

BusinessLine

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African safari

India has striven to improve its presence in Africa, but is nowhere near China

It's the final frontier — a continent of untold natural wealth with which India has had links since time immemorial and where rising prosperity has created attractive markets all the way from South Africa to Zambia, Kenya and smaller countries such as Mali. India's corporate sector is already making a multi-billion thrust into Africa and its efforts are being matched by the Centre, which is determinedly wooing countries across the continent. In 2015, 41 African leaders turned up for the India Africa Forum Summit in New Delhi and now India has followed up that event by hosting the annual meeting of the African Development Bank (AfDB). Significantly, Japan's deputy finance minister is also in Gandhinagar to figure out the role his country can play in Africa.

For India, making a strong bid to increase its presence in Africa has become a geopolitical imperative as it looks for ways to counter an ever-more muscular China, which has grabbed the lion's share of African business opportunities. India offered African countries a \$10-billion line of credit in 2015 and, more recently, it offered Kenya a \$100-million loan for agricultural mechanisation. In Africa, though, Indian trade has not followed the flag but gone out far in front of it. India has made investments of roughly \$54 billion in the continent in the last 26 years and many more companies are zeroing in on opportunities. Among the heavyweight players are Airtel, which placed a \$10.7-billion bet on Africa by buying Zain Telecom with its continent-wide networks. Airtel Africa has struggled but finally turned a small profit this quarter. Other big players include state-owned ONGC Videsh which has bought into oil and gas properties in Mozambique and Sudan. Similarly, Vedanta Resources has spent \$2.6 billion on Zambia's Konkola Copper Mines. The oldest and biggest Indian player in Africa is, of course, the Tata Group which is in everything from trucks to power, chemicals, hotels and beverages in 12 countries. At a different level, companies such as Godrej and Marico sell personal products like hair oil across Africa. Inevitably, corporations setting out on an African expedition have encountered a variety of pitfalls. This month, Sudan refused to renew OVL's contract unless it awarded higher royalties. And Karuturi Global, which leased vast farming tracts in Ethiopia and made smaller investments in Kenya in an ambitious bid to become the largest cut-flower grower, has landed in some bad tangles.

But India is still far behind the Chinese in its efforts to carve out a major share of the African market. About 15 per cent of India's foreign investment is going into African countries but that's nowhere near the Chinese, who've built roads and bridges and even a large share of the fishing industry along the coast. India has to team up with the Japanese to match China's financial muscle but it will need a concerted effort by both the private sector and the Government to come up from behind.

New factory index may push up GDP

While it marks an improvement on earlier IIP, use of just WPI as deflator may overestimate output when input costs are low

BARENDRA KUMAR BHOI

Researchers, policymakers and other stakeholders found the old IIP series (base 2004-05) volatile and inconsistent owing to wide fluctuations, sharp revisions and unexpected/sudden trend reversals. The link between this series and the gross value added in the manufacturing sector has been weak and often unbelievable.

The Central Statistical Office (CSO), ministry of statistics and programme implementation (MoPSI), has revised the base year for IIP from 2004-05 to 2011-12 in order to achieve twin objectives: (a) to reflect changes in the industrial sector, and (b) to align it with the base year of other macroeconomic indicators such as GDP, WPI, etc.

Some features

The distinguishing features of the new IIP series include, *inter alia*, the following. First, the selection of items has been done at the 3-digit level of National Industrial Classification (NIC) 2008 as against selection at 2-digit level made in the earlier series.

Second, the weight of electricity has gone up considerably, from 6.99 per cent to 10.32 per cent, to reflect the inclusion of renewable sources of energy, while the weights of other two major groups have been reduced modestly.

Third, the use-based classification has been re-framed by replacing 'Basic Goods' with 'Primary Goods' and introducing a new category called 'Infrastructure/Construction Goods'.

Fourth, data for capital goods in the new series will now be captured in terms of 'work-in-progress' in or-

der to avoid reporting of production figures in bulk after the production is completed. In view of these improvements in the compilation procedure and change in the base year, the new series is expected to be relatively more consistent, reliable and less noisy.

Comparative picture

Data for the overlapping period from April 2012 to March 2017 are currently available according to both new and old bases.

