

## 6 EDITORIAL



### Saving Jadhav

Pakistan's adherence to international law will be under test in proceedings before the ICJ

**I**ndia's decision to approach the International Court of Justice (ICJ) to stall the possible execution of Kulbhushan Sudhir Jadhav in Pakistan is an unusual move impelled by the peculiar circumstances of the former naval officer's case. Sentenced to death by a military court after what was a summary and arguably bogus trial, he is in imminent danger of execution. His case now hinges on an appeal against his conviction on charges of espionage and on petitions for mercy before Pakistan's Chief of Army Staff and President. India's main contention is that Pakistan had committed "egregious violations" of the Vienna Convention on Consular Relations by repeatedly denying consular access to Jadhav for over a year. His family members have not been issued visas to travel to Pakistan and help him pursue appellate remedies. Pakistan had also linked the consular access issue to India's "assistance" in its investigation into Jadhav's alleged activities. With India instituting the case, the ICJ President has written to Pakistan to act in such a way that any order passed by the court would have its appropriate effect. While this virtually operates as a stay on Jadhav's execution, a substantive interim order is expected only when the court hears India's application for "provisional measures" at its hearing on May 15, pending adjudication of its plea for declaring Pakistan's actions as violative of international law. New Delhi's position is that Jadhav is innocent and that he was "kidnapped" by Pakistani agents from Iran.

On the face of it, India's decision to move the ICJ may appear somewhat incongruous in the light of its position against internationalising its disputes with Pakistan. However, this is not the first time that it has approached the world court against Pakistan. In 1971, it wanted the ICJ to decide the limited question whether the Council of the International Civil Aviation Organisation had the jurisdiction to question India's suspension of overflight rights to Pakistani aircraft. India has every claim to approach the ICJ to protect the life and rights of its nationals. One round of focussed legal proceedings does not amount to giving up its stated position on resolving other issues on a bilateral basis. However, it is likely to face a stiff challenge from Pakistan both on merits and by way of preliminary objections. Pakistan is likely to argue that consular access to Indian prisoners on its territory is governed by a bilateral agreement signed in May 2008. It is likely to quote a clause on reciprocal consular facilities that says, "in case of arrest, detention or sentence made on political or security grounds, each side may examine the case on its merit". While Pakistan is free to cite legal and technical points in its favour, it hardly requires iteration that it should avoid any precipitate move that would frustrate the ongoing proceedings before the ICJ. Pakistan's adherence to international law will be under test.

### Simply the best

Jhulan Goswami's haul of wickets is a story of her greatness and the system's lack of interest

**J**hulan Goswami's successful appeal for leg before wicket against South Africa's Raisibele Ntozakhe in the Quadrangular Series match at Potchefstroom in South Africa is as historic as the late cut that Sunil Gavaskar essayed off Pakistan spinner Ijaz Faqih in the Ahmedabad Test in 1987. Both were path-breaking moments. Goswami's strike helped her get 181 wickets and emerge as the highest wicket-taker in women's One-Day Internationals, breaking Australian Cathryn Fitzpatrick's haul of 180. Gavaskar's stroke helped him reach a then-unheard-of batting milestone: 10,000 Test runs. The obstacles Goswami has had to surmount, though, are perhaps more formidable than what Gavaskar had to counter, in the sense that hers is also a contest against a patriarchal system steeped in gender prejudices. In the context of women's cricket and the limited opportunities it offers or the sexist disdain for a woman fast bowler's claim to greatness, the achievement is mind-boggling. The 34-year-old from Bengal astutely led the seam attack, her tall frame and the power in her sinews used to good effect at the bowling crease. The rewards for her speed and consistency have been emphatic, and currently with 271 international wickets spread across ODIs, Tests (40 wickets) and Twenty20 Internationals (50), she is the highest wicket-taker among women.

Goswami's rise from Nadia in Bengal to her current iconic status is an inspiring tale. It isn't easy to sustain as a woman cricketer over an international calendar that has more gaps than games. Sample this. Since her debut in 2002, Goswami has played 153 ODIs while M.S. Dhoni, following his maiden limited overs game in 2004, has represented the country in 286 matches. This, while Test matches are becoming a rarity in the women's international calendar, and the Board of Control for Cricket in India adheres to the priorities of the men's team while sending, or not sending, teams to tournaments such as the Asian Games, thus depriving Indian women cricketers of the precious opportunity to prove themselves on a big stage. Certainly, the Board has helped in the rise and recognition of Indian women's cricket, but it is still too gradual. The BCCI offered central contracts to the women's team since 2015, and this year, thanks to the Committee of Administrators' (CoA) recommendation, gave the Lifetime Achievement award to former India captain Shantha Ranawamy. This in itself is a remarkable turnaround for a sport that even at the beginning of the new millennium banked on the players to sustain themselves more than any other sports federation. If Indian women's cricket has gained a foothold over the recent years, Goswami and teammates like her skipper, Mithali Raj, have played a decisive part in it. Jhulan Goswami is a pioneer.

