only way to mitigate the effect of heavy rain and landslides is to strictly follow green norms while rebuilding.

"Instead of investing so much money in dams, we should begin green development. We need to concentrate on watershed development and afforestation. Green development is far more sustainable and equitable than profit-driven development. Since we can't mitigate the impact of rains and floods in the mountains, we have very little choice. We should go in for a lot of green cover," says Ravi Chopra, director of the People's Science Institute in Dehradun and member of the National Ganga River Basin Authority (NGBRA).

Cyril R. Raphael, Chief Advisor, SBMA & Convener, Himalaya Desk, a Movement for the Renaissance of Uttarakhand and Mountain Regions, says vulnerable villages should be relocated to safer places.

The Himachal model is being propagated. Creating orchards of apples, plums and peaches will save the environment and provide jobs to people. "Development of orchards and fruit processing will result in reverse migration from the lower reaches to the upper reaches," says Kamala Pant, convener of the Uttarakhand Mahila Manch. "Reconstruction will be safer in green zones," says Rajender Singh of the Tarun Bharat Sangh.

There is consensus that rebuilding of pilgrim towns and villages should keep in mind the bearing capacity of this ecologically fragile hill state. Since 2001, tourism has increased by 141 per cent and registration of cars has gone up by 700 per cent. One clear message from the floods and the wrath of the rivers is that Uttarakhand needs to strictly implement a green development model. ■

'Revere nature first in rebuilding of ancient temple areas'

Continued from page 7

in a way that waste waters from towns do not go into rivers. There has to be a continuous, large-scale mechanism in place in every town for cleaning up wet waste and non-degradable waste. Right now indiscriminate dumping of waste is rampant.

Traditional hill houses used to be sturdy but such architecture won't be able to provide modern amenities to pilgrims. Do we need to reinvent how housing is built in the hills?

Well, traditional homes in the hills used stone for walls and slate for roofs, but the last 40 years have seen the advent of concrete structures. There has really been no governance with the result that most buildings are raised by local contractors on their own estimations of reinforcement values and structural plans that are hardly even put on paper. There is a need for very hard regulations. Every urban local body and municipal corporation must have town planners at each district headquarters trained

to guide and bring adherence to regulation on structural soundness, building materials used, building setback, river region zonal priorities and so on.

What are the building norms that can be applied? The National Building Code is the best such Bible for buildings anywhere. The Revised NBC that is set to be released next year will be an excellent baseline document for every town planner to go by.

Along this route is it possible to have a light ecological footprint despite a high density of pilgrims going through it? Should the number of pilgrims be restricted as has been suggested?

There is a lot that can be done to lighten the eco footprint. The list is long but here is a sample: Every *dhaba*, restaurant and hotel must bring mandatory compliance on the following: [a] All wet waste should be converted with biogas digesters that supplant or supplement use of LPG for professional kitchens; [b] Hot water needs of all hotels and homes in the hills should come from

solar collectors with energy-efficient substitutes for electrical back-ups; [c] Only five-star rated pumps should be used for all applications in businesses, homes and for agriculture.

For all public transportation, there should be only CNG-based buses, with no HSD-driven buses allowed.

In broader terms what is the development Uttarakhand should look to?

Uttarakhand is a state that is nearly entirely mountainous. The state must not look at any model of economic development in the plains of India. We must look at Surinam, Puerto Rico and such other nations that have had equally or less fragile ecosystems than Uttarakhand.

The revenue for the state should be on the basis of vigorous tourism promotion as Kerala did in the nineties and the first decade of this century. The existing rich pilgrim tourism must be robustly consolidated with higher-end tourism that protects the natural assets of the mountains and forests and creates destinations and tourism traffic around the beauty and splendor of the destination. ■



Anand Sharma, head of Uttarakhand's Meteorological Department, explaining weather forecasting to students

Diligent Met officer got it right

Rakesh Agrawal

Dehradun

ANAND Sharma, Uttarakhand's weatherman, was at the centre of a storm after the Ganga swept over pilgrim towns and villages, causing death and destruction, drowning everything that stood in its path. There were loud complaints that it was all the fault of the Meteorological Department, that their predictions went awry.

"There was no visible indication from the Met Department that a crisis of this magnitude would happen," complained Yashpal Arya, Minister for Disaster Management, passing the buck to the weather forecaster.

But Sharma, Head of the Met Department, says they did their job. "A cloudburst is an extreme amount of precipitation – 100 mm in an hour. As there is no rain gauge in Kedarnath we could not say it was a cloudburst. But we did predict the possibility of very heavy rain and thundershowers 36 to 48 hours in advance. We sent this message to all departments concerned." Incidentally his department also predicted landslides.

His cautionary message on the morning of 15 June said that Char Dham pilgrims should postpone their yatra and advised people to move to safer places. Subhash Kumar, Chief Secretary, had issued a press brief that morning in newspapers

advising people to check the weather before they ventured on the yatra route. The district administration too issued a warning. But yatris who had left five to seven days earlier on foot had no access to this kind of communication.

Despite lack of accurate weather forecasting equipment such as a Doppler radar, Sharma's forecasts have been remarkably accurate: 100 per cent in January, 93 per cent in February and 97 per cent in March this year. Actually, towns like Kedarnath don't even have a rain gauge. It is nearly impossible to predict a cloudburst, anyway.

An M.Phil in environmental science from Jawaharlal Nehru University, Sharma went to the USA on an UNDP/WMO fellowship to work on early warning weather systems. "I wanted to return to my roots and use my knowledge to benefit our people," says Sharma, humbly.

He is popular with farmers, activists, government departments and office goers. They have risen to his defence. "Anand's accurate weather forecasts prompt people to take precautions and save them from disasters," says noted environmentalist Chandi Prasad Bhatt of the Dhasholi Gram Swaraj Mandal in Gopeshwar, Chamoli district.

Sharma has been very active in ensuring people get weather information. He is the first officer in the Met Dept to rope in three FM community

radios: Radio Khushi, Kumaon Vani and Hevalvani all operating on 90.4 FM to broadcast the weather. The information is send by SMS though the State Emergency Response Centre.

To reach out to villagers in remote nooks and crannies in the hills, Sharma has been advocating the use of hand winding radios. "These radios can operate even when there is no electricity. Villagers can tune into FM stations and get weather information every day. Such radios would really help them in the event of a disaster," he says.

Farmers especially benefit. The state's irrigation department endorses the efficiency of the Met Department. "Irrigating one ha costs Rs 300. If Anand predicts that it's going to rain and farmers should not irrigate their fields, it saves us money since the state has 300,000 hectares that has no irrigation. It also saves farmers from spending money on fungicides and insecticides that would get washed away. His accurate predictions on precipitation and sunshine, especially if we factor in the vagaries of the weather in recent years, must be lauded," says R.C. Pathak, Secretary, Minor Irrigation Department.

"Last year, his warning about heavy rains in Uttarkashi two days before the rain came down helped us to be prepared and fight the disaster," recalls BC Khanduri, the ex-Chief Minister of Uttarakhand. ■

The dark side of surrogacy

Shayak Majumder
New Delhi

ON 17 July, the Centre for Social Research (CSR) released a study, 'Surrogacy Motherhood: Ethical or Commercial' in New Delhi. Supported by the Ministry of Women and Child Development, CSR interviewed 50 surrogate mothers and 25 commissioning parents in Delhi and Mumbai.

The study revealed that surrogacy motherhood is growing in India but there are no legal provisions to safeguard the interests of the surrogate mother. The Assisted Reproductive Technology (ART) Regulation Bill of 2010 left out many crucial issues related to surrogacy arrangements.

According to the CSR report, there is no payment structure for surrogate mothers. The amount of money to be paid to mothers is arbitrarily decided by the clinics. Forty-six respondents in Delhi and 44 per cent of respondents in Mumbai stated that they received ₹3 to ₹3.99 lakhs for being a surrogate mother.

The surrogate mothers are not given a copy of the surrogacy contract which is signed between the surrogate mother (including her husband), the commissioning parents and sometimes, the fertility physicians. As a result, the mothers remain unaware of the clauses of the contract.

"Surrogacy has now become a maid business," said Ranjana Kumari, director of CSR. "Women who are physiologically or psychologically unable to give birth, simply hire another woman to do the job. Surrogate mothers are reduced to nothing but birth-giving machines."

The surrogate mothers are promised food, medicines and monetary support by the commissioning parents even after the birth. But the true picture is quite different. "We have found cases where the mothers are completely forgotten after the birth of the surrogate baby. Forget food and money, they are not even given necessary medicines to last more than a month," says Manasi Mishra, head of CSR's research division.

In Delhi and Mumbai, respondents said that poverty and education of their children were the reasons they opted to become surrogate mothers. The decision was mainly taken by them but under pressure from their husbands. Only a few of them – 36 per cent in Mumbai and 14 per cent in Delhi – faced resistance from family and friends.

In some cases, 'twiblings' or two to three surrogate mothers were impregnated for the same commissioning parents without their knowledge to ensure a high success rate. Says Manasi, "In case two/three surrogate mothers became pregnant, the surrogacy pregnancies continue if the commissioning parents wanted. If not, the healthiest pregnancy would be allowed to continue while the others will be terminated with the help of abortion pills without the mothers knowing it." ■



Anshu Gupta of Goonj organising relief supplies from his outpost in Rishikesh

Gutsy Goonj takes steep

Shayak Majumder
Uttarkashi

MUNDI Devi and Phuli Devi, both aged around 50, trekked more than 90 km to reach Uttarkashi from Naugaon. "The flood took away all our rations. We had to come down for food," says Mundi Devi.

The two women braved slushy mountain trails, landslides and incessant rain to reach Sri Kailash Ashram in Uttarkashi, where Goonj, a well-known NGO based in Delhi, has set up its Rahat flood relief hub. The hapless women were among hundreds of flood-hit villagers who have gathered around relief camps in the hope of getting food, medicines and clothing.

The Uttarakhand floods have wreaked havoc. Many villages have been washed away. The death toll is likely to cross 5,500 and thousands are still stranded in the upper reaches of the hills. The Uttarakhand government, NGOs and religious organisations are lending a helping hand.

Goonj is no stranger to relief efforts in natural disasters. The NGO was equally active during the Bihar floods, the Bhuj earthquake and the 1991 Uttarkashi earthquake. According to Anshu Gupta, founder of Goonj, the Uttarakhand floods have been the worst disaster they have faced so far. "The biggest problem with a disaster in the mountains is the landslides which block roads and paths to villages higher up in the hills. Therefore, taking relief materials to these places proves to be a challenge," he says.

Truckloads of relief material donated by companies and individuals, are transported to Goonj's base camp in Nagarpalika Community Centre in Rishikesh from its offices all over the country.



A meeting on relief in progress at the Dayananda Ashram

Here, the supplies are segregated and repacked to suit the rainy mountain climate. Small trucks like Tata 407s then take consignments up to various hubs set up by Goonj in places like Uttarkashi, Sonprayag, Joshimath and others.

From these hubs, smaller teams are dispatched via four wheelers to the villages. Where roads have been washed away, teams of Goonj volunteers trek up the hills to reach the people. In some cases, the villagers themselves come down in small groups to the relief hubs.

The entire process of reaching relief is complex. The main office of Goonj in Delhi's Sarita Vihar, is flooded with clothes and unusable materials.

PICTURES BY NAZIM ABBASI



Phuli Devi and Mundi Devi at Goonj's relief hub in Uttarkashi

climb to deliver relief



with Sri Murgesan, Collector of Chamoli district

Imran, a coordinator there, says, "At times, we receive supplies which we cannot send to the flood victims because they are too wornout. We even received torn blankets which are not fit for human use as well as half-eaten food packets. We had to put a stop to donation of clothes because we faced a problem of plenty."

Anshu has to deal with intrusive phone calls from donors on a regular basis. "We have people constantly nudging us for receipts for their donations. They must understand that our first priority is to take relief supplies to the people. Writing out a receipt immediately may not always be possible," he says.

At times, some 'dealer' would offer a donation of a gargantuan amount from some company, on condition that he receives a cut of 20 to 30 per cent. "We would also get instructions from some donating corporates that we can only operate in a few villages pre-designated by the managerial board. We simply cannot entertain deals like that," he says. "More than 80 per cent of donors do it straight from the heart, going to the extent of buying new clothes and materials and packaging them neatly. But it is the other 20 per cent that is really saddening."

Regular landslides aren't making things any easier. Even the smallest showers can result in loose rocks and silt coming down and blocking the roads, cutting off villages in the upper parts of the mountains.

Goonj has decided to tackle the problem tactically. "We aim to cover as much land as possible in any which way available. In order to do so, we collaborate with smaller local NGOs and ashrams, setting up our hubs in strategic positions, so that we can push supplies to the people." In the village of Dunda, Goonj has set up its hub in the office of Disha, a local NGO, which played an active role during the last earthquake. "We don't only collaborate with NGOs, we also set up a relationship with them, introducing our system of work to them and bringing them back into the spotlight. Also, they have excellent knowledge of the terrain including various routes and pathways, which is invaluable in situations like this," says Gupta.

The real driving force behind Goonj is its team of dedicated volunteers. These young people aren't looking for a certificate or recommendation. They do it simply to help people. The group of volunteers comprises everyone from foreign

students to young corporate executives. Krishna, a volunteer who came to Uttarkashi all the way from Mumbai, says, "We know that we may not be changing lives here. But we are just helping to fill in the gaps, touching the lives of the affected. For me, that's worth a lot." The volunteers are selected on the basis of their trekking experience, knowledge of medicines and food products and their willingness to help.

Gupta says that Goonj plans to continue its relief efforts in Uttarakhand for more than a year. The Rahat Flood Relief Campaign is now in its second stage. The first objective was to provide immediate relief. Goonj is now focusing on supplying rations, tarpaulins, umbrellas, torches and medicines. In the third stage, woollen clothes will be supplied to the villagers, so that they can bear the coming winter.

"After that we aim at promoting education in villages. We will supply school materials to the children. We are also planning to provide solar lamps to schools and are therefore setting up small community centres in schools for the entire village," says Gupta. After that, Goonj will try to rehabilitate livelihoods that have been destroyed by the floods.

Many ashrams are doing their bit too. Swami Dayananda Ashram in Rishikesh collaborated with Sri Sethuraman, vice-chancellor of Sastra University, Thanjavur, to implement a concerted rescue operation. They donated 80 tonnes of relief material – rice, wheat, sugar, children's food, pulses, candles, matchboxes and blankets – for 5,000 affected families.

Swami Santamananda, the resident Acharya of the ashram, and Swami Suddhananda, one of its senior managing trustees, approached the Collector of Chamoli district, Sri Murgesan. He helped in designating the villages to be visited and also provided statistics and other details to the visiting teams.

Sri Murgesan says, "The first phase of the relief effort is over. Pilgrims and tourists have been safely evacuated. We are now focusing on villagers stranded on the mountains."

The district administration, too, isn't lagging behind. The affected villages are divided into two categories – disconnected villages and damaged villages. Of the 63 villages in the district, 51 are disconnected, while 12 are completely destroyed. Efforts are on to rebuild homes and agricultural lands. "Right now, people want shelter and food more than anything else," says Murgesan.

The government has announced a compensation of ₹5 lakh for the victims' kin and ₹2 lakh for families that have lost their homes. The destitute families are sheltered in government buildings and schools.

Swami Dayananda Ashram has chalked out a plan to construct a school for the homeless and affected children of the region. They have also decided to construct 10 homes for the affected families at a cost of ₹15 lakh.