These two sets of data are not strictly comparable for obvious reasons. (a) The indices for the base year 2011-12 have been normalised to 100 at monthly level; (b) The item baskets are different with the inclusion of new items and exclusion of old ones; (c) The electricity sector now captures data on renewable energy sources; (d) The coverage of the mining sector has undergone a change; and (e) The number of factories in the panel of reporting data has been increased.

Nevertheless, the new series for the overlapping period looks less volatile and consistent. This could be attributed partly to the recording of capital goods production as 'work-in-progress' and the inclusion of new items such as renewable sources of energy, whose output may be less seasonal.

Moreover, growth rates in the new IIP series have been generally higher than in the old one. Annual growth rates of the new IIP indicate that industrial production in India grew consistently at a higher rate than those reported earlier according to the old series (*see table*). A similar pattern is also visible at the sectoral level.

There is obvious curiosity to know why the new IIP series is



How they stack up Industrial output numbers RAMESH SHARMA

showing consistently higher growth over the old one since 2012-13. Out of 407 item groups (including mining and electricity) in the new series, 258 item groups are common, with the existing basket having a weight of approximately 84.6 per cent. The number of new items, with a weight of approximately 15.4 per cent in the new IIP series, is unlikely to influence IIP growth to such an extent. A deeper understanding is needed to dispel the doubt as the state of the industrial sector in India has been lacklustre in the recent period.

Understanding the data

Some data included in the IIP series are collected in value terms. These data are deflated by WPI to remove the price effect.

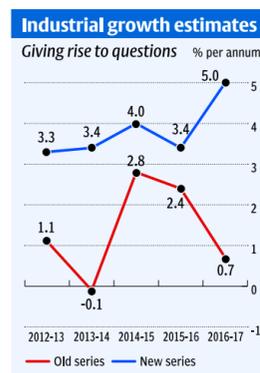
In the new IIP series, data for 109 item groups are being collected in value terms as compared to 54 item groups in the old series. Earlier, these data were deflated by the old WPI series (base 2004-05). Now the new WPI series is available with

2011-12 as the base year. WPI inflation according to the new series is consistently lower compared to the same according to the old series. As the deflator is much lower now, the IIP data collected in value terms would show higher volume in real terms. Other contributing factors could be fresh items included in the new IIP, particularly renewable sources of energy.

Effect on GDP estimates

This has obvious implications for the revision of GDP estimates. Earlier, the old WPI series was used as a deflator to estimate real GDP in several sectors. As mentioned, the new WPI series has already pushed up industrial production. In most of the services sector, the new WPI series will also be applied to arrive at real GDP since 2012-13. In view of this, India's real GDP data are expected to be revised upward going forward.

In most of the developed countries, GDP is estimated through double deflation — deflating input



and output by their own indices rather than by using a single index. India and China continue to estimate their GDP through single deflation. The real GDP may be overestimated under single deflation, if input prices have been rising at a lower rate than the output prices, and vice versa. Therefore, the System of National Accounts (SNA) 2008 — a standard compilation manual of IMF — has suggested the use of double deflation to estimate real GDP.

GDP data according to the new series is already under severe attack. Further upward revision in real GDP may intensify the debate regarding their accuracy. The controversy relating to GDP estimation in India may be partly resolved if the CSO adopts the double deflation method for estimating India's real GDP consistent with international best practices.

The writer was former principal adviser and head of the monetary policy department, RBI

The ICJ and Jadhav: What say Pakistan?

Its position emanates in good measure from its primary aim to project India as the villain of bilateral peace

D SUBA CHANDRAN

For Pakistan, the verdict of the International Court of Justice is bad news. India has asked the ICJ for "immediate suspension of the sentence of death" to Kulbhushan Jadhav and to restrain "Pakistan from giving effect to the sentence awarded by the military court".

What options does Pakistan have now?

Various scenarios

First, it could ignore the verdict. Second, it could postpone the execution and continue the case with the ICJ until the final verdict. Third, it could allow consular access to Jadhav and in the process, allow him to seek clemency and grant it. Fourth, there could be an extra-judicial killing within the prison, as happened with Sarabjit Singh.

Will Pakistan adhere to the ICJ verdict, but continue arguing the case? Most likely. Keeping Kulbhushan Jadhav alive and projecting him as a symbol of India abetting terrorism within Pakistan would yield more rewards for Islamabad and Rawalpindi, than executing him.