## The jurisprudence of outrage

Severity in the award of a death sentence invariably flows in the name of society

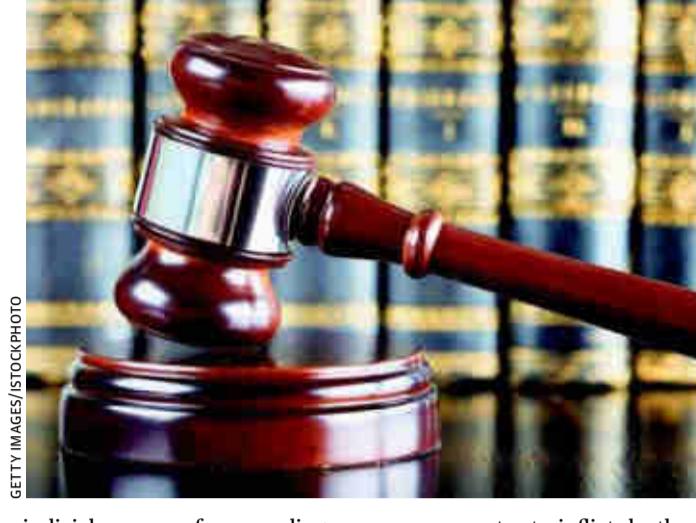


K. VENKATARAMAN

**T**here was nothing unexpected about the final verdict of the Supreme Court in the 'Nirbhaya' case. Given the public outcry for justice and the inherent brutality of the rape and murder of the physiotherapy student in Delhi in December 2012, the award of the death penalty to those found guilty is unsurprising. The fact that a juvenile offender involved in the heinous offence was let off after the statutory maximum period of confinement in a juvenile home had already given vast sections of the public an impression that at least one of the infamous six had walked free. This factor may have increased the burden of expectation on the court, rendering it even more difficult than it was to award a lesser sentence to any of the four available for trial and sentencing after the suicide of Ram Singh, the apparent ringleader, while in prison. The court's reasoning for sentencing all the four to death is steeped in the language and jurisprudence of outrage.

#### A moral dichotomy

Prosecutions are always in the name of society and the forensic claim that all criminal justice is about the twin objectives of protecting society and deterring crime has a hoary history. While leniency in sentencing is seen as an individual benefit flowing from a judge-centric approach to justice, severity is invariably in the name of society. Thus, in the maze of Supreme Court decisions that set out



judicial reasons for awarding or avoiding the death penalty, there is a clear moral dichotomy in approach. Verdicts that spare the lives of the guilty take recourse to norms that have limited social appeal: for instance, that the accused are relatively young, not habitual offenders, that there is scope for reform or that the crime was not premeditated or was a result of a rare lapse. Those that allow capital punishment, on the other hand, not only contain normative reasoning that seeks to slake social thirst for retribution but also use strong descriptive elements to win over a wider audience. They often argue, for instance, that the crime has shocked society and the collective conscience, that it was brutal, depraved or caused extreme and intense indignation.

In the Nirbhaya case, too, the citations inevitably lead to the main point drawn from *Machhi Singh* (1983) that capital punishment is to be given in the rarest of rare cases "when its collective conscience is so shocked that it will expect the holders of the judicial

power centre to inflict death penalty irrespective of their personal opinion as regards desirability or otherwise of retaining death penalty." There are repeated references to "collective conscience" and "society's cry for justice". There is little doubt that the national outcry that the gruesome incident evoked is at the heart of the ultimate outcome, as the defence lawyers and *amicus curiae* appointed by the court argued in vain for separate assessment of the mitigating factors in respect of each individual convict rather than a common set of reasons.