The tourism industry, Uttarakhand's chief money-earner, has collapsed. The little eateries at Rishikesh and Haridwar, which once teemed with tourists and pilgrims, are closed. Mukesh, owner of a tea stall in Rishikesh, says, "The disaster has taken a lot away from us. No tourists means no income. It may take many years for us to get back to normal." ■

With inputs from Samita Rathor

PICTURES BY CHARKHA



Villagers playing cards: The number of suicides is rising in Akhnoor

CONFLICT ZONE

Living on the edge

Dr Varun Suthra
Akhnoor (J&K)

LOCATED 29 km from Jammu, the residents of Akhnoor Subdivision are the victims of any conflict that takes place at the International Border between India and Pakistan.

The villagers did not declare war or decide borders. Yet they face the brunt of the incessant conflict between the two countries. Their only fault – they live on the borderland. Cross border firing and constant fear haunts them. Steeped in stress, anxiety and depression, villagers are falling prey to mental health problems in a big way.

Police records for the past 10 years reveal that the leading cause of death in these areas is suicide. As per police records, between 2000 to 2012, 125 deaths by suicide were reported in Akhnoor Subdivision.

"In a survey conducted in Akhnoor and Khour over the past two decades we found that the number of suicidal deaths has increased significantly. The most common mode of committing suicide is by consuming poisonous materials like fertilizers or pesticides. These are readily available in households since most of the community depends on farming," says Rayees Mohammad Bhat, IPS, Sub-divisional Police Officer.

He said the other common method of committing suicide was by jumping into the river Chenab. In some cases people consumed an overdose of drugs to kill themselves.

"Most of the time cases go unregistered resulting in a delay in investigation. Due to social stig-

ma people do not register the report in time," Bhat said.

Akhnoor subdivision consists of 227 villages, out of which around 35 are located either on the International Border or on the Line of Control (LoC) with Pakistan.

According to Nagendra Singh Jamwal, Sub-Divisional Magistrate (SDM), Akhnoor, there are two major causes for mounting stress among villagers – crossborder firing and loss in agricultural production. Agriculture is the main source of livelihood. About 24,000 kanals of land have been lost due to firing incidents. He said many villagers ended their lives since they could not cope with the financial crisis that followed after they lost their livelihood. Villagers were burdened with loans they had taken to cultivate their fields and couldn't repay.

This situation has left people internally displaced. They are forced to migrate and that affects



Fields are fallow due to cross border firing

services of the area where they migrate to. "If services meant for a fixed population suddenly need to cater to twice that number, it becomes quite difficult to manage delivery," says Jamwal.

Over 300 families were displaced due to border firing during the Kargil War in 1999. These families are living in Gurha Jageer, a migrant camp about 9 km from Akhnoor and 38 km from Jammu. Sixty one hundred plots, measuring 25X50 have been allotted to the migrant families.

"We have always been an agrarian society. Our ancestral work is agriculture. Unfortunately, we could not pass this on to the next generation. Our children are now forced to struggle for insignificant jobs and our voices go unheard. You cannot spot even a single person here without any mental trauma," says Tara Chand, an elected member of Chapriyal panchayat who is currently running a small general store at the same camp. Most plots have half-raised structures since people don't have enough money to construct even a small house.

Dr JP Singh, Block Medical Officer, Khour, says there has been an increase in the number of patients suffering from mental disorders. "We have noticed that the majority of depressed youth have started consuming alcohol. Even men who are older have become alcoholic. We find most of them are suffering from depression when we examine them medically. This has also led to an increase in domestic violence cases in this region. The Primary Health Centre here receives many cases of women assaulted in domestic violence."

A visit to these villages is an eyeopener. Every house narrates a story of sacrifice – some have lost their loved ones and some their security.

At village Pragwal, a family lost its only daughter in cross border shelling at the International Border. "My daughter Shashi Devi was young and vibrant. In 2002, she stepped out to warn people to stay away from our house since cross border shelling was taking place. While saving others, our brave girl became a victim. We have five children and she was our only daughter. Her mother could not convey any emotions after she saw her charred body," says Somnath, Shashi Devi's father.

Every resident of this rural belt leads an insecure life wondering when they will lose everything. The youth are as afraid as their elders. The majority of young people in Paddly village in Khour Block are without jobs and sit around idle all day.

"We do not have stable jobs or any other means of earning a livelihood. Employment opportunities in the government are negligible. There are no private sector jobs available here either. The industrial hub of the Jammu region is located in Samba district. If we choose to work there, our entire salary will be spent on transport. Although some of us have raised these small structures we call shops, we hardly have any customers," rues Praman Singh, a young local who spends his entire day playing cards.

Villagers here spend all their lives under a cloud of uncertainty and fear. They carry an immense mental burden. The nation must focus on development for villagers living on the edge. They too contribute in safeguarding India's border. ■

*The article has been written under the Sanjoy Ghose Media Fellowship
(Charkha Features)*

Maruti hotpoint: Gujarat farmers not

Tanushree Gangopadhyay

Ahmedabad

SINCE the past two months, villagers in Surendranagar and Ahmedabad districts have been seething with anger. They have held tractor rallies, motorcycle rallies and street corner meetings. "This is our land and not the government's," shout the villagers. "Weed out real estate brokers like insects from your farms," they chant.

Eleven Special Investment Regions (SIRs) are being proposed in Gujarat along a Designated Freight Corridor (DFC), a 1,418 km railway line across the Delhi-Mumbai Industrial Corridor (DMIC). The railway line will seamlessly connect the two cities. Four SIRs will come up in Ahmedabad and Surendranagar districts.

The Gujarat government, under its Special Investment Region Act of 2009, can declare an area as an investment or industrial hub. This law enables the state to establish, develop, operate and regulate the SIR.

Ahmedabad district has already been designated as an auto hub. The Tata Nano is being manufactured at Sanand. Ford is in the pipeline. And Maruti-Suzuki is setting up its factory in Hansalpur.

But villagers do not want their lands to be included in the SIRs. They are resisting the government's moves to convert their fields and pastures into factories.

In September 2012, the Gujarat government allotted 647 acres of grazing land in Hansalpur to Maruti-Suzuki for their plant. Another 200 acres, near Vithalapur, 25 km from Hansalpur, was allotted to the company to house its employees. Farmers feel the land has been given for a song, especially because Maruti-Suzuki will merely need to pay in installments over eight years.

Hasalpur village had in the past hosted the chairman of Maruti-Suzuki. "We were told that Maruti-Suzuki's entry into our village would give



Women at a rally protesting the Gujarat government's Special Investment Region policy

our children jobs, that our village would get good infrastructure," say the villagers. They had accorded the chairman and his team a rousing welcome.

Now they say: "We shall fight it out. We won't leave our lands."

"On 13 May this year we were slapped with a government notification declaring our village as

part of the Mandal Becharaji SIR. This means all of us will lose our farm lands," says Ajmalbhai, sarpanch of Hasalpur.

"Several industries and roads have been earmarked. I will lose 30 bighas of fertile land. A railway line will go past our village. The Maruti-Suzuki factory will stop access to our farmlands.

SAMITA'S WORLD

by SAMITA RATHOR

OF COURSE YOU
HAVE A BIG HEART
... AND A BIGGER
STOMACH TO MATCH!

SAMITA

ready to give up fields



Our grazing land is gone. Instead, we now have a police chowki to protect Maruti-Suzuki and to stop the Maldharis from collecting fodder. Where will their cattle go?" he asks.

Significantly the allotment came seven months after the government announced the Mandal-Becharaji SIR, located in Ahmedabad, Mehsana and Surendranagar districts.

Farmers from 44 villages in Mandal, Viramgam and Becharaji talukas of Ahmedabad and Mehsana districts, are opposing industrialisation. They do not want their villages to come under the Gujarat Town Planning Act either.

The villages point out that they have access to three Narmada branch canals spanning 452 km. "After 25 years of yearning, our parched lands have just got Narmada water," say the farmers. "Our lands are fertile. We cultivate cotton, cumin, sorghum, wheat and gram," says Jagabhai, a farmer.

This region has three internationally acclaimed sanctuaries. The Little Rann of Kutch is the only home of the Wild Ass. The Nal Sarovar has exotic birds from Siberia and the Thol lake, 20 km from Ahmedabad, also has exquisite birds.

"We spent ₹50 lakhs on a tractor rally to Gandhinagar on 18 June. Over 5,000 farmers, pastoralists and landless workers with their families joined us," recalls Naranbhai Patel, former

sarpanch of Vanod, the largest village in Mandal Becharaji. "The government panicked and refused to let us enter Ahmedabad so we went down the highway to Gandhinagar," he says.

A huge rally of youth on 1,500 motorcycles went to meet the District Collector of Surendranagar. Around 3,000 villagers met the Mamlatdar of Patadi. They are demanding repeal of the SIR legislation. Villagers say they will not only lose their fields and pastures they will also lose political representation.

Instead, the SIR legislation will give representation to industrialists in the Regional Development Authority that will govern the SIR. The massive Narmada Dam was constructed to provide water to farmers. Now this water will go to industry. Whatever land remains for agriculture, will become fallow due to industrial pollution, point out the protesting villagers.

The agitation has received widespread support. Some workers from Maruti-Suzuki's contract workers' unions in Manesar, Haryana, joined the June rally. They were giving vent to their differences with the company's management. In an open letter written in Hindi titled, 'From Manesar to

Mehsana,' the unions of Maruti's three plants underlined their support for the villagers and called on people in general to join their struggle against Maruti-Suzuki and the government. The shift to Gujarat has followed agitations by workers in Haryana and is seen as the management's way of weakening the unions.

The farmers' leaders say the SIR legislation is unlawful. It gives the state a pretext to acquire land bypassing all norms and procedures. Economist and former Union minister Y.K. Alagh who joined the protest rally said the Gujarat government was in a hurry to takeover land to circumvent the new Land Acquisition Act currently pending in Parliament. Former state ministers Kanubhai Kalsaria and Sanat Mehta said they would challenge the SIR legislation.

The farmers point out that the only skill they have is farming. There are no educational facilities or technical institutes in their areas to ensure they get alternate employment.

Contrary to expectations, youth say they want to preserve their agricultural land. Some have been using their IT skills to promote the movement which now has a Facebook account and a website, azadvikassangathan.webs.com. "We needed to keep ourselves informed on what was happening," explains Jayesh Patel who started the website. "I am a farmer and I am also studying in college. We have 100 bighas. Like many others I am a BJP supporter but we find all political parties very opportunistic."

However, K.D. Chandnani, CEO of Mandal-Becharaji Regional Development Authority, brushed aside all fears. "Gujarat, unlike other states, will not acquire land. Rather, land will be realigned, so farmers can cultivate the remainder. We are giving them good physical and social infrastructure and civic amenities. There is no question of rehabilitation as the farmers will not be displaced."

He said land prices would skyrocket and farmers would become rich. "Land prices in the Dholera SIR in Ahmedabad district have risen from just ₹2,000 per bigha to ₹10 lakhs," he said.

Lalji Desai, Convenor of the Azad Vikas Sangathan, which is heading the agitation, retorted that Chandnani was talking rubbish. "He met farmers and said they will have to bequeath 40 per cent of their land for the SIR. Prices of land will escalate so farmers will have to make up the loss by selling the rest of their land."

"This is just looting farmers of 40 per cent of their land for which no compensation will be paid. It is absurd that these villages will come under the Gujarat Town Planning Act."

Although Chief Minister Narendra Modi has said the SIR will not be inflicted on villagers, nobody wants to take chances. The protests seem set to continue and gather steam. ■



A farmer points to his field which he says will be acquired

**Farmers are demanding
repeal of the SIR legislation.
Villagers say they will not
only lose their land and
pastures, they will also lose
political representation
to industry.**

CHASING A DREAM

Goa's lost threads



Poonam Pandit at work: Just a few weavers remain in Goa

Abhinandita Mathur

Panjim

POONAM Pandit, a textile designer from Delhi moved to Goa in 2010 after quitting a career in the export sector to live simply and follow her heart – she wanted to explore textiles.

Poonam worked on a project with Wendell Rodricks, the well-known fashion designer. She got weavers in Goa involved. They wove creatively for Rodrick's collection.

But the task was not easy. Poonam then realised that the weaving heritage of Goa was indeed a dying one. So she set up Kalakar Goa to support and save the weaving heritage of Goa by creating new products, designs, outreach, education and research.

Pandit designs scarves that her weavers weave. She pays them fair price wages and sells her products in a few stores in Goa as well as in Delhi and Mumbai.

In this interview she shared her experiences and research into the weaving heritage of Goa.

Tell us a bit about your background and your interest in textiles.

I am a graduate in textile design from National Institute of Fashion Technology (NIFT) in Delhi. We were the second batch of textile designers. As part of this course we had to do craft documentation. For this, I went to Barmer in Rajasthan. That was very fascinating for me.

However, after I finished the course due to lack of opportunities in the craft sector I took up a job in a commercial export house in Delhi. But I did work on handloom and craft-based products a lot.

How did you land up in Goa?

After over a decade of work in the commercial world of exports, I wanted to move to a quieter place like Goa and do more interesting work. So I wrote to Wendell Rodricks, the most prominent face of fashion in Goa. He was most impressed with my work with textiles, weaves and handloom. He asked if I could initiate a project for him, researching and using Goan weaves.

I moved to Goa to start my search for weavers and that's how my journey into the fascinating

world of Goan weaves began. I set up Kalakar Goa after finishing a collection with Wendell Rodricks.

What is the Goan weaving tradition?

Goa has a diverse historical past. The cloth indigenous to this state has passed through various reigns of Hindu and Muslim rulers followed by the Portuguese. I am interested in researching the influence of various rulers on the historical tradition of weaving and the many stages it passed through.

It is believed that the indigenous tribes wore locally woven garments. Kunbi men for example, wore an ancient attire called Kashti (loin cloth) and the women wore a checkered sari that was knotted at the shoulder. The Gauda, Kunbi, Dhangar, Velip and Zalmi tribes might still sometimes wear these traditional costumes with vibrant colours and simple drapes. These garments were hand woven by the weaving communities of Goa. The use of traditional garments declined steeply over the years. Just a few weavers remain to prove that Goa actually had a thriving weaving industry at one time.

Why do you think there is need to preserve such a tradition?

Tradition is not static. Even simple traditions need to be preserved. Goan weaving might not be as exquisite as the brocades or the Jamdanis of our country but it does deserve its place in the history of handmade textiles of India. Some traditions like folk culture (unlike classical arts) have always evolved with time. If the tradition is provided a little support and space it can find new ways to survive. There are many similar efforts in different areas of mechanised art, why not this?

Why do you think such traditions die out?

In the case of the Goan weaving tradition specifically, here are some reasons: the setting up of powerlooms by the government which could easily make cheap imitations of traditional saris in synthetic materials, and the shutting down of training centres. The economy of tourism plays a role as well. Locals prefer doing businesses that cater to foreign tourists. Compared to the intensive and rigorous task of weaving, tourism is not only an easier way to make money but probably more lucrative.

How did you find your weavers?

Three years ago I met the last Goan weavers who were still making traditional Kashti and Valay. They were on the verge of shutting down because of declining demand. There were two of them, Kaka, 73, and Apa, 65. They spoke of the good days when they had 30 operating handlooms and more than half their village, Palyem, in North Goa was involved in weaving.

After three years of working with them I can take credit that there are three operating handlooms instead of one. Kaka got back to weaving because he felt encouraged by my interest in his ancestral profession. He is happy with the attention and appreciation he gets, and the money. For years his worth was unrecognised. He was taught to weave by his father and he, in turn, taught all his sons. They lost interest except for one 45-year-old son who recently returned to it part-time as he saw potential in it.

They continue to weave their Kashti and Valay on one loom. In no way do I hinder that tradition. They produce and sell a small quantity of these products at local shops in Mandrem, Mapsa and Siolim.

Does weaving have a future?

