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Open defecation-free, a Rajasthan block is now a model for others

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Vinod Rai speaks about his book, stint as CAG, the system and more

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Hackers have shown dangers facing digitisation of personal data

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Go to Japan for smart villages

PM Modi's visit has made Japan a point of reference – here's the land of smart cities and bullet trains. We visited Japan and found a surprising inspiration: rural development





Shubhendu Parth

Landing in Tokyo a day after Narendra Modi's historic visit, I was keen to meet locals and ask them what they thought about India. I was also keen to chronicle the changes that the land of the rising sun had undergone since my last visit seven years ago. Having been reporting on e-governance, I was also keen to do a comparative study of how technology was impacting the lives of people in both the countries, particularly since Kyoto had promised to help India turn Varanasi into a smart heritage city.

The devil is in the detail, as they say, and the phrase seems to be more of a philosophy practised in all walks of life in Japan – something that comes as a contrast to the ad-hoc approach and lack of long-term planning that sounds so Indian. Take, for example, the much talked about plan to create 100 smart cities in India. While the draft concept note on it released by the ministry of urban development goes on to list

down the institutional, physical, social and economic infrastructure, it fails to capture the needs of the disabled completely.

Cut to Japan, and the country shows equal respect to the rights of all individuals, including the differently-abled. While a majority of zebra crossings, pavements and public conveniences in India, even those in the national capital, are not designed for the visually and hearing impaired and the wheelchair-bound people, most of the cities that I visited in Japan were well designed and disabled friendly, complete with auditory traffic signals and pavements with slopes, curbs, cuts and tactile paving.

A quick research on the web, and I learned that the tactile paving, which is also known as truncated domes and detectable warnings, was first developed by a Japanese, Seiichi Miyake, in 1965. The Wikipedia also points out that the paving was first introduced on a street in Okayama city (Japan) in 1967. While it was initially put up at crosswalks and other hazardous vehicular ways in Japan, it gradually made its way to the rest of the world.

Unfortunately, while the draft report on smart city does mention that “walking and cycling have been rendered

unsafe due to poor infrastructure and inadequate public transport in India”, it fails to put the rights of those with physical disabilities upfront.

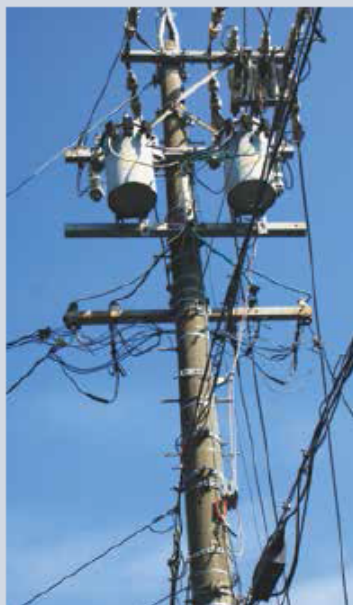
The concern for the disabled, however, does not end at the roads. It is noticeable in almost all public places and facilities, including the bullet train that figured high on Modi's agenda during the visit. While the much-hyped Delhi Metro does not have signage in Braille (it does have tactile paving though) Japan's bullet train has it engraved at all possible places, from hand-rails to information plates next to the entry gate in each coach and seat number (see photographs on page 24).

“The ability and willingness to get into the minutest detail while planning and executing is what makes Japan such a great nation,” says Joselito Cruz Bernardo, director of agriculture department with Asian Productivity Organisation and my host for the multi-country observational study mission on best practices in promoting innovation and productivity in agriculture for mass media practitioners. And he was right: unlike the loose hanging wires that can be seen across all cities and towns in India, one finds that each and every wire running across various pillars, including power and