Any critique of the judgment, however, will suffer from the same infirmities inherent in pitting social conscience against individual destiny, a classic contest between the jurisprudence of outrage and the dispassionate dispensation of criminal justice. Unless it is conceded that it is difficult to blame the court for its approach in the face of a social outcry, it is not possible to confront the consequences of two factors that stand out whenever the death penalty is

awarded: the apparent inconsistency in applying the 'rarest of rare cases' rule and the lack of restraint that the 'collective conscience' theory can engender.

#### 'Atmosphere' and sentencing

It is not in every case involving the rape and murder of a minor that the court has sanctioned the death sentence. Similarly, courts have included or excluded bomb blasts, assassinations and incidents of communal carnage without regard to consistency. It was somewhat ironical that the 'Nirbhaya' judgement came a day after the Bombay High Court upheld life sentences in the Bilkis Bano case, but declined to enhance them to capital punishment, even though it involved the rape of three women and the massacre of 14 Muslims, including a child. It may be improper to compare an emblematic case of gender violence with one of many incidents that took place as part of a communal pogrom in Gujarat. However, there are similarities in the underlying pathology behind the Nirbhaya and Bilkis Bano cases. Both involved rape and murder, both were opportunistic acts, and there was absence of pre-meditation and provocation. However, an obvious difference is the atmosphere in which they took place, one on a peaceful night in the national capital, and another in the surcharged backdrop of the Godhra violence and its aftermath. The question may now be academic, but is 'atmosphere' an aggravating or a mitigating circumstance when it comes to sentencing policy?

When the Supreme Court evolved the 'rarest of rare cases' doctrine, the idea was to leave only a small window open for a sentence of death, life term being the norm. There is a real danger that

yielding to collective clamour may widen this window and throw it open for more frequent resort to the extreme penalty. One of the likely consequences is that it may become easier to cite shock and indignation in society to justify the death penalty in a given case. Articulating the view that the case has shocked the conscience of the court and society does not require elaborate reasoning, but only an impressive choice of words, of which there are plenty, that express outrage. The question of how the judiciary will rise above the collective clamour for retributive justice will loom large in the future.

#### For consistency and clarity

One of the foremost requirements in death penalty jurisprudence today is the need for consistency in applying the 'rarest of rare' rule, and for clarity on what satisfies the collective conscience. Is a perceived sense of outrage in society the test, or is it the sheer enormity of the offence? On merits and evidence, it is difficult for anyone to argue that the gang rape on a moving bus on a winter night in Delhi was not marked by unusual brutality and depravity, warranting severe punishment. It is equally difficult to disagree with the court that the aggravating circumstances far outweigh the mitigating factors. The locus of the problem of applying the death penalty whenever there is a sense of intense indignation in society, therefore, does not lie in the facts of the case or in the text of the judgment, but in the wider domain of criminal jurisprudence. As long as imposing death is available as a form of punishment, the moral dilemma that every judge faces is inescapable.

venkataraman.k@thehindu.co.in

## A different kind of opponent

As the BJP eyes States such as Odisha, it has to shape its politics relative to dominant regional parties



SANJAY KUMAR & PRANAV GUPTA

**T**he recent cabinet reshuffle in Odisha by Chief Minister Naveen Patnaik seems to be clearly aimed at preparing his Biju Janata Dal (BJD) for the impending clash with the Bharatiya Janata Party (BJP) in the 2019 Assembly and Lok Sabha elections in the State. In advance preparation for the 2019 Lok Sabha election, the BJP is already looking towards expansion in new States, with Odisha being one on them. But the task may not be as easy as the BJD may think.

True, when the elections will be held in 2019, the ruling BJD would be facing an anti-incumbency of two decades but this may not be enough for the BJP to stage a victory in Odisha. The BJP may get a larger share of the anti-BJD votes, but some of these votes would get transferred to the Congress as well.

The Congress may no longer be a strong political force in the State but only a Delhi-like decline of the

party can clear the way for BJP to emerge victorious.

#### Road ahead

There is hardly any doubt that the BJP is on an expansion mode in Odisha and is gaining popularity. Trends from the local body election clearly indicate that the BJP cannot be dismissed as a marginal player in State politics. For the first time in many years, the BJD faced stiff competition in the local body polls. While the BJD led in the civic polls, the BJP stood second by winning 297 Zila Parishad seats out of 853. The Congress was a distant third, winning only 60 seats. These results seem to indicate that the BJP has already replaced the Congress as the principal alternative to the BJD in the State. In 2019, the BJD would have been in power for close to two decades. It is expected to face greater anti-incumbency, in the face of allegations of corruption against Mr. Patnaik's government and infighting in the party.