If the government supports such traditions it can be preserved. It can even thrive. Designers like myself engage with weavers in a fair way. We try to reach out to a market that values handloom products. However, every time I go to Kaka with a new design he warns me, this is the last one, after this lets not do more. And after seeing the design he likes it and he gives me a reassuring smile. ■



Poonam Pandit with one of her scarves



Venkatesh Mannar with a packet of iron fortified salt at a factory

Salt can beat anaemia

Saibal Chatterjee

New Delhi

In the 1970s and 1980s, he was a salt producer in coastal Tamil Nadu. Today, Chennai-born Venkatesh Mannar uses the sodium compound as a weapon in the global war on malnutrition.

For over three decades, he has crisscrossed the world, pursuing the mission to reduce micronutrient deficiencies among those most at risk – women and children. The Tuticorin-based family of Dr Mannar, president of the Ottawa-headquartered non-profit Micronutrient Initiative (MI), has been in the salt business for five generations.

His transition from entrepreneur to researcher-activist occurred early in life. He says: "Practically everyone uses salt, making it the most natural vehicle for fortification." According to the World Health Organization (WHO), more than two billion people worldwide suffer from anaemia. At least half of these cases are due to iron deficiency.

Under-nutrition accounts for 45 per cent of the 1.65 million child deaths in India each year. Between 70,000 and 1.5 lakh Indian women die annually during childbirth on account of anaemia.

Mannar sold his salt business and migrated to Canada in 1990. He took over as executive director of MI in June 1994 after serving for a few years as a retainer-consultant to UNICEF in Toronto. MI was set up by the Canadian government in the early 1990s as a secretariat within the International Development Research Centre (IDRC). In 2000, it became an independent not-for-profit organisation.

"In India, my first port of entry was Delhi, where IDRC has an office in Jor Bagh," recalls

Mannar. "In the initial years, MI's focus was on building a case for adding micronutrients to the diet of those that were most vulnerable. By the late 1990s, we had enough evidence to show that we could make a difference by doing micronutrient enhancement in the subcontinent."

Today, MI's work reaches women and children in 70-odd countries and the agency has offices with dedicated staff in a dozen capitals in Asia and Africa. "We do not ever work independently," he asserts. "We collaborate with governments to help in advocacy for and scaling up of operations in the areas of Vitamin A supplementation and combating iron and iodine deficiencies," he says.

Mannar's latest India trip, his fourth this year, was for the New Delhi launch of the 2013 Lancet Series on Maternal and Child Nutrition on 28 June. The Series underscores the magnitude of the problem of poor nutrition. Almost half of all child deaths in the world today are the result of malnutrition.

Mannar has co-authored one of the five papers of the Series, titled 'The Politics of Reducing Malnutrition: Building Commitment and Accelerating Impact'. The paper calls for "strong leadership at all levels to create and sustain momentum and to convert that momentum into impact".

The IIT-Madras alumnus says: "India is the single most difficult country to operate in. It is here that we are questioned and opposed the most. In Bangladesh, once a go-ahead is given at the executive level, we are left alone and allowed to work freely with local NGOs."

India, he points out, accounts for 40 per cent of the world's undernourished population. "India has all the programmes and policies to tackle the

problem. What it lacks is implementation."

Mannar's fight against malnutrition began in the 1970s. He went to Northwestern University, Evanston, Illinois, for a Masters in chemical engineering to prepare himself for a role in the family business. He then worked with an American salt company in California. On his return to India, he and his father started a salt production venture of which he was the managing director from 1973 to 1990. "The concept of additional nutrients in salt was gaining ground at the time. UNICEF would call me to Delhi for consultations on the subject and I got increasingly interested in the process of fortifying salt," he says.

Mannar's new salt field was on 4,000 acres acquired from the Tamil Nadu government. "Back then in India, salt-making used traditional methods. I brought in modern principles," he says. The factory did some early work in fortifying salt.

Mannar has since created double fortified salt (DFS), which contains both iron and iodine. While the idea might seem simple, adding iron to iodised salt, says Mannar, "poses chemical problems because iron is unstable and interacts with iodine and imparts a brown colour to the salt".

He developed a solution with Prof. Levente Diosady of University of Toronto. The technology was transferred to India about a decade ago. "DFS is now produced in Tamil Nadu, where it is made available to three million schoolchildren in the state's midday meal programme," he points out.

It took MI five years to secure clearance for DFS in India. "There is too much bureaucracy here," he says. Mannar now hopes to spread the net wider by getting salt producers across India to adopt the technology and other state governments to follow the Tamil Nadu model. "MI is already active in Uttar Pradesh, Bihar and Gujarat," he reveals. "Modern salt refineries have sprung up across the country and the process of iodisation is bound to progress," he says. Salt iodisation, he adds, has increased from 5 per cent in 1980 to 77 per cent today.

Besides the success stories of Bangladesh and Nepal, Mannar takes pride in having been a small catalyst in how things panned out in China. In the late 1980s, he was part of a World Bank team that travelled to Beijing to convince the government to adopt universal salt iodisation. "The then Vice Premier Zhu Rongji (he later became Premier) seemed completely disinterested as we made our presentation. But when I began to tell him about the deleterious effect iodine deficiency has on mental development, he was all ears," he recalls.

Today, China, which implemented universal salt iodisation only in 1993, has gone well beyond 90 per cent. India, which was one of the early movers, is yet to touch 80 per cent. "In India there are just too many naysayers – medical professionals, commercial lobbies and political sceptics," says Mannar.

Among these opponents are those that believe that India should focus more on providing food to the hungry rather than worrying about micronutrient deficiencies. Mannar says: "The need for nutritious food is obviously beyond question, but providing micronutrients to the population is a different issue altogether. One is about ensuring that every Indian has enough food to eat; the other is about something that is needed regardless of food intake." ■

A WONDER FARM

Once dead, now the pride of Kozhikode

Shree Padre
Kozhikode

DUBAI's agriculture minister recently chartered a flight to Kozhikode and, accompanied by a horticulture consultant, headed to the Agriculture Research Station (ARS) at Anakkayam nearby. There the minister, Abdulla Jassim Abdulla M Almarzooqi, placed orders for fruits, spices and ornamental plants. But on his mind was something bigger. He offered free visas and air tickets to the 100 members of the research station's agricultural army, which rather grandly goes by the name of Hi-tech Karshika Karma Sena (HTKKS).

What is so special about the Annakkayam ARS that the Dubai minister should have felt the need to fly down to it?

Since 2007, this research station has gone from being a sleepy government facility to an engine of innovative agricultural practices – some local, some with far-reaching implications. Much of the credit for this energy and vision goes to Prasanna Rajendran, 53, who heads the ARS with the designation of assistant director of research.

Rajendran's success has been such that the ARS's annual income is ₹2.56 crores. For next year, it has set a target of ₹3 crores.

Compare that to Kerala Agriculture University (KAU) which earns ₹8 crores annually from 3,500 acres. The ARS with just 25 acres adds ₹2.56 crores to the KAU's kitty.

What has led to this transformation? Rajendran attributes it to "just a little common sense and team work". He adds: "Whatever we've done here is possible in any other research institution."

Started in 1963, the Anakkayam ARS was once a cashew research station with 25 acres of rain-fed dryland. Only one scientist and five labourers worked here. Every summer, drinking water had to be fetched from outside. The station's annual revenue was a paltry ₹4.92 lakhs. It had been all but written off.

Today ARS trains youth in agriculture, works with self-help groups (SHGs) and produces a variety of fruits and vegetables, some of which are processed and sold.

THE TURNAROUND: Before Rajendran took over, the station only had some cashew trees. It had no water, no crops, no staff and not enough buildings. Rajendran quickly figured out that he needed more hands.

So, his first priority was to train a band of people. A six-month Vocational Higher Secondary (VHS) course in agriculture was launched. In an unusual move, this course was conducted only during holidays. After six months of training, a team was ready, but it had to register itself because only a registered team could be given work under government rules.

The station then entered into a profit-sharing work agreement with the team thus created. Rajendran says: "For the 'holiday training' we didn't claim any remuneration despite being entitled to it. This and the profit-sharing model on which our SHGs were later offered work set the ball rolling. The result has been unbelievable."

Malappuram district gets 2,900 mm of rainfall in a year. This adds up to 10 million litres per acre. One by one, the station built three huge bottom-lined rain ponds, each with a capacity of five million litres. Initially, they made the run-off from the sloping land fill these ponds after filtering. Now that there is enough water, the practice has been discontinued. The ponds store a minimum of 10 million litres of rainwater, enough to irrigate 25 acres. Says



Dr Rajendran and his Semi-Permanent Vegetable Cultivation Tower

Rajendran: "For many short duration crops, this much irrigation is enough to double yields."

Field management was the next priority. Weeds had grown in the whole area. The new team was pressed into service. The biomass obtained was huge. Simple vermicompost units were built. Now the station produces about 500 tonnes of vermicompost every year. This is sufficient for all the organic manure requirements of the farm. Whatever is left over – about 100 tonnes – is sold.

"With the wild weeds gone, the campus acquired a new look. Visitors started arriving. The station began to get one project after another. Funds too started pouring in," says Rajendran.

Local farmers in the past mocked the ARS as a 'cashew factory'. But now the ARS is back to being an agriculture research station. It has a tissue culture lab and a processing centre apart from a huge amount of vegetable seeds and planting material. Even during the non-planting season 50 farmers on an average visit the station to buy planting material or seek expert advice.

IN KERALA



Women raising plants at the research station

PLANT MONEY: Nursery plant propagation in the profit-sharing model has been extremely successful. Anakkayam station now produces plants in a two-hectare space. From fruits and ornamental plants to vegetable seedlings in nursery trays, the station produces a remarkable variety.

During the planting season, some SHGs produce up to 100,000 plants in a month. The minimum price for any plant is ₹10. So the sale value of 100,000 plants is ₹10 lakhs. The SHG gets ₹3.5 lakhs as its share. Invoicing is done in a phased manner so that these workers get good returns even during the lean season.

Local farmers are now accustomed to using vegetable seedlings grown in nursery trays. The station keeps some fast-moving seedlings like tomato, brinjal, chillies and bitter gourd ready. These are sold at ₹2 per seedling.

The business of producing vegetable seedlings in nursery trays on specific orders is thriving. Farmers and panchayats place specific indents. There is growing demand for bhindi and cowpea seedlings too.

Says farm manager Shahida: "We produce cabbage and cauliflower seedlings too. Farmers from Gundlupete across the Karnataka border and some from distant Tamil Nadu also come here to buy these." This ARS produces approximately 400,000 vegetable seedlings a year. "Marketing of planting material is not a problem. Actually we are meeting less than 50 per cent of the demand."

The station has developed an orchard of 57 different jackfruit saplings for cloning. Interesting varieties among these are seedless jack, Chingam varikka and Pallipuram varikka. But this orchard is yet to be evaluated.

Pointing to a strange-looking fruit-cum-vegetable, Rajendran says: "This is horned melon (kiwano) that we got through a pilot friend some years ago. It was brought from California. Its juice is very refreshing. The oil extracted from its seeds is expensive. It grows in three months and performs well in our conditions. We've distributed the seeds to hundreds of farmers."

Kokum from Konkan is also being popularised. This multipurpose, medicinal fruit plant is very rare in this part of Kerala. It is ideal for making squash, jam and wine. In the last year, the ARS has sold 1,000 grafts and earned ₹40,000 from the one mother tree they have. "Demand for these grafts has increased 10-fold," says a farm hand.

The ARS is now gearing up for its ninth batch of trained people. The first and second batches were fully absorbed in the ARS itself. All members of the third batch got admission in B.Sc. (Agriculture). Subsequent trainees were well placed or got a chance to study further. More and more young people are being drawn towards this six-month course.

Says Rajendran, "During the rains, we now have 250 workers, including temporary labourers. But even this is not adequate because our activities are so diverse. Our total expenditure, including salaries, would be less than Rs 1 crore. So ours is the only ARS under KAU that doesn't have financial constraints."

What makes the achievements of this research station all the more remarkable is its sparse infrastructure. Its canteen is makeshift. The campus has no guest house. The processing lab is cramped and lacks minimum facilities. The tissue culture lab is no better. Rajendran and his team carry on regardless.

"The Anakkayam panchayat had 250 families without an income," explains Rajendran. "We roped them in as contract labourers. These women now earn ₹200 per day." They have been formed into SHGs of seven to eight members each.

Farmers once mocked the research station as a 'cashew factory'. But now it enjoys their respect and they come to it for advice and scientific help.

A HI-TECH ARMY: Another scalable model the ARS has created is the training of the agricultural army. There is a message in calling it "Hi-tech". It consists of 100 people between 25 and 40 years old. Some have only completed school. Others have college degrees. They learn about grafting and tissue culture among other things. They also develop skills with regard to precision farming, which is installation and maintenance of poly houses, green houses and rain shelters, designing and setting up terrace gardens.

They are trained in putting up protected cultivation structures, value addition of vegetables, fruits and spices through processing and the creation of rainwater harvesting structures for irrigation support and fishing.

The HTKKS is just six months old but is already making a mark. All the 100 trained members are not required in all projects. They are enlisted according to the nature of a project. HTKKS team leader Abdul Salam says: "We have completed 13 poly houses and green houses so far. Our activities have spread to neighbouring districts and beyond. Nine more projects are pending. Inquiries are pouring in. Recently we got one from Gujarat too."

SKILLS & JOBS: Most team members make up to ₹20,000 per month. They have made the flooring of the training hall and the roof of the processing centre. The canteen has been constructed by them. How have they accomplished all this? "We have one or two members who know welding, masonry and other such skills. It is under their guidance that all the others worked. We are learning new skills every day," explains Abdul Salam.

Under government rules, open tenders are required. The HTKKS bids for work and quotations are much lower. "For a 1000 square metre poly house, construction tenders of up to ₹14 lakhs were received. HTKKS quoted ₹9 lakhs and bagged the contract."

However, some trained members have left HTKKS. "A few think in terms of themselves and their work hours. They are the ones that have left," says Salam, "but there have been only a few."

Abdul Nissar, another team leader, says: "All other professions have gone high tech. Farming is an exception. Poly house cultivation and precision farming are really ideal to attract young people to farming."

"Most Kerala youngsters dream of a job in the Gulf," says Rajendran. "I worked in Saudi Arabia for many years. If we can work hard there, why not here in India? Here we can earn better and enjoy more advantages too."

The Kerala state agriculture department is running a vegetable development scheme in the district. The total cost of raising a kitchen garden is ₹2,000. A family has to pay ₹500. The rest is given in material form as subsidy. Vegetable seedlings are delivered to the doorsteps of the beneficiary farmer in grow bags. The farmer has to simply irrigate, manure and take care of the plant. The target in the district is 10,000 families. But the ARS has already received more applications than that.

FRUIT PRODUCTS: An old building has been converted into a food-processing unit. The facilities are very rudimentary. But every day a group of women here produces pickles, jams and squashes. Apart from jackfruit, many local minor fruits are used. Banana rhizome pickle is probably the most innovative product. Kerala grows Nendran banana in a big way. After harvesting, the rhizome is incorporated into the soil. Pickle from this is an instant success with customers. ARS sells it for ₹15 per 100 gm.

Says Rajendran: "This is alkaline and good for people suffering from stomach ulcers. Of course, we source only organically grown raw material – because in Nendran cultivation a considerable amount of pesticides is used."

Another interesting product from the Kerala perspective is green mango squash. Wild and green mangoes are usually available in the market for ₹4 to ₹5 a kg. Squash made from this has many takers.

