

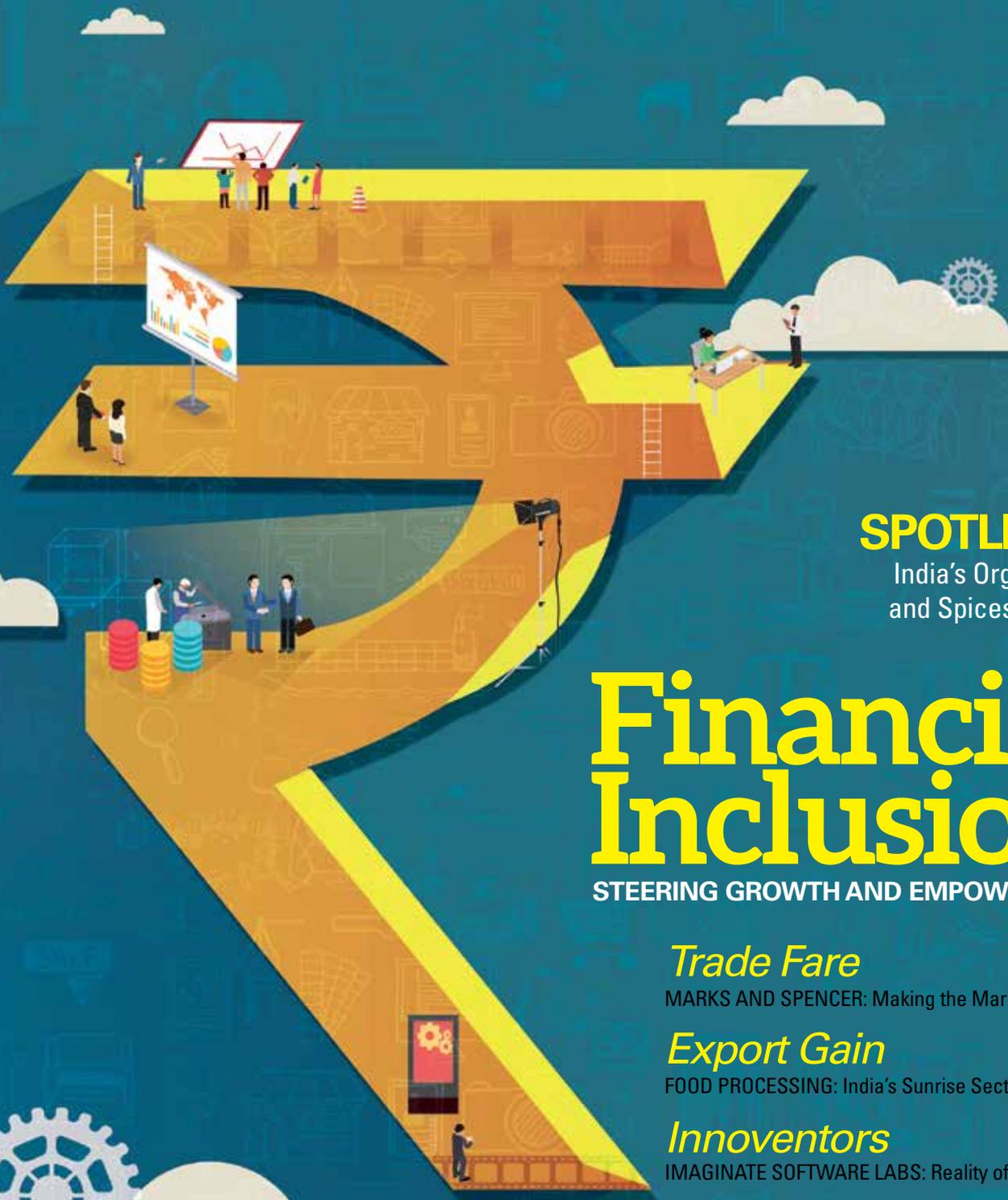
VOLUME 03 | ISSUE 04 |

# IndiaNow

## BUSINESS AND ECONOMY

DECEMBER 2016-JANUARY 2017

IBEF  
INDIA BRAND EQUITY FOUNDATION  
www.ibef.org



**SPOTLIGHT**  
India's Organic Tea  
and Spices Sectors

# Financial Inclusion

STEERING GROWTH AND EMPOWERMENT

### *Trade Fare*

MARKS AND SPENCER: Making the Mark

### *Export Gain*

FOOD PROCESSING: India's Sunrise Sector

### *Innoventors*

IMAGINATE SOFTWARE LABS: Reality of the Future



## IN THE FAST LANE

India has emerged as a global automobile hub



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## INDIA NEWS ALERT

DAILY BUSINESS HEADLINES

India Brand Equity Foundation

### FACT OF THE DAY

India has climbed 21 spots to rank 87th in 2016 in the Global Gender Gap Index (GGI) among 144 countries of the world: Global Gender Gap Report 2016 by World Economic Forum

### CONVERSATIONS ON INDIA



### FOLLOW US

Government waive up to Rs. 2,000 in a New Delhi: The Government has changed on payment upto Rs 2,000 (-) and encourage payments.

SECI to Launch Government Scheme New Delhi: SECI will launch tender for solar power for which is one of

Duty drawback Mumbai: The facility on all increased rates con

Govt and time air New Delhi: joined the (DST) V and any network India.

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# INDIA NOW

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DCXIX

January 07, 2017

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- Conversations on Brand India
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- Economy & Policy Snapshots
- They Said It
- Exclusive
- Focus: Exports
- Media: Blog



Dear Mr Bhat,

India has overtaken UK in terms of GDP to emerge as the fifth largest economy in the world by the end of 2016, the same year when it overtook China to emerge as the world's fastest growing major economy. Interestingly, India has achieved this feat well before 2020, the year that was projected (for India to overtake UK) by the economic think-tank Centre for Economics and Business Research (CEBR) in 2011. India's GDP by the end of 2016 reached US\$ 2.3 trillion while UK's GDP was projected at US\$ 2.29 trillion. This has been made possible due to India's rapid growth in recent years and the issues being faced by the UK post-Brexit.

In addition, India's growth rate at 6-8% per annum till 2020 is much higher than UK's projected growth rate of 1-2%, which means this gap is only expected to widen further in the coming years.

Warm regards

Anu P Mathai, IES  
Chief Executive Officer (CEO)  
India Brand Equity Foundation (IBEF)

### WHAT'S NEW@IBEF

Brand India Engineering at The Big 5, Dubai  
IBEF led the Brand India Engineering campaign at The Big 5 2016, Dubai that was held from November 21-24, 2016. Do visit to follow the branding activities undertaken by IBEF.  
More >>



### POLL

### CONVERSATIONS ON INDIA

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A single window to the latest and in-depth information on Indian business, industry and economy. The website also offers daily business news updates and email alert services.

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# CEO SPEAK

DEAR READERS,

The Indian healthcare industry has been experiencing high growth rates over the past decade owing to factors that include rising income levels, ageing population, growing health awareness, and changing attitude towards preventive healthcare. The industry is projected to post a CAGR of 16% during 2015-20 to reach US\$ 280 billion by 2020 (FICCI-KPMG report).

Buoyed by the overall growth trajectory of the healthcare sector, the Indian medical devices market has been growing at a CAGR of 15% for the past couple of years. The industry is expected to reach a valuation of close to US\$ 25 billion by 2025 compared to its current valuation of around US\$ 10 billion. The sector comprises more than 800 Indian manufacturers of which nearly 65% have a turnover of over ₹10 crore (US\$ 1.5 million) and 2% of companies have a turnover of more than ₹500 crore (US\$ 73 million) (source: EEPC).

India has developed strong competitiveness in some segments of the medical devices sector like outsourced contract design, development, and manufacturing. Indian manufacturers are particularly focused on the 'designing-to-cost' factor due to price sensitivity of the Indian market, which has boosted their competitive position overseas. India has steadily built capabilities in designing and development of vast range of electro-mechanical diagnostic and therapeutic devices. Besides these, implantable devices and active implantables like pacemakers are also being developed to meet the most stringent quality norms.

The focus on technology, innovation, and global quality benchmarks heralds strong potential for this sector going forward. The Government of India has permitted 100% foreign direct investment in the sector via the automatic route. India is in the process of setting up three Med Tech Parks in Andhra Pradesh, Maharashtra, and Gujarat, primarily to reduce cost of production. They will have common in-house facilities for manufacturing and consolidated raw material procurement. A number of skill development and training programs are being carried out by the government and the private sector on design and development of medical devices with adherence to international quality standards and regulatory requirements.

In recognition of the sector's strengths and global potential, the Government of India is also ensuring a strong impetus to medical device exports. In this regard, IBEF is launching a high-impact brand campaign for the Indian medical devices sector at Arab Health, January 30-February 2, 2017, Dubai in association with Engineering Export Promotion Council (EEPC) and Pharmexcil. Arab Health is an important platform for promotion of the sector in the Middle East & North Africa (MENA) region, which attracts around 4,400 leading healthcare companies from 70 countries. With the brand positioning of India Heals, the campaign aims at communicating the core strengths of the Indian medical devices industry as well as the inherent resilience and dynamism of the entire healthcare ecosystem.

**Ms Anu P. Mathai**  
CEO, India Brand Equity Foundation

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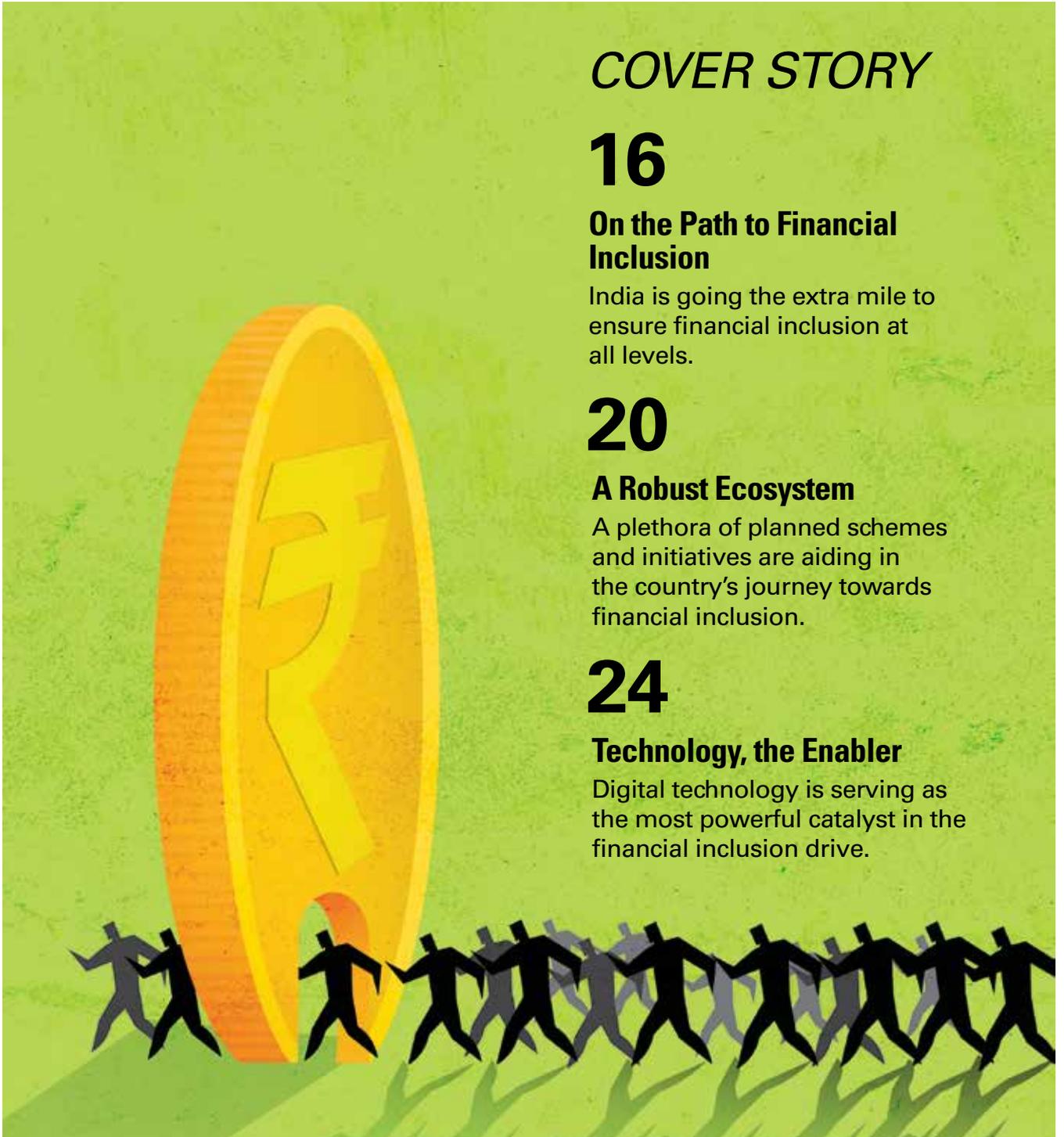
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# EDITORIAL

DEAR READERS,

One of the key aspects for any economy to thrive is the presence of a vibrant domestic market. India, as we all know, is the second most populous nation on earth. This, coupled with its demographic dividend, makes it an essential market to be captured for companies with global aspirations. And if this market has to reach its fullest potential, it needs to be financially empowered—from the top of the pyramid to its very bottom.

Understanding this imperative, the Government of India has kick-started several initiatives to ensure that the maximum number of people are brought within the ambit of formal financial channels. In the past year, a significant percentage of the population is reaping the benefits of government schemes and subsidies such as Pradhan Mantri Jan-Dhan Yojana, Direct Benefit Transfer, and Pension Fund. Further, looking beyond mere inclusion, the government has taken several steps to increase financial literacy. It is essential to impart basic financial skills to help people make sound fiscal decisions because inclusion without literacy is meaningless.

The India story is at an interesting juncture. The impact of the various initiatives—Digital India, Skill India, Startup India, financial inclusion, etc.—launched to build a resilient and resurgent Indian economy will be seen in the forthcoming year. Green shoots are already visible; Indian markets have held their nerves in an otherwise fragile and volatile world economy. With the decks being cleared for a GST roll-out in July 2017, the ease of doing business in India will no doubt improve. With all these in place, India is slowly but surely treading towards becoming an international commercial hub.

*Maneck Davar*  
 MANECK DAVAR

**IndiaNow**  
 BUSINESS AND ECONOMY

| Volume 03 | Issue 04 |  
 december 2016-january 2017

[www.ibef.org](http://www.ibef.org)

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India Now Business and Economy is a bi-monthly magazine published and printed by India Brand Equity Foundation (IBEF), Gurgaon, Editor – Maneck Davar. It is published from 20th Floor, Jawahar Vyapar Bhawan, Tolstoy Marg, New Delhi- 110001 and got printed by India Empire Publications, N 126, 2nd Floor, Greater Kailash 1, New Delhi-110048.

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Opinions expressed herein are of the authors and do not necessarily reflect any opinion of Spenta Multimedia Pvt Ltd., Peninsula Spenta, Mathuradas Mill Compound, NM Joshi Marg, Lower Parel, Mumbai - 400013, Maharashtra, India; Tel: 91-22-6734-1010; Email: ho@spentamultimedia.com.

Content Creation, Editorial and Design by



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## IN GREAT DEMAND

India is the world's largest producer and consumer of black tea



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# INDIA UPDATE

## Prime Minister Modi launches BHIM e-payment app

In the continued quest for a digital, cashless economy, Prime Minister Mr. Narendra Modi launched a mobile payment application on December 30, 2016, at 'Digi Dhan Mela' in New Delhi. Called BHIM (Bharat Interface for Money), the e-payment app was downloaded more than three million times in the first four days. Launched 50 days after the demonetisation of ₹ 500 and ₹ 1,000 notes, the BHIM app is expected to minimise the role of plastic cards and point-of-sale machines. It is designed to help people who do not have debit or credit cards or are unable to use them, but have a bank account and wish to make digital payments. The use of biometric technology ensures that one just requires one's thumb to make payments.