Nonetheless, the BJP faces an uphill task in Odisha. It needs to increase its vote share significantly if it wants to defeat the BJD. In the 2014 Lok Sabha and Assembly elections, the BJP's vote share was lower than the Congress's. The BJD's vote share in the Legislative

Assembly (43%) was almost equal to the combined vote share of the BJP (18%) and the Congress (26%). This indicates that a mere shift of a section of Congress voters may not be enough for the BJP. Support among Adivasis is critical for any party in Odisha as they constitute more than a fifth of the State's population. Data from post-poll surveys conducted by Lokniti-CSDS in the State show that support for the BJP has been relatively lower amongst the Adivasis as compared to upper castes and OBCs. In the 2014 Lok Sabha election, less than a fifth of the Adivasis (18%) had voted for the BJP, slightly lower than the party's overall vote share. Though the BJP did well in some tribal-dominated districts such as Malkangiri and Kalahandi in the civic polls, a lot more needs to be

done by the party. The BJP's performance would depend a lot on whether its leaders from the State, Union Ministers Dharmendra Pradhan and Jual Oram are able to match Mr. Patnaik's popularity. Also, drawing lessons from its own victory in Assam, the BJP would know that on-ground organisational presence across the State is a critical factor. Currently, its organisational network in Odisha is relatively weak and inadequate for taking on the BJD. For instance, in the local body polls, the party was able to appoint booth-level teams in only about 35,000 out of the State's 92,000 polling booths.

#### A small increase

Though difficult, it may still be possible for the BJP to expand to a 'Congress-Mukt Bharat'. With the presence of strong regional alternatives in all these States where BJP is eying expansion in 2019, an anti-Congress sentiment will not be enough. The BJP needs to convince the voter why it can offer better governance than both the Congress as well as the dominant regional parties.

Sanjay Kumar is Professor and currently the director of Centre for the Study of Developing Societies (CSDS). Pranav Gupta is Researcher with Lokniti-CSDS

the Trinamool in holding on. In Tamil Nadu, the 'third front' built by the party in the 2014 Lok Sabha election collapsed before the 2016 Assembly elections and it received just around 3% of the votes when it contested on its own. The BJP replicated its 2014 Lok Sabha performance in the Kerala Assembly election and managed to open its account in the legislative assembly. But with just around 11% of the votes, it remains far behind both the UDF and LDF. It is evident that despite some positive developments, there may not be any dramatic change in the BJP's performance in these States.

In the recent past the BJP has managed to win elections in many States with the clarion call for a 'Congress-Mukt Bharat'. With the presence of strong regional alternatives in all these States where BJP is eying expansion in 2019, an anti-Congress sentiment will not be enough. The BJP needs to convince the voter why it can offer better governance than both the Congress as well as the dominant regional parties.

## LETTERS TO THE EDITOR

Letters emailed to letters@thehindu.co.in must carry the full postal address and the full name or the name with initials.

### The Karnan case

The unpleasant situation arising out of Justice Karnan's pronouncements and his behaviour should serve as a 'wake-up' call ("Karnan wants SC to recall order", May 13). It is not enough to think in terms of enforcing rules and regulations as it would be viewed as a strangulation of the freedom of speech. The more fundamental problem that needs to be addressed is a sound procedure in selecting judges. Taking the cue from the system used in the administrative, police, railway and the revenue services, a similar approach is required in judicial administration as well. A body of young and meritorious law graduates passing a gruelling exam to become a member of an 'Indian Law Service (ILS)' must be put in place. These law officers can be promoted over a period of time based on certain criteria to become judges across the country. The selection of judges should be from this pool of meritorious law officers. If we can make the judiciary stronger, we can arrest the growing erosion of faith in the judicial system.

### Unfortunately, our democratic process has created a feeling that one has to create a ruckus in order to be heard. We need a good system put in place before such anarchic behaviour becomes the norm.