Rajendran is hopeful that if someone shows farmers ways of earning more money from the banana tree, they would really do away with the pesticides. "Now they use toxic pesticides because they are anxious that a crop should



Rows of tissue culture banana plants in a greenhouse



Rainwater harvesting ponds store enough water for saplings, fruits and vegetables

'I worked in Saudi Arabia for many years. If we can work hard there, why not here in India? Here we can earn better and enjoy more advantages too.'

be bountiful. If they are convinced that they can also earn from rhizome, they would bid goodbye to chemical cultivation. Banana byproduct utilization could come to the rescue of farmers if promoted in a proper way."

Merchants and exporters, too, come to the station to buy food products. They have purchased value-added products worth ₹50,000 in the last month alone. An exporter recently bought dry products (like tapioca dehydrated) worth ₹27,000 to export it to the Middle-East.

In order to encourage women to utilise local fruits for income generation, the station offers free training. Training has already been imparted in making products from fruits like gooseberry, carambola, bilimbi and wild mango. However success has been slow. "Rigid registration and licensing rules prevent setting up of production units", says Rajendran. "But now, there is hope. FPO Licensing has been recently decentralised to panchayat level."

The processing facility of the station is just one year old. The time does not seem ripe for the women to switch over to the profit-sharing model. Until their production reaches a level, these women will be paid daily wages.

HOMELY VEGETABLES: For the last three years, the ARS is in the forefront of poly house vegetable cultivation. "In a poly house vegetable production can be enhanced five to 10 times," says Rajendran.

He lists the benefits of poly houses. "The vegetables are of much better



A polyhouse: The first stage of cultivation at the research station



Green mango squash and Nendran banana rhizome pickle are bestsellers

quality with less or no pesticide load. There is very little labour required and less water is needed. Production is year round."

At present, this ARS has 5,000 square metres of poly houses. It catches rain from half of the roof area of its poly houses. In Malappuram, there are three state-level award-winning farmers carrying out farming in poly houses. Cost is a deterrent in poly house farming. It works out to ₹1,000 to ₹1,200 per square metre, including cost of cultivation. Yet, ARS has already influenced a few dozen farmers to take up poly house vegetable cultivation.

The Kerala government has introduced a scheme to provide poly houses of 400 square metres. "This is not sufficient," says Rajendran. A farmer should have a minimum of 1,000 square metres to be commercially viable." The Kerala government plans to give 75 per cent subsidy to three farmers in each panchayat to build poly houses. Approximately four years would be required for breaking even.

FOOD FOR LANDLESS: The ARS has designed an easy and innovative way for the landless poor to cultivate vegetables. This is called the Semi Permanent Tower (SPT) for vegetable cultivation. This method enables people to grow vegetables inside or near the kitchen or on a flat roof terrace throughout the year. "In a single bag we can accommodate 30 to 32 vegetable plants by growing upwards," Rajendran explains. "This method is ideal for growing leafy vegetables and greens, including curry leaf, without applying any pesticide".

The structure looks like a barrel. A pipe is introduced vertically at the centre. The growing medium is filled inside. Nutrients can be supplemented as foliar sprays. It is enough if the tower is watered once in 15 days.

At present the station has three models for this method. An SPT made of gunny-bag costs ₹200. If made from fibre, it costs ₹800. A permanent plant costs ₹2,000. "Design and material can be changed or fine-tuned. But this model is many times better than grow bags," says Rajendran.

Outsourcing of vegetable seed production through SHGs started here four years ago. In the first year, there were 22 participating farmers. Now the number has gone up to 89 and spread to neighbouring districts like Kozhikode, Palakkad and Wayanad. In all 3.5 tonnes of seeds worth ₹40 lakhs were produced last year. The ARS buys vegetables and not seeds from these farmers. "This is to prevent any chances of mixing up the seeds."

A very successful case is that of Moideen, a farmer from Kozhikode district. On three acres of a new rubber plantation he planted banana and pumpkin. He has sold his entire crop and improved his annual income.

Citing examples like this one, Rajendran says, "With proper planning, poverty can be eradicated in farming."

WHAT OTHERS SAY: "Dr Rajendran has vision," says Kerala agriculture minister K.P. Mohanan. It is not easy to instill the institutional spirit in casual workers, that too in Kerala. What is the secret of this scientist's success? "Man is a social animal. We have to take care of the people who work with us," he replies.

One such move started four years ago. Every year the entire staff is taken on a one-day tour. Places visited so far are Ooty, Munnar, Ambalavayal Farm, Nelliambudi and Coorg. Says Rajendran: "We travel a lot. It offers a break from routine."



The Anakkayam research station team has now expanded to include SHGs and young people

Five hearing impaired people work here. They earn ₹6,000 per month. Three of them are from afar and stay in rented rooms. "We have to get more and more challenged people into the mainstream. They are very creative. This work helps them grow as individuals. We call this process horti-therapy."

Rajendran is a workaholic. Though a government officer, he isn't a 10 am to 5 pm guy. He is often in the office on Sundays too. "My teammates are also like that. Nobody complains about a few extra hours. If there is urgency, they are ready to work on holidays," he reveals.

When Rajendran first arrived here, the pathetic state of the station drove him to despair. "In the early days I even thought of taking voluntary retirement," he says. But he has kept all negativity at bay ever since.

For several years this ARS had only one scientist. Six months ago, Dr Mustafa Kunnathady, an agronomist, joined the staff. "Other KAU institutes have more space and machinery. But whatever we have is put to very good use. Yes, the shortage of scientists does affect research work," says Rajendran.

Dr P. Rajendran, KAU vice-chancellor, says: "Anakkayam ARS can be confidently presented as a model institution. The way in which it utilises organic waste is outstanding. KAU has 26 research stations. We will incorporate the Anakkayam lessons in all these stations."

A BIGGER EXPERIMENT: When we visited the ARS, it was celebrating its 50th year. Two ambitious projects are on. An agro-tourism centre costing ₹7.3 crores has been sanctioned on its premises. Apart from adding a guest house and an international hostel, the station would expose visitors to local farming systems. The process to adopt Thuvvur in Eranad taluk to make it a 'model agricultural village of Kerala' is also on.

A month ago, Rajendran was given additional charge of the Regional Agriculture Research Station of Ambalavayal in the backward district of

Wayanad. Both Anakkayam and Ambalavayal are in remote areas and are understaffed. In Ambalavayal, for the existing 15 posts present, there are only two scientists. Anakkayam, which is supposed to have five scientists, has only one scientist apart from Rajendran.

Despite the ARS's impressive revenue generation, Rajendran is not satisfied. He says: "At Anakkayam, with all these development measures and diversified activities, we are still utilising only 25 per cent of resources. There are many limitations. But I am confident that we can generate ₹10 crores here annually. In the case of Ambalavayal, where I took charge 15 days ago, only 5 per cent of resources are being utilised."

For instance, Ambalavayal ARS has more than 10,000 jackfruit trees. Though they are pruned, their yield is medium. At present, the fruits are auctioned for a pittance of ₹20,000 to ₹25,000 "No more auctioning of jackfruit," Rajendran says. He has decided to upgrade its jackfruit pulping capacity. As a first move the processing unit staff would be sent to Kudal in Maharashtra, for training in

'We have to get more challenged people into the mainstream. They are very creative. This work helps them grow as individuals. We call this horti-therapy.'

jackfruit pulping.

After he took charge at Ambalavayal, Rajendran convened a meeting of the panchayat president and representatives of all SHGs. In all 390 SHG members attended. "Those of you who register their names in a week will get employment opportunities that will fetch you a decent income," the SHGs were told. Without delay, 390 SHGs registered. "Each SHG has about 10 members. We will now have 3,900 pairs of hands that are prepared to work with us," says Rajendran.

He adds: "At the Anakkayam ARS, on 25 acres 250 people are given direct employment. If the same systems are adopted in Wayanad, employment can be given to 2,000 to 3,000 people. A 10-fold development is possible there. If God permits, we will do better in Wayanad."

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BUSINESS

ENTERPRISE | CSR | ICT | GREEN TECH

Avanti is a smart coach

New pedagogy for science and math helps expansion

Arjun Sen
New Delhi

MUSKANT Bansal, a bright 17-year-old girl from a family that earns less than ₹2.5 lakh a year, studies science in a government school in Delhi. She wants to join the Indian Institute of Technology (IIT), an ambition that most students from her economic background rarely realise. Cracking the two-stage IIT entrance exam, one of the toughest in the world, requires intense after-school coaching at a cost she can't afford. But Muskant knows her dreams could come true because she studies at Avanti Fellows.

Started as a non-profit in 2010, Avanti Fellows became a for-profit in November 2012. Avanti provides children from low-income families, quality science and math education at one-eighth the cost charged by conventional coaching centres that train students for the IIT entrance exam. Co-founded by two graduates from IIT Mumbai – Akshay Saxena and Krishna Ramkumar – Avanti Fellows uses an innovative pedagogic method to provide high quality education at low cost.

"We have evolved over the last two years," says Saxena, co-founder and president of Avanti Fellows. "When we started we had an entirely different model from the one we are using now."

Saxena graduated in 2006 and joined the Boston Consultancy Group (BCG) in India. In 2010 he went to Harvard Business School and soon became part of a start-up called Heart Flow Inc which developed a product that simulates the flow of blood within the heart of any patient and is able to help doctors identify cardiac problems better.

Heart Flow expanded to 150 people within a short span but Saxena's own heart was in India. He wanted to do something about the poor quality of science education taught in most government schools.

"Out of nearly eight million students that pass out of high schools in India, only about 1.5 million are able to get into quality colleges. A vast majority of children from low-income homes are unable to make the grade," says Saxena.

As a result, there is great disparity. Graduates from India's top colleges earn more than five times the average starting salary that those who graduate from other colleges earn. The quality of education and the employability of graduates from such colleges dives dramatically. "According



LAKSHMAN ANAND

Akshay Saxena: "We wanted to improve science education in government schools"

to a recent NASSCOM survey, 75 per cent of India's technical graduates and more than 85 per cent of general graduates are unemployable by India's high-growth global industries, including information technology and call centres," he points out. So the poor remain poor.

While in the US, Saxena got in touch with his friend and former colleague Krishna Ramkumar, two years his junior in IIT Mumbai. After graduating in 2008, Ramkumar too had joined BCG. The two friends decided to launch Avanti Fellows with Ramkumar handling operations in India. "We started in January 2010 and in March we won the Stanford University's Business Association of Stanford Entrepreneurial Students Business Plan prize of \$100,000. This helped us take off," Saxena says.

Till May 2013, Avanti's teaching method was entirely different. "It's an interesting story," Saxena reminisced. "Krishna set up our first centre in Mumbai. He got students of IIT Mumbai to volunteer. They went to schools and identified talented students from families that earned less than ₹2.5 lakhs annually. We then tested these students. If they passed we mentored them and placed them in different coaching centres where

they were taught free of cost. Our volunteers – IIT students and professors – guided them for the IIT entrance exams and we had a fairly good success rate. By 2012 we had centres in six cities – Mumbai, Delhi, Kanpur, Rourkela, Dehradun, Chennai and Puducherry – and we were able to help more than 300 underprivileged students every year for two years."

Then something strange happened, recounts Saxena. "In 2011 we began to partner Chennai Municipal Corporation schools. We also started a centre in Puducherry where we adopted a different model of teaching as there weren't any good coaching centres in that city. We prepared videos of course material and gave it to those students along with books and computers. We encouraged them to use the videos and learn on their own without any teachers. And we started taking tests every month to measure their progress," he said.

Very soon Avanti found that the students had stopped using the videos. They were instead discussing concepts among themselves and solving problems together. To their surprise, Avanti found that the Puducherry students were actually performing better than students in their other cen-

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BUSINESS

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Arun Roy talks to a bunch of enthusiastic students

tres. "But since we were testing them separately, we could not evaluate their progress vis-à-vis the other students," Saxena says.

"Then in the 2012 IIT entrance exams we were astounded by their performance. Out of 17 students in Puducherry, seven eventually got admission into IIT. In comparison, 89 students from our other centres appeared for the IIT exams and only 13 made it to the top one per cent. The difference in performance was more than 20 per cent between those who had taught themselves and those who had gone to coaching classes. Initially, this was very disappointing for us as we had spent money and effort on our students in other centres. We had done nothing for the Puducherry kids, yet they had performed much better," Saxena recalls.

It was then that Saxena and Ramkumar began to study the literature on education. "We were not educators and so we began to read up on the best teaching methods. That's when we found that what the Puducherry kids had done was not shocking at all. Students actually learn better through peer discussions. We came across the work of Dr Eric Mazur of Harvard University and his Peer Instruction method of teaching. I met him in 2012 and we began work on adopting his methods of teaching in our centres," Saxena says.

All this time Saxena had remained in the United States while Ramkumar ran operations in India. Saxena took a sabbatical and returned to India in August 2012. Avanti was now ready to adopt a unique teaching model based on Mazur's Peer Instruction method.

The new model is innovative. It doesn't require classroom teaching with subject experts. There is just one facilitator called a Learning Coach for each Learning Centre, as Avanti calls them. Each coach manages 50 students split into two batches

of 25 students each. The Learning Coach spends time with every student, acting as a counselor and guide. He ensures class discipline and guides the learning process. Students are tested and feedback given. They also mentor students and there are sessions to resolve any doubts the students face.

Students spend 15 hours a week in Avanti's two-year after-school programme that covers the Class 11 and Class 12 syllabus. Each topic is covered in distinct phases: pre-reading, peer instruction, self-study and group learning and finally, teaching for the test.

"Once we had figured out the new model, we felt we could become a for-profit company and yet provide education to underprivileged children at one-eighth the cost of conventional coaching centres," says Saxena.

The total cost of running a Learning Centre for one year works out to about ₹6 lakhs. Rent and other utilities cost around ₹2.5 lakh. The salary for the Learning Coach works out to about ₹2.4 lakhs and the remainder is spent on content and reading material. A Learning Centre that has at least 50 students can break even if students are charged just ₹1,000 per month against a minimum of ₹8,000 charged by conventional coaching centres.

The new model was worked out and in November 2012 Avanti became a private limited company. As a non-profit they had only seven or eight employees. The rest were volunteers. Now they recruited more full time employees and put in place an academic team led by Arun Roy, an experienced and successful IIT coach and entrepreneur who had been running his own coaching centre in Mumbai since 1978.

"I sold my coaching business in 2006. I realised by then that the real problem was that students didn't know the basics. So they found it tough to

start learning science in Class 8 or Class 9. By the time they came to my coaching centre it was very difficult to inculcate in them the right kind of thinking," says Roy who is Avanti's Academic Director. "I try to make my students understand the kind of reasoning the scientist who developed a theorem or a law employed to reach his conclusions. I don't encourage learning by rote formulas – then you cannot solve problems. I try to make them understand concepts," he says.

After selling his coaching centre, Roy became an evangelist for the correct approach to science education. "Avanti approached me in 2012. When I realised that their model was aimed at breaking this paradigm of learning by rote to help students learn and understand concepts, I decided to join," he says. Roy's academic team consists of three IIT alumni. Located in Mumbai they help develop videos for Avanti's centres. Avanti's older model of helping students get free coaching at conventional coaching centres is being phased out.

"Because of our sustainable model we have been able to obtain about ₹2 crore of venture capital funds. We will soon be signing the deal. These funds should see us through the next three years. By then we hope to expand from 250 students to 10,000," says Saxena.

"Interacting with youngsters and getting an opportunity to guide them, clear their doubts and help in building course content, is the most enjoyable part of the work," says Paras Ahuja, a second year student of IIT Ropar. He has just finished an internship with Avanti at their Shahdara centre in East Delhi.

Interestingly, Juved Khan, the Learning Coach for the Shahdara centre, has no science background. He is a postgraduate in social work. Avanti's new model doesn't require subject experts as all classroom instruction is through videos prepared by Avanti's academic team in Mumbai. Juved's job is mainly to empathize with students and guide them through their peer-to-peer learning approach.