During the last few years, Islamabad has been on an offensive to counter India's position that Pakistan has been the sole source of state-supported terrorism against

India and Afghanistan. There have been concerted efforts to link India and Afghanistan as a source of instability and terrorism within Pakistan. Altaf Hussain was projected as an Indian agent and the Pakistani Taliban was linked to intelligence agencies in India and Afghanistan. The recent arrest and the media space received by Ehsanullah Ehsan, former TTP spokesman could be seen as a part of this project.

The campaign though aimed at a domestic audience within Pakistan, later expanded to convince the international community as well.

Jadhav's capture and his alleged confession go well with the Pakistani narrative. Islamabad would want to use him further to expand this narrative and project India as the villain of bilateral peace. Second, according to ICJ's interim verdict would also help pressure India in any future complaints that Pakistan would make in the same court. It would give Islamabad a platform to internationalise the 'Kashmir issue'.

Will Pakistan execute Jadhav? Less likely. Besides, any such move will bring international criticism against Pakistan. Can Pakistan afford it in the present juncture? No, unless, there is a civil-military divide within Pakistan on this issue in which the latter feels that there is



Misplaced hope He's a pawn in the neighbourhood games VIVEK BENDRE

an understanding between the political establishment led by Nawaz Sharif and India.

A section within Pakistan alleges a conspiracy with Sajjan Jindal meeting Nawaz Sharif in end-April. The fact that there was an immediate attack on Indian soldiers at the Line of Control (LoC) could be interpreted as a move by the establishment to upset any Indo-Pak rapprochement following Jindal's Pakistan visit.

Jadhav was not convicted by the mainstream judicial process. He was tried and convicted as a terrorist by the establishment through the military court. It is plausible that the establishment could go ahead without consulting the civil-

ian leadership and execute Jadhav.

However, keeping in mind that it is the establishment that has been using the alleged linkages of Altaf Hussain, Kulbhushan Jadhav and now Ehsanullah Ehsan as a media exercise, it would draw more mileage for the khakis to keep Jadhav alive. Since there is already a debate within Pakistan blaming the political leadership for their failure at the ICJ, it would suit the military narrative that it has captured an Indian terrorist alive and got a confession, but is unable to execute because of the civilian failure.

Will Pakistan provide access to Jadhav and grant him amnesty later? Less likely. Given the attention this case has attracted within Pakistan,

and at bilateral and now international levels, this option is less likely.

Such a process also means a better Indo-Pak rapprochement that is also acceptable to every actor within Pakistan. Though there is a clamour for restarting bilateral dialogue within Pakistan, when it comes to brassstacks, they are likely to backtrack. Otherwise, why should a meeting between Jindal and Sharif be interpreted as a conspiracy? Neither is the current Indian establishment too keen to restart a bilateral process.

Will Jadhav meet the same end as Sarabjit? Unlikely. Sarabjit Singh was accused as an Indian spy and given the death sentence in 1991. Subsequent governments postponed the execution. Asif Zardari as president commuted it to a life sentence; however, Sarabjit was attacked by fellow prisoners at Lahore jail in April 2013, leading to his being killed.

Given the international attention that the Jadhav case has already attracted, any extra-legal killing would bring negative attention and negate the larger Pakistani objective of exploiting the Jadhav case and projecting India badly.

The writer is a professor at NIAS, Bengaluru. He also runs a portal called www.pakistanreader.org

OTHER VOICES



Be Manchester

There was, in the early hours of Monday evening, joy in Manchester Arena. Then there was horror and a long night of blood. Terrorists can kill and maim. But they do not pose an existential threat to our nation, and it would be a mistake to elevate their importance as if they did. Given the slew of laws recently adopted in the name of national security there's little reason to suggest more are needed. Nations driven by paranoia and fear make poor decisions. LONDON 23 MAY 2017



Kashmir travesty

It defies all logic that an Indian army officer responsible for using a man in India-held Kashmir as a human shield should now be commended by his chief for making "sustained efforts in counter-insurgency operations". The Indian defence minister has supported the actions of Major Gogoi, while actor Paresh Rawal has threatened writer Arundhati Roy as she spoke out against the incident. The Indian government wants to use the image of the young man tied to the jeep as a statement of its intention. KARACHI 24 MAY 2017

Los Angeles Times

Trump's budget punishes the sick and the poor

President Trump has set one goal that all Americans can get behind, and that's making the sluggish US economy grow faster. Yet key parts of the \$3.8-trillion budget abandon that goal. It seeks to force people back into the workforce by making it harder to obtain Medicaid and Social Security disability benefits. The crackdown on the neediest and most vulnerable seems even more craven when considering the billions Trump's budget would shower on defense and tax cuts for high-income Americans. LOS ANGELES 23 MAY 2017

LETTERS TO THE EDITOR

Send your letters by email to bleditor@thehindu.co.in or by post to 'Letters to the Editor', The Hindu Business Line, Kasturi Buildings, 859-860, Ann Salai, Chennai 600002.