S. MOHANAKRISHNAN,  
Chennai

**Sinking Valley**  
The situation in the Kashmir Valley is deteriorating by the minute. The near unanimous call by top defence officials dealing with the Kashmir situation for urgent political intervention requires the Centre to rethink its unwavering status quoism on Kashmir. Such a call reflects that the situation is slipping out of the hands of the government. Further procrastination may only lead to a situation of antisocial elements gaining the upper hand both within and outside the State. The Army's unrelenting and tireless efforts need to be complemented and supported by efforts from the top civilian administration. The recent spectacle of a 'gun salute' for a militant displays the

### gravity of the situation in the Valley.

ATIN SHARMA,  
Jammu

**Approaching the ICJ**  
India's move of approaching the International Court of Justice to get a stay on the death sentence of former Indian Navy officer Kulbhushan Jadhav is a retrograde step in the management of our external affairs. We have always taken a position that issues concerning Kashmir vis-à-vis Pakistan are to be settled bilaterally and have even resisted intervention by any third party. We seem to have played into the hands of Pakistan, which will now find justification in taking the Kashmir problem to the international court on grounds of human rights.

A. RAGHUNATH,  
Bengaluru

'equality before law' (May 12). It has once again been proved that the truth continues to be 'all are equal, but some are more equal than others'. It is clear that this decision stems from his VIP status. The hollowness of Prime Minister Narendra Modi's claim, hardly a month back, announcing a 'ban on beacon lamps for VIP cars' and that "a strong beginning has been made to erase the VIP culture in the country", followed by Union Minister M. Venkaiah Naidu's statement that "everybody is a VIP" needs no elaboration. The Prime Minister has chosen an inverted priority. Perhaps, beacons could be the last priority and true 'equality before law' the first.

P.R.V. RAJA,  
Pondicherry

**No prosecution**  
The Uttar Pradesh government's decision to decline sanction to prosecute Chief Minister Yogi Adityanath for his "provocative" speech, which allegedly led to communal riots in Gorakhpur in 2007, shows how far citizens are from

standing testimony of the need to retain the death penalty in the statute books. Doing away with capital punishment without factoring in the ground realities will only embolden potential perpetrators to commit heinous crimes.

P.K. VARADARAJAN,  
Chennai

**The Bieber flop show**  
That the much-celebrated Justin Bieber show turned out to be a flop is not surprising ('Life' page - 'Bieber's lip-syncing leaves fans furious', May 12). There has been more hype than substance around pop music barring the Beatles group who lived up to their

image. In comparison, Indian singers such as SPB and Lata Mangeshkar have been true and popular. They have never resorted to lip-syncing or limited their singing to four choices. Recent live concerts by SPB across the world have drawn a full audience. Our singers' concerts are not expensive also unlike the Bieber show. I would like to recall Osibisa, the troupe that took India by storm. Some of their songs were remade in Indian film music. I wish our native singers are given their due.

A.V. NARAYANAN,  
Tiruchi

**MORE LETTERS ONLINE:**  
[www.thehindu.com/opinion/letters/](http://www.thehindu.com/opinion/letters/)

**CORRECTIONS & CLARIFICATIONS:**  
In the Business page report headlined "Central coal unions may go on 3-day strike" (May 11, 2017) there was an erroneous reference to Singareni Coal Company. It should have been the Singareni Collieries Company.

A sentence in "Navigating between friends" (April 27, 2017, Editorial page) read: "Among the commercial agreements ... between Iran, the five permanent members of the United Nations Security Council and the European Union, is ... 80 passenger aircraft. It should have been: "Among the commercial agreements ... between Iran, the five permanent members of the United Nations Security Council and Germany" is ... 80 passenger aircraft.

It is the policy of The Hindu to correct significant errors as soon as possible. Please specify the edition (place of publication), date and page. The Readers' Editor's office can be contacted by Telephone: +91-44-28418297/2857

# In the heart of the iron beast

As India's first indigenous aircraft carrier, INS Vikrant, is in its final stage of construction at the Cochin Shipyard, a walk through its massive innards and an examination of what its induction would mean for the Navy's presence in the Indian Ocean. By S. Anandan and Dinakar Peri

A cool breeze blows over you belying the sultry May weather as you perch atop a 70-m, 300-tonne gantry crane at Cochin Shipyard. From this vantage position, everything appears dwarfed down below. Hundreds of workmen nudging the ferrous giant, India's maiden indigenous aircraft carrier *INS Vikrant*, to life in the last leg of a protracted and intricate process of warship construction of unprecedented scale in the country, resemble Lilliputians with a sense of steely purpose. *Vikrant*'s flight deck, more than twice the size of a football field at 2.5 acres, is strewn with concrete blocks and a maze of wires criss-crossing and disappearing into makeshift worksites.