What India can learn from Japan



- Drive local level development and self-sufficiency through community participation instead of trying to create big-ticket PPP projects.
- Show equal respect to the rights of all individuals, including the disabled and elder citizens. Accessibility for all should be primary criteria for all projects.
- The devil is in the detail and it is important that policy makers, planners and those executing a project consider all aspects – short term, mid-term and long term – in view.
- Create environment, policy and economic framework to incentivise innovation by individuals, society and industry.
- Strategic marketing can help transform rural economy and open new revenue opportunities from allied activities and value-added (eg, food processing) sector.
- Strengthen Panchayati Raj Institutions and focus on agro tourism to revive rural economy.
- Promote entrepreneurship through industry-academic-government financial partnership, simplified legal framework and funding mechanism to help locals venture into value-added business.
- Replicate the milk federation cooperative model to drive rural and agricultural sector growth.
- Smart villages are as important as smart cities and economic criteria should not be used to decide where to provide basic amenities, which is a right of every citizen.
- Security and technology interventions should be non-intrusive and felt, not seen. Such processes should respect human dignity and an individual's right.
- Language is not a barrier for development and it is important to work in local languages.



communication lines, are neatly tagged and strapped (see photograph above). This certainly involves a lot of planning as the straps and markers too have to be procured!

My host was also quick to point out that despite an aging population, particularly the farmers (more than half of them are over 65 years), Japan has not seen large-scale migration to cities, except for big-ticket jobs and higher education. "One big concern, however, is to provide tools and facilities that could help reduce the burden of manual work for the aging farmers and to motivate the younger generation to take up agriculture as an occupation."

Japan's urban villages

Justifying the need for 100 smart cities in India, the draft concept note argues that urbanisation is associated with economic development. It also estimates that urban India will contribute nearly 75 percent of the GDP in the next 15 years. Interestingly, unlike India, where the share of agriculture and allied sectors to the GDP was 13.7 percent in 2012-13, Japan's agriculture sector contributed just 1.4 percent to its



Focus on minutest detail and equal respect for the disabled.

GDP. Yet, this does not stop the government in Japan – both at the central and prefectural levels – from ensuring that the rural areas enjoy the same level of citizen services and "urban amenities".

Most of the villages that I visited had facilities better than the best of Indian cities. India seems to have shunned the concept of PURA or 'provision of urban amenities in rural areas' that was mooted by former president Dr APJ Abdul Kalam. It proposed that urban infrastructure and services be provided in rural hubs to create economic opportunities outside of cities. This was to include physical connectivity (roads), electronic connectivity (communication network), and knowledge connectivity (professional and technical institutions) in an integrated manner to facilitate economic activity and growth.

Kalam had also proposed that PURA should be a business proposition economically viable and managed by entrepreneurs, local people and small-scale industrialists with minimal government support aimed at empowering agencies and providing initial economic support for the same. Unfortunately, despite the cabinet and

planning commission nod and approval of ₹30 crore for the pilot phase to be implemented during 2004-07, the lack of ownership by the state governments and other constraints forced the government to rethink.

In 2007, the plan panel advised that PURA may be redesigned as a demand-driven programme and implemented through public-private partnership (PPP). Based on this advice, the then rural development minister Jairam Ramesh launched the restructured PURA scheme in February 2012. The re-launched version combines rural infrastructure development with economic regeneration in the PPP mode and seeks to harness the efficiencies of the private sector.

"It is an absolutely foolish idea to expect the private sector to drive the PURA project. Where is the financial viability to drive it through the PPP model?" counters a senior official from the rural development ministry. "What president Kalam proposed under the PURA was basic amenities that the nation and the states should in anyway provide as part of their welfare programmes. Unfortunately, while the states have developed the habit of seeking funds for everything that the centre proposes, the centre has got used to the idea of driving everything through PPP," he said. It is a completely different story that despite being the pioneer in creating a decentralised system of local self-governance through panchayati raj institutions, a term promoted by India's first prime minister Jawaharlal Nehru in 1958, the country has made little headway in terms of providing basic amenities across all its villages.

A visit to Inakadate village in Minamitsugaru district and Nanbu-chō (Nanbu Town) in Sannohe district of Aomori prefecture in the Tōhoku region, on the other hand, was a pleasant surprise in terms of how a village and a small town can achieve self-sufficiency through community participation instead of trying to create big-ticket PPP projects.