All an eye-wash

This refers to your editorial, 'Small State theory' (May 24). That Telengana is doing wonderfully is far from the truth. KTR the son of the CM who is IT minister and minister for municipal administration is tech savvy and articulate; he is on a propaganda spree. The beauty of Telengana politics is a series of populist measures. The government is announcing schemes which cannot be implemented even in the next 25 years! They say they will construct two bedroom apartments for all its citizens but the reality is they have constructed only few thousand apartments. Similarly their announcement of providing free education for all from KG to PG is yet to see the light of day. It is incorrect to say that Telangana is a new State, actually it is Andhra Pradesh which is a new State.

K Ashok Kumar
Kolkata

The small State theory will be vindicated only when a humongous State confronts unmanageable factors such as lack of growth initiatives, a divided society, huge geographical expanse, inept administrative functioning, skewed revenue channels, soaring unbalanced expenditure curve and missing links of progress in general. Most of the demands for small States are fuelled by political polarisation, electoral results, dynastic lineage, nepotistic prejudices, communal concentration, ethnic supremacy, religious hegemony and so on. Corrupt individuals whip up the passions of the student community.

Unless sectarian views, a parochial attitude, fissionary tendencies and an insular mindset are negated, national integration will not thrive. Neither is small beautiful nor big unviable; only etiological and compelling reasons justify small States and districts. Once

a political mandate is obtained, the leaders should turn apolitical.

B Rajasekaran
Bengaluru

Puzzling indeed

This refers to 'Why are India's sovereign ratings poor?' by Nandini Vijayaraghavan (May 24). Credit-rating agencies rely too much on historical data. This is too simple an approach as amply proved when they could not predict the 2008 credit crisis. The euro crisis has put Italy and Spain into a massive debt trap. This is an extraordinary situation and it is puzzling how they are rated as BBB/Stable/Positive.

China is an export driven economy. Corporates rely too much on housing and construction which is a bubble waiting to burst. Donald Trump's promise to impose sweeping tariffs on imports of Chinese goods may make things difficult to handle. Brexit may also

pose a risk to the Chinese economy. Pegging the Chinese currency to the US dollar is not based on market forces. India is undertaking massive reforms and unlike these countries its strength is derived intrinsically.

Srinivasan Velamuri
Chennai

The right note

This refers to 'Missed opportunity' by Tina Edwin (From the Viewroom, May 24). GST implementation is the most important tax reform since 1947 and we should be happy with its present modalities though improvement is always possible. It has already taken 16 long years from conceptualisation to implementation. Hence there is no point saying we have missed the opportunity.

There are only four tax rates and zero rate need not be considered for counting the total number of rates. The Centre has succeeded in

convincing all the State governments to adopt GST, and minor adjustments are always possible in the coming days. With GST implementation, tax evasion will be a thing of the past and tax compliance will be the norm. This is going to tone up efficiency in the tax administration and also prevent corruption in the present system.

S Kalyanasundaram
Email

Strong support

Javed Aktar and Shabna Azmi deserve praise for their bold opposition to triple talaq and their insistence on its ban. It would be good if Muslim personalities came out and pressured the AIMPLB to ban it. This is not a prestige issue. Further, it is unfortunately being politicised. It is time the entire nation should come out in support of Muslim women in this regard.

VS Ganeshan
Bengaluru

Down it goes

Decoding Moody's China sovereign cut

ANDY MUKHERJEE

On one level, there's nothing so surprising about Moody's Investors Service's decision to downgrade China's sovereign debt one notch to A1. Since March last year, when the rating company and its rival S&P Global Ratings cut their outlook on the People's Republic's credit standing, an eventual demotion has been the most likely outcome.

Still, it mustn't have been an easy decision, considering the tongue-lashing they got from the Chinese finance minister at last year's Group of 20 meeting over the "bias" in their assessment.