### India and Portugal sign MoU on defence cooperation

Portuguese Prime Minister António Costa's visit to India in January 2017 bore fruit as the two countries signed six agreements covering various sectors, including an MoU on defence cooperation. The agreements also focused on collaboration in the areas of IT and electronics, agricultural trade as well as renewable energy and marine research. Prime Minister Mr. Narendra Modi thanked his Portuguese counterpart for his country's support for India's permanent membership of the UN Security Council. Mr. Costa also used his trip to India as an opportunity to visit his ancestral home in Goa.



### Coca-Cola to set up ₹ 750 crore plant in Madhya Pradesh

The district of Hoshangabad in the Indian state of Madhya Pradesh is all set to become home to Coca-Cola's latest plant in the subcontinent. Valued at about ₹ 750 crore, the plant will be situated in the Mohasa-Babai industrial estate, only 8 km from the Narmada river. When fully operational, the plant will require upto one million litres of water daily, and can emerge as Coca-Cola's largest unit in the country. The state Minister for Commerce and Industries, Mr. Rajendra Shukla, has called it a landmark investment and pointed out that the unit will help generate employment for a large number of people.



### India third in green building rankings

The 2016 U.S. Green Building Council (USGBC) annual ranking of the top ten countries for LEED (Leadership in Energy and Environmental Design) saw India placed third by the green building rating system. India has 15.90 million gross square metres (GSM) of LEED-certified space and an additional 89.28 million cumulative GSM of LEED-certified and LEED-registered space. The country is also among the top ten countries outside the United States making progress in sustainable building design, construction, and operations. In total, there are 2,386 projects across the country participating in LEED. Certified buildings save energy and water while reducing carbon emissions.



## UK signs MoU to support ease of doing business in India

The Union Cabinet, chaired by Prime Minister Mr. Narendra Modi, approved the MoU between India and United Kingdom to support ease of doing business in India. Signed in December 2016, the MoU will enable exchange of officials from both the governments to facilitate sharing of best practices, offering technical assistance, and enhanced implementation of reforms. The collaboration will also cover state governments. Various agencies of the British government are expected to offer their Indian counterparts professional courses on better regulation drafting for officials, capacity-building of frontline inspectors, etc.



## FDI inflow grows 27% in April-October period

Foreign direct investment to India grew 27% in the first seven months of the 2016-17 fiscal year to US\$ 27.82 billion, up from US\$ 21.87 billion for the same period a year ago. Services, telecom, trading, computer hardware and software, and automobiles were the major sectors that attracted FDI during this period. Manufacturing accounted for 41.5% of the total equity inflows. Along with the 'Make in India' initiative, the Indian government has been pushing for enhancing ease of doing business and a favourable patent regime to make the country an attractive investment destination.



## Honeywell UOP to scale up R&D in India

American multinational conglomerate Honeywell is set to scale up its petroleum R&D efforts in India, in an effort to tap into the country's massive refinery upgrade programme and petrochemical capacity expansion. Honeywell UOP, the conglomerate's petroleum and polymer arm, had set up a research centre (one of its largest research facilities outside the U.S.) in Gurugram in May 2016. India's public sector refineries are investing close to ₹ 30,000 crore for switching over to Bharat Stage-VI auto fuels by 2020. State refiners are also expanding their current petrochemical production capacity of 915 million tonnes a year.

“France has always considered India to be an essential partner for regional stability and security. Our two countries work together, be it cooperation between our navies or industrial matters.”

- JEAN-MARC AYRAULT, French Minister of Foreign Affairs and International Development.

“India is absolutely critical for Canada to engage with, as it is not only a growing economy, but a major regional player.”

- AMARJEET SOHI, Canadian Minister of Infrastructure and Communities.

# INDIA UPDATE



## Indian per capita income may rise by 10.4% in 2017

According to the First Advance Estimates of National Income, 2016-17 report released by the Central Statistics Office (CSO), India's per capita net national income at current prices is estimated to be ₹103,007 (US\$ 1,515.9) during FY 2016-17, registering a year-on-year growth of 10.4%. During FY 2015-16, the figure stood at ₹93,293 (US\$ 1,372). The report also predicts India's GDP to grow by 7.1% in the financial year.



## Yatra.com latest Indian company to make Nasdaq debut

Online travel company Yatra Online Inc. is set to start trading at the Nasdaq stock market following its reverse merger with Terrapin 3 Acquisition Corp, which will now be a partially owned subsidiary of Yatra. Launched in 2006, Yatra.com announced its reverse-merger deal with Terrapin in July 2016, raising over US\$ 92.5 million of primary capital from global investors. The new entity, Yatra Online Inc., will trade under the YTRA ticker symbol.



## India signs financing agreement with World Bank

India has signed a financing agreement with World Bank for US\$ 48 million for the 'Nagaland Health Project'. The project aims to improve health services and increase its reach to the communities in targeted locations in the state of Nagaland. It will directly benefit almost 600,000 people. While those living in the selected locations will gain from activities at a community level, the entire state population will benefit from improvements in facilities at a higher level and through system-wide investments.

## Indian social enterprises have huge potential: British Council report

The British Council, in partnership with Ennovent Pvt Ltd and the Aspen Network of Development Entrepreneurs, released a report on Indian social enterprises, *Social Value Economy*. According to the study, Indian social enterprises are more inclusive and younger in terms of their leadership when compared to mainstream businesses, giving them immense potential. Majority (53%) of social enterprises in India are focused on skill development, followed by 30% on education, 28% on agriculture-related activities, 26% on financial services, 26% on clean energy, and 22% on health care technology. The survey is expected to help improve policy, legislation, and other supporting infrastructure to improve the social enterprise space.





# RESPONSIBLE HEALTHCARE

India is the largest provider of generic drugs globally

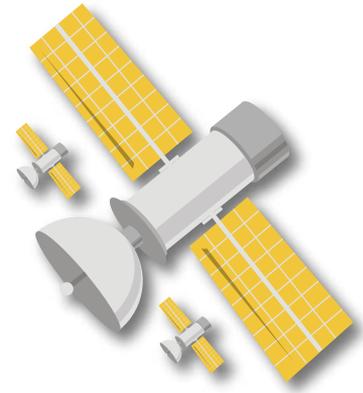


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# TECH UPDATE

## ISRO to launch record 103 satellites in one go

The Indian Space Research Organisation is set to launch 103 satellites in one go during the first week of February 2017. If successful, the space agency will set a new record for number of satellites launched simultaneously using a single launch vehicle. The launch vehicle will be PSLV-C37 (Polar Satellite Launch Vehicle-C37), a proven workhorse for ISRO. Mr. S Somnath, Director of Liquid Propulsion Systems Centre at ISRO said that this will be a major landmark in Indian space history and that no other country has ever attempted a launch exercise of this scale. As many as 100 of the 103 satellites belong to other nations, including the US and Germany.



### India test fires Agni-IV ballistic missile

Hot on the heels of the successful Agni-V test in December 2016, India's Defence Research & Development Organisation (DRDO) has announced successful tests of the nuclear-capable Agni-IV strategic ballistic missile. A surface-to-surface missile with a strike range of 4,000 km, Agni-IV is equipped with state-of-the-art avionics, a fifth generation on-board computer, a ring laser gyroscope-based inertial navigation system (RINS), and a micro-navigation system (MINGS). The two-stage, 20-metre missile weighs 17 tonnes and was launched from the Integrated Test Range (ITR) at Dr Abdul Kalam Island.



### India among top three countries for scientific output by 2030

At the 104<sup>th</sup> Indian Science Congress, held in January 2017, Prime Minister Mr. Narendra Modi declared that India can emerge as one of the top three countries in the world for science and technology. According to data from Scopus, the largest abstract and citation database of peer-reviewed literature, India currently ranks fifth in the world for scientific output, growing at a rate of 14%. At the current rate, the country is expected to overtake the UK and Germany within a decade to join the US and China as one of the top three nations for science and technology.



### Sundar Pichai: Incredible potential in the Indian market

Google CEO Sundar Pichai visited the Indian Institute of Technology (IIT), Kharagpur, on January 4, 2017, for an interaction session with the institute's students. Mr Pichai remarked about the great potential of the Indian technology market and the positives of its ever-changing nature. "I come to India regularly. The rate at which things have been progressing, at least digitally, has been phenomenal," he said. Mr. Pichai also remarked that people at Google are big supporters of the Digital India programme.



Photo: Shutterstock

## India emerges as a top future market for self-driving cars

From Audi to India’s own Mahindra and Mahindra (M&M), automotive companies have marked India as a top future market for self-driving cars. Autonomous vehicles are already present in many countries, albeit in considerably small numbers. As the technology improves, car makers and, more importantly, consumers are increasingly confident in this revolutionary leap in transportation. Market experts note that India has always been a mass adopter, rather than an early adopter, when it comes to automotive technology. This means when car companies do introduce self-driving cars in India, they will be expected to hit the ground running at full speed.

**5<sup>th</sup>**  
 India’s global ranking in terms of scientific output.



## Infosys invests ₹ 14.9 crore in Danish AI startup

Indian IT services and business consulting giant Infosys Limited has dipped into its ‘innovation fund’ to invest ₹ 14.9 crore (about 14.92 Danish krone) in UNSILO, a Danish artificial intelligence startup focused on advanced text analysis. At a time when companies around the globe are trying to find better ways to make sense of a large amount of unstructured text, Infosys seems to have got a jumpstart on the competition. UNSILO has built an impressive semantic search engine—with best-in-class text intelligence—that uses a unique combination of machine learning and natural language processing to analyse large quantities of text. Infosys has made use of its US\$ 500-million innovation fund to invest in startups eleven times so far, including four times in 2016.

# INDIA WATCH

## Redesigning the Financial Landscape

### DIGITAL COMMERCE USERS IN INDIA

Type of City	Users
Top 4 Metros	26%
Other 4 Metros	21%
Small Metros	29%
Non Metros	16%

Source: Internet and Mobile Association of India

### INDIAN RURAL FMCG MARKET

Figures are in US\$ billion

2009	2010	2011	2012	2013	2015	2016	2025E
9	10.4	12.3	12.1	14.8	18.92	29.4	100

Source: India Brand Equity Foundation

### FUNDED STARTUPS OF 2016

Founded by	Number of startups
Female-only founders	21
Male-only founders	556
Male and Female founders	93

Source: YourStory

### FUNDING IN FINTECH PLATFORMS

	Amount in US\$
Lending Platforms	196M
Payment Banks (without Paytm funding)	5M
Investment Platforms	60M
Insurance Platforms	71M

Source: YourStory. As per data collected till June 2016

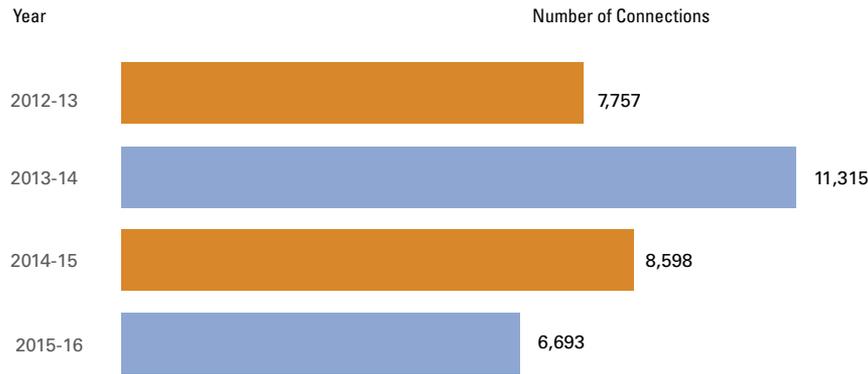


### CREDIT-DEPOSIT RATIO OF INDIAN BANKS

Year	2012-13	2013-14	2014-15	2015-16
Percentage	79.1	78.9	78.3	78.2

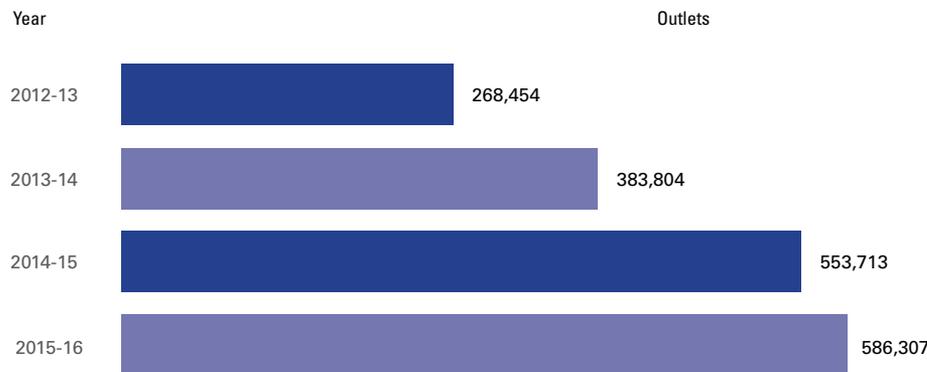
Source: Reserve Bank of India

### NUMBER OF NEW BANK BRANCHES OPENED



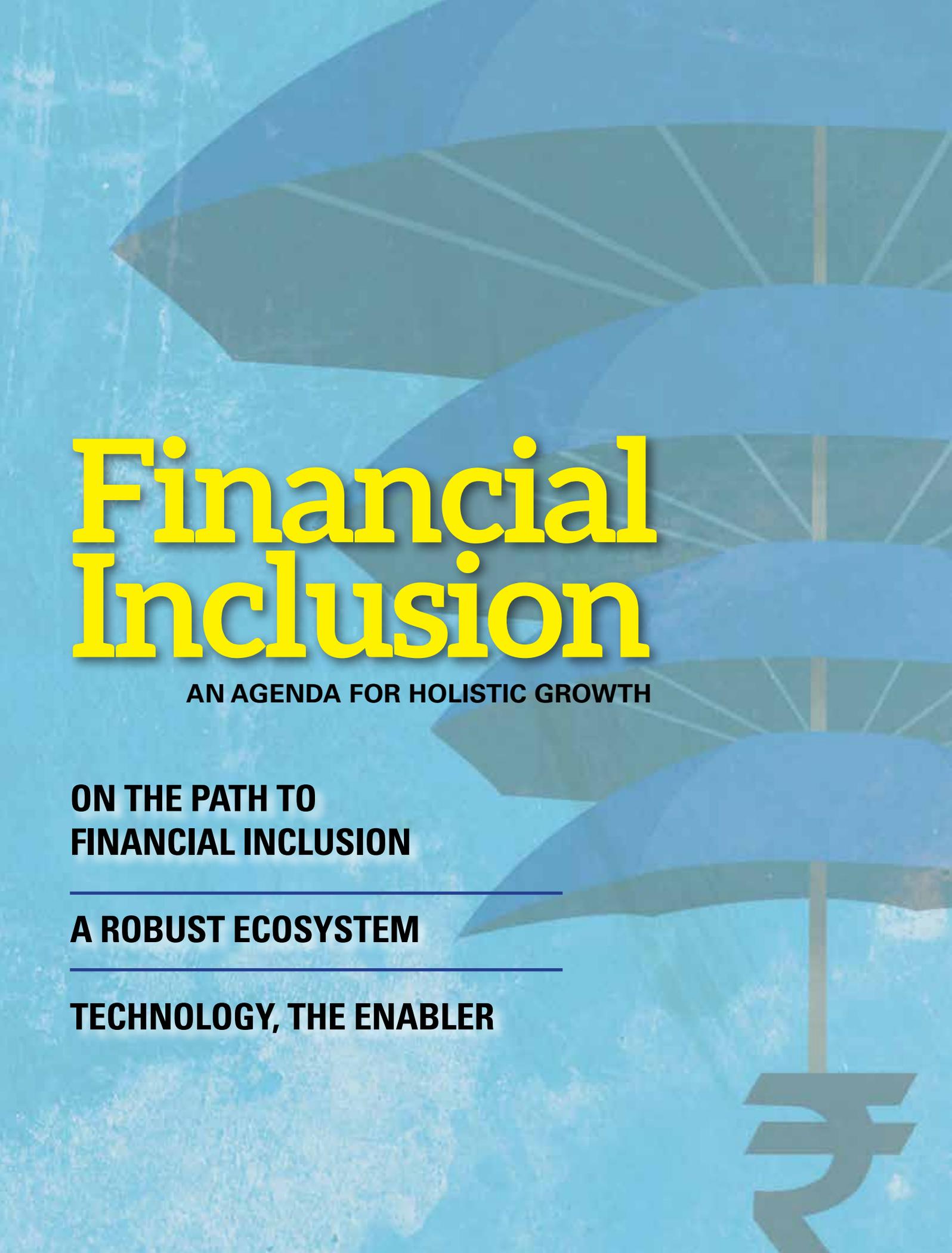
Source: Reserve Bank of India

### NUMBER OF BANKING OUTLETS IN VILLAGES (TOTAL)



Source: Reserve Bank of India





# Financial Inclusion

AN AGENDA FOR HOLISTIC GROWTH

**ON THE PATH TO  
FINANCIAL INCLUSION**

---

**A ROBUST ECOSYSTEM**

---

**TECHNOLOGY, THE ENABLER**

# On the Path to Financial Inclusion

*The Indian government has chosen a unique route—beyond mandates, policies, and PSU banks—for bringing about financial inclusion. Through enabling frameworks such as Pradhan Mantri Jan-Dhan Yojana, RuPay card, and Direct Benefit Transfer scheme, it is ensuring that its financial inclusion drive benefits all strata of the society.*

Sourajit Aiyer is the author of *Flying With The Winged Elephant - Niche Opportunities for Global Businesses that may emerge in India* and *Capital Market Integration in South Asia: Realizing the Saarc Opportunity*.