While the Inakadate village has succeeded in revitalising its local economy by creating a paddy art mural that is a unique form of landscaping



using live crop anywhere in the world, Nanbu-chō (Nanbu town) harps upon Tassya-mura or the concept of happy longevity village that has been jointly promoted by the tourism planning division of the tourist bureau and the department of commerce, industry and labour of Aomori prefecture.

Inakadate's revival

For this small village – spread over 22.31 sq km and the smallest in Aomori prefecture – it was a matter of revitalising the local economy through their traditional expertise in paddy cultivation. And the impact has seen the village economy booming; the village earned 39 million Yen in 2013 (about ₹2.18 crore at the current rate of 1 rupee = 1.78 Yen) only from entry fee.

While no charges were levied till 2009, the village now charges 200 Yen for those above 13 years and 100 Yen for children in the age group of 7-12 years. On the other hand, it spends around 5 million Yen on design, paddy cultivation and for making security and other arrangements. “The earning in 2013 was sufficient enough for us to build the local railway station,” says a proud Asari Takatoshi, the head of the Inakadate village office.

Addressing the journalists from 13 countries at the well-equipped conference room in the village office, Takatoshi further said that the paddy art was initiated in the village in 1993 to attract tourists to supplement the village income and revitalise its sagging economy.

Village elders recall that like many other villages in Japan, Inakadate too was facing the problem of shrinking agricultural revenues due to the aging population. The only alternate income the village had was from the Neolithic-themed amusement park to showcase its historic roots with paddy cultivation. The park was partly funded by Tokyo to highlight the historic importance of the 2,000-year-old carbonised rice that was recovered from the Tareyagi site during archaeological exploration, making it one of the oldest rice growing regions in northern Japan.

“We desperately wanted to increase the village income and Koichi Hanada, a clerk in the village hall, suggested that since the village had several varieties of paddy that have varied blade colours it might be a good idea to cultivate these plants in a way that they form words and images,” recalls a village elder at the Inakadate village office.

“Initially the villagers used paddy to write small words and image of the nearby Mount Iwaki in the rice field behind the town hall. Soon they decided to use paddy to create a larger picture. To allow viewing of the whole picture, a mock 22-metre castle tower was erected at the village office,” says Takatoshi. However, the village soon had some cash flowing in through donations by tourists to cover the cost and build the present observation deck on top of the village office. The floor below the observation deck also has a souvenir shop.

“We started with simple patterns and images but the designs became complex over the years as we gained experience,” he says. And the process takes 180 days to complete. The village currently uses two paddy fields of 15,000 sq metres to create the unique visual experience that attracts over 7,00,000 visitors a year. But the term ‘paddy art’ became popular only in 2003, when the village decided to scale up the project through an intricate design work. The year saw the image of Mona Lisa come alive in the form of multi-colour paddy art.

However, there was a problem. Once it was complete, the villagers realised that Mona Lisa looked like a pregnant woman when viewed from the top of the castle tower. This was because she was too narrow at the top and bloated at the bottom and the visual perspective from the top made the image look disproportionate. “Since paddy art was best viewed from the tower we realised that it would need to be created keeping in mind the visual perspective. The solution to this was provided by a village teacher who used digital imaging techniques to create a vertical sketch taking the angle of people’s sight from the deck into account.”

Today, the villagers use the pointillist painting technique and a computer to map out where to plant stalks so the pictures would have proper proportions when viewed from top. Next, small reed sticks with colour markings are planted in the field as an outline sketch. The painting is later completed by planting different varieties of paddy in between. To realise such a complex design only by rice, planting and reaping are always done manually. The villagers use local rice varieties to create the colours.

“Tsugaru Roman has green blades while Yukiasobi and Beniasobi are used for white and red colours. We have other ancient strains of rice that are used for purple and yellow,” informs Takatoshi adding that initially only black, yellow and green rice varieties were used for the Mount Iwaki image. “Marilyn Monroe, a Hollywood icon, and Geisha, the traditional Japanese female entertainers, were the best in terms of the use of colours and intricate designing. This was in 2013.”