The timing is also puzzling because it's embarrassingly close to last month's all-important gathering of China's top politicians on "safeguarding national financial-market security". The \$450 billion that disappeared in a matter of days from Chinese stock and bond markets — plus the roughly \$50 billion of liquidity injected by the central bank into a nervous money market — show that investors take President Xi Jinping's resolve to wring the economy of excessive leverage seriously. Moody's is thus sticking its neck out a little when it says the planned reform program will probably slow, but not prevent, the rise in debt levels.

Bravery aside, is Moody's being too pessimistic? The Government's indebtedness is only a problem in China because the corporate sector is overextended. A

year ago, a majority of the bonds that were rated AAA by the more effervescent local Chinese rating companies were actually junk on a Bloomberg credit-scoring metric. But today, only 14 out of 127 such bonds — or 11 per cent — are in that risky category.

Besides, if rating changes on Japan's sovereign debt are any guide, investors have every reason to shrug off Wednesday's news. After all, it costs about \$25,000 nowadays to insure \$10 million of Japanese five-year debt against default, or about half what investors had to pay when Moody's cut Japan by one notch to A1 in December 2014.

In China's case, it appears that both Moody's and S&P were wrong to have rewarded Beijing's IOUs with an upgrade to double AA territory in the final two months of 2010. That was a year and half after Fitch Ratings prophetically warned of the banking industry's "steep rise in corporate exposure" that would over time "take its toll on corporate borrowers' ability to repay" (Incidentally, Fitch hasn't fiddled with its China sovereign rating in almost a decade; so it's spared the embarrassment of any dialing-down now.)

The other two have no choice. Staying put, and hoping that reality will eventually catch up with expectations, doesn't always work. S&P saw that this week when it had to upgrade Indonesia to investment grade — five years after its rivals. But any feeling of relief would have been short-lived. Now that Moody's has moved first with China, the ball is once again in S&P's court. That begs the question: How much of this sovereign-rating guff is really about countries' creditworthiness versus inter-company rivalry? BLOOMBERG



GM crops, the answer to climate change

Drought-resistant alternatives to rice and sugarcane need to be considered in increasingly water-scarce India

SHIVENDRA BAJAJ

The IMD forecast of a near normal monsoon brings some cheer. However, effects of the El Nino may have an adverse effect towards the tail end of the rain-bearing season. The normal monsoon in 2016 helped India, reeling from two consecutive droughts, come back from the brink and also helped take food-grain output to a new high.

However, the benefits were primarily limited to the north, west and eastern parts of the country. The south was left dry. States such as Kerala, Karnataka, Tamil Nadu and Puducherry have already gone and declared themselves as drought-affected. Kerala and Karnataka are contemplating actions such as cloud seeding to tide over the situation.

In Kerala, for example, the S-W monsoon deficit stood at 34 per cent, and the North-East monsoon was at 61 per cent. In Tamil Nadu, the deficits were 19 per cent and 62 per cent (North-East monsoon). For coastal Karnataka, the shortfall stood at 21 per cent and 63 per cent, respectively.

In Kerala, the drought, considered by locals to be the worst in over a century, has led to wilting of cardamom, coffee and pepper crops, the key cash crops of the State. Reports also suggest that this has not only affected the output of agriculture and allied sectors, but has also triggered drinking water shortage.

Market economy challenges

Farmers are no longer content to grow crops that are necessarily suited to their ecosystem. A case in point is a water-intensive crop such as sugarcane being grown in the Marathwada region, a high drought prone region. A farmer is less likely to grow millets which are well known to be hardy and drought-resistant and would much rather bet on a higher paying crop such as sugarcane for ex-

ample or other cash crops. Not just Maharashtra. Let's look at other States as well.

Ragi (finger millet) was more suited to the Mandya region of Karnataka but farmers shifted to more remunerative but water-intensive paddy and sugarcane crops post 1970. Such variance in crops and agro-climatic zones is evident across India and began after the green revolution in the early 1960s.

The betterment of living standards due to rising incomes and a growing economy generally leads to three important shifts in agriculture: (i) reduced focus on cereal crops and a greater diversification to fruits, vegetables, other cash crops and livestock; (ii) shift in focus from yield maximisation to quality of produce; and finally (iii) focus on value-addition in post-harvest segments.

The technology bogey

However in India, while the first shift has been successful, the second and third shifts have not — largely due to the lack of availability of suitable technology or infrastructure.