Currently, Avanti has five Learning Centres that use the new model of education. There are three in Mumbai, one in Delhi and another in Kanpur. IIT students offer their services as interns and earn a stipend of ₹10,000 per month. They help identify needy and talented students and mentor them.

Avanti also plans to expand through a revenue-sharing model with public schools in different cities. They will coach the school's talented and needy students using the school's premises. A certain percentage of the revenue Avanti earns will be given to the school.

"That way students and schools will benefit. The students will do well in board exams and various entrance exams. We too will be able to run a sustainable model and make a big impact on the highly neglected science education sector in India," says the idealistic Saxena. ■

Learn and earn at Etasha

Shayak Majumder
New Delhi

MEHAK and Jayanti, two girls from Devli village in Delhi, wanted to do a post-graduate degree in Hindi after college. But their parents couldn't afford to fund their aspirations. Jayanti's father works as a clerk in a chemist's shop while Mehak's father is a chauffeur.

Mehak's sister suggested the two girls approach Etasha, a non-profit that provides career counselling to youngsters and trains them to be employable. "We were a bit sceptical at first," says Mehak. "We often heard of similar institutes who swindle you. Happily, we were proved wrong."

After completing a three-month course in Customer Service and Work Culture Training (CSWC), Mehak and Jayanti are working in a Café Coffee Day outlet as Blue Masters – the ones who know what goes into that perfect cuppa. The girls each earn Rs 8,000 per month. "Now I can support my higher education and help my father too," beams Jayanti.

Mehak and Jayanti's story is similar to those of many youngsters whose lives have been transformed by Etasha. Founded in 2006 by Meenakshi Nayar, Etasha trains youth and places them in the retail, hospitality and BPO sectors.

"Right now there is a lack of skilled people in these growing economic sectors. If people are not trained, there is no point in having jobs," explains Ian McBride, Etasha's Director of Communications.

Most of Etasha's trainees are from low-income families and they live in slums. Their parents work as agricultural farmhands or as small vendors and service providers in the informal sector. "There are many government school dropouts among our students," says Ian. "We help them acquire soft skills to operate in a controlled environment." Etasha also trains students from Industrial Training Institutes (ITIs). The non-profit has partnered with ITI Gurgaon, ITI Gurgaon-Women, ITI Rohtak and ITI Siri Fort in Delhi.

Etasha has two training centres strategically located near Madanpur Khadar and Tigri, two large slum colonies in southeast Delhi. Through its community mobilisation teams, Etasha connects with the youth and their families in slums. Team members promote the non-profit's various courses and impress on the youth the need to be economically independent.

Etasha's four courses teach students how to use computers and communicate effectively. Each



Meenakshi Nayar at Etasha's Tigri centre

LAKSHMAN ANAND



Mehak and Jayanti at a Café Coffee Day outlet

LAKSHMAN ANAND

present, Etasha has 20 facilitators in its two centres.

What sets Etasha apart from similar institutes? "Our curriculum," replies Meenakshi. "We don't look at getting a job as the only end result. We prepare youth for a career and for life." For instance, there are classes on sexuality and HIV/AIDS. Also included are anger management sessions.

"Anindita Madam and Anil Sir's anger management classes were the best part of our course," says Mehak. "I used to get angry at the drop of a hat. But with each class, I could feel myself becoming calmer and more restrained. It was the same with all my classmates," she says.

Etasha also takes their students on field visits to retail outlets and metro stations. Students learn to follow the system, communicate with officials and mingle with the crowd. These visits are a huge confidence boost for their students. "They would come back from a visit to an eat-out and say that there is no difference between them and well off youngsters who hang out at those places regularly. They don't feel like social outcasts anymore," says Meenakshi.

The Digital Empowerment Foundation has recognized Etasha's efforts and bestowed them with the 'Best Use of ICT by an NGO Working in Sustainable Development in South East Asia' award. "We use

technology to the fullest extent and the result is visible. Students who didn't know how to use a computer now stay in touch with us through social media networks," says Ian.

The retail, hospitality and BPO sectors hire trainees with the maximum frequency from Etasha. Café Coffee Day, Lifestile, Kwality, Accenture, JCB India, Barclays Shared Services and Tata Capital are some of the companies who recruit from Etasha on a regular basis.

"There are a few companies which promise employees a certain remuneration package but then pay less by deducting hidden costs like charges for uniforms and so on. Our placement team handles such issues immediately and ensures that the employees get what they deserve," says Meenakshi. A fresher often starts with a package of ₹6,500 to ₹10,000, which eventually doubles in three years or less.

Etasha is currently training 240 youngsters in its two centres. Shiv Kumar Dhawan is happy to be a student at Etasha. "Before coming here, I didn't know what the future held for me. But now I know that there are so many things that I can do," he says. ■

INSIGHTS

OPINION | ANALYSIS | RESEARCH | IDEAS

Combating the scourge of slavery



There are 25 to 65 million bonded labourers in India

RAM GIDOOMAL

SIX years ago I came to be involved with an incredible organisation called International Justice Mission (IJM), a human rights agency that rescues victims of slavery, sexual exploitation and other forms of violent oppression.

The organisation employs hundreds of top-level lawyers, investigators and aftercare professionals, who work with local officials in many countries to secure immediate victim rescue and aftercare, prosecute perpetrators and ensure that public justice systems – police, courts and laws – effectively protect the poor.

As a businessman I have been able to bring my own perspective to the work, because injustice frequently has economic or business practices at the root. I have found that asking the right commercial questions can bring light to areas of injustice, but I'll talk more about this later.

My links with IJM started about nine years ago when I met a pastor called Ivan Raskino who lived

in Mumbai. I met him in Delhi at a conference looking at development issues in India, and that was the last I heard of him for three years. He emailed me out of the blue three years later, saying there's this organisation called IJM; he was stepping down from the board and would I consider standing on the board of trustees to replace him?

The business community can partner with the global anti-slavery movement to demand that suppliers scrupulously follow their countries' anti-slavery laws, and meet human rights standards.

I hadn't heard of IJM, but on researching it, I realised it was an amazing organisation. I had been aware of issues relating to injustices, such as people being forced to work for outrageous wage rates and terms and conditions. But it was a huge education to me that this 'bonded labour' was such a widespread practice.

Estimates indicate there are 20 to 65 million bonded labourers in India alone, despite substantive and clear laws prohibiting this form of forced labour. I was shocked to learn of such things and felt this really was an organisation I wanted to support. I also saw that IJM operated in East Africa and India which was appealing as I have roots in both nations! So, my name went forward and I was interviewed for a position on the board of trustees, and that was six years ago.

Founded in 1997, IJM began operations in response to a massive need to restrain oppressors, of all kinds, who harm the vulnerable across the world. Concerned by this need, a group of lawyers, human rights professionals and public officials launched an extensive study of the injustices witnessed by overseas missionaries and relief and development workers.

This study, surveying more than 65 organisations and representing 40,000 overseas workers, uncovered a nearly unanimous awareness of abuses of power by police and other authorities in the communities where they served. Without the resources or expertise to confront the abuse and to bring rescue to the victims, these overseas workers required the assistance of trained public justice professionals, and so IJM was formed.

IJM's largest office is in Chennai. It opened in 2001 and focuses on combating forced labour slavery. In April 2011, IJM Chennai conducted its largest rescue operation ever – 500 children, women, and men were rescued from forced labour slavery at a brick kiln.

IJM operates through collaboration: the field office partners with local government authorities

INSIGHTS

to combat forced labour slavery, bringing freedom and restoration to victims and ensuring that perpetrators are prosecuted for their crimes.

It does this across the world: IJM's justice professionals work in their communities in 16 field offices in Asia, Africa and Latin America to secure tangible and sustainable protection of national laws through local court systems. Ninety five per cent of IJM's staff are nationals of the countries where they work.

Former slaves rescued by IJM have thrived in IJM's two-year aftercare programme. Many IJM clients have been the first in their family to graduate from high school or even college, some have started businesses and even run for – and won – elected office!

As I mentioned, I view the work of IJM from a business perspective and felt there was a very strong motivation to lend as much support as possible as a businessman. I am involved with both fair trade and trade justice, which are also key issues that IJM looks at, from an anti-slavery point of view.

There are questions one can ask from a commercial standpoint. If, for example, there is a region which is selling products that are so much cheaper than anywhere else, we have to ask ourselves why? Is there less shipping involved? Are the raw materials inherently cheaper because they are in abundant supply, or is the national average wage rate lower than other countries?

Once you have made the relevant calculations and adjustments, if the products are legitimately cheaper, that's fair enough! But if the wage rate being paid to factories is far lower, or the figures don't add up, we might have a legitimate concern.

And so, we are able to shine a light into the dark corners of countries and communities that may not be paying their people a fair wage. They might even be acting in a manner that is socially irresponsible with regards to building regulations or their suppliers.

Traidcraft has an EU grant to investigate a wide-



spread problem across India, where parents are keeping their children at home so they can manufacture goods. This is child labour, and poverty is the root cause. Focusing initially on areas around Delhi, we are encouraging families, companies and government bodies to work together to find a solution – one where parents can afford to educate their children whilst at the same time providing for their families' basic needs. Outreach workers are also engaging with families to see if they could, perhaps, afford to let their kids go to a bridge school for half a day. These schools bridge the gap between home-based work and schooling and help to integrate children back into formal education.

In this and other situations involving child labour, we can influence suppliers to engage in good practices, and shareholders can put pressure on their corporations to change their behaviour.

Questions can be asked of suppliers, from a business perspective, to help avoid another building collapse and tragic loss of life as witnessed in Dhaka, Bangladesh recently.

Ethical companies also have the power of procurement and influence, though in some situations, it is not always right to suddenly cancel big contracts. It could lead to the children working in factories moving straight into poverty, which has happened in the past.

Cutting a big contract can be cold hearted and cruel – instead, the business community can partner with the global anti-slavery movement to demand that suppliers scrupulously follow their countries' anti-slavery laws, and meet and exceed human rights standards to protect their workers.

But the business community has not yet brought the full weight of its influence to achieving these urgent goals.

I recently made this point to a senior business industrialist in Bangalore, when I visited the IJM office there: "Surely you must be aware of the bonded-slavery problem and can't you do something about it?" His answer was that it has been going on for centuries, and will probably end at some point, but there is very little he can do.

Yes, it takes time and energy, but many believe the effort is worth it. Google.org has provided \$11.5m in grants to 10 organisations, including IJM, working to end modern-day slavery and human trafficking. IJM also received a \$5m grant from the Bill & Melinda Gates Foundation to create a replicable model for combating sex trafficking and slavery, an initiative named Project Lantern that went on to demonstrate a stunning 79 per cent decrease in the availability of children for commercial sexual exploitation in Metro Cebu, the Philippines, after four years of IJM partnership with law enforcement there.

Now is the time for corporate India to step up. It's time to recognise injustices in our midst, and join the fight for a better world. ■

(For more about IJM's work, visit www.ijm.org)

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POSCO is not a closed chapter

KANCHI KOHLI

THE battlelines have been drawn like never before. While the Odisha state government and POSCO India Ltd have made categorical statements that they have acquired 2,700 acres for an eight million tonnes steel project, the agitations in Gobindpur and Dhinkia continue. Each day there are incidents of a tussle when efforts are made to forcibly cut betel vines and dig trenches to construct a boundary wall for the POSCO project. There are emphatic statements that land acquisition has been completed, all permissions are in place and construction work will begin soon.

From the other side, there are determined statements that indicate that people of the area have not given up despite an eight-year struggle. They are ready to return to their homes and their betel vines that have been destroyed in the tussle for power. Far away from the site of the contest, legal battles and the opinions of experts continue to ascertain the future of the people of Jagatsinghpur where an investment of ₹52,000 crore is directed at the construction of a captive steel plant, power plant and port. Many livelihoods dependant on betel vine cultivation, agriculture and fishing in the villages of Dhinkia, Gobindapur, Nuagaon, Polanga, Bhuyanpali, Bayanal, Kandah, Noliasahi and Jatadhar will be affected by the project.

When POSCO signed its MoU with the Odisha government way back in 2005, their intention was to set up a 12 MTPA steel plant along with several other components of the project. The first public hearing for the project in April 2007 was for the construction of a 4 MTPA steel plant, a 400 MW power plant along with a captive port. Even as permissions for the above were granted in July and May 2007 respectively, POSCO continued to acquire land keeping in mind its final steel plant of 12 MTPA. POSCO's website says they will complete the project in three phases, constructing the steel plant to accommodate 4 MTPA capacity each time, with the first phase to be completed by 2016-17.

With various legal issues and battles on the ground, alongside assessments commissioned by the Union Ministry of Environment and Forests (MoEF), POSCO first received its environment clearance in 2007 which was reviewed through the recommendations of the MoEF constituted Meena Gupta Committee's reports in 2010. A final environment clearance (issued under the Environment Impact Assessment notification, 2006) was granted on 31 January 2011. For all practical purposes this was to be considered the final clearance as project activity had not begun on the proposed site. In May and June 2012, the environment clearances granted to POSCO in 2007 also expired given that they were to be valid only for a period of five years.

Meanwhile both the 2011 and 2007 approvals



Although POSCO has acquired the land, protests continue to simmer



In the 16th May meeting of the EAC (Industry) a recommendation has been made that POSCO should obtain an additional CRZ clearance for discharge of wastewater into the sea.

were challenged before the National Green Tribunal (NGT). The tribunal on 30 March 2012 issued a strong judgment upholding that there was indeed a lacuna in the manner in which the approval for POSCO had been granted. The tribunal said that it was necessary to ensure optimum use of land (both forest and non-forest) being acquired for POSCO keeping in mind a 4 MTPA plant. The company had carried out an Environment Impact Assessment (EIA) as well as the public hearing process on the basis of this capacity. Based on this and several other contentions a fresh review of the environment clearance was to take place.

In mid 2012, two parallel processes began in the MoEF. The first was the process of revalidation of the 2007 clearances and the second the setting up of an expert committee under K.Roy Paul, Former Secretary to the Government of India. The process of revalidation and the review by the Roy Paul committee took place simultaneously till all the documents were placed in a meeting of the MoEF Expert Appraisal Committee (EAC) for industrial projects in March 2013. In this meeting POSCO contended that while they are currently pursuing the plan for a 4 MTPA plant, their final intention is to set up a 12 MTPA plant which has not changed. At this stage the EAC sought a revised layout design for not just a 4 MTPA plant but also an 8 MTPA one.

Many of the contentions made in the Roy Paul Committee report which was submitted to the MoEF in October 2012 did not seem to have been discussed by the EAC, if one is to go by the official minutes of the meeting. In fact the Roy Paul committee had recommended that a range of studies should be carried out by the project proponent

related to shoreline changes, source sustainability study of water requirement, marine environmental conservation plan, the impact on the local fishing community etc, which don't find mention as well.

One of the foremost observations of the Roy Paul committee was that POSCO should state unambiguously whether the reduced project area based on land optimisation for 4 MTPA will be able to accommodate all its future expansion plans. The report observes that based on information provided, the project area had been reduced to 2,700 acres by leaving out most of the private land in Govindpur and Dhinkia villages and the portion of forest land where betel vines were being grown by people of these villages. This implies that the project would be constructed around these villages implying these lands are not to be acquired only in the current proposal.

In the subsequent meeting of the EAC of 16-17th May this year, the expert committee recommended the revalidation of the approval for an 8 MTPA plant. What is ironic is that the original application as well as the EIA report of 2007 is all based on the impact assessment of a plant of 4 MTPA capacity. Although the final approval letter from the MoEF is yet to be issued, it is questionable how an approval for 8 MTPA has been recommended by the EAC.