Visitors who want to join the planting and harvesting need to register a month in advance and they can take part in sowing as well as in the harvesting process. Inakadate also organises a harvest festival in November where all participants are presented with doughnuts made of rice from the paddy art field.

Nanbu-chō = happiness

How else can you describe the town and its residents whose citizens’ charter says: “We shall love people and nature and create a beautiful town, and help create a warm-hearted town by continuing to practice kindness”? The charter further says that citizens shall respect the town’s history and culture in order to contribute “mental richness” to the town and train themselves, mentally and physically, to realise a healthy town.

“Tassya-mura is aimed at facilitating communication and exchange of ideas between the visitors (tourists) and villagers. The initial goal is to transform people who visit the village into a Nanbu-chō fan by exposing them to the traditional rural landscape, local history

and culture and the hospitality that one can expect only in the countryside so that they may come back to the village for longer stays or even settle down," explains S Yokoyama of the division of promotion of local agricultural activities, in the local town office.

The initiative includes Shiki Matsuri, or the four season festival that is held throughout the year and includes visits and fruit picking in orchards, including cherries, peaches, pears, apples, grapes, strawberries, plums and blueberries. The town also plays an important role in organising farm-stay programmes for students on school trips. The town also has its own Tassya standards for assessing processed agricultural products, confectioneries, handicraft and other products produced in Nanbu town.

"With our motto of relaxing, slowing down and feeling nature, we want to create a village where everybody can live healthy and happy," says a beaming Sukenao Kudo, the mayor of Nanbu. Giving further details about the town, he says that the former towns of Nagawa, Nanbu and Fukuchi village were merged on January 1, 2006 to create the present Nanbu town. "This marked the end of the 50-year history of each of the three municipalities and their first new step forward," he stresses.

While the town offers several tourist attractions, it has also worked towards strengthening the local economy by promoting commerce, manufacturing, agri-based local industries as well as by creating employment opportunities. The town also has plans to promote entrepreneurship through an industry-academic-government financial partnership. This includes the sixth-order industry scheme promoted by the government of Japan.

"Citizen's participation is the key to all resident-centric community development," says Masumi Yamamoto, our local guide, interpreter and the communication head from the Nanbu town office. She adds that the town works towards developing and improving community facilities to provide a base for community activities as part of its efforts to encourage citizens to



The paddy art that has helped revitalise the Inakadate village economy.

voluntarily take part in community development programmes. Our guide also informs me that most of the villages in Japan have their own speciality hospitals and schools.

The solution approach

"You have a problem, we have a solution," says Tetsuya Kanesaki, a senior journalist with the Japan Agricultural News and an office-bearer of the Japan Agricultural Journalist Association (JAJA). While most of the participants from 13 countries in the study mission, including this reporter, felt that the lack of English-speaking capabilities made it difficult for the locals to interact and draw more tourists, it did not seem to bother the country at large.

"We are an inward-looking society," explains a gentleman I meet in the train while travelling from Suidobashi to Shinjuku. He was one of the very few locals I met who could speak English. We connected instantly because he had worked in Kolkata for three years and I had a lot of questions to ask in English. "Language is not a barrier if you love and respect your fellow beings...and we respect non-natives as much as we respect the locals," he says. And I have to agree.

It was the same story across all the nine different cities and villages that I

visited – from shopkeepers to passers-by to villagers and our instructor who taught us the art of making soba (Japanese noodles), all of them listened patiently and we were always able to arrive at a solution, even though I had to draw a fish at a restaurant to order food. Interestingly, while I and fellow journalist Harsha from Sri Lanka were struggling to explain 'rice' for over 10 minutes, a few guys, whom we perceived to be a group of drunken rowdy youth, stepped in to understand what we wanted to order and explain it to the waitress.

While the agricultural machinery companies in the country are making efforts to develop high-tech machines and equipment, including products like robotic arms and assist suits that can help aging farmers, the policymakers have gone ahead and enacted a law for creation of new business by operators of agriculture, forestry and fisheries using local resources and promotion of locally obtained products.