Yield maximisation, for example, is hit by climate change — whether in terms of more pests or too much drought, degraded soil conditions. Genetically modified crops are the best answer to mitigate some of these yield related issues but unlike other developing countries and even its neighbours, India remains a fence-sitter when it comes to greater adoption of agricultural biotechnology.

Let's take the example of Punjab. As a semi-arid topography of the State is traditionally not known for or suited to paddy cultivation. Paddy was traditionally only grown around the floodplains of rivers in Punjab. That, however, did not stop Punjab farmers from taking to paddy cultivation in droves.

Because of the paddy agnostic agro-climatic ecosystem in the



Monsoon blues Indian farmer's life depends on the rain event

State, 5337 litres of water is required to grow one kilogram of rice (data by the Commission for Agricultural Costs and Prices) which is double the figure for West Bengal (2,605 litres), a more conducive habitat for the crop due to its heavy rainfall. In water stressed ecosystem, agricultural biotechnology offers better variants of paddy that can thrive with significantly less water. Despite the endorsement of GM technology by the scientific community, the hesitation to embrace this technology continues.

It is in this context that policymakers need to re-evaluate the long term relevance of agricultural biotechnology. Instead of paying heed to activists with a non-scientific agenda, the long term benefits need to be ascertained and the government needs to incentivise Indian companies and agricultural universities creating new climate-proof strains of crops.

Officials from the drought-stricken Maharashtra visited a field in Indonesia which has been growing genetically modified,

drought-resistant sugarcane, usually a very water-dependent plant. Indonesian scientists and officials reported that the healthy-looking sugarcane had not been irrigated for four months. In another case, Indian scientists have developed genetically modified varieties of rice that contain genes from plants that grow in mangroves (which thrive in salt water).

Science is the answer

The modified crops could survive in much higher concentrations of salt water. The opportunities are endless and as the case of GM mustard and Bt Brinjal. Indian scientists are up to the challenge of being the food factory not just for their own country but to other countries as well provided the policy scenario favours scientific innovations in biotechnology.

It is acknowledged that GM technology may not be able to provide solutions to all problems but this should not be a reason for its exclusion as well. All technologies that are safe should be adopted and let the farmers decide what works for them best.

In India, water availability per capita has declined from 5,000 cubic metres (m³) per annum in 1950 to around 2,000 m³ now and is projected to decline to 1500 m³ by 2025 leading to far less water availability for agriculture. The water availability for agricultural use has reached a critical level as the country uses more than 80 per cent of the surface water for this sector alone.

India is also the largest user of groundwater in the world with over 60 per cent of irrigated agriculture and 85 per cent of drinking water supplies dependent on aquifers. Given that industry and households use only 20 per cent of water resources, policy makers should not hold industry by the throat and demand a reduction in their share of water use.

Instead there needs to be concerted effort to utilise the benefits of agri-science to improve water use efficiency and battle climate change.

The writer is Executive Director, Association of Biotechnology Led Enterprises, Agriculture Group

5 THINGS to WATCH OUT for TODAY

■ **OPEC** members are to meet today to discuss oil production quotas. Saudi Oil Minister Khalid al-Falih expects OPEC to extend its 1.2 million barrels per day production cut another six months to the end of 2017. Eleven other oil exporters have agreed to reduce production another 600,000 bpd, which includes 300,000 bpd from Russia.

■ **An inter-ministerial** meet on opening coal mining to private companies is scheduled to be held today. The Government has finished consultations with stakeholders and is likely to finalise guidelines for commercial coal mining following the inter-ministerial consultations.

■ **Bypolls** to the vacant Rajya Sabha seat from Manipur and one from Odisha will be held today and the process of election will be completed by May 27. The Rajya Sabha seat from Manipur became vacant after death of the sitting member, Congress' Haji Abdul Salam passed away.

■ **Xiaomi** is to launch the Mi Max 2 smartphone today. The Mi Max 2 will be a big screen device with over 6-inches of display and will be powered by a Snapdragon 626 processor paired with 4GB RAM.

■ **BJP president** Amit Shah is to reach Andhra Pradesh today, where senior leader and Union Minister M Venkaiah Naidu will accompany him in Vijayawada. Shah will address booth-level workers at Siddhartha Medical College grounds as part of his nationwide campaign to strengthen the party.