**F**or any country's socio-economic parameters to progress sustainably, it demands an efficient financial system that can mobilise savings and allocate it efficiently for productive investments. The foremost financial needs—in demand are:

- (a) For the upper-income people, it is choice, i.e., choice of types of products, often with innovative features which gives HNIs something new to talk about.
- (b) For the middle-income people, it is planning, i.e., a financial plan to allocate their hard-earned savings in a way that they are able to beat inflation in the long-term.
- (c) For the lower-income people, it is credit, i.e., small-ticket credit to raise working capital for self-businesses, since wage-based job opportunities may be unevenly spread across regions of the country.

Each of these three segments needs to deepen financial inclusion in its own way for its economic progress, and these three needs are critical to achieve that.

**Lower-income group:** While India has been a savings-oriented society (with a gross savings to GDP ratio in early-30%) and has better-developed financial regulations, it is highly concentrated. It is essential that each person accesses this, so that a broader base of population gets the benefits of India's growth.

Both supply and demand have a role here. On the supply side, steps have been taken to increase the penetration across the country. In banking, the government has pushed retail branch presence and banking-correspondents across the hinterland. It has set up service centres across India to help people with digital payments. Centralised banking was implemented years ago, enabling location-agnostic access.

In lending, incentives have been given to the broader population via interest-rate subsidies on small-ticket home loans. Incentives in cash-credit limits are given to MSMEs, as they employ a large portion of our population. Since many households save in gold, gold loans gave the ability to raise credit. In investments, it allowed mutual funds to charge an additional expense on assets mobilised from towns beyond the largest 15



Prime Minister Mr. Narendra Modi

“For me, JAM is about ‘just achieving maximum’. Maximum value for every rupee spent. Maximum empowerment for our poor... Maximum technology penetration among the masses...”

cities. Bank staff got targets to promote deposits as a product. In short, various steps have been taken to boost the supply of financial services for a broader base of the population, and continued investments in these will help raise penetration levels even further.

On the demand side, the issue of acceptability in this segment is being tackled through continued education and awareness drives, and to punish exploitative and fraudulent conmen. RBI data shows two-thirds of Indian household savings is in physical assets, while only one-third is in financial assets, within which 90% is in bank deposits or life insurance alone. Moreover, as much as 36% of bank deposits come only from the four largest metro cities, showing that the rest of the country saves far less.

The government has invested in financial awareness while businesses are investing in financial education through CSR. Targets to bank staff to raise bank deposits are under focus. The law authorities are acting against wrongdoers. Continued efforts in these directions will help channelise the monies into the banking system, at least where penetration has reached.

Not falling prey to fraudsters and exploitative lenders has a social dimension, as much as economic. Local moneylenders are notorious for exploiting people’s compulsions, making them think they have no other option. Educating people that they have better options is an imperative to push acceptability. As their monies enter the banking system through liability products, their ability for asset products also improves. Many lower-income people do not have credit histories, more so as many rarely use banks as a habit. Once they are shown the benefits of the banking habit, they can get better access to credit; which is cheaper than the loans they otherwise take from local moneylenders. It is this credit that this population segment needs to boost its economic activity and financial inclusion, and thus create progress by enhancing their incomes!

**Middle-income people:** Most of them have started accessing financial services, but wealth is concentrated. In the 2016 global wealth report, Credit Suisse Group AG showed the top 1% of India’s adults held 58% of its wealth, up from 36% in 2000. While the impact on specific segments of society differs based on income and demand basket, it is imperative that people make their savings work in real terms, by planning appropriately.

Why this matters to the middle-class most relates to economic theory. Lower-income people stop consumption or move to inferior-quality products if inflation or income becomes adverse, shifting their demand curve entirely. Higher-income people have a better cushion to withstand shocks, or may use channels not easily accessible to the broader population to enhance their situation, like investing offshore. Middle-income people, however, neither want to change their consumption pattern significantly as it means forgoing the quality of lifestyle, nor have easy access to other investment channels. Most of their expenses are non-discretionary, which offers limited room for cutting spending; as compared to discretionary items. If their real income is moving south, it is imperative they plan so that they earn inflation-beating returns and maintain their real-income.



### Number of functioning branches of Public Sector Banks Population Group wise:

As on	Rural	Semi Urban	Urban	Metropolitan	Total
31.03.2011	20,658	16,217	13,450	12,612	62,937
31.03.2012	22,379	17,905	14,322	13,244	67,850
31.03.2013	24,243	19,642	15,055	13,797	72,737
31.03.2014	27,547	21,952	16,319	14,644	80,462
31.03.2015	29,634	23,549	17,387	15,325	85,895

Source: Department of Financial Services, Ministry of Finance, Government of India

Planning for inflation-beating returns means financial inclusion through advice on products other than vanilla bank deposits. Many middle-class people in India still associate investments with only bank deposits, that too in savings whose average rate has been less than inflation for years. Even fixed deposits have seen interest rates below the inflation at times between 2008 and 2014, a reason why inflation-beating investments is critical. Within financial savings, while bank deposits are a good way to start financial inclusion, it is not sufficient. Other than some allocation for liquidity and safety, additional allocation should be spread in products which are capable of earning better, risk-adjusted returns than inflation.

**IN THE 2016 GLOBAL WEALTH** report, Credit Suisse Group AG showed the top 1% of India's adults held 58% of its wealth, up from 36% in 2000.

The rationale of savers to depend on traditional avenues (real estate, gold) alone to meet inflation-beating returns looks limited, and there is a strong case to turn to other products to meet this need. Retirement products are a case in point. This is where planning plays a role. Planning gives them advice on what combination of products to invest based on their profile and risk appetite. This can further deepen financial inclusion. It is this planning that is imperative, this segment needs to enhance their returns in real-terms, and thus create progress by enhancing their purchasing power.

**Upper-income people:** Most of them have sophisticated financial investments but are looking for the next new thing. These people already have a level of financial inclusion, both in assets and liabilities. They have investments in several types of financial products, and have taken various types of credit. The range of products in their portfolio may be wide, depending on their sophistication.

But one can still go deeper into this segment. Their absolute net worth is growing due to multiple income channels, plus most of this additional income is available for discretionary spending. The incremental disposable resources each year that can be channelised into financial products can be significant, and a financial company may never have enough market share of one client. There is always scope to deepen the relationship further, and intensify financial inclusion into sophisticated products in the process. The crux is: what would push a high-end



Photo Courtesy: Dindia

## Some notable financial inclusion schemes

**Direct Benefit Transfer (DBT):** This scheme ensures that money under various developmental schemes reaches beneficiaries directly and without any delay. Banks play a key role in its implementation.

**RuPay card:** It is a new card payment scheme offering a domestic, open-loop, multilateral card payment system which will allow all Indian banks and financial institutions in the country to participate in electronic payments. RuPay symbolises the capabilities of the banking industry to build a card payment network at much lower and affordable costs to the Indian banks so that dependency on international card schemes is minimised. The RuPay Card works on ATM, point of sale terminals, and online purchases and is therefore not only at par with any other card scheme in the world but also provides customers with the flexibility of payment options.

**USSD-based mobile banking:** This offers the facility of mobile banking using Unstructured Supplementary Service Data (USSD). Basic banking facilities including money transfer, bill payments, balance enquiries, merchant payments, etc., can be availed of on a simple GSM-based mobile phone, without the need to download any application as in the IMPS-based mobile banking.

client to invest repeatedly? The answer is choice—choice in terms of product, product manufacturer, underlying securities it has exposure to, structuring, geography, asset allocation, etc.

So how does this connect with the objective of deepening financial inclusion for economic progress? First, his portfolio grows with investments in more products, which gets channelised into the economic system the way it is for every other population segment. But more importantly, it is creating a demand for a more developed and vibrant financial structure. This is critical because as people progress in their lives and move up the ladder, like from middle-class to upper-class segments, the demand for more sophisticated products will increase and there has to be a large enough industry to cater to it.

Financial inclusion is a cycle, and there must be adequate capacity to feed that cycle sustainably. That supply is a push towards economic progress.

Moreover, as the local financial industry develops, it gives a push to local talent. India has seen this movement in the last couple of years, as a number of foreign-owned asset management companies have set up shop in Mumbai or Bengaluru with Indian fund managers, rather than abroad with foreign

talent. It also gives a rationale for HNIs to invest their incremental monies domestically, instead of offshore accounts; which has caused concern in many developing countries. Thus, it is choice in new, innovative, and sophisticated products that this segment needs to deepen their relationships, and thus create economic progress.

In conclusion, as India's GDP rises, it will open up further opportunities for financial services through banks and capital markets. Efforts to build advisory, manufacturing, and distributing capabilities will feed the supply side for financial inclusion, across these three segments for their specific needs. Efforts to build awareness, education, and marketing will feed the demand side for financial inclusion, apart from broader-based economic growth pushing incomes for more Indians.

The scope for deepening the penetration of financial services across the length and breadth of this country is immense. With the present government making the right noises to further the economic development agenda, it may be an opportune time to deepen economic progress for its people through more financial inclusion. ■

*Views expressed are personal.*

# A Robust Ecosystem

*Initiatives such as Pradhan Mantri Jan-Dhan Yojana, Aadhar card drive, and Digital India have helped in the country's financial inclusion drive.*



Dr. Usha Gopinath Menon is a financial expert and practitioner. She was formerly Director, Client Education Programmes, Asia, Accion.

**F**inancial inclusion is a national priority for the Indian government as it is an enabler for inclusive growth—its main objective is to bring the bottom of the pyramid of the financial landscape under the ambit of formal banking. And efforts to include the financially excluded segments of society have been a continuous process.

The concept of financial inclusion was first mooted by Reserve Bank of India in 2005 and branchless banking through banking agents referred to as Bank Mitra (business correspondents) was started in 2006. In the year 2011, the Government of India launched a campaign that provided banking facilities to about 74,000 villages, with a population of more than 2,000 (as per the 2001 Census).

Now, under the leadership of Prime Minister Mr. Narendra Modi, the Government of India has made a number of diligent moves especially in the last six months to realise the objective of financial inclusion. A comprehensive plan to keep alive bank accounts and use them as an instrument of economic activity that improves livelihoods was drawn up. And in order to provide the much-needed thrust, a flagship programme—Pradhan Mantri Jan-Dhan Yojana (PMJDY)—was announced by the Prime Minister during his Independence Day address on 15 August, 2014.

This PMJDY programme encompasses an integrated approach to bringing about comprehensive

financial inclusion of all households in the country. It envisages universal access to banking facilities with at least one basic bank account for every household, financial literacy, and access to credit, insurance and pension facilities. These measures will help the unbanked poor become part of the formal financial system and take them out of the clutches of usurious moneylenders. Also, the beneficiaries would get RuPay debit cards with an in-built accident insurance cover of ₹1 lakh. PMJDY also envisages channeling all government benefits (from the Centre, states, and local bodies) to the accounts of beneficiaries, and pushing the government's Direct Benefits Transfer (DBT) scheme.

## TECHNOLOGY

India has realised the potential of mobile as well as digital technology to be game changers vis-à-vis the financial inclusion drive. A number of schemes aim to cash in on the proliferation of mobile technology, especially to include rural customers in the organised financial system. And the Digital India initiative is all set to boost infrastructure, technology accessibility, and last-mile connectivity. These would not only improve cash flow to boost the economy, but also help the government facilitate rural development through various services such as gas subsidies.

At present, banks have branches in 0.46 lakh out of the 5.92 lakh villages in the country. In order to include

Photo Courtesy: Dinodia



Universal access to banking services with at least one basic bank account for every household is one of the objectives of the PMJDY programme.

**Pradhan Mantri Jan-Dhan Yojana (Accounts Opened as on 11.01.2017)**

All figures in ₹ Crores

Bank Type	Rural	Urban	Total	No of RuPay Cards	Aadhaar Seeded	Balance in Accounts	% of Zero-Balance-Accounts
Public Sector Banks	11.82	9.49	21.31	16.82	12.69	53,760.47	25.07
Regional Rural Banks	3.88	0.61	4.50	3.36	2.28	12,747.93	20.66
Private Banks	0.52	0.35	0.87	0.82	0.39	2,518.77	33.68
<b>Total</b>	<b>16.22</b>	<b>10.46</b>	<b>26.68</b>	<b>21.00</b>	<b>15.36</b>	<b>69,027.17</b>	<b>24.60</b>

Disclaimer: Information is based upon the data as submitted by different banks/SLBCs

Source: Pradhan Mantri Jan Dhan Yojana website

the remaining areas in the banking system, a composite approach has been proposed through branch as well as branchless banking. The strategy for branchless banking is to have online fixed points—Bank Mitra—which act as representatives of banks to provide basic banking services. Mobile banking facility with USSD-based technology is also proposed to be provided to accountholders with low-end mobile phones. Mobile wallets would also be effectively utilised to widen the reach.

The financial inclusion drive faces a few challenges—

**INDIA HAS REALISED THE POTENTIAL OF MOBILE as well as digital technology to be game changers vis-à-vis the financial inclusion drive.**

large numbers and low volumes, translating into unaffordable costs. The only way to bring down cost and to improve reach is to effectively leverage technology through products such as e-KYC, IMPS (Interbank Mobile Payment System), AEPS (Aadhar-enabled Payment System), and mobile banking.

Even account holders with low-end mobile phones can avail themselves of mobile banking facility.

## Maximum Governance, Minimum Government

The Direct Benefit Transfer (DBT) scheme, started on January 1, 2013, has truly been a game changer with respect to financial inclusion. It has re-engineered the government delivery mechanism, facilitated simpler and faster flow of information/funds, ensured accurate targeting of beneficiaries, and helped in avoiding duplication/fraud.