POSCO's legal tussles are also back in the NGT in another form. An application has been filed highlighting that POSCO has been carrying out felling of trees on 1253.225 ha of forest land without the final forest clearance order being issued by the Odisha state government. This application builds on the reiteration and interpretation of both the Forest Conservation Act (FCA) 1980, by the NGT Act which states that the permission for diverting forest land for non-forest purposes under Section 2 of the FCA by the MoEF needs to be followed by an order of the state government as well. No construction work on the project can begin till the order of the state government has been issued. In POSCO's case this has not happened.

As per a Right to Information (RTI) response received on 13 March this year to an application filed by Chandranath Dani, the Odisha state government has confirmed that no such order has been issued. Based on this and additional contentions the NGT on 28 May stayed the felling of trees by the company. On 11 July this order was allowed to continue till the final hearing of the case on 12 August.

There are other legal procedures that are likely to crop up for POSCO. In the 16th May meeting of the EAC (Industry) a recommendation has been made that POSCO should obtain an additional CRZ clearance for discharge of wastewater into the sea through a pipeline. This process is yet to begin.

For the people of India the eight-year-old tryst with POSCO has many lessons. There are international and national reports highlighting a list of human rights and regulatory violations that the history of the project is marred with. In Jagatsinghpur, each day is a new day for villagers who don't know what form of aggression will come their way and how they will be able to withstand it. The fact is that the people of the area have not given up. What is clear for now is that POSCO is certainly not a closed chapter. ■

Katraj tackles waste

SUNIL AGRAWAL

INDIA is drowning in its own trash. While the country continues to generate considerably less waste than industrialised, developed nations, it has failed its citizens in establishing proper waste collection and disposal. Rapid urbanisation and the changing consumption habits of Indians have only magnified this problem. It is now commonplace for piles of waste to collect on the streets and for community bins to overflow. Cities, for their part, have failed either because of a lack of technical know-how or financial constraints to stem the flow of trash.

Improper waste management has three major risks – health, environment and quality of life – making it one of the nation's most pressing challenges. It is ripe for a sustainable solution.

In Pune, NGOs, corporations and waste-pickers have spent the last couple of years working towards that solution with the Zero Garbage Ward project in Katraj, the city's largest ward. Pune-based Janwani, the social initiative of the Mahratta Chamber of Commerce, Industries and Agriculture (MCCIA), introduced the pilot initiative last year in order to add value to waste.

Janwani-MCCIA and its partners – Pune Municipal Corporation, SWaCH waste-pickers cooperative and corporate sponsors – worked tirelessly to change the attitudes of residents and waste-pickers towards waste, creating a paradigm shift from waste as disposable to waste as a renewable resource.

The zero-garbage initiative decentralizes waste disposal, improves door-to-door collection, enhances waste segregation and improves the quality of life for residents and waste pickers. The model works as follows:

- Waste generators (households/businesses) segregate their waste in wet (organic) and dry (inorganic) waste bins or bags.
- Waste-pickers collect segregated waste from the generators and charge Rs 1 per day for the service. Waste-pickers further segregate dry waste and sell material to scrap buyers.
- Waste-pickers deliver non-saleable items and wet waste to feeder point.
- Wet waste is disposed of through composting, biogas and other technologies.
- Any remaining waste is sent for processing to the plant/landfill.

In addition to setting up the system, project partners used tools to educate citizens, including puppet shows and educational posters displaying differences between wet and dry waste. Volunteers talked to households individually to create awareness about the urgency and the importance of citizens' cooperation and participation in the project. Enthusiastic citizens were identified as 'Swachhata Mitra' (Friends of Cleanliness) to encourage their fellow residents

to segregate waste. Societies were encouraged to participate in a 'Clean Society' competition and the winners were felicitated.

After a year of unrelenting efforts, Katraj ward has achieved 95 per cent door-to-door coverage, and 85 per cent of the collected waste is segregated. Associated groups are currently researching methods to create pellets from organic waste which could replace coal or even LPG.

The project has resulted in reduction of community bins from 24 to only 5, and the cleanliness of the area has become the envy of residents from the neighbouring wards, creating pressure on their respective elected representatives to implement a similar project. Not only is Katraj cleaner than before, improving the quality of life of all residents, it has led to higher prices in the recyclables market because the wet waste no longer dirties the dry, recyclable waste. The result: a net increase in the income of the waste-



Waste-pickers are organised and citizens cooperate in Katraj

pickers from ₹3,000 per month to ₹7,000 per month, in addition to fees collected for providing door-to-door collection. The project has the added potential of saving the city money on both landfill management and transportation costs, which in Pune currently adds up to 40 per cent of the total expense of solid waste management.

The success and the sustainability of the project was dependent on the achievement of its objectives:

- 100 percent of the households have to be covered.
- Systems have to be put in place to carry the segregated waste separately before reaching out to citizens.
- The waste has to be segregated and defaulters have to be fined.
- Political and administrative will is necessary for enforcement.

The model created and implemented by Janwani-MCCIA and its partners resulted in a win-win situation for each and every stakeholder. Taking this forward, the Pune Municipal Corporation is currently replicating the model. What Pune has shown is that an innovative local solution that engages the community and all stakeholders to participate in its waste management is not just sustainable, but is a model for other developing cities. ■

When citizens talk

RAMA AKHTAR & VINITA SINGH

SINCE the last six years, 'We, the People', a citizen's network, has been celebrating 26th November as Constitution Day. What is significant for us is an understanding of citizenship based on the values enshrined in the Constitution of India. The process of building Constitutional values was a careful and long-term one and explained by Dr. B. R. Ambedkar in these words: "Constitutional morality is not a natural sentiment. It has to be cultivated". While the Constitution provides the framework for citizenship, citizens need to be educated about their rights and responsibilities. They need to understand that the implementation of values begins with their actions at home, in their workplace and in public spaces.

All the above dimensions of citizenship can emerge from a careful reflection on the Constitution of India. To translate this belief into action, we work through two programmes with a wide range of citizens – students, slum residents, corporate professionals and others. The first programme, Citizen Cafes, trigger discussions around the Preamble to the Constitution. A more intensive Citizenship Programme works to train and build the capacity of citizens to reflect and take action on civic issues.

Using the Citizen Cafés, We, the People ran a national campaign called Constitutional Connect between November 2012 and February 2013. Twenty-two volunteers anchored the campaign and facilitated dialogue across 23 locations in India.

The Citizen Cafes attracted around 800 people across India. What was unique was the diversity of participants across age and background. According to rough estimates 450 youth and 350 adult middle aged professionals took part.

Triggered by a set of questions based on the Preamble to the Constitution, the words – liberty, equality and justice – came in for intense scrutiny and debate. The critical understanding was that these values are interrelated and that a humane society has to be based on their interplay. The emphasis was on the last few words of the Preamble, "give to ourselves this Constitution". These words and their collective meaning expanded the role of the citizen from a 'receiver' to 'owner' and 'promoter' of Constitutional values.

This ownership manifested itself in the personal stories that emerged at each Citizen Cafe – discrimination based on caste, religion and gender,

apathy towards electoral processes, and personal choices to participate or not participate in acts of corruption. The theme of equality emerged strongly across the campaign with emphasis on secularism, gender equality and dignity.

A youth from Mumbai spoke of a temple he knows that does not allow people from lower castes to enter. "One day, while visiting the temple I took a kid standing outside with me into its premises. According to me the kid deserves the right to equality that I am entitled to," he said.

between boys and girls." These responses came from numerous participants. Several personal experiences related to differentiation at home on the basis of gender were reported – brothers fed first, lower quality of education for the daughter, mothers not being allowed to work, different rules for boys and girls. This persists as the sub-text of the story of urban, middle class India.

The other layer of inequality is related to class. Our treatment of our maids, staff who work for us, drivers etc is unequal. Separate utensils for

maids at home, resistance to employing maids from other religions and castes, paying them lower than the minimum wage are all examples of the practice of inequality. Yet, reservation on the basis of caste was seen as a practice that would increase inequality in future – especially by youth across all locations.

Another theme that emerged was of participating in the election process. Participants from the Citizen Cafes recounted their apathy towards voting, not protesting against hate speeches during elections and not going through a candidate's manifesto as examples of non-participation in democracy.

Such stories stood out against those that inspired the spirit of citizenship.

There were people who had given feedback, sought information and reported faults to civic authorities. This ranged from suggesting changes in regulating passenger movement at a railway station in Gurgaon to reporting traffic light failures or ensuring garbage dumps were removed.

The Constitution Connect campaign took citizenship beyond the concept of 'polity' and into the realm of individual values and action. Each conversation infused meaning into how we live as citizens and how each one of us can impact the way our lives and others' lives are shaped. This is exactly what processes such as Citizen Cafes do – they open up people to their blind spots and increase their window to lead as responsible citizens. A very clear shift that emerged from the campaign was that citizens felt more connected with the society around them. The other significant shift was the realisation that ordinary citizens have the extraordinarily significant role of making state mechanisms deliver effectively!

This campaign has indeed put the spotlight on how the Constitution can be translated to value-oriented, actionable aspects of individual, family, social and political lives of each citizen of India. ■



Citizen Cafes have got the middle class to discuss the Preamble to the Constitution

Each conversation infused meaning into how we live as citizens and how each one of us can impact the way our lives and others' lives are shaped.

Vipin, a student of BITS Pilani in Rajasthan shared a similar story. He brought some child workers from a community nearby and the temple priest did not allow them inside. He then made sure that the priest understood the term 'equality' and asked him to show respect towards everyone. The kids were allowed in. Similarly, someone spoke of how she had stood up for a member of her family who wanted to marry a person from a different religion.

There appears to be an increasing awareness about women's rights at home and outside. "I protested when I saw someone eve-teasing." "I speak up at home against different treatment

Email: info@we-the-people.in
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Little Oonga in an epic battle

Hindi-Oriya film journeys to a village under siege

Saibal Chatterjee

New Delhi

THE voice of the dispossessed is rarely, if ever, heard in Indian cinema. So when a feature film set in a strife-torn adivasi village comes along, one cannot but sit up and take notice.

But that isn't the only reason why Devashish Makhija's *Oonga*, a Hindi-Oriya film about the plight of the victims of India's obsession with industrial development at all cost, deserves wide distribution and unstinted applause. Its inherent cinematic merit is undeniable.

Oonga is a small film with a big heart that poses prickly questions without pulling its punches. It, however, articulates its concerns through the means of an entertaining parable that does not resort to any chest-thumping. Says 34-year-old Makhija: "This film was born of the intent to hold up a mirror to ourselves and ask – do we like what we see?"

The reality is seen through the eyes of an eight-year-old Adivasi boy who is oblivious of the tensions brewing in his village, caught in the crossfire between a mining corporation and the CRPF on the one hand and a band of Naxalites on the other.

"Most of us," says Makhija, "live confined in our little bubbles of urban security not pausing to wonder how we got here and where our resources are coming from."

He adds: "As a nation, we're now at a confused, desperate, simmering crossroads in almost every social and political sphere. If there ever was a time to ask uncomfortable questions – of where we're coming from and where we're headed – it is now."

The seeds of *Oonga*, which had its world premiere at the New York Indian Film Festival in early May, were sown when Makhija, an Economics graduate



A still from *Oonga*

from Kolkata's St Xavier's College, wrote the screenplay for cinematographer Abhik Mukherjee's unreleased socio-political film, *Bhoomi*.

He recalls: "During the year I took to research *Bhoomi*, I found out so much about the Adivasi struggle and the Naxalite movement that I didn't know before, it left me numb."

In early 2010, Makhija, a novelist, poet and video and graphic artist who assisted Anurag Kashyap on *Black Friday* (2004) and Shaad Ali on *Bunty Aur Babli* (2005) before being hired by Yash Raj Films to write and direct an animation film that never got made, "footed it through the tribal belt of south Orissa and north Andhra" with photo-journalist Javed Iqbal and documentary filmmaker Faiza Ahmad Khan. What he saw, encountered and documented during that trip formed the basis of *Oonga*.

The eponymous protagonist of *Oonga* is an eight-year-old boy who lives in a south Orissa hamlet that faces the threat of being wiped off the map by a company that has drawn up plans to mine the area for bauxite. *Oonga*, of course, has no inkling of the dark clouds that are hovering over his abode.

The boy is instead exercised over the disappointment of missing out on a village school trip to the nearby city, Lohabad, to watch a play about the warrior-king Ram. His friends talk about the experience and he feels left out.

Unable to reconcile himself to the missed opportunity, *Oonga* sets out on his own for the cold, chaotic, intimidating city. It is a journey fraught with risk – he has to cross rivers, forests and mountains, hitching rides on the way, to reach Lohabad. When he eventually emerges from the play, he imagines himself to be Lord Ram.

By the time the boy returns to his village, it is no longer the idyll that he knows, but the site of a pitched battle between CRPF men and a band of

Continued on page 32



Devashish Makhija



Nandita Das and Seema Biswas in *Oonga*

Maoists, with the hapless villagers trapped in the middle. *Oonga*, fearless as ever, marches into the skirmish like a mythical hero, believing, in his innocence, that he possesses the power to save his people from annihilation.

It is amply clear where the director's sympathies lie, but the film is remarkably free from the good-versus-evil narrative dynamics that define mainstream Hindi cinema. "*Oonga* shows the Adivasis trapped in a situation not of their making," explains Makhija.

He adds: "When the focus is so clearly on the Adivasis it would be very easy to slip into the storytelling trap of over-simplification, where so-and-so is evil, and so-and-so is good... But the truth is that no one in this world is born evil. We are all – to some or other extent – victims of circumstance."

The gallery of characters in *Oonga* reflects precisely that non-judgmental philosophy. There is a local schoolteacher Hemla (played by Nandita Das) who believes that the Adivasis should fight for their rights without subverting India's democracy. Then there is Laxmi (Seema Biswas), the Maoist insurgent who advocates more violent means to end the exploitation of the forest people.

The three CRPF men in the film are also, each in his way, victims in a war that they are waging on their own people. Manoranjan (Alyy Khan), who has survived a landmine blast and has lost his hearing in the incident, is a heartless brute; Pradip (Vipin Sharma), son of a farmer who had to sacrifice his land so that a factory could come up on it, is steeped in a cynical worldview that blurs the line between the personal and the professional; and Sushil (Anand Tiwari) is a rookie who is

rattled by every act of violence he witnesses.

Of the last-named, Makhija says: "To some extent, Sushil is a proxy for the viewer. He knows little about how messy the situation is... He too is brimming with questions, but like most of us, he too is afraid to ask them. And by the end, he is deeply disturbed by the damage such conflict can wreak, a response that will find its echo in the viewer too, hopefully."

However, Makhija is reluctant to accept the label of 'activist film' for *Oonga*. "We consciously haven't made an activist film because although such films may be the order of the day, it is easy to label them as platforms for a struggle against the state machinery. What we intended, and have managed to achieve to some extent perhaps, was to reach out to as wide an Indian audience as our limited resources would allow... It seeks to

entertain, to thrill, and to move – all of which are ingredients of accessible mainstream cinema storytelling."

The impact of *Oonga* is enhanced by the presence of the actors of the quality of Nandita Das (who, in Makhija words, embraces the philosophy of Hemla as if it were her own) and Seema Biswas (who exudes a "tricky mix of deep empathy, tragic sadness and commanding manipulation"). But at the heart of the film is little Raju Singh, a non-actor who plays *Oonga*.

Raju was discovered in a Mumbai chawl after hundreds of children had been auditioned. "We finally found our gem in our own backyard. Raju was born and stays in Mumbai. He speaks mostly Hindi and has never acted before... Not only is he fearless and unbelievably 'tribal', he has an innate intelligence," says Makhija. ■

There is a local schoolteacher Hemla (played by Nandita Das) who believes that the Adivasis should fight for their rights without subverting India's democracy.