There is bad news from the oceans

JINOY JOSE P

THE CHEAT SHEET

Reviewing the latest edition of *Pirates of the Caribbean?* Well, 'Dead Men Tell No Tales'. Let's talk about the living and what's in store for them. Running now: A Tale of Intruding Waves.

Cut to the chase, please.

Well, two studies, out in the past few days, flag some bad news for humans, indicating that the sea level is rising alarmingly across the globe and could jeopardise millions of lives in vulnerable regions.

I'm all ears!

First off, a research published in science journal *Nature* says coastal flooding will become more, and dangerously, common now thanks to sea-level rise. Next, a paper in the *Proceedings of the National Academy of Sciences* (PNAS) says that the rate of rising seas is itself increasing alarmingly.

This is worrying.

In the *Nature* study, scientists

have estimated that even small amounts of sea-level rise, at 5-10 cm, can double the frequency of what science calls extreme water level events. And, mind you, this is no distant dystopian scenario; it is likely to hit us as early as 2030. Analyses show that the sea level is rising at 3-4mm a year and the pace will go up due to ocean warming and ice melt on land — up to as much as between 0.3 to 2 metres by the end of this century.

Scary!

Coastal flooding is an immediate fallout of this. Also in the package are more beach erosion, groundwater loss, changes in wave movements, and passive inundation of low-lying coastal areas due to high tide. Millions of people living in these regions will lose property and jobs and will have to migrate, which will pose bigger challenges to urbanisation. The UN estimates that 40 per cent of the world's population lives within 100 km from a coast. And Asia has the highest coastal population. China, India, Bangladesh, Indonesia and Vietnam will be the most exposed.

India?

You heard me. The analysis of water-level observations shows the tropical region of the world is more vulnerable. Countries such as India will see more floods and erratic rains. Some 20 big tropical cities face "a dire future" in the face of coastal flooding, according to the study. The list includes Mumbai and Kochi.

What about the second study?

The PNAS analysis shows our oceans are rising nearly three times as rapidly as they were in most of the 20th century. This clearly shows that a much-feared trend of not just sea level rise, but its acceleration, is now under way, says Sönke Dangendorf, a researcher with the University of Siegen in Germany who led the study along with scientists at institutions in Spain, France, Norway and the Netherlands.

But we've heard this before.

Granted, the paper isn't the first to spot the trend, but it finds a bigger rate of increase than in past studies. The paper concludes that before 1990, oceans were

rising at about 1.1 mm a year, or just 0.43 inches per decade. From 1993 through 2012, though, it finds that they rose at 3.1 mm a year, or 1.22 inches per decade.

OMG!

The cause, according to Dangendorf, is that sea-level rise throughout much of the 20th century was driven by the melting of land-based glaciers and the expansion of seawater as it warms, but sea level rise in the 21st century has now, added in major contributions from the ice sheets of Greenland and Antarctica.

Ouch!

The study cobbled up a sea level record for the 20th century, tracking years where satellite records were absent. It came up with a relatively small rate of sea level rise from 1900 through 1990, followed by a much faster one afterward. And the results, obviously, tell us we need to act and we need to act now. It may not be apocalypse now, but it's going to be here real soon.

A weekly column that helps you ask the right questions

BusinessLine TWENTY YEARS AGO TODAY

MAY 25, 1997

IA may hire off engg wing

Indian Airlines may hire off its engineering department as a separate subsidiary. A proposal to this effect has recently been mooted in IA, on the lines of Singapore Engineering Services of Singapore Airlines and Gulf Air Maintenance Company, which is part of Gulf Air. According to the plans, which are still at a very nascent stage, the objective behind the proposed exercise is to replicate the experience and success of Singapore Engineering Services and Gulf Air Maintenance Company in this regard.

Chidambaram's new move in the Ashok Jain case

The Finance Minister, Mr. P. Chidambaram, has decided to monitor personally the investigations being conducted by the Enforcement Directorate into alleged FERA (Foreign Exchange Regulation Act) violations by Mr. Ashok Kumar Jain, Chairman of Bennett, Coleman & Co., which brings out *The Times of India* and allied publications. The Finance Minister's directive comes in the form of a communication to the Director, Enforcement, from the Department of Revenue, dated May 12 and signed by Mr. D.K. Seghal, Senior Analyst (TC) of the Department of Revenue.