The first phase of DBT was initiated in 43 districts, and later on 78 more districts were added in 27 schemes pertaining to scholarships, women, child and labour welfare. In 2014, its reach was further expanded and seven new scholarship schemes and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) were brought under DBT, in 300 identified districts with high Aadhaar (biometric-based unique identification number) enrolment. The major enablers of DBT so far have been Jan-Dhan, Aadhaar, and Mobile (JAM). DBT now has 84 schemes, and in FY 2016-17, total direct benefit transfer amounted to more than ₹44,382.03 crore, and total number of transactions stood at more than ₹91.67 crore.



Photo Courtesy: Dinodia

## INDIA'S FINANCIAL

inclusion drive is an ongoing exercise that blends the government's vision with concerted efforts by public and private players and policymakers.

The recent demonetisation drive—a bold step towards bringing transparency in earnings, spending, and investment patterns whether it be individuals or business owners—has helped in curtailing high-level stock being accumulated with large market buyers (especially moneylenders and business owners) and encouraged online transactions that ensure more transparency.

India's financial inclusion drive is not just a one-time effort to ensure better banking services or wider reach. It is an ongoing exercise that blends the government's vision with concerted efforts by public and private players and policymakers. Moreover, it is also a strident step towards creating a financially literate population which is equipped with basic skills to make sound financial decisions. ■



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# Technology, the Enabler

*Technology plays the most crucial role in driving financial inclusion in India.*

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Rishabh Parakh, Senior Consultant, Intellect Advisory.



Photo: Shutterstock



**“K**oi baat nahi bhaiya, Paytm kar do (no worries, just do Paytm),” smiled Govardhan, the local vegetable vendor, as I struggled to tender exact change amidst the present cash crunch. Like him, millions of Indians are fast transitioning to the digital economy to pay, remit, and borrow.

## THE DIGITAL ROAD TO FINANCIAL INCLUSION

Universal availability of payments, savings, and credit has far-reaching socio-economic benefits. For example, it reduces vulnerability of the low-income sections from credit shocks, leads to higher capital formation (due to free flow of money into productive uses), and avoids leakages in public subsidies and welfare programmes. Financial inclusion has a significant domino effect on the economy.

Inclusive access to financial services must be ‘EAST-bound’—it should be easy, affordable, secure, and timely. The traditional bank branch-led model of financial inclusion in India has had little success in providing last-mile reach under this EAST framework. We are now witnessing an inflection point in the financial inclusion landscape thanks to digital technology. Of late, several disruptive technological innovations that find extremely synergistic applicability with financial services have emerged:

**Big data analytics:** High processing power, compact storage devices, and new data analysis tools have given rise to big data analytics that can input unstructured data to extract deep insights into customer behaviour, useful to design tailored financial products. Alternative data points that can be analysed by harnessing predictive algorithms include social media data, bill payments, receivables, cash flow, customer ratings and reviews, industry trends and demographics.

**Application Programming Interfaces (APIs):** APIs enable applications to be built on top of pre-existing products, thereby capitalising on the existing customer base. Open APIs allow for various data streams to ‘talk’ to one another, thus holding the potential to create ‘networks of network’ and improving scalability of financial services.

**Cloud computing/Software-as-a-service:** Data storage, processing capability, and service delivery in the cloud allow for scalability, compatibility, and flexibility. These factors are beneficial in a financial services setting and help connect the front-end and back-end IT systems of financial companies in a unified manner. Cloud infrastructure also brings in cost reduction that is lowering barriers for innovative startups to identify novel digital channels for serving financially excluded people.

Figure 1: Immediate Payment Service (IMPS) Trend

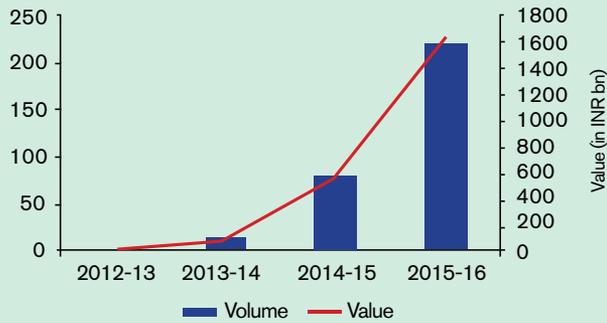
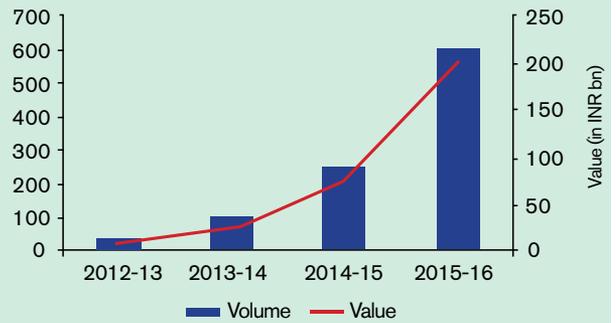


Figure 2: m-Wallet usage trend



Source: Payment System Indicators, RBI

### MOBILE PHONES—THE ULTIMATE LEVELLER

Arguably, the most impactful technological invention to expand financial inclusion has been the mobile phone. It is an efficient and cost-effective tool to reach far-flung semi-urban and rural populations. More than 65% of India's population is under the age of 35. These millennials are tech-savvy and comfortable switching to mobiles for P2P transactions, bill payments, etc., leading to a paradigm shift in the uptake of digital access points such as m-banking and m-wallets. Figure 1 and 2 reveal this exponential growth over the last few years.

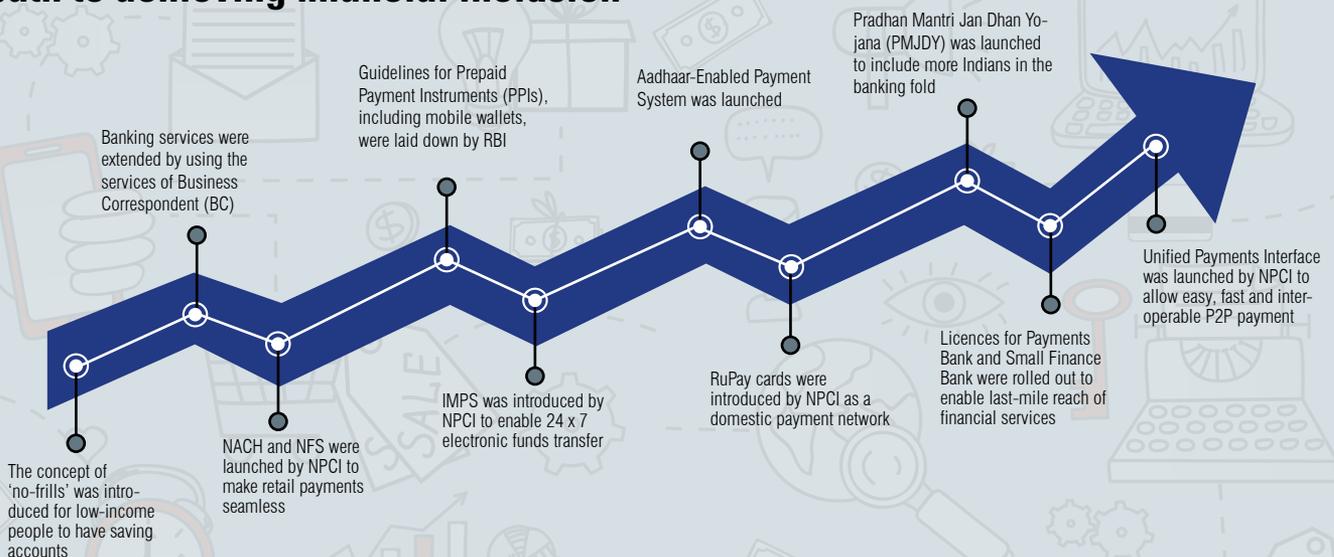
In the last two years, as more users adopted smartphones, the number of 3G and 4G subscribers has more than tripled to 12 crore—40% of the existing mobile internet user base of 30 crore. With aggressive 4G roll-outs by operators such as Airtel and Reliance Jio, around 21 crore subscribers are expected to switch to 4G by March 2018. This high-speed connectivity, combined with increasing affordability

of mobile phones, is catalysing mobile payments.

Rural India is lapping up mobile connectivity at a blitzkrieg pace too. As much as 27% of the mobile internet users are from rural areas, a proportion that is increasing every year. In fact, Boston Consulting Group predicts that the number of rural consumers with mobile connectivity is expected to increase to 31+ crore by 2020, constituting about half of all internet users in India.

Smartphone features offer a rich source of data that can be applied to different use cases. For example, FICO, a global rating agency, has partnered with LenDDo, to develop a credit score for Indians with limited credit history using cell phone usage patterns including call records, location, SMS, internet usage, social media data, etc. Mobile phones are also being used to enable merchant payments (m-POS) and make remote payments. In the next few years, more innovative mechanisms will be built and mobile phones will emerge as the centrepiece of financial inclusion.

## Landmark policy measures in India's path to achieving financial inclusion



## THE FISCAL PUSH FOR A 'DIGITAL' FINANCIAL INCLUSION

Nandan Nilekani, Infosys co-founder and former Aadhaar architect, was bang on when he remarked that India is witnessing a 'WhatsApp' moment in finance. The Government and RBI have implemented several financial inclusion initiatives to foster an environment that gives rise to an ecosystem for players to leverage technology, allowing crores of under-banked individuals to leapfrog into digital modes of financial transactions.

The JAM trinity (Jan Dhan-Aadhaar-Mobile) has created the building blocks for a digital financial infrastructure:

- Jan-Dhan Yojana, the largest financial inclusion drive in the world, has opened 25+ crore bank accounts, ensuring that almost all households in India have at least one member with a bank account.
- 109 crore Indians can now be digitally authenticated through Aadhaar, thus addressing the first but most cumbersome step to financial access—eKYC.
- India has 103 crore mobile users, out of which 25+ crore people own a smartphone (likely to grow to 40 crore by 2018), making India the world's second-biggest smartphone market.

The JAM trinity forms the pillars that will help streamline the G2P disbursal process for schemes such as MNREGA and PDS. It will also allow low-income individuals to come under the fold of the formal economy, thus enhancing the success of other Government schemes such as MUDRA.

IndiaStack, probably the largest set of APIs in the world, is being rolled out by the Government in consultation with iSpirit to bridge the digital divide in the country. The incorporation of IndiaStack APIs into an increasing number of mobile-based applications could lay the foundations for greater innovation in the space of digital payments. Implemented under the open-API policy of Digital India, it contains four distinct layers:

- Presence-less layer: Biometric digital identity for e-KYC (Aadhaar)
- Paperless layer: Digital records of an individual (e-Sign and DigiLocker)
- Cashless layer: Interoperability of payments across bank accounts/wallets (UPI, IMPS, AEPS)
- Consent layer: Security and control of user data based on OpenPDS developed by MIT

In an experiment called CATALYST conducted last year by IFMR LEAD in partnership with GoI and USAID, merchants who carried out remittance through the Eko wallet received small ticket-size loans within five minutes of applying on a mobile-based app created by Capital Float. The project used IndiaStack for verification

## PAYMENTS BANKS WILL LEVERAGE thousands of mom-and-pop shops as payments banks' agents for digital-to-cash conversion and vice versa.

(eKYC), loan agreement (eSign) and authentication (Aadhaar). Remittance-based transaction data was used as a proxy for credit appraisal.

BCG estimates the country's digital payment ecosystem to be worth US\$ 500 billion by 2020. Frictional inefficiencies resulting from cash transactions can be curbed to a great extent by introducing digital payments. Consequently, there have been a number of policy initiatives that are set to benefit the masses. The recently launched Unified Payment Interface (UPI) is an excellent case in point of an EAST-bound payment service. UPI will make micropayments and P2P transfers as convenient as sending a text message, without the 'Add as Beneficiary' hassles. The expected onboarding of payments banks and mobile wallets into the platform will drastically boost interoperability (W2W, B2B, W2B, B2W) and reduce commission structures, breaking the cost barrier of digital transactions for the low-income consumers. NPCI is also in the process of launching 'Bharat Bill Payment System', an integrated one-stop shop for all online utility payments.

The concept of payments banks introduced by RBI is a huge step towards tech-driven financial inclusion. The new payments banks licensed by RBI will soon convert mobile phones into a pocket-size bank branch and complement the existing branchless banking infrastructure. Payments banks will leverage thousands of mom-and-pop shops as payments banks' agents for digital-to-cash conversion and vice versa. They will also act as business correspondents for commercial banks, reducing the latter's operational costs and increasing penetrability.

The government is also coming up with an 'Aadhaar Payment app' that will help digitise payments for offline brick-and-mortar merchants. Till now, there are less than 15 lakh POS terminals in India, covering only 6% of all merchant outlets, as intermediary fees and infrastructural costs prevented small merchants from adopting POS terminals. However, with the proposed Aadhaar system, merchants would just need to download the app on their smartphone and connect it to a ₹2,000 biometric reader to enable easy digital check-outs of customers. Almost 40 crore Aadhaar numbers are already linked to bank accounts and the remaining 70 crore are expected to be linked by next year. This will also make way for underbanked merchants to raise quick short-term working



capital from companies such as NeoGrowth and IntellectCash that provide cash advance based on POS history and receive a certain percentage of POS payments towards repayments.

### FINTECH—PLUGGING THE GAPS

This digital revolution has led to the emergence of hundreds of FinTech startups in India over the last few years, with a whopping investment of an estimated US\$ 1.25 billion in 2015 alone. These companies are disaggregating the banking value chain by offering proprietary digital platforms and innovative tools in different sub-sectors of BFSI. The gamut encompasses payments, credit, insurance, investment and other financial niches.

Perhaps, the inclusion impact of startups has been best witnessed in lending. India has about 4.9 crore MSMEs, but only about 6% get finance from organised lenders. FinTech startups such as Lendingkart, Instakash and ZoukLoans are tapping the digital trails of individuals and businesses to glean actionable information and thus assess credit-worthiness. This methodology allows credit to be disbursed to those proprietors and MSMEs that require working capital but may not have the collateral or financial history to avail themselves of bank loans. Some startups such as NamasteCredit, SME Corner and Dhanax are acting as marketplaces to facilitate loans by lenders in a fast and paperless manner. These innovative startups are leveraging technology to gradually bridge the enormous ₹2.93 trillion addressable debt financing gap in the MSME sector in India.

The ₹2 lakh crore e-commerce market in India has more than half a million online sellers. Startups such as Capital Float are using the seller's digital footprint to provide them working capital. With almost 40,000

sellers onboarded to e-commerce platforms every month, there is a huge scope to solve the problem of the 'missing middle'.

Incumbent banks, not to be left behind, are collaborating with FinTech startups to minimise the operational costs of rural banking and thus reaching the untapped population. For example, Novopay, through its cloud-based wallet, is converting *kirana* stores to microATMs where the local population can open accounts in banks such as RBL, Axis, IDFC, etc. and perform basic banking activities such as bill payment, savings, and remittance. Yes Bank and IDBI Bank have partnered with Vaya Finserv, a business correspondent that does real-time tablet banking to interface seamlessly with core banking systems and ensure daily cash settlement with partner banks.

Similarly, Bengaluru-based Egalite has developed an Android-based app that uses Oracles's FlexCube to sync directly with the core banking solution of partner banks such as ING Vyasa. Yes Bank has also tied up with ToneTag, a startup that has developed a technology that uses sound waves for offline proximity payments through even basic-feature phones. Such technology could be immensely useful at shops located in hinterlands with poor internet connectivity.

### GAZING INTO THE CRYSTAL BALL

Emerging technologies have huge latent potential to bring about financial inclusion. Artificial learning or machine learning, for example, can expedite the lending processes of financial institutions by interpreting repayment patterns and discovering complex linkages of credit-worthiness with non-financial data such as education, age and geography, and psychometric data such as self-confidence, cognitive biases, emotional stability, etc. Technology also promises compelling opportunities to transform financial services in India. Blockchain provides security and speed, two essential ingredients of financial inclusion. For example, BanQu enables refugees in Africa to create a personal digital profile through various pieces of information and thus access formal financial services. Nigerian startups Stellar and Oradian are able to bring instant and cheap remittance using blockchain. The emerging Internet of Things may make it possible to create pay-as-you-go instruments that can drastically amplify markets and funding for various services in remote areas.