Tipu Sultan's

Susheela Nair

Bangalore

THE two-hour drive from Bangalore was pleasant as we cruised past Ramnagaram, the town of dramatic boulders, Channapatna, famous for traditional toys, and Mandya with its expanse of sugarcane fields.

The tiny historic town of Srirangapatna is located in the midst of sugarcane dense Mandya, on an island in the middle of the tranquil Cauvery river. Tales of valour came vividly alive as we went from one historic ruin to the next.

The island fortress of Srirangapatna was once the capital of Hyder Ali and his son Tipu Sultan's kingdom. Known as the 'Tiger of Mysore' Tipu Sultan fought the British fiercely from here in the second half of the 18th Century. The ruins of these historical monuments, strewn over a vast area, still evoke visions of their bygone glory.

Most of the fortifications, except for the Elephant Gate at the entrance, have now crumbled. With ruins like battlements, gates, ramparts, tombs and places of worship scattered all over, the historic town of Srirangapatna has earned itself the sobriquet of being an 'open-air museum'.

The interesting sites within the fort are the Ranganatha Temple, the mosque, the dungeon and the site of Tipu's death. The town, still situated within the walls that enclose an area of five sq. km, owes its layout to Tipu Sultan. He made alterations in 1791. The fort, three walls thick with two moats, was practically impenetrable.

As we entered the fortified island in the Cauvery river, the slender minarets of the famous Jami Masjid (Jumma Masjid) beckoned us from a distance. From the top of the minaret we could view the entire town of Srirangapatna and catch glimpses of Mysore city in the distance. This graceful structure, built at the request of a fakir, sports an unusually tiny dome and two lofty minarets. An inscription bearing the 99 names of Allah also records the date of the mosque's construction in 1787. The prayer hall has a row of cusped arches and a ceiling embellished with grapevine designs. We saw students religiously chanting holy verses in the Arabic school located in the prayer hall where Tipu, a devout Muslim, once offered namaz.

Just a stone's throw away there is a tablet that marks the spot where Tipu fell to British bullets. A plaque reads: "The body of Tipu Sultan was found here." From there we proceeded to Ranganatha Temple, a mute witness to the turbulent history that took place around it.

Srirangapatna derives its name from the temple of Sri Ranganatha. One can see a juxtaposition of the Hoysala and Vijayanagara styles in this temple. An important centre of pilgrimage for Vaishnavites, it is dedicated to Lord Ranganatha. The temple enshrines the reclining form of Lord Vishnu. The shrine was built by the rulers of the Ganga dynasty in the 9th Century and gilded fur-

legacy of harmony

SUSHEELA NAIR



The Gumbaz is the mausoleum of Hyder Ali and Tipu Sultan

SUSHEELA NAIR



Ranganatha Temple: Hyder Ali donated a great chariot

ther by the Hoysala and Vijayanagar kings.

We entered the temple through an imposing gopura with a five-storied gateway and a hall that was built by Hyder Ali. Inside, carvings on the two pillars facing the entrance, the ceiling and the domes depict each of Vishnu's 24 *murtis*. The temple is dedicated to Vishnu as Ranganatha, and in the sanctuary the god's immense black stone idol reclines on Adishesha, the seven-headed serpent. At his feet the local river goddess Cauvery holds a lotus. The Lakshadweepotsava, when 100,000 lamps are lit during Makara Sankranti is a sight to behold.

Hyder Ali donated a great chariot with carved wooden panels to the temple. It stands outside. Tipu too was a generous patron of the temple, a

sign of the communal harmony that prevailed during his rule.

He presented the temple with a sword and ritual vessels of silver. It is believed that in accordance with Hindu tradition, Tipu would never sit at the table until he had heard the temple bell ring.

As we came out, we walked past a dozen stalls hawking souvenirs and other trivia.

A little further up from the temple is Colonel Bailey's dungeon, an underground prison where the river surged in to swirl at the feet of British officers captured by Hyder Ali. We saw hooks on stone slabs on the walls to which the hands of prisoners were shackled so that water from the river lapped at their feet. There is also a well-pre-

served cannon that fell into the dungeon during the siege of Srirangapatna.

Perched on the Cauvery, the Summer Palace of Tipu Sultan – very aptly described as Daria Daulat Bagh – is the most remarkable monument of Srirangapatna. Built in 1784 in the Indo-Saracenic style, Darya Daulat Bagh palace has a natural, cool interior that is both exquisite and elegant. The low, wooden colonnaded exterior of the building, situated in a Mughul-style garden looks spartan. But its interiors are superb with ornamental carved arches, tiger-striped columns, gilded wall panels, charming frescoes and floral decorations on every inch of its teak walls and ceilings. This building, where Tipu used to entertain his guests and conduct the affairs of his kingdom, also mirrors the monarch's taste for beauty and aesthetics.

The palace is an absolute jewel embellished with colourful frescoes of battle scenes between the French, the British and the armies of Mysore. Gilded paintings on teak walls and ceilings are full of interesting details. The Summer Palace also has a small museum filled with Tipu's personal trivia including a gold-embroidered tunic, old paintings, ebony furniture and a coin collection. There are pillars, canopies and arches. The exterior depicts paintings on the heroic events in the lives of these Sultans who so valiantly defied the British. One of the most impressive items on display is a world-famous portrait of Tipu by the great German neoclassical painter, Johann Zoffany.

From the palace, we proceeded three km east. We went from an intricately carved gateway through an avenue of cypress trees to the Gumbaz, the mausoleum of Tipu Sultan and Hyder Ali. Like the Daria Daulat, it is situated in a formal garden. The tranquil atmosphere is a perfect setting for the elegant and quiet mausoleum which houses the tomb of Hyder Ali in the centre, that of his wife on the east and of Tipu Sultan in the west. Ivory-inlaid rosewood doors lead to the tombs of Haider Ali and Tipu Sultan, each covered by a pall – tiger stripes for Tipu – and an Urdu tablet recording Tipu Sultan's martyrdom. Beyond the Gumbaz and towards the river, the two tributaries of the Cauvery meet and the steps down to the Sangama are dilapidated.

There are other interesting sites like the Wellesley Bridge and the Catholic Church founded by Abbe Dubios, a Christian missionary. Srirangapatna has now metamorphosed into a bustling town and its memorable battle scarred monuments continue to lure hordes of tourists every day.

After sightseeing, we spent a quiet day communing with the river at the Sangama, where the two branches of the ubiquitous Cauvery reunite in joyful exuberance. When we left, the river appeared to be in a mellow mood as she meandered nonchalantly. ■

FACT FILE

Getting there

By air: The nearest airport is Bangalore (127km).

Rail: The nearest railhead is Srirangapatna.

Road: Regular buses and trains from Mysore and Bangalore stop here.

Where to stay:

Karnataka Hotels Srirangapatna (River View).

Tel: 0823-6252114

Email: info@karnatakaholidays.net

RANDOM SHELF HELP

A quick selection of books for review

Modern slavery and its many manifestations

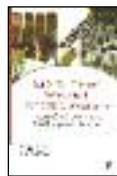


'Human Trafficking: The Stakeholders' Perspective,' consists of a series of well-researched papers on all forms of modern slavery or trafficking. This in-depth book is edited by Veerender Mishra, currently Assistant-Inspector General with the Madhya Pradesh police. Virtually every state in India is affected by this crime which violates the human rights of millions of women, children and men. The book delves into all forms of trafficking, from child labour to sexual exploitation. The papers also analyse trafficking outside India and laws on this crime. One section is devoted to preventing and combating trafficking. It outlines the responses of different states. There are case studies as well.

Tackling human trafficking is complex. Blinding poverty, discrimination, obscure traditions, patriarchy, environmental degradation and internal displacement are all causative factors. There is 'demand' caused by worsening social and economic indicators. But some attempts in India have been surprisingly successful. The book is definitely worth buying.

Sage Publications, ₹ 1,250

People matter



THE Bhagidari initiative by Delhi's Chief Minister Sheila Dikshit was a master-stroke. The astute Chief Minister wanted to involve people in governance on an ongoing basis. 'Building a Citizens' Partnership in Democratic Governance,' by George Koreth and Kiron Wadhera explains how this idea was converted into reality. The authors trace the genesis of Bhagidari from 2000 to 2010.

The Delhi government got ACORD, a non-profit, to work out how large groups could be mobilized to interface with government. They began with 20 Resident Welfare Associations and small local civic projects. Bhagidari was then expanded to cover market associations, eco-clubs and industry.

People could point out lacunae in their localities directly to officials. Sometimes the Chief Minister herself was present. She became a household word in Delhi and went on to win election after election.

Sage Publications, ₹ 595

Women abandoned



'Separated and Divorced Women in India: Economic rights and entitlements,' by Kirti Singh is a timely book. Based on a survey carried out in all four regions of India – north, south, east and west – to gauge the economic and social status of women who are divorced or separated, the findings of this book are grim. Single, divorced women face acute economic distress and a huge workload. They never get their entitlements. Dowry is not returned and the maintenance received after fighting for years in the courts is shameful. Till 2001, maintenance was fixed at Rs 500! Women could not prove in court what their husband's real income was. The book recommends property acquired after marriage be equally divided between husband and wife. For poor women whose husbands don't own property, the state must implement welfare and livelihood schemes.

Sage Publications, ₹ 995

Blind eye



'In Custody: Law, Impunity and Prisoner Abuse in South Asia,' by well-known lawyer Nitya Ramakrishnan is an assessment of how six South Asian countries- India, Pakistan, Bangladesh, Afghanistan, Nepal and Sri Lanka - implement custodial justice. South Asia inherited a system which gave the police enormous powers. Norms were put in place to check prisoner abuse but left enough scope for those in power to breach such norms. So human rights continue to be reduced to mere lip service. Ramakrishnan's book is a chilling analysis.

Sage Publication, ₹ 995



Houseboats on the Dal Lake are the ideal place to stay

A motoring holiday

Murad Ali Baig
Srinagar

KASHMIR is one of the best places for a holiday as it only gets scattered showers. It is perfect between September and November when the chinar leaves turn to red and gold and also great in spring between April and June. Most travelers fear going there but militants do not want to hurt tourism. The government is their target. The thousands of tourists crowding all the house-boats and every hotel in the valley demonstrated that there is little to be frightened about.

The fabled valley of Kashmir is a plateau about 1,700 metres (5,000 - 6,000 feet) high with many huge lakes ringed by tall mountains. It is roughly 130 kms long and about 60 kms wide with gently sloping fields of ripening paddy interspersed with tall willow and poplar trees and ablaze with the flowers of the season. Sparkling streams gurgle through every field. Nature seems to be smiling. The clarity of light and a delicious feel of limpid water

I TRAVEL

everywhere is also amazing. It seemed happy and peaceful during the seven enjoyable days we spent driving a Toyota Fortuner SUV. Above Srinagar is the Shankaracharya temple that gives you a commanding view over the entire valley. The huge Dal Lake lies shimmering below with Hariparbat topped by Akbar's fort in the distance with tall mountains all around. Another great vantage point is the nearby Pari Mahal. Kashmir's first city may have been Pampore, about 9 km south of Srinagar where there are some Ashokan pillars and inscriptions. It is also an area for the world's best saffron.

In April the crocus flowers are a blaze of colour. Today the main crop seems to be cricket bats made from the poplar tree everywhere. A little further are the beautiful ruins of the old capital Avantipur and 30 kms further is Anantnag from where one drives 40 kms northeast to reach Pahalgam. On the way we also visited the magnificent 7th century sun temple of Martand one of the



across Kashmir

oldest temples in north India built in an unmistakably Greek style.

The beautiful Mughal gardens at nearby Verinag is the source of the Jhelum river with an icy trout filled pool. There are also many beautiful Mughal gardens around Srinagar like Chashma Shahi and Nishat. Close to Hariparbat is the little tomb of Rozabal where Jesus is believed to have been buried. While the picturesque big 17th century mosque of Hazrat Bal, that sits like a huge pearl on the south of Dal Lake is the most famous, the beautiful green wooden mosque of Mir Sayyid Ali Hamadani is perhaps the most important. Hamadani introduced Islam to the valley in the 14th century with a gentle and loving Sufi interpretation of Islam to which the predominantly Buddhist inhabitants willingly converted. He translated the Quran into Kashmiri to help his mission.

We next motored south to Gulmarg at 2,650 mt. Gulmarg means a meadow of flowers that claims to be the highest golf course. There were many thou-

sands of tourists running around in the meadows or climbing the thickly forested hills. The rope-way with six-seater gondolas was working overtime lifting tourists to Killanmarg, 400 metres higher on the snowline. On a clear day the massif of Nanga Parbat, soaring to over 7,800 metres, can be seen in the far distance. Kashmir offers many other places to visit. It was a pleasure driving through such picturesque countryside with clear gurgling streams flowing in every direction with gentle terraces of ripening paddy interspersed with trees heavy with apples and the colourful flowers of the season.

The seven seater 3,000 cc Toyota Fortuner handled the good and occasionally bad roads with excellent ride and handling that ironed out the bumps and potholes with ease.

We spent our last day in a lovely houseboat on the limpid Nagin Lake. It is amazing how well they have been preserved. There are a few luxury hotels in Srinagar and many lesser hotels too but house-boats are the place to make a visit to Kashmir truly memorable. ■

DOCUMENTARIES/SHORT FILMS

Cinematic essays that are worth watching

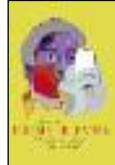
The Jungle Gang



The series, which blends animation and live action wildlife footage shot in national parks, is the first of its kind exclusively for children and young adults. It aims to sensitise the audience about the need to actively participate in efforts to conserve the country's flora and fauna. Created by documentary maker Krishnendu Bose of Earthcare Films with the financial backing of World Wildlife Fund-India, *The Jungle Gang* is about three characters – a bar-headed goose, a slender loris and a blackbuck – who travel to different parts of the country, seek out threatened animals and narrate the story of how they have been saved from extinction. The series is available in English, Assamese, Hindi and Tamil.

*Director: Krishnendu Bose
Four-film series, 15 minutes each
Contact: www.wwfindia.org*

Bidesia in Bambai



A feature-length documentary, *Bidesia in Bambai* is an attempt to understand the migrants of Mumbai, a city that is barely accepting of them, through the music they make. The songs the *bidesia*, people who have migrated from UP and Bihar, helps them create an identity. It is a constantly evolving and growing form of music with its own panoply of stars. The film tracks the life of two individuals – a cabbie waiting for his big break and Kalpana Patowari, a leading light of the industry. These singers croon sacred songs, risqué numbers and ditties about leaving home.

*Director: Surabhi Sharma
Bhojpuri & Hindi, 86 minutes
Contact: surabhi.surfilms@gmail.com*

Where there are no roads



Made by FTII-trained Assamese filmmaker Maulee Senapati and written and produced by Sanjor Hazarika, managing trustee and founder director of Centre for North East Studies and Policy Research (C-NES) in Jamia Millia Islamia, Where

There Are no Roads is about an innovative health campaign that serves some of the most impoverished and marginalized communities who live on hundreds of inaccessible islands on the river Brahmaputra. With over a dozen specially designed boats, conceived by C-NES and manned by medical professionals, this unique initiative serves over one million lakh people in 13 districts of Assam and helps to free them from the cycle of maternity and infant mortality, disease and poverty.

*Director: Maulee Senapati
English, 37 minutes
Contact: www.c-nes.org*

The Open Frame



The film tracks the artistic and personal journey of famed painter S.G. Vasudev. It focuses on his early years, the founding of the Cholamandal Artists' Village; and his continuing efforts to foster creativity among the new generation of painters. *The Open Frame* particularly highlights the creative process through which a Vasudev painting emerges – from the point he prepares a canvas to the eventual act of painting. The film also lets the viewer into the process through which Vasudev's copper reliefs and tapestries are created in collaboration with master craftsmen. The Open Frame is a fascinating celebration of colour and texture.