Petro products price hike long overdue, says CII

The Confederation of Indian Industry has urged the Government to adopt market-oriented prices for petro products. It has called for an immediate increase of 15 per cent in the prices of high speed diesel, kerosene and LPG to bring down the oil pool account deficit substantially. In a strongly-worded press-statement here today on the eve of the United Front Steering Committee meeting on the issue, the apex industry association has noted that the increase in prices, long overdue, should brook no further delay and the Government must be bold and pragmatic in correcting the pricing distortions in petroleum products.

EASY

ACROSS

- 07. Chance, as in a lottery (4,2,3,4)
- 08. Method of printing (11)
- 12. Rejects with contempt (6)
- 14. Refused to admit (6)
- 16. Lyric or dramatic male singers (6)
- 18. Offer and sell by ticket (6)
- 19. Symbols, words and phrases (11)
- 23. Form to be filled out (13)

DOWN

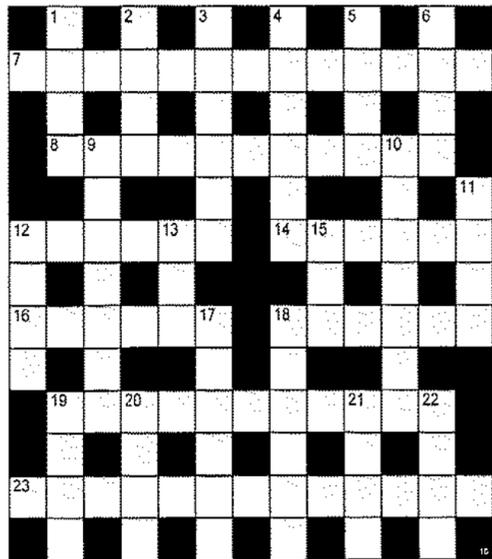
- 01. Magnetic attraction, draw (4)
- 02. Piece of banter, burlesque (4)
- 03. Shows one's willingness (6)

- 04. Fashioned, formed (6)
- 05. Rim, border (4)
- 06. A girl (4)
- 09. When night is as long as day (7)
- 10. Use starch (7)
- 11. Tick over (engine) (4)
- 12. Building plot (4)
- 13. Neither (3)
- 15. Time period (3)
- 17. Dramatic, theatrical (6)
- 18. Bear a grudge (6)
- 19. Needle-case (4)
- 20. Succeed in test (4)
- 21. By mouth (4)
- 22. Tender (4)

SOLUTION: BL Two-way Crossword 856

- ACROSS 1. Scandalised 7. General 9. Grow 11. Tours 12. Pledge 14. Devastation 18. Palace 20. Exact 22. Away 23. Insight 24. Marchioness
- DOWN 2. Consume 3. Aply 4. Erred 5. Agate 6. Sweet 8. Research 10. Plotters 13. Ate 15. Oranges 16. Spray 17. State 19. Llama 21. Midi

BL TWO-WAY CROSSWORD 857



NOT SO EASY

ACROSS

- 07. Lots may indicate one's fortune, good or bad (4,2,3,4)
- 08. A way to print a piece of correspondence to newspapers (11)
- 12. Rejects entry of North in Tottenham (6)
- 14. Got back in, indeed, but said one didn't (6)
- 16. No rest for them when three sing in concert? (6)
- 18. Fearful of being non-u, is wrong to sell tickets for it (6)
- 19. The things people say: they appear on one's face (11)
- 23. Queries, not in a difficult form, but in form nonetheless (13)

DOWN

- 01. Yank needs to get up to stop the car (4)
- 02. Do winter sport at Tirol initially for take-off (4)
- 03. Careless ref forgets to hold up first advances (6)
- 04. Fashioned a piano in an outhouse (6)
- 05. Line of privet is topped off at the side (4)
- 06. Start to love a fool of a girl (4)
- 09. 'Night and Day': twelve hours each, this time (7)
- 10. Harden resistance of The Fens, fit for development (7)
- 11. Is not working with one led astray (4)
- 12. On which to build the sound of vision (4)
- 13. Neither starts nodding off, regrettably (3)
- 15. A period of readjustment for its first three letters (3)
- 17. Since the revolution, Cuban capital became theatrical (6)
- 18. Begrudge being posted for a second time (6)
- 19. Neat cut in every other one that holds small articles (4)
- 20. Don't answer the question, but get through it (4)
- 21. Scholar originally turned up part revealed in test (4)
- 22. What rose awkwardly, sensitive to pain (4)