With the convergence of evolving technology, government push and launch of new financial products, newer digital innovations are fast getting translated to market-based solutions. Technology is unleashing its power to democratise access to financial services for millions of marginalised and underbanked Indians. India is accelerating on the road to financial inclusion and technology is in the driver's seat. ■

**FINTECH COMPANIES ARE DISAGGREGATING**  
the banking value chain by offering proprietary digital platforms and innovative tools in different sub-sectors of BFSI.





## WORLD'S SPICE BOWL

India is the world's largest producer, consumer and exporter of spices

# A GREEN FLAVOUR

*Organic tea and spices from India are ready to serve refreshing helpings to the world.*

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Nalini Ramachandran





**I**ndia's tea and spices saga is one steeped in history—evoking images of ancient trade routes and remarkable enterprise. These two commodities have spread the country's flavours across the world and gained a prominent position in the global trade market.

Over the past one decade, the country has further leveraged its agro-climatic strengths to popularise organic farming, which has been part of an inherited tradition in many areas. And with demand for organic alternatives growing, both in domestic and international markets, India is fast turning into a hub for organic tea and spices. In 2015–16, tea constituted 2% and spices 1% of India's organic food exports, which stood at around 263,687 MT and were valued at US\$ 298 million<sup>1</sup>.

### ANCIENT AND ABUNDANT

History evinces that had it not been for 'black gold'—as black pepper, which was valued during the Renaissance era as commodity currency, was called—Christopher Columbus and Vasco da Gama may not have left home looking for the spices of and trade routes to India.

In 2015–16, India's spice exports—the country is the largest spice producer and exporter in the world—were valued at nearly ₹ 16,238.22 crore (for 8.43 lakh MT)<sup>2</sup>; they are expected to fetch US\$ 3 billion by 2017<sup>3</sup>. Further, the domestic organic food sector is expected to treble in the next four years, according to a report from industry body Assocham and TechSci Research, which was released last year. Spices Board of India, a

**IN 2015–16, INDIA'S SPICE EXPORTS—**the country is the largest spice producer and exporter in the world—were valued at nearly ₹ 16,238.22 crore (for 8.43 lakh MT).

flagship organisation under the Ministry of Commerce and Industry, looks into the production, processing, quality, certification, funds, R&D, promotion, and the adoption of organic methods in this sector.

To boost organic spice farming in India, it has initiated several developmental programmes for encouraging organic cultivation of spices including turmeric, ginger, herbal spices, seed spices and chillies. It also helps farmers who pursue organic methods of cultivation to obtain certification. Further, it also works with the farmers in the development of vermi-compost units and supplies post-harvest aids for upgrading quality of the produce. The Board encourages non-governmental organisations and farmers' groups to adopt organic farming techniques.

Secondly, keeping in line with the growing demand in the international market, the Board facilitates sourcing of organic spices from India. The country has the capability to produce and supply a variety of organic spices. In addition, Spices Board also participates in various international trade fairs to



### ITEM-WISE EXPORT OF ORGANIC SPICES FROM INDIA (QUANTITY IN MT, VALUE IN ₹ LAKHS)

ITEM	2014-15 (P)		2015-16 (EST)	
	QTY	VALUE	QTY	VALUE
PEPPER	279.54	2,398.34	465.09	4,370
GINGER	168.81	644.39	323.34	1,355.35
VANILLA	4.6	93.13	7.05	814.87
TURMERIC	326.99	680	383.39	803.13
CUMIN	111.92	348.11	288.32	738
CHILLI	337	636.65	174.37	602.23
SPICE OILS AND OLEORESINS	36.17	565.41	13	598.17
MINT OIL	2.38	46.9	8.22	227.41
OTHER SPICES	35.42	256.49	49.82	210.22
NUTMEG/MACE	15.62	200.62	15.7	183.95
FENUGREEK	72.57	76.09	74.43	102.04
CARDAMOM (SMALL)	11.1	160.04	4	75.35
CORIANDER	63.8	123.92	28.96	47.43
OTHER SEEDS	59.02	72.65	39.11	46.27
CELERY	7.1	18.47	1.94	6.99
FENNEL	2.77	7.67	0.51	1.94
GARLIC	0.78	1.51	0.51	1.28
CURRY POWDER/ MIXTURE	1.66	9.33	0.32	0.84
<b>TOTAL (including others)</b>	<b>1,542.25</b>	<b>6,356.19</b>	<b>1,881.15</b>	<b>10,244.69</b>
Value in US\$ Million		10.32		15.66



Mint



Tea gardens, Nilgiris



Chillies from Mizoram



Pepper plantation



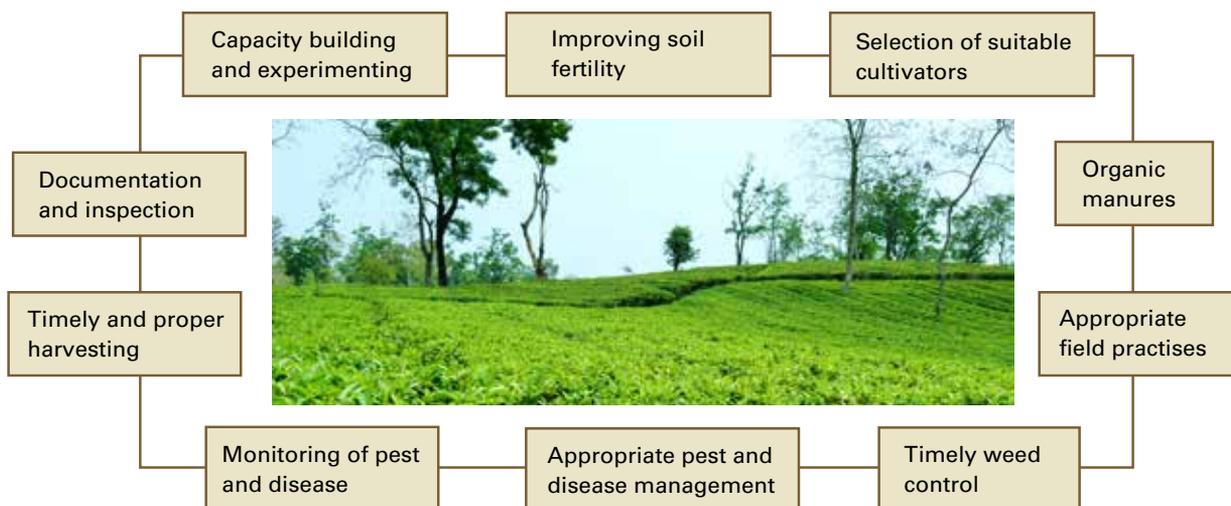
Small Cardamom



Turmeric

• Source: Spices Board; (P): Provisional; (EST): Estimate

## GROWING ORGANIC TEA - A SYSTEM APPROACH



promote Indian certified organic spices. The country exported around 1,881.15 MT of organic spices in 2015-16, valued at ₹102.45 crore. These measures augur well for the sector and exports are sure to rise in the near future.

### TANTALISING AND TRENDY

The Indian tea story commenced way before independence, when early successes in Assam and Darjeeling encouraged proliferation of tea estates in various parts of India. Today, India ranks second in global tea production.

A universal drink, tea owes its popularity to its reputation as a refreshing beverage, its versatility in modern cuisine, and the health benefits associated with it. Concepts such as ‘tea meditation’ are finding followers across continents. With an ever-increasing demand for this flavoursome, aromatic brew, Tea Board, India is focussing on upping production and export quantities of Indian organic tea. The Board’s January-October 2016 exports statistics show that 174.41 million kg of tea travelled from India to several countries including the Russian Federation (38.29 million kg), Iran (18.29 million kg), United Kingdom (12.59 million kg), UAE (11.47 million kg), and the US (10.60 million kg)—bringing in ₹3,464.27 crore in value terms<sup>4</sup>. An intrinsically labour-intensive industry, the government is attentive to tea growers’ concerns such as crop insurance, employment generation, and profitable returns.

### A FERTILE GROUND

The Government of India, through the Tea Board, has initiated several programmes and offered incentives to promote organic cultivation of tea:

- It offers 25% higher capital subsidy on investments for new planting/replanting/replacement or conversion from conventional to organic farming.
- 75% of the cost of organic certifications (subject to ceiling of ` 1.5 lakh per certificate including on renewal of certificate per annum) is borne by the government in case of SHGs/cooperative of SHGs setting up an organic tea factory.
- A tea factory applicant for organic tea production gets additional 25% on differential cost of production, compared to a conventional tea factory.
- Subsidy is provided for organic certification @50% of the certification fee subject to a ceiling of ` 1 lakh per certificate including renewals per annum.
- The government is also educating small tea growers on the benefits of organic tea cultivation and helping them build capacity.
- Tea Board ensures participation in international trade fairs for organic products, such as Bio-fach, Germany; Bio-fach, India; Gulf Food, Dubai; and Foodex, Tokyo. Buyer-seller meets are held to spread awareness about organic tea.

### SUSTAINABLE SIKKIM

The Indian government estimates that larger areas will turn to eco-friendly farming under its Paramparagat Krishi Vikas Yojana—wherein a cluster of 50 or more farmers having a total of 50 acres of land can benefit by practising organic methods together; the state of Sikkim became 100% organic in January 2016.

Without the determined efforts of the state government of Sikkim, this vision, which was seeded as early





as 2003, would not have found roots. To ensure all farmers take the Organic Sikkim Mission seriously, the government banned synthetic fertilisers and pesticides and included a law that penalised farmers for using such harmful products/methods.

To fulfil its vision, the Government of Sikkim took several measures to encourage organic farming. Although farmers were sceptical initially, they joined the movement once they understood how organic farming would bring them good yields. A strong organic infrastructure was built: even as farmers fought crop diseases using natural methods, government agencies set up bio-fertiliser factories, seed and food production units, and soil testing mechanisms and labs. Today, almost 77,000 hectares of agricultural land in Sikkim is organic. The government introduced organic farming as a subject in schools, brought in experts to educate farmers, and allocated a separate space for organic produce at farmers' markets. It wants to promote Sikkim's identity as India's first all-organic state through ecotourism: the state's only government-run tea estate, Temi Tea Garden, known internationally for its organic tea, offers quality brews to tourists, amidst spectacular views.

Seeing Sikkim thrive, other states like Kerala and Mizoram too are going the organic way. APEDA states that the total area in India "under organic certification is 5.71 million hectares (2015–16)." With more states following the organic path, and tea and spice production and exports forming a solid base, India is all set to live up to the OWC's theme—'An Organic World through an Organic India'. ■

1 [http://apeda.gov.in/apedawebsite/organic/Organic\\_Products.htm](http://apeda.gov.in/apedawebsite/organic/Organic_Products.htm)

2 Spices Board of India

3 <http://www.ibef.org/exports/spice-industry-indias.aspx>

4 [http://www.teaboard.gov.in/pdf/MC\\_Exports\\_2016\\_Jan\\_Oct\\_and\\_2016\\_17\\_Apr\\_Oct\\_pdf5587.pdf](http://www.teaboard.gov.in/pdf/MC_Exports_2016_Jan_Oct_and_2016_17_Apr_Oct_pdf5587.pdf)

**TODAY, ALMOST 77,000 HECTARES of agricultural land in Sikkim is organic. Seeing Sikkim thrive, other states like Kerala and Mizoram too are going the organic way.**

India, a primary producer and exporter of organic food, plays a key role in catering to the rising demand for organic foods, globally. The World of Organic Agriculture: Statistics and Emerging Trends 2016, a report by FIBL and IFOAM – Organics International, states that the country has the highest number of organic agricultural producers (650,000) in the world.

The country's population too has shown a growing awareness of the importance of consuming chemicals- and pesticides-free food. According to a TechSci report, India Organic Food Market Forecast and Opportunities, 2017, a majority of the demand for organic foods is originating from Tier I cities such as Mumbai, Delhi, Chennai, Bangalore, Gurgaon, and Pune. In foreign countries too, there is a demand for organic Indian food. According to APEDA (Agricultural and Processed Food Products Export Development Authority), India produced around 1.35 million MT (2015–16) of certified organic products, and its total volume of export during 2015–16 was 263,687 MT. In November 2017, India is also set to host the 19<sup>th</sup> Organic World Congress, a platform to share information about best practices of and innovations in the organic field, in New Delhi.



# The Sunrise Sector

*The Indian food processing industry is working towards fortifying its role in the global market as a leading exporter.*

Asha Sridhar, Head, Food Safety Services, TUV India Pvt Ltd.

**T**he food processing market in India has matured exponentially, and has today become one of the high-profit sectors for the government. Various lifestyle changes, together with a rich agricultural base, have created the demand for processed food in the country.

The industry was worth US\$ 258 billion in 2015 and is expected to touch US\$ 482 billion by 2020. It accounts for 32% of the country's total food market, and is ranked fifth in terms of production, consumption, exports, and expected growth. It also contributes around 13% of India's exports. During FY 2011-16, India's exports of processed food and related products (inclusive of animal products) stood at US\$ 16.2 billion.

This industry is also vital for boosting the country's rural economy since it creates an ecosystem comprising the consumer, the industry, and agriculture. A well-developed food processing industry increases farm gate prices, reduces wastage, ensures value addition, promotes crop diversification, generates employment opportunities, and export earnings.

## STRENGTHS

India has a strong and well-defined agrarian economy and this gives the country a definite edge in the food processing sector. Some of the key strengths are:

- It has 194.39 million hectares of gross cropped area with cropping intensity of 139%. With 127 agro-climatic zones, the country produces a variety of crops throughout the year and is the largest producer in several categories such as rice, wheat, banana, etc. It also has abundant livestock.
- One of the key reasons for increased demand of processed food in India is rapid urbanisation that is leading to significant changes in consumer lifestyle. A consistent rise in disposable income has given birth to a consuming class that has more choices, thanks to globalisation; they are also more health conscious and hence opt for health and nutritional foods.



**ONE OF THE KEY REASONS FOR** increased demand of processed food in India is rapid urbanisation that is leading to significant changes in consumer lifestyle.

- Geographically too, India enjoys an advantage—it is close to all the key export destinations.
- It has relatively low cost of skilled manpower compared to other countries.
- The rapid growth of organised retail has made the Indian market more attractive for global players.

## FULFILLING THE WORLD'S NEED

From FY 2011-15, India's export of processed food and related items rose at a CAGR of 23.3%. In FY 2016, animal and related products generated the highest export value, accounting for 26.4% of the total export value of key processed products. Processed vegetables, dairy products, and non-basmati rice are some of the other key export products. The export of basmati rice witnessed a significant increase from 7 lakh metric tonnes in 2000 to over 37 lakh metric tonnes in 2015. The government has created a single window customs clearance to facilitate imports and exports. The growth in exports can be attributed to the improved quality of products as well as packaging, along with more participation from private players. Some of the top export destinations include Saudi Arabia, the UAE, Vietnam, and the US.

## GOVERNMENT STRENGTHENING THE SECTOR

Taking into account all the above advantages, India is fast emerging as a preferred sourcing hub of processed food. This growth is further boosted by the government's various industry-friendly policies and initiatives:

- **National Mission on Food Processing**

The Ministry of Food Processing Industries has developed the National Mission on Food Processing scheme with the objective of decentralising the implementation of schemes and encouraging the participation of state governments. Under this scheme, there are various initiatives such as technological upgradation of food processing industries, creating primary processing centres in rural areas, and offering assistance to MSMEs—in terms of capital/technology/skills—to set up food processing units. This umbrella scheme has worked towards increasing agricultural productivity and developing the food processing sector to meet global standards.