It is tempting to picture MiG-29K combat jets flying off the deck, streaking into the deep blue ocean sky in a matter of a few years! The flyco (flight control) stationed in the superstructure located on the starboard side would be on the toes, the radars atop the island carrying out flight control and guiding the missiles the carrier will be equipped with to engage aerial targets.

#### Readyng to set sail

The beast that is the *INS Vikrant* towers over you with a hint of intimidation as you enter the gangway, which leads further to the expansive aircraft hangar that straddles a few levels. "The carrier is 262 m long, 62 m at the widest part and with a depth of 30 m minus the superstructure. There are 14 decks in all, including five in the superstructure," mentions a supervisor from the yard. Outfitting had been apace on *Vikrant*, named after India's first aircraft carrier acquired from the U.K. in 1961, ever since its ceremonial launch in August 2013, and work is almost nearing completion on all decks below the fourth from the top which houses the hangar.

The carrier's hull structure is in good shape and a few openings made on the flight deck to lower equipment into the hangar and to fix the restraining gears for take-off will be capped once the work is over. Two turntables on either half of the hangar resemble those in discotheques. Aircraft ferried from the flight deck through the elevators located on either side of the superstructure will be positioned on the tables for easing them into their designated slots. The hangar, capable of accommodating an assortment of 20 fighter aircraft and helicopters, is a hive of activity, with work progressing on the support lines along the stowage points, a four-tonne overhead maintenance crane and a fire curtain that will partition the space. The aviation facility, designed by Russia's Nevskoye Design Bureau, is gradually coming in place, with the supply of equipment under way. "In view of the aviation facility being laid out soon, the Navy has already drafted in aviation technical crew from the aircraft carrier *INS Vikramaditya* to be of support," says Captain P.A. Padmanabhan, in charge of the Navy's Warship Overseeing Team (WOT).

As you take the ladder to the flight deck, three markings across the aft deck, indicative of the position of arrester wires that latch on to the landing gear of approaching fighter aircraft to bring them to a halt, come to view. A 40-tonne aircraft salvage crane sits snugly next to the superstructure to haul up aircraft in case one falls overboard. "God forbid it never gets used," a worker remarks.

Most fascinating right now is the work on sailor living spaces on the sixth deck from the top, where an impressive state-of-the-art sanitation space, with modern showers and vacuum toilets, has come up. "We have 92 such sanitation spaces along the ship, of which 25 are ready," informs a manager in charge of accommodation. The yard has drawn on the experience of creating living spaces on the platform vessels it had built for a Norwegian firm to design the crew living spaces on *Vikrant*. "Aspects of human-machine interaction have been factored in while designing the spaces," says Bejoy Bhaskar, Cochin Shipyard's chief general manager (design and defence projects) and project director for *Vikrant*. Further up, on the fifth deck is the vessel's largest alleyway, which with a length of nearly 240 m, links the forward compartments of the carrier to the aft. "A similar corridor on *INS Viraat* used to be playfully called the Rajpath," chuckles Capt. Padmanabhan.

#### Quest for aircraft carriers

India, with a two-decade legacy of operating carriers, started looking for a home-grown carrier way back in the 1980s when the idea of an air defence ship (ADS) was mooted. It lingered, even after the Cabinet Committee on Security (CCS) sanctioned the project in 2002. An 'ADS Bay' commissioned by then Chief of the Naval Staff Admiral Madhavendra Singh at the Cochin Shipyard a year later stands testimony to it.

The project went through a design spiral, with the Department of Naval Design (DND) heeding to the aspirations of the Navy, coming up with the functional design of an indigenous carrier that was at least "five times bigger than any warship it had designed before".



**The shape of things to come:** "As India embarked on the effort to build its first carrier in the form of *Vikrant*, it is going through a learning curve." A view of the carrier from a crane at the Cochin Shipyard where the vessel is in the final stage of construction. ■ S. ANANDAN



as it came to be known, cemented the Navy's credentials as a builder's navy.

As India embarked on the effort to build its first carrier in the form of *Vikrant*, it is going through a learning curve. The Comptroller and Auditor General (CAG) in its report in July last year pointed to serious delays in the construction. "It is evident from the PERT chart (September 2014) of Cochin Shipyard Limited (CSL) that while the delivery of the carrier with completion of all activities is likely to be achieved only by 2023, the Ministry and the Indian Navy continue to hold the timelines of final delivery of the ship as December 2018," the CAG said in the report.