*Director: Chetan Shah
English, 59 minutes
Contact: 9841049979*

Bhinna Shadja



The first ever documentary made on the legendary classical vocalist Kishori Amonkar, *Bhinna Shadja* (Note Extraordinaire) was conceived and executed by Amol Palekar and Sandhya Gokhale and produced by the Public Diplomacy Division of the Ministry of External Affairs. The film presents an accessible portrait of the pensive and reclusive stalwart even as it explores the very nature of art.

*Directors: Amol Palekar & Sandhya Gokhale
English 72 minutes
Contact: www.indiadiplomacy.in*

Soothing an angry tummy

Dr G.G. GANGADHARAN

GREEN CURES



THE biggest health threat in this century is non-communicable diseases. Communicable diseases are, to a certain extent, under control due to measures such as hygiene, affordability of nutritious food and wide use of antibiotics. But the diseases of today are not amenable to any of the above mentioned measures. They are due to sedentary lifestyles, a culture of junk food and stress. Irritable Bowel Syndrome (IBS) is one of the non-communicable diseases we now frequently encounter in medical practice.

Loose and sometimes frequent mucous bowel movements (especially after food) along with abdomen cramps are the main symptoms of IBS. The main causative factors for IBS are the continuous intake of unwholesome food coupled with chronic stress. Refrigerated and reheated food is said to be slow poison as per Ayurveda for it changes the micro-chemical nature of food.

Heated curd, wrong combination of foods like fish and milk, citrus fruits and milk products etc. are causative factors of IBS. Good food habits make a big difference in preventing this disease. There is a saying: 'kale hitamita bhoji,' which means, 'the one who eats the right food, of the right quantity, at the right time, will be healthy.'

This is very true in the case of IBS. From the modern point of view, IBS is an autoimmune condition and steroids are used for symptomatic relief. Drugs like Mesacol are the choices for rectal insertion and internal use. Gradually people lose weight and mucous erosion happens in the colon thereby leading to Crohn's disease.

Ayurveda has a very systematic treatment for this condition, especially in the early stages. IBS is very difficult to handle once it reaches Crohn's stage. In Ayurveda parlance, this condition can be roughly stated as Sangraha grahani.

People with IBS should eat only organic and freshly prepared food cooked at home. They should improve their immune system by consuming phanta (cold infusion) of Guduchi (*Tinospora Cardifolia*) and applying mildly cooling oils like Ksheerabalatailam on the head before a bath.

They should drink water in which musta (*Cyperus Rotundus*), sandalwood and khas grass (vetiver root) have been boiled. They should prepare a drink made with dates,

kapikachu seeds, shatavari powder and masha (black gram) boiled in milk with sugar candy. This is a good drink for those suffering from IBS.

As a curative measure without medical help they can consume at bedtime two kadali plantains (the smallest sweet variety) boiled in milk with jaggery, two tablespoons of freshly prepared gooseberry juice and one spoon of honey added when the mixture is lukewarm. This preparation will be in the form of a paste. Take two tablespoons of this at bedtime. This preparation can be used for a long time by patients suffering from IBS.

Pomegranate is a wonderful fruit and has many health benefits. The fruit itself is a good energy enhancer, blood purifier and rich in iron. It has to be chewed well. Consuming pomegranate yields good results. The outer pod of the pomegranate, which people usually throw away, is a wonderful remedy for IBS.

Take 150 ml of homemade buttermilk and store it at room temperature overnight to make it a little sour. Next morning add an equal portion of water and put the dried shell of one pomegranate fruit after crushing it slightly and breaking it into small pieces. Add a little turmeric and boil it under a low fire. If the liquid tends to split, add one spoon of rice flour and stir well. When it reduces to half (150 ml), season it with ghee, jeera and curry leaves. Take the liquid warm twice a day after food. This is a delicious drink. One would love to take it daily. These home remedies for IBS are actually food supplements.

IBS survives on mental stress. One should learn to be calm and not get agitated easily by mundane issues. One should learn to do pranayama and meditation and understand how to be strong mentally. The methods are different for different people. There is no single path. Alcohol increases the intensity of IBS. Better to avoid it completely if one is looking for relief from IBS.

To conclude, timely healthy food and a peaceful mental state are prerequisites for relief from IBS. Many times it is observed that if these external factors are under control, IBS remains in dormancy. And over a long term the dormancy will lead to its cessation. That means the autoimmune response will reverse and the vestige of this disease will fade from the immune system.

That is why Ayurveda recommends the quartet - Dinacarya (diurnal routine), Ratricharya (nocturnal routine), Ritucharya (seasonal routine) and Sadvritta paripalana (code of conduct) for an individual. If properly followed this routine will provide a blanket protection to all possible NCDs, the biggest global health issue today, of which IBS is but one. ■ vaidya.ganga@frilht.org



WONDER PLANT

Aromatic cinnamon

YOU probably have some cinnamon powder or cinnamon sticks in your kitchen cabinet.

Cinnamon is a warming, stimulating, pleasant herb with many uses. It is widely used as a flavouring agent for candy, toothpaste, mouthwash, toiletries and ointments. Cinnamon improves the flavour of less palatable herbs in herbal teas. And it is a staple for baking and cooking. But cinnamon has effective therapeutic uses as well. In addition to having a germicidal effect, cinnamon improves blood circulation and relieves discomfort or ailments in the abdomen. Cinnamon is more than just an everyday spice!

Location: Cinnamon (*Cinnamomum verum*) is a species that is native to India and Sri Lanka. It grows naturally in semi-evergreen and evergreen forests. The tree is common along the Western Ghats region. It is considered an indicator of semi-evergreen forests. As cinnamon is an important source of spice, it is also cultivated in many parts of India. The tree is evergreen. It grows five to 15 metres tall. Its bark is thick and ash-brown in colour. Cinnamon's leaves are spicy when bruised and taste hot!



Properties: Although cinnamon is popularly used as a flavouring agent and in cosmetics and perfumes, it is also known for its extensive curative properties. Cinnamon is used to cure several health problems such as arthritis, bladder infections, skin disorders etc. Cinnamon oil is reported to be stomachic and carminative, useful in inflammation, vomiting, ulcers and diabetes. The bark of the cinnamon tree is said to be acrid, sweet and aromatic. It is used to treat bronchial complaints, vomiting, flatulence, fever, gastritis, sinuses, the common cold and for the restoration of normal skin. It is also used as a mouth freshener. Applying the paste of cinnamon powder can remove pimples. Fresh ground cinnamon can restore hearing loss.

Gardening: *Cinnamomum verum* demands a warm and wet climate. The tree prefers well-drained, loamy soil. Rocky areas and gritty soils are unsuitable. It can be planted in partial shade or in shade between buildings. Cinnamon cannot tolerate drier and hotter conditions and needs regular watering.

A two-year-old sapling when transplanted in the field, takes at least one year to adjust to the edaphic factors of land. It is a very slow growing species initially, but grows very fast after two or three years of planting.

This small tree is beautiful in foliage, wonderful in flowering and stunning while fruiting.



Its shiny, coppery or flush-coloured tender leaves add colour to the garden! The tree's impressive display of profuse flowering can be enjoyed while in bloom. The real beauty of the cinnamon tree comes to light when it is fruiting. Its dark purple, fleshy berries bring grace to the garden!

Barren terraces can be transformed into vivid gardens of economic value by keeping this species in larger containers. This small tree can be planted at entrances as an inviting element or as a single specimen in open areas.

Cinnamon blends perfectly in both large scenic gardens and in small kitchen gardens. Besides being a spice tree in kitchen gardens, it also provides shade, privacy and beauty too. Plant cinnamon in rows or along smaller avenues and enjoy its teeming flowers!

Cinnamomum verum is propagated by seeds. Fresh seeds are collected from June to August and planted directly in polybags or containers. The soil mixture in the containers should be rich with sandy soil. Regular watering is needed but there should not be over watering. Seeds germinate within 20 to 25 days. Two-year-old saplings can be transplanted in the main field for better survival rate.

Self-Help

For acidity: Cinnamon is a good antacid against excessive acidity. Sprinkling a little cinnamon on food will help reduce acidity and make one feel better.

For nausea: Take quarter teaspoon of cinnamon powder before meals with water or mixed with honey.

For cough and cold: Cinnamon provides immediate relief from cold. Take two or three drops of the essence of cinnamon dissolved in a glass of warm water sweetened with a teaspoon of honey three times a day. The essence can be found in pharmacies or herbalists.

For menstrual cramps: Cinnamon is effective in providing relief from menstrual discomfort and cramping. Mix quarter teaspoon of cinnamon powder with honey or a cup of warm milk. Take this twice a day. ■

Dr. N. M. Ganesh Babu is a Research Officer at FRLHT, Bangalore and can be contacted at ganesh.babu@frlht.org.

FEEL GOOD

Eye care

LOOKING at the computer screen for long hours results in headaches, blurred vision, redness in the eyes, fatigue, eye strain, dry eyes, irritated eyes, double vision, polyopia and difficulty in refocusing. You can also get a real pain in the neck. All these symptoms are related to Computer Vision Syndrome.

Here are some tips that can help to prevent these problems:

- Use an anti-glare computer screen to reduce the light that reflects off the screen. It will make your view of the display more pleasing and less tiring for the eyes.
- Keep the monitor at eye level or slightly below.
- Use good contrast, a larger font size and good lighting.
- Take a 20 seconds break every 20 minutes and

focus your eyes on a point at least 20 feet away. This is extremely beneficial for prevention of eye problems.

- A good night of sleep, fresh air, exercise, healthy food habits, potable drinking water along with regular application of oil on the scalp are necessary to maintain eye health.
- Palm your eyes while stressed and breathe deeply for a few minutes. This relaxes strained eyes. Stretch yourself once in a while.
- Sit in a comfortable chair with your back straight. Abnormal postures obstruct blood flow to the brain.
- Blink more frequently while gazing at your computer screen.
- Avoid sitting in front of AC vents.
- Avoid excess coffee, tea and colas. Don't smoke.

Dr Rekha Ramankutty, RMO, IHC

ORGANIC CHEF

Mango menu



MANGO PAYASAM

Ingredients:

Mango puree: 250 gms (2 cups)
Sugar: 80 gms ($\frac{3}{4}$ cup)
Cardamom powder: 1 tsp
Milk: 500 ml (2 cups)
Rice flour: 2 tsp
Assorted nuts (pistachios, almonds, cashews, raisins): 100 gm (1 cup)

Method:

- Boil milk in a *handi*. Add sugar, cardamom powder and rice flour and allow milk to thicken and reduce. Cool the mixture. Boil the nuts and cut into fine pieces.
- Add the nuts into the reduced milk. Make mango pulp/ puree and mix into the reduced

milk. Let the payasam cool. Serve in small bowls garnished with chopped nuts and raisins.

MANGO-COCONUT SOUP

Ingredients:

Grated fresh coconut: Half cup (50 gm)
Raw mangoes: 1 medium or 2 small, peeled and chopped
Green chillies: 2
Oil: 1 tsp
Salt: To taste
Water: 1 litre (4 cups)

Seasoning:

Coconut/vegetable oil: 2 tsp
Mustard seeds: 1 tsp
Red chillies: 4, broken into bits
Curry leaves: 8-10
Hing: $\frac{3}{4}$ tsp

Method: In a small wok or *kadhai*, heat the oil over a medium flame and roast the chillies until white spots appear on the surface. Grind green chillies, coconut and raw mango to a fine paste using a little water. Place the ground ingredients in a large bowl and mix in the water and salt. In a small wok or *kadhai*, heat the oil over a medium flame. Put in the mustard seeds and when they pop, add curry leaves, hing and dry red chillies. Reduce flame and cook for a few seconds until the chillies are crisp. Switch off the flame and pour the hot seasoning into the prepared mango mixture.

When the mango season is over you can use lemon or small gooseberry as a substitute. ■

Dr Rekha R, Resident Medical Officer, IHC

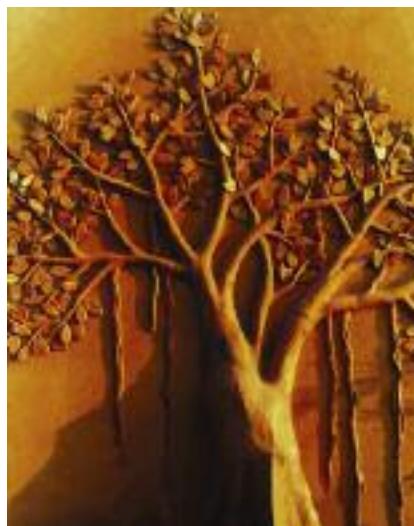
MURAL MAGIC

A vibrant collective of potters in the tiny hamlet of Aruvacode create an amazing range of designs with terracotta. There is kitchenware, garden furniture, murals and accessories for architects and landscape designers. There are lovely tiles for every space in your home. The Kumbham Collective, as the potters call themselves, have some 500 designs up their sleeve.

Twenty years ago the potters of Aruvacode – near Ailambur in Malapuram district of Kerala – were on the brink of discarding their craft when destiny stepped in. KB Jinan found them. Jinan, a graduate from the National Institute of Design, had embarked on a yatra across India to understand art, culture and artisans. Jinan instinctively realized that the potters were very skilled and if they gave up, it would hurt India's cultural landscape. Jinan became a friend of the potters and enabled them to stand on their own feet. They now make products for the urban consumer, for the market. This community is self-sufficient, confident and proud of its skills.

Aruvacode's turnabout owes much to Jinan's own philosophy shaped through his wanderings: that true learning originates from within, that text and intellect are barriers to reason and that intuition is a powerful teacher. ■

Contact: www.kumbham.org
Email: claymurals@gmail.com



ICONIC BAGS

THE Amarkutir Society for Rural Development in Birbhum is probably the oldest producer of the classic Shantiniketan bag. Sushen Mukherjee, a freedom fighter who was inspired by the Swadeshi movement, founded Amarkutir Society in 1923. Looking for a way to raise money to support Amarkutir, Mukherjee learnt batik print making on leather goods from Malaysian and Indonesian traders and taught the technique to artisans. Rabindranath Tagore's Viswa Bharati University honed the skills of the artisans.

Amarkutir Society now employs 80 artisans. The bags are eye catching and find ready buyers. "That's because we are constantly updating our designs," says Bikash Roy of Amarkutir. The artisans are experienced and absorb new knowledge quickly. They get provident fund, bonus, gratuity and health benefits. The managing committee provides voluntary service. ■

Contact: Email: amarkutir1923@rediffmail.com
 Phone: 033-25302679 Bikash Roy: 094752243101

JACKFRUIT PULP

KONIM Sfurti, a food-processing cluster in Sindudurg district of Maharashtra, has recently released jackfruit pulp for sale to interested buyers in a small way. Although mango pulp is widely available in India, it is only in recent years that food processors in the Konkan region have succeeded in standardising jackfruit pulp preservation.

Jackfruit pulp opens up a whole lot of new opportunities for those in the food business. A variety of products can be made from jackfruit pulp all year round -- jackfruit toffee, modak, ice-cream, payasam, milk-shake and a sweet idli called sandan in Maharashtra.

Jackfruit pulp can also be transported all over India and to countries abroad.

Konim Sfurti is packaging jackfruit pulp in retort pouches. This can withstand long distance transport. Since soft-fleshed jackfruit is used for extraction of pulp, this innovation will benefit the farming community. The soft-flesh variety of jackfruit is the most prone to wastage.

Konim Sfurti is also producing 'Phanas Modak' (Phanas means jackfruit) and 'Phanas toffee' from this pulp. It has very good demand. ■

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