- **Building Infrastructure**

One of the major focus areas of the government has been building a strong food processing infrastructure. The Mega Food Park Scheme has been designed to provide better financial support for building modern infrastructure facilities for food processing. There are plans to set up 42 such mega food parks across the country in the next three to four years, with an allocated investment of US\$ 2.38 billion. As of July 2016, eight such food parks have been launched. Across the country, 60 Agri Export Zones (AEZs) have also been set up with the aim of promoting the export of agricultural produce; out of the 134 cold chain projects sanctioned, 88 are operational.

- **Financial Aid**

For providing affordable credit to these food parks and individual food processing units within a designated park, the Government has established the Food Processing Fund with an estimated US\$ 300 million in National Bank for Agriculture and Rural Development (NABARD). Excise duty on plant and machinery for packaging and processing has also been reduced from 10% to 6%. To promote more participation by private players, the government has introduced various tax rebates, subsidies, and grants. The sector also offers 100% FDI under the automatic route in food processing industries.

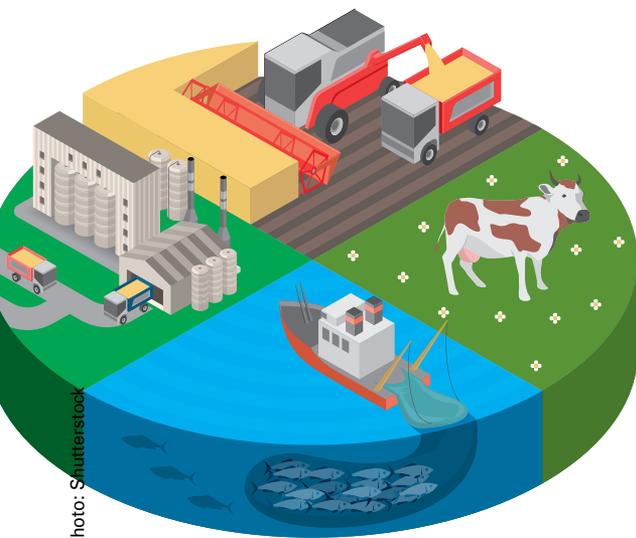
- **APEDA**

The apex body for export promotion of agricultural and processed food products, APEDA, has undertaken several initiatives to boost exports, especially of perishable food items. It has set up Centres for Perishable Cargo (CPC) that are common infrastructure facilities at various international airports, vapour heat treatment facilities, and aseptic packaging units and collection centres, among others. It also launched the scheme of infrastructure development, aimed at maintaining the quality of exports. These initiatives have strengthened the sector's export capabilities and opened access to new markets—such as exporting mangoes to the US, Japan, Australia, and China; basmati rice to Japan, Mexico, and China, etc.

Food safety is one of the primary concerns in international trade. Exporters need to meet the global standards of quality and safety to satisfy end consumers. APEDA has also developed new packaging standards and specifications; businesses that use these standards are offered financial assistance to the tune of a maximum of ₹5 lakh per annum. For tracking and monitoring the entire supply chain, a traceability system has also been introduced. This acts as a single-point system for all the stakeholders.

## THE ROAD AHEAD

The food processing industry contributes around 9% of India's manufacturing GDP. With the government's concerted efforts in boosting infrastructure, adoption of newer technologies, modernisation of food processing units, and strict adherence to safety and quality norms, the industry is poised for exponential growth. ■





# India's Backbone

*Increased spending on infrastructure in the last one decade has made India one of the strongest emerging economies in the world.*

MEGHA JAIN

**I**nfrastucture is a key growth driver for the Indian economy. The beginning of the last decade witnessed increased investments. It was also accompanied by a change in business models—from government-financed projects to those that entailed proactive participation by private players; this has led to more PPP (public-private partnership) projects, particularly in the road and power sectors.

## GOVERNMENT INITIATIVES STRENGTHENING THE SECTOR

**Smart City Mission:** This initiative is aimed at promoting integrated city planning—smart cities will have core infrastructure, clean and sustainable environment, and provide a good quality life to their citizens. The 2014-15 Budget had an allocation of ₹70.6 billion, while the 2015-16 Budget earmarked an amount of ₹3,205 crore for the development of 100 smart cities

across the country by 2020. Last year, the government announced the names of the first 20 cities to be included in the project. Since then, several countries, including the United States, Singapore, Spain, France, Germany, and Japan have committed funds for the project. Japan has invested US\$ 4.5 billion in the first phase of the DMIC project through lending from Japan International Cooperation Agency (JICA). France has announced US\$ 2.17 billion for the conversion of three Indian cities to smart city centres. UK, with the help of private companies from Britain, is collaborating with the Government of India for developing the Bengaluru-Mumbai Economic Corridor project. This mission has given a new momentum to the growth of the country's infrastructure and with increased foreign participation the project is on a fast-track mode.

**AMRUT:** The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme has been designed to enable better water supply, sewage management, individual and institutional capacity building, etc. There are stipulations in this scheme for convergence with parallel schemes such as Housing for All and other state-level initiatives. The government has approved an investment of ₹50,000 crore (US\$ 7.5 billion) under this scheme, and in the 2015-16 Budget ₹4,091 crore was further allocated. In the first phase, funds have been apportioned to 89 cities in three states for the period of 2015-16.

**Digital India:** The campaign was launched in 2015 to build a strong e-infrastructure that would empower citizens and build a more equal and inclusive India. The initiative plans to bring high-speed internet connection to the rural areas.

**External-aided projects:** These projects are important contributors to increasing surface infrastructure (road length) in India. The recent government statistics indicate 81 externally-funded projects that target to increase India's road network, of which World Bank has financed 30 corresponding to a road length of 1,465 km. Other donor-funded projects are carried out through Asian Development Bank (44 projects, 2,402 km) and JBIC (seven projects, 150 km).<sup>1</sup>

**Hygiene Infrastructure:** Swachh Bharat Abhiyan (Clean India Mission) is working towards creating a cleaner and greener India by eliminating open defecation, removal of manual scavenging, adoption of modern and scientific municipal solid waste management methods, bringing forth behavioural change for healthy sanitation practices, spreading awareness about sanitation and its

**INDIAN PORTS HAVE TOGETHER** handled a total of 1,605 million metric tonnes of cargo in 2015-16, and this traffic increased at 4.6% year-on-year to 264.73 million tonnes during April-August 2016.

linkage with public health, enhancing the capacity of urban local bodies (ULBs) and allowing an open environment for private sector participation in capex (capital expenditure) and opex (operational expenditure).

**Port and Shipping Infrastructure:** India has twelve major and 200 notified minor and intermediate ports. Indian ports have together handled a total of 1,605 million metric tonnes of cargo in 2015-16, and this traffic increased at 4.6% to 264.73 million tonnes during April-August 2016. In the last three years, US\$ 2.69 billion has been invested in the sector, while port projects involving investment of over US\$ 10 billion have been identified for award during the next five years. The government is developing coastal economic zones (CEZs) under Sagarmala Initiative<sup>2</sup> in close proximity to several ports comprising coal-based plants, steel plants, and oil refineries. Jal Marg Vikas, a Ganges-based project, will be undertaken as a pilot project between Allahabad and Haldia. This project is supposed to be completed over a period of six years at an estimated cost of US\$ 646.15 million. The government is closely working with private players in building strong port infrastructure.

**Mission Electrification for Railways:** With a rail network spanning over 66,030 km, Indian Railways is the fourth largest rail freight carrier and the

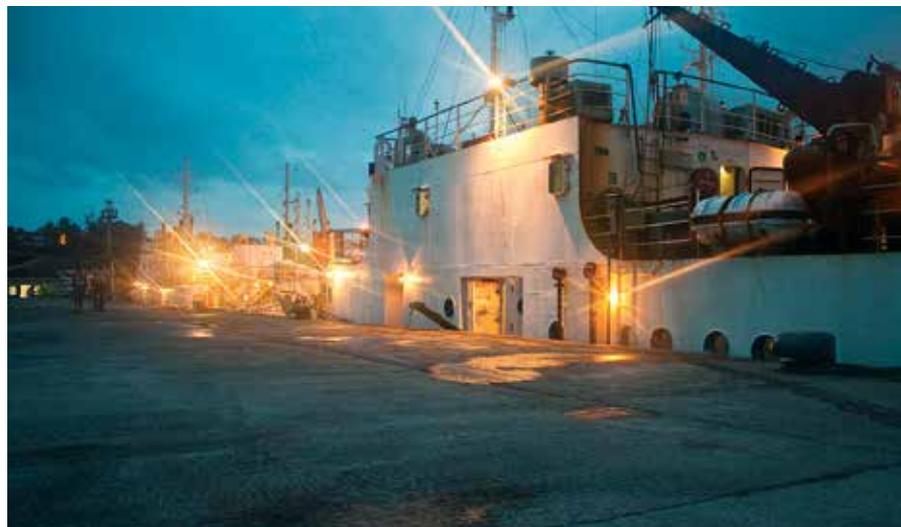




Photo: Shutterstock



Photo: Shutterstock

largest passenger carrier in the world. The government has plans to electrify an additional 24,000 km of rail tracks to the existing 28,000 km in the next few years. Indian Railways consumes about 18 billion units of electricity and about 2.4 billion litres of fuel oil, which is more than 2% of the country's energy consumption. The Railways' energy demand is anticipated to increase three fold by 2030 and reach 49 billion units of power<sup>3</sup>. Hence, decarbonising the Railways will help realise the pledge made by the government under Paris Agreement to reduce its GHG emissions by 33-35% by 2030 from the 2005 levels. Imported oil consumption will also come down with electrification, thus moderating the burden on the exchequer. The launch of high speed trains such as Gatimaan Express heralds a new era of e-revolution.

**Solar Wave:** The government has acknowledged the significance of solar power to the country's economic development. Blessed with 300 sunny days in a year

and receiving an average hourly radiation of 200 MW/sq km, India is well positioned to utilise its immense solar potential. Recognising this, the government integrated solar energy as a key mission under the National Action Plan on Climate Change and formally launched the Jawaharlal Nehru National Solar Mission (JNNSM) in 2010. This initiative is aimed at increasing India's solar power generation capacity in a phased manner. The Mission is planned for implementation in the following three phases:

- Phase I (Completed): 1,000 MW of grid-connected solar projects at 33 KV and above, 100 MW of rooftop and small solar projects, 200 MW of off-grid projects by 2013;
- Phase II: 4,000 MW (and 10,000 MWs on the uptick) gridconnected and 1,000 MW off-grid projects by 2017; and
- Phase III: 20,000 MW grid connected and 2,000 MW off-grid projects by 2022.

Early last year, India's grid-connected solar power generation capacity crossed the targeted 5,000 MW mark. Now, the government has set a target of generating 100 GW of solar power by 2021-22. It has also initiated schemes for the development of solar parks and ultra-mega solar power projects. The government has developed a 590 MW capacity solar park at Charanka village, Gujarat. Solar project developers such as Alex Astral, US-based SunEdison, Lanco Solar, Roha Dyechem, and GMR Gujarat Solar Power have set up plants in the park, and a total of 224 MW of solar projects have been commissioned by 20 developers. The park also accounts for 342,400 tonnes of Carbon Emission Reductions (CERs) and is projected to prevent around 8MTs of carbon dioxide from being released into the atmosphere and save around 9 lakh tonnes of natural gas annually.



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## INFRASTRUCTURE'S ROLE IN BOOSTING INDIA'S GLOBAL INDEX

The Global Competitiveness Report 2016-17 by World Economic Forum highlights infrastructure as one of the key pillars in measuring the competitiveness of countries under the Global Competitiveness Index (GCI). India lies in Stage-1 which consists of factor-driven economies<sup>4</sup> along with Nepal, Pakistan, and Bangladesh (from South Asian Region). In 2016-17, India scored 4.52 (out of 7) under GCI and leading the group of South Asian economies, was ranked at 39, climbing 16 places from 2015-16. The quality and quantum of infrastructure progress enabled the country to remain the best performer in 2016-17, outperforming other nations in the same stage of development.

Another similar performance indicator is World Bank's Logistics Performance Index (LPI) that is the international comparison tool to measure the trade and transport facilitation friendliness of countries. In recent years, India's performance has improved significantly—the country's ranking has jumped from 54 in 2014 to 35 in 2016. Better performance in logistics will help India become a part of the global supply chain and also necessitate trade facilitation.

## WAY AHEAD

Increased spending in infrastructure has a multiplier effect on overall economic growth—it ensures industrial growth and boosts manufacturing capabilities. Since physical infrastructure chiefly depends on fossil fuel-based energy sources, solar energy possesses the capacity to bridge India's energy demand-supply gap in the future. Gujarat and Rajasthan are two major contributors of solar energy in India. The Government of Gujarat has taken a number of initiatives to generate solar energy and make the state 100% energy has-

## IN WORLD BANK'S LOGISTICS PERFORMANCE INDEX, INDIA'S RANKING HAS JUMPED FROM 54 IN 2014 TO 35 IN 2016.

le free. If these initiatives are successful, it is only a matter of time before the country becomes one of the world leaders in solar energy<sup>5</sup>. On the whole, given the surge in private participation as well as policy reforms, analysts expect road and highway developers to perform better than other entities in the infrastructure segment<sup>6</sup>. The Indian government is attracting more investments in infrastructure by providing benefits such as easing of tax restrictions and multiple financing alternatives.

Under the present government, several projects have been commissioned that aim at the expansion and progress of consumer utilities, transportation, and communication needs, showcasing the priority given to the infrastructure sector. Relationships with private and foreign investors have also introduced long-term sustainability and global best practices in the infrastructure industry. Enabling this further are important government initiatives to ensure policy stability, ease of financing, transparency, and various legal and regulatory reforms.<sup>7</sup> ■

1 By Rajeev Anantaram, ICRIER

2 From Make-In-India web-portal

3 As per Railway minister, Mr. Suresh Prabhakar Prabhu

4 GCI is mapped through three different stages of development. In the first stage, the economy is factor-driven and countries compete based on their factor endowments, primarily unskilled labor and natural resources.

5 XVII Annual International Seminar Proceedings; January, 2016.

6 As per 2015 Business Standard article.

7 <http://www.india-briefing.com/news/prospects-indias-infrastructure-sector-12202.html/>



# Making a Mark

*Marks and Spencer entered the Indian market in 2001 and has gone from strength to strength ever since. That they have the highest number of stores in India after their home country—the UK—speaks a lot about their 'Indian ambitions'. Venu Nair, Managing Director, Marks and Spencer Reliance, India, speaks to India Now Business and Economy about their growth story and future plans.*



Photo: Marks and Spencer

“SUSTAINABLE ECONOMIC DEVELOPMENT, a growing middle class, and a good understanding of our brand make India a strong market for continued expansion.”

### **W**here does India stand in the present global M&S plan?

India is a key international growth market for Marks & Spencer. With 58 stores across 27 cities, India has the largest number of M&S stores outside the UK. We are also continuing to grow our online reach across the country via leading fashion platforms such as Myntra and AJIO. Through strong partnership with our JV partner, Reliance Retail, we are continuing to grow in scale and relevance in the country—the joint venture has seen sales double over the last four years, driven by strong like-for-like growth and store expansion.

### **How has been the journey of operating from India and what has been the most unique aspect? Can you identify the strengths of the Indian market and how it differs from other developing economies?**

With a population of over 1.2 billion, India is the fastest growing market in the world with a GDP growth of 7.6% (2015-16), followed by a further (anticipated) 7.5% growth in 2016-17. Sustainable economic development, a growing middle class, and a good understanding of our brand make India a strong market for continued expansion. The country is also an important sourcing hub. Our entire clothing



Photo: Marks and Spencer

business—in the UK, India, and across the globe—benefits from our Indian supply chain. India is one of the top five sourcing hubs for M&S’s global business. The abundant availability of raw materials such as cotton, wool, silk, and jute along with an experienced textile workforce and continued investments into factories have made the country a major player in the textile industry worldwide. We work with 94 factories in the country who employ approximately 93,000 people and manufacture around 33 million M&S products each year. We source clothing, accessories, and footwear products from India.