Besides, Chiba University and companies like Panasonic Corporation, Eco Solutions and Matsushita Electric Industrial have come out with commercial solutions for hydroponic-based plant factories that can help produce leafy vegetables in closed environment (even in bunkers). Then there



are companies like Mebiol Inc that have come out with film-based agriculture that does not require soil (see interview with its CEO Dr Yuichi Mori in next page), while Taisei Kougyo has invented the Hyo-on technology for cold storage that keeps perishable commodities fresh for months. The Japan Agricultural Co-operative (JA) too has been playing an important role providing farm guidance, helping in marketing of farm products, supplies of production inputs, credit and mutual insurance businesses at the prefecture and municipality level.

Unfortunately, despite its success with milk cooperatives, India has not been able to replicate the same for rural development and agriculture.

The sixth-order industry

Agriculture, a highly labour-intensive work despite the mechanisation, has been an area of equal concern for technocrats and policymakers in Japan. "The story is the same across all other verticals because Japan has the highest proportion of aging population in the world. This has been impacting the economic activities and the country's growth. Hence, there is a lot of focus on creating tools that can aid the aging workforce. The tsunami and the Fukushima nuclear plant leakage also forced us to plan how to cultivate in closed environment, if required even inside concrete bunkers," my train mate continues, adding that none of these requires the knowledge of any foreign language.

The Sixth Sector Act that was passed in November 2010 and the associated fund established in October 2012 aim to create a new sixth-order industry through an active collaboration of agriculture, commerce and industry. In simpler words, the country has created a legal framework and funding mechanism to help the agri community and entrepreneurs venture into value-added business like food processing and agri-tourism.

Explains M Kamikochi, officer in-charge in the food industry affairs bureau of Japan's ministry of agriculture, forestry and fisheries, "Entry into the



(Top) Farm direct shop managed by an association of women in Nanbu-chō, and (Bottom) the A-factory retail store, one of the large sixth-order industries.



sixth-order industry means that the primary industries like agriculture, forestry and fisheries should become actively involved across the broader spectrum of manufacturing (the secondary industry) and retailing (the tertiary industry) and add value to their product."

The term "sixth-order" comes from the fact that the sum of the traditional primary sector (1), secondary (2) and tertiary (3) adds up to create a new sixth-order industry (1+2+3=6) which can help the farmers and entrepreneurs earn over six times as compared to traditional farming.

To facilitate the funding of the new industry the Act has provisions for a no-interest loan programme and a 10-12-year redemption period. Provisions have also been made under the Act to fund market access and establishment of trade centres, markets and other display areas for retailing, both fresh produce and value-added processed

products. Proposals for funding are invited thrice a year and the approval process takes an average three months to complete.

On the policy front, the government has also implemented a subsidy plan for purchase of high-tech agricultural machinery products as part of its reforms of agriculture. According to Kamikochi, as of November 2013, the government had approved 1,690 sixth-order industry business plans. These include 1,497 plans related to agriculture and livestock products, 81 projects related to forestry products and 112 projects related to marine products. Our visit to A-factory in the Aomori Bay water front area, Hirotsuki Apple Park and agro-tourism sites in Nambucho was quite an eye-opener on how strategic marketing can help transform rural economy and open new revenue opportunities from allied activities. Our hosts at the three sites informed us that they earn more from tourism-related activities than from actual sale of the produce.

I got my last lesson from the tour at Narita airport. "Security and technology are to be felt, not seen... they have to be non-intrusive and for public convenience," I remembered what my unknown fellow passenger in the train had told me as I walked through the security without being frisked bodily or even the mandatory stamping on the tag of the hand baggage. "We care for every individual and value their existence," he had said.

Three days later I suffered the consequences of intrusive security mechanism: I spent six hours driving, because several arterial roads in different parts of central, south and New Delhi were closed to facilitate the movement of Xi Jinping, the president of China. ■

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