#### **How did a foreign retail brand work towards creating such a strong foothold in India?**

Customers have always been at the heart of our India plans to make every moment for them special and drive sales growth. Just as we are doing in the UK, in India too, every decision we make starts with our customer—our actions are driven by what they want, to make the brand more relevant. We have already seen that this can be an advantage—1.4 million customers in the country are part of our loyalty scheme and account for the majority of our sales.



### How strong is your online presence in the country?

The e-commerce market in India reached US\$ 16 billion in 2015 and clothing, footwear, and personal care account for a fifth of online sales. Consumers in India are increasingly choosing to shop online, fuelled by 371 million mobile users, which is why we are embracing this channel shift. In 2015, we launched on Myntra—which is India’s leading fashion platform—and today we have over 10 million active monthly users and deliver to over 9,000 pin codes across the country. We now have nearly 500,000 weekly visitors to M&S on Myntra. In April 2016, we launched on Reliance’s new platform AJIO. By working with some of India’s leading marketplaces we are able to harness their scale, infrastructure, and local expertise, while providing our customers with greater convenience and choice. Our online presence makes it even more convenient for customers to shop for our products.

Photo: Shutterstock



### Does the level of talent available in India match the goals and ambitions of the company?

Our people are our priority at Marks & Spencer. We work hard to create a supportive and creative environment to attract and retain the best talent so that we can continue to provide great service. At M&S, we provide significant training and development

opportunities for our employees so that they can grow with the company. We now have over 1,400 employees in India across our retail and sourcing operations. By the end of this financial year, we would have created 130 new jobs in the country.

### Have you customised your offerings to suit the Indian customer requirements?

Each season, our dedicated buying and merchandising team based in Gurgaon chooses an edit from our global catalogue of quality and stylish products to best cater to our customers in India. By increasing our local sourcing from Indian and South Asian suppliers—now at over 62%—we are also able to adapt and customise our product offerings for our Indian customers. For example, we are able to offer our quality linen all year round in hotter climates as in Mumbai while being able to sell knitwear in cooler cities like Delhi, in winter. Colour is also really important to our customers in India, so we offer four times as many colours of polo shirts and twice as many colours of linen shirts in India compared to the UK.

### What are the future growth plans in India?

India is our key international growth market. Along with our 58 bricks-and-mortar stores across 27 cities we are growing online too via Myntra, India’s leading fashion platform, and AJIO. We will continue to expand year on year. We opened seven new stores last year itself. We expect this growth to continue with the opening of around ten new stores in India every year. ■

*As told to Ashutosh Gotad*



Photo: Marks and Spencer

# Reality of the Future



*With a team of highly motivated individuals, all of whom share the common vision of coming up with innovative products based on virtual reality and augmented reality, this tech startup has made its presence felt across the world. This is backed by the fact that about 60-70% of its clients are from outside India. Hemanth Satyanarayana, founder and CEO, Imagine Software Labs speaks to India Now Business and Economy on the rapid advancements his company is making in this arena.*

**M**y interest in virtual reality (VR) and augmented reality (AR) goes back to my college days. These technologies hold immense potential to enhance the experience of reality. However, the idea of venturing into the VR/AR space struck me much later.

After having worked in VR/AR startups in the US for eleven years, I had returned to India. During a casual visit to a textile shop along with my family, I realised the inconvenience faced by women while selecting saris. It is difficult to know whether a particular sari would suit one or not—seeing a mannequin wearing it or a salesperson draping it around him/her would not really help. This prompted me to think of a solution wherein a customer could have a virtual sari trial, by combining the techniques of computer vision and image processing. That is how Imagine's journey began.

## WHAT WE DO

Initially, ours was a three-member team, including myself and two college students. The first product we developed was Dressy (previously called TrialAR), a virtual trial room that helps a person try on apparels/ jewellery. It comprises a 50-inch LCD screen, an advanced CPU connected to HD cameras and a user interface that serves as a dressing table.

Once the prototype was ready, we approached a few retailers in Hyderabad and the response was good. Users have to just stand in front of the screen and try a dress through hand gestures. This would give them a fair idea of whether a particular pattern or sleeves or

## WE HOPE TO CASH IN ON THE Government's initiatives to showcase our work at a pan-India level.

colour would suit them or not.

In 2012, we went on to win the MIT TR35 Innovator of the Year Award; following this, we received a lot of media attention and it brought us into the limelight. Investment too started flowing in. We later pivoted our business model to a software-only service. We now provide Dressy software to e-commerce and bricks-and-mortar stores in the form of an iPad app, thereby enabling them to offer virtual fitting service.

Our second product was an Augmented Manual which we made for Thermo Fissure, a US-based refrigerator manufacturer. The challenge they faced was the inability to carry a lot of manuals while repairing a device. We used AR in the form of a simple app—the user only has to open the app in our device and point it at the hardware. The app immediately tells what is wrong with a particular part and how to repair it.

We also developed HeritageAR, an app for the Aga Khan Foundation. It is an AR-based guide for one of their heritage sites—the Quli Qutb Shahi Tomb—in Hyderabad. While exploring historic structures, we either refer to placards, or go by audio-based guides. We created a mobile app which can be downloaded at the reception of the site, free of cost using Wi-Fi. When users open the app in their device and point the camera at the site they want to



## THE VIRTUAL FITTING ROOM



Tombs at Aga Khan Foundation; on the right, a view of the tomb through the app HeritageAR.

## INDIA'S FIRST AR SHOOTING simulator for the Army, ShootAR enables a soldier to see virtual targets in a real room.

know about, they can view its 3D model which they can turn around and see all the details. This helps them get relevant information without the assistance of a travel guide.

Our next product ShootAR—an augmented reality based shooting simulator—was developed for the Indian Army back in 2012. It happens to be India's first AR shooting simulator for the Army—it enables a soldier to see virtual targets in a real room. The soldier has to point a sensor-controlled gun at targets popping up suddenly in the room and shoot at them. The application will automatically detect a hit or a miss.

Our latest product is NuSpace, a virtual platform where users can see and talk to each other although they are not present at the same place, and also interact with the environment as they do in the real world. All they need is a VR headset compatible with NuSpace. In the virtual world we have created, the host can offer others information with the help of videos, PPT presentations, PDFs, 3D models, etc. Any person present in the meeting can interact like he/she would in a real room, though he/she is actually present in his/her own office, home, or any other remote location. NuSpace finds applications in industrial training, employee training, etc., and it was awarded the Most Innovative and High Potential Product Award at the NASSCOM Product Conclave, 2016.

Today, we are a ten-member team—five in the creative team and five in the programming and execution team. What is common in all of us is the zeal to create innovative products which will be recognised across the world.

## MARKET RESPONSE

The market response has been good for Dressy. However, we are yet to finalise the financial model which would place us in a comfortable position. We have not done any formal marketing; our popularity has spread through word of mouth—every week, we have a few retail stores signing up for Dressy. Also, clients contacting us for other requirements get interested in NuSpace when we tell them about it.

We supply our software mainly to companies, and not individuals. Within two years, probably we would reach out to consumers directly. For Dressy, we may introduce a 'pay-per-click' model, wherein we would charge a rupee for every virtual trial when we enter the B2C market. For now, we plan to charge a one-time cost—say, something like US\$ 40,000.

For NuSpace, we follow a monthly subscription model, and also charge a platform customisation fee. So if clients want their virtual environment to look like that of the seventieth floor office of Bank of America in New York, or simply like a garage in Chennai, we can make it happen by charging a customisation fee.

Until the last financial year, we were growing at about 1.5 times or so. But in FY 2015-16, growth went up by about 2-2.5 times in terms of revenue, and we broke even. This year too, we have witnessed good growth, and the numbers look promising. So, we are optimistic about ending the year with remarkable success.



**ShootAR**  
AR Simulation for Indian Army

Images courtesy: Imagine Software Labs



Demonstration of the Augmented Manual, an Imagine product.

## APPLICATIONS FOR AR/VR

I have been working in the field of VR and AR since 2004, and I am aware of what is happening globally in these fields. Today, everyone is building VR and AR apps. But five years from now, one app might be used in the field of communications while another may be in the field of entertainment, and they will not be seen as competitors at all.

The VR and AR space in India is getting more competitive by the day. We will soon find more VR- and AR-based games though it will take a few more years for them to find industrial applications. These technologies can find many applications in the fields of productivity, training, and entertainment too. For instance, until now we have been seeing cinema only as a means of entertainment. But VR and AR have lent it a whole new dimension. People may consider them as just entertainment, but we can definitely take them beyond that. Someday, Sachin Tendulkar sitting in India could be training another cricketer in Portugal through the use of VR.

As far as Imagine is concerned, Facebook is a competitor, especially since they recently announced their VR-based networking platform. Another is

## SOMEDAY, SACHIN TENDULKAR in India could be training another cricketer in Portugal through the use of VR.

AltspaceVR. However, my view is that competitors have their own vision and would pursue their own paths.

## THE FUTURE

Dressy is popular, but NuSpace is about 4-5 times bigger in magnitude. We support a lot of platforms on NuSpace and we want people from across the world to connect through it, which is a challenging task. At present, we are working on an application of NuSpace in which we will offer a real-time dive-through from the sky into any facility—a drone with multiple cameras will provide a live fly-through experience of say, a flooded region. Technically, it is complex, but it is one of the products we are planning to come up with. We, at Imagine, also hope to cash in on the government's initiatives and showcase our work at a pan-India level. ■



# Making the Cut

*Be it designing a crown for Queen Elizabeth as part of the Royal Jubilee window display or being the first Indian brand to exhibit in the Fine Jewelry Room at Harrods, London, Amrapali has been bringing the beauty and richness of Indian heritage to the world. In an exclusive with India Now Business and Economy, Tarang Arora, CEO and Creative Director of Amrapali, tells us how the premium jewellery brand was born out of the passion of two heritage enthusiasts and history students —Rajiv Arora and Rajesh Ajmera.*



Above: Polki multi-strand necklace and earrings with South Sea pearls.

**T**hough hailing from a family of lawyers and doctors, my father

Rajiv Arora was always passionate about art and crafts. He could not visualise himself in a mundane 9-5 job; he always wanted to start something of his own. And his dream got materialised when he met another like-minded person, Rajesh Ajmera, at college. Their shared passion for art and crafts led them to start a business venture.

### FROM HISTORY STUDENTS TO JEWELLERY CONNOISSEURS

In 1978, they started a handicrafts business in a small shop in Jaipur. With their meagre savings, they hired a carpenter and started creating wooden boxes with inlaid brass designs. These were sold to shop owners or individuals, and gradually they started getting orders from across the country. One summer, they received an order for garnet strings from a customer in Delhi—this changed the course of the venture. While working on this order, they came to know that this precious stone was available in Jaipur, and also that the city was a hub of various kinds of semi-precious stones



Tarang Arora, CEO and Creative Head, Amrapali Jewels



### Rajiv Arora (left) and Rajesh Ajmera, Founders, Amrapali Jewels

and has a strong history in jewellery. This ‘discovery’ led them to a one-of-its-kind road trip—both of them travelled to the hinterlands of Rajasthan to explore its jewellery heritage.

In their second-hand Fiat, they went to various towns and discovered pawn shops in *sarafa* bazaars. They bought several jewellery pieces and interacted with the locals to understand the story behind each. It was with these ethnic pieces that they started their jewellery business in 1980. Initially, they used to recreate jewellery—for example, they would dismantle a necklace and make it into ear pieces. They gradually moved to gold jewellery in 1995 and today, we sell silver, semi-precious, gold, diamond, and fine jewellery.



## INDIA INSPIRED

They realised the beauty and richness of tribal jewellery during their early years of travel across the country. Every piece of jewellery has a history and tells a story. So, they wanted to recreate the allure of tribal jewellery and bring it to the masses. Till today, our main inspiration has been tribal jewellery from various parts of India.

While keeping the basic designs intact, they added some new elements and created trendy silver pieces. Their designs gradually became fashion statements, and soon Bollywood stars started coming to Jaipur to buy these ethnic pieces. At that point in time, most people had never imagined that the jewellery worn by rural/tribal women would become a trend someday.

Amrapali redefined jewellery in the 1980s. The foundation of the brand's design sense is the rich culture and heritage of India. Being an Indian jewellery brand, we always remember to incorporate a certain degree of Indianness in our work. Even contemporary pieces would have an Indian touch in the form of enamelling or motifs. The inspiration could be random traditional items such as *jooti* (traditional footwear), *pan-daan* (betel box), hookah, and hair pin. Till date, my father and his partner have collected more than 2,000 such items that serve as our inspiration.

## REDEFINING INDIAN JEWELLERY GLOBALLY

It was in the year 2002 that we first ventured out of India to be a part of an exhibition celebrating Bollywood at Selfridges, London. It offered us a platform to showcase our products to the international market. The response was so overwhelming that we were asked to stay beyond the 23 days of the show. And Amrapali continued to showcase and sell products in London for almost nine years.

Today, London is our second base where we have a store in Selfridges and a presence at Harrods. We are also present in seven other countries. This unprecedented global growth has been possible due to the overwhelming global demand and appreciation of Indian craftsmanship and designs. When we entered the global market, there was hardly any one selling authentic Indian jewellery and hence we had the first-mover advantage. We created a point of difference for Indian jewellery in the global space. From creating designs for the entire cast of *Troy* to designing for the royalty, Amrapali fast became the preferred Indian jeweller in the international market. Actors such as Rihanna, Rachel McAdams, Jennifer Lopez, Meryl Streep,



Meryl Streep wearing Amrapali's diamond and aquamarine earrings at the opening of the Tokyo International Film Festival 2016.

## WE CREATED A POINT OF difference for Indian jewellery in the global space.

Penelope Cruz, and many more now walk the red carpet sporting Amrapali pieces.

For people outside the country, the first impression of Indian jewellery is that of royalty—big and bold pieces worn by maharajas. We want to change this perception and make jewellery that has a universal appeal. Contemporary designs are infused with the richness of our heritage, but are simple and wearable. Creating a perception change may be difficult, especially today where we are living in a brand-conscious economy. Consumers are in search of uber luxury; they are ready to spend money on a product not just because they like it, but because they want to be seen wearing a trending brand. However, Amrapali wants to create jewellery that can be passed down through generations, possessions that would become heirlooms. Achieving that in a brand-conscious economy is going to be a challenging task.

## THE CRAFTSMANSHIP

In this age when most ornaments are machine made, we still believe in the exquisiteness of hand-crafted jewellery. All our pieces are meticulously created by our talented craftsmen and go through a thorough quality check. At present, we have more than 1,600 craftsmen on the payroll and most of them are from remote villages or towns. We also have members of individual households working for us. When the business was launched, my father and his partner did not have enough funds to set up a proper

All jewellery pieces of Amrapali are handcrafted.



workshop, so they outsourced most of the work to families in Rajasthan; they are still part of our business. Most of these households are situated in remote parts of the state, so we send the designs and details by post; the craftsmen come to Jaipur once in every three weeks with the final piece and collect the payment.

### CHANGING DESIGN SENSIBILITIES

It has been more than 20 years since I joined the company, and today I, my sister, and my wife are part of the next generation who will carry forward the legacy of Amrapali. Since its inception, we have witnessed several changes in the styles and designs preferred by customers, and we have redefined our pieces to suit their requirements. But our design core remains the same—having the quintessential Indian touch to every piece of jewellery. Two-and-a-half years ago, we went online with Tribe, a digital exclusive brand, conceptualised by my wife. The new generation prefers more simplistic designs, pieces they can wear every day instead of heavy jewellery. That was the main idea behind creating this line.

### THE ROAD AHEAD

Since inception, there was no growth strategy—the founders followed their passion and it is their sincerity and hard work that has made the brand what it is today. Even though my father had an MBA in marketing, he strongly believed in not advertising the brand. His

**WE NEED TO ADAPT TO THE changing market requirements even while keeping the essence of the brand alive.**

strategy was to create a product that would speak for itself and get popular through word of mouth. Until today, this has been our primary growth strategy.

We need to adapt to the changing market requirements while keeping the essence of the brand alive. Unlike in earlier years, customers today would prefer to spend ₹40,000 on three different items than buying just one big piece. As a brand, we are always trying to understand such shifts and finding innovative ways to better serve our clients. Going forward, we would like to work towards creating a strong foothold in the global market as a premium Indian jewellery brand.

In the next few years, we plan to expand our presence in the US; but since it is a more established market, creating a niche for Indian jewellery might be a challenging task. But the Indian market too is getting more organised. India has the world's largest youth population, and this would serve as an advantage for companies including Amrapali. ■

*As told to Titash Roy Choudhury*

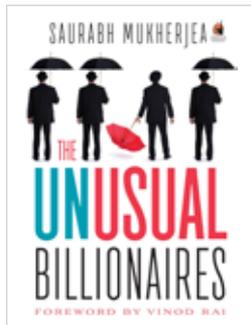
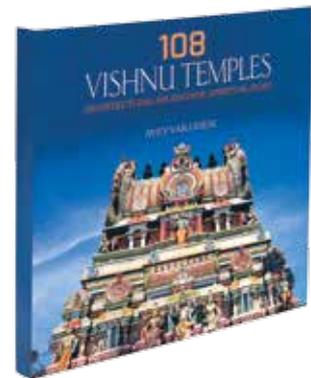
# BOOKSHELF

## 108 Vishnu Temples: Architectural Splendour, Spiritual Bliss

Avey Varghese

PUBLISHER: NIYOGI BOOKS

*108 Vishnu Temples: Architectural Splendour, Spiritual Bliss* is a pictorial journey into ancient architecture and the art of temple construction and sculpture with interesting trivia about 106 Vishnu temples across the length and breadth of India; a devout Vaishnavite is expected to complete a pilgrimage of these sites to gain access to the two temples in the mystical realm. These temples are collectively known as the 108 *Divya Desams* among Vaishnavites, particularly those from South India. With detailed images and wholesome information on the temples' history, architectural brilliance, art forms, rituals, beliefs, and landscapes, the book is aimed at connoisseurs of art, architecture, and literature. The book opens up an incredibly fresh experience of knowing these veiled jewels from the pages of the past.

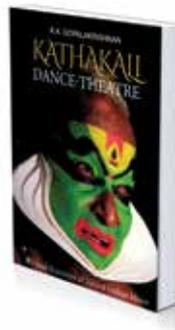


### The Unusual Billionaires

Saurabh Mukherjea

PUBLISHER: PENGUIN

What makes a company truly outstanding? What is the secret sauce of delivering successful results over multiple decades? What is common to Asian Paints, HDFC Bank, Axis Bank, Marico, Berger Paints, Page Industries and Astral Poly? They are unusual companies built by unusual billionaires. This book tells the story of these seven companies, handpicked out of 5,000 listed on the stock exchange. Built by visionary business leaders, they have delivered outstanding results for a decade and more. Saurabh Mukherjea, bestselling author of *Gurus of Chaos*, delivers an exceptional book with lessons to learn from these seven businesses.

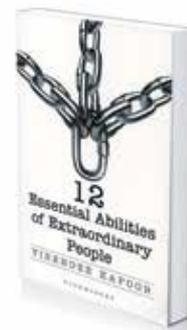


### Kathakali Dance - Theatre: A Visual Narrative of Sacred Indian Mime

K K Gopalakrishnan

PUBLISHER: NIYOGI BOOKS

Kathakali, originating in Kerala, has a 400-year-old heritage, and is considered one of the great artistic wonders of the world. *Kathakali Dance-Theatre*, written by one of the highly regarded writers of our times on Kerala arts traditions, records the art of Kathakali comprehensively, right from the scenario that paved the way for its origin and development to its present history. The rendition of the author's experience and the detailed glossary make it immensely readable.



### 12 Essential Abilities Of Extraordinary People

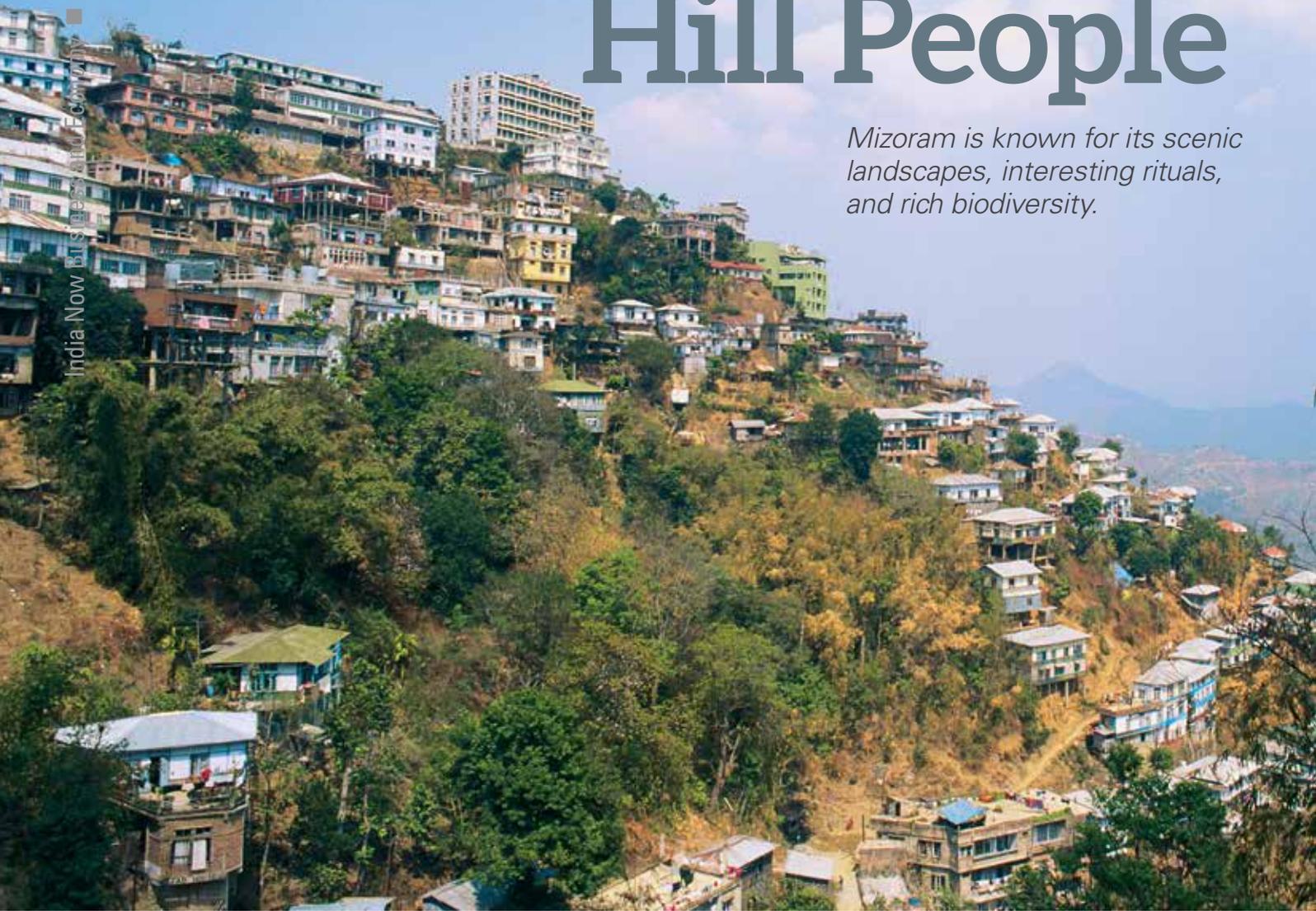
Virender Kapoor

PUBLISHER: BLOOMSBURY INDIA

This book is not about changing the way you dress or learning to master punctuality—it is about serious life-altering traits which dig deep into your DNA to turn you around as a person. These traits—which Gandhi, Lincoln, Helen Keller, Tendulkar, Tata, or Eisenhower had—are viewed as God's gift. Just because we are not born with them, it does not mean we cannot learn to become that way. If you want to become an effective person regardless of where you stand in life's continuum, then this book is for you. It will be your mentor, explaining, demonstrating and guiding you through each of these traits which make great people.

# In the Land of the Hill People

*Mizoram is known for its scenic landscapes, interesting rituals, and rich biodiversity.*



Text: Sowmya Dechamma and P Thirumal

**E**very time one travels to Mizoram, one does not just get visually overwhelmed by the enchanting power of the alluring mountains but learns to listen to the mystique range of the eastern Arakan mountains. Listening transforms and helps one understand the quiet force of the Blue Mountain. Aizawl city perches itself across a series of very steep hills, and its geographic location may be considered more arboreal than terrestrial. The view from the airplane and the one-hour drive from the airport to the city are equally

enchanting. The roads from the airport, which could be a nightmare during monsoons and landslides, are now pretty much perfectly laid and it was such a pleasure as we drove down to the city.

Over the last hundred years, the city has grown from being a small colonial garrison village known as Aijal to becoming a bustling commercial, administrative, and cultural centre. It is spotlessly clean and we heard from the Deputy Mayor that Aizawl aims to be the cleanest city in the country in the near future. Shared taxis are affordable for moving from one end of the



## AIZAWL IS A HUB FOR transnational Mizo music. Music greets you whenever you enter a shop or a house or any locality.

people, everything makes one feel that another visit to Aizawl is a must. If one is looking for conventional tourist places, clichéd ideas of historical monuments and such, Aizawl is not the place. It is for those who would love to be, even if it is difficult, one with Aizawl and its people.

In the Chanmari market area, life bristles with hawkers selling cheap imported merchandise. Bara Bazaar is even livelier. From knives, dried fish, and dried chillis to clothes, trinkets, and winter wear, and from pirated CDs to colourful and fashionable shoes and sports shoes—you name it and it is there, all in one place. And, we heard absolutely no complaints against the government's sudden demonetisation drive. In fact, there was hardly any queue to withdraw money from banks. What should also be mentioned is the traffic etiquette of the people. Perhaps because of the winding and steep roads, everyone is mindful of rules. We, as pedestrians, were pleasantly surprised more than once when we were literally treated as the kings of the road. The many winding roads get connected to each other through staircases in Chanmari and elsewhere.

city to another. But then, if you like walking, Aizawl is a walker's paradise. Once we were done with our two-day academic engagement, Aizawl opened up to us through our walks. The early morning sun that engulfed the hills and the city in orange is a must-see for anyone who wants to experience the charm of Aizawl. From Chaltlang, where we stayed in the government tourist lodge, all the way up to Chanmari market area to Bara Bazaar to the centre of the city where the Indian Army's Assam Rifles is housed, we covered quite a lot of Aizawl on foot. The narrow winding roads that take your breath, the view as you walk up and down, the jolly locals, the numerous small shops and the occasional big ones, the warmth of the



Image: Shutterstock



Above: A tribal family in Aizawl.  
Below: A craftswoman weaving a sari.

## AIZAWL IS FOR THOSE WHO would love to be, even if it is difficult, one with Aizawl and its people.

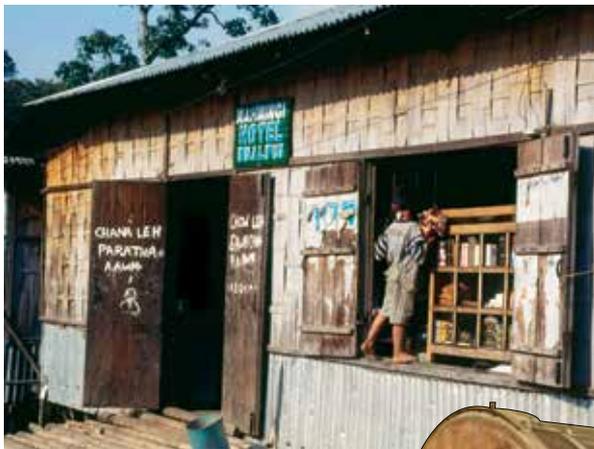
Christmas around the corner made Aizawl almost magical. The various lights that adorned the city in the nights, localities that were decorated with themes from the Bible, the Christmas songs and music once heard all through the day made Aizawl almost ethereal.

What better way to savour a place other than through its food! Sticky rice, watery soup with lentils, green leaves, some meat (fish, pork, chicken, beef), lot of boiled-cooked vegetables and greens form the staple culinary diet of an average Mizo. Most of our food came from the roadside eateries that are housed in 8 sq ft rooms throughout the city. It is here that one gets to know the face of the city. From local Mizos to occasional tourists like us to the migrant population from Bihar, Assam, and Sylhet, people walk into these eateries for their early morning snack and meals thereafter. If you want to try traditional Mizo food,



try Red Pepper in the Chanmari area and Zo Foods in the Army cantonment area, near Vanapa Hall. From the rice beer at Red Pepper to the beef stew at Zo Foods, food in Aizawl has to be savoured for its subtle flavour. If you are looking for places to stay, there are a few hotels and also quite a few decent government tourist lodges.

Like most areas of the North-East, Aizawl too is sports crazy. Every locality has an indoor stadium for playing badminton. The community in each locality



maintains these facilities. Football is the most prominent sport and it is played on the streets, inside homes and wherever possible. For sports lovers, it is a treat to watch kids and adults alike kicking the ball all through the day, and see several shops selling sports gear. To find a plain ground is such a luxury in this part of the world. Colonial officers had a tough time mapping this rebellious geography.

Aizawl is a hub for transnational Mizo music. Music greets you whenever you enter a shop or a house or any locality. Young men and women from each locality compete with their counterparts from other localities in producing music. One cannot escape the sweet cadence of Mizo Christmas carols sung in the most lyrical of Indian languages. The Mizo choir is nationally and internationally well known, and Western music of Mizoram is also popular and heard all over Northeast India, and also across the border. Among the locally produced TV genres, music video has remained the most popular one for many years. For Mizos, music is a way of life.

Among the very few 'touristy' things we did was visiting the grand Solomon's Temple on our way back from Mizoram University. A project that is going on for the last twenty years, the church is imposing in its structure and architecture. The other must-visit for tourists is Reiek, a great spot for adventurous tourism. It is an hour's drive from Aizawl and offers an incredible trekking experience. It takes more than two hours to reach the peak and one encounters incredible flora, especially orchids hanging from the moss-covered surfaces of the mountain range. To witness the cliffs from such heights is at once a

challenge and a breathless experience for people from India and other parts of the world.

What better way to wrap our memories of Aizawl other than in a *puan*! Buying the traditional Mizo skirt, that is artfully woven in vibrant colours and designs, made our Aizawl trip almost complete, not to mention a whole bunch of our Mizo friends. ■

Top left: A hotel in a village near Aizawl. Top right: *Cheraw* bamboo dance performers sporting attractive headgear. Centre: Drums play an important role in the religious and social life of the Mizos.

Photos courtesy: Dinodia



Image: Shutterstock

# WHAT'S NEW @IBEF

## Brand India Engineering @ Big 5, Dubai

IBEF collaborated with Engineering Export Promotion Council (EEPC) to promote the Indian pumps and valves and construction sectors at the Big 5, Dubai, during November 21-24, 2016. The Big 5, Dubai, is the largest construction show in the Middle East.

The 2016 edition was attended by 2,586 suppliers and more than 78,869 participants. Over 50 Indian companies participated in the event. IBEF's brand campaign incorporated venue, print advertising (*KhaleejTimes*), and SMS marketing.





## FUTURE OF TECHNOLOGY

India is expected to be home to 11,500 tech start-ups by 2020



For updated information on Indian business and economy, log on to [www.ibef.org](http://www.ibef.org)