However, Navy officials say that at that time there were delays in procuring some equipment, which have now been sorted. "Issues with procurement of some Russian equipment have been re-

solved," says an officer, adding that the final induction will be earlier than initially estimated. The Navy wants the carrier to be fully ready to begin aviation trials by the time it takes delivery of the ship. Aviation trials are the most challenging aspect in the whole chain. As former Navy Chief Admiral Arun Prakash says, "It will be a huge challenge to Navy test pilots. Then we will know the defects in the design."

#### Mega nuts and bolts

The public sector Cochin Shipyard, with an impressive track record as a commercial shipbuilder and of carrying out all the refits and upgrades of *INS Viraat*, became a natural choice for the execution of the ambitious project, critical to the Navy's philosophy of having three carriers in its fleet at any given point in time. The CCS sanctioned a sum of ₹3,200 crore which was subsequently revised to ₹19,341 crore for the new carrier, which set the ball rolling on a slew of innovations, technological advancements and capability-building within the country and operational synergy among a host of agencies.

"*Vikrant*, the 'mother' of all platforms, has 2,300 compartments designed to user specifications for crew, systems, piping, fluids, ventilations, cabling... Nearly 1,500 km of cabling, almost the distance from Kochi to Mumbai, criss-cross its innards," informs Capt. Padmanabhan, pointing to the trunking in the compartments. The yard carried out detailed designing, developing 3D models and creating mockups on the old-school 'mould loft floor' for critical parts like anchor pocket and hosepipe arrangement besides using virtual reality to simulate extremely critical parts. Italian firm Fincantieri was roped in to provide consultancy for the propulsion package while Russian sup-

port was sought for the aviation complex given that the carrier would have an integral fleet of Russian MiG-29K fighters and Kamov helicopters, a la *INS Vikramaditya*, which would also ensure interoperability between the carriers.

"It was a quantum leap from about 7,000 tonnes to 40,000 tonnes. We are no more deterred by the size of a warship," says Capt. Padmanabhan, hinting at the larger domestic carrier that's on the drawing table.

Some 200 big and small Indian industries rose to the occasion to harness the required technology and deliver the goods, from the large gear boxes to the access implements, for *Vikrant*. When sourcing of steel clouded over the project, Defence Metallurgical Research Laboratory, a Defence Research and Development Organisation (DRDO) lab,

It was a quantum leap from about 7,000 tonnes to 40,000 tonnes. We are no more deterred by the size of a warship.

CAPT. P.A. PADMANABHAN

Indian Navy's Warship Overseeing Team

joined hands with the Navy to develop warship-grade steel which was manufactured by the Steel Authority of India in its plants at Rourkela, Bhubaneswar and Bokaro. The supply remained steady since 2006. The first block was lowered to the building bay in 2009, officially laying the keel of the Navy's dream project.

"The new construction demanded new welding consumables and pro-



**All on board:** "Some 200 big and small Indian industries rose to the occasion to harness the required technology and deliver the goods." The twin-propellers that will drive the carrier. ■ SPECIAL ARRANGEMENT

cesses, which we developed in collaboration with the Naval Materials Research Laboratory, a DRDO facility. We also trained about 500 welders and assigned them to the vessel," says Bhaskar of Cochin Shipyard. Building the ship literally block by block and integrating them in what was termed as 'grand assembly', the yard fabricated and welded about 23,000 tonnes of steel, measuring the vessel's weight and stability all along. "Its tonnage is roughly about 30,000 right now," says Capt. Padmanabhan. *Vikrant* was given a pontoon-assisted launch, in a first in India, when limited dock space prevented further construction. The yard made a special jig to move the 104-tonne 'A bracket' that buttresses the propeller shafts – as long as 99 m and 69 m – on the carrier's hull.

"Look here, one of the eight diesel alternators, each generating 3 MW power, has already been set to work," says a Navy officer part of WOT, signalling to a large machine room on the carrier. "Together, that's about 24 MW power, enough to light up an entire city, but the idea is to have adequate redundancy. The power system is fully automated, thanks to Bharat Heavy Electricals Ltd., which has put together an Integrated Platform Management System for *Vikrant*. The schedule for testing, trials, calibration and qualification of individual equipment – including the gas turbines that will power the carrier – is getting ready. Shifting, piping and integration of most auxiliary systems are over on *Vikrant*. The outfitting is 62% complete," says Bhaskar. Trials of all auxiliary systems are set to get under way by the year end, parallel to the construction of modern living spaces on the upper decks."

Once operational, *Vikrant* is going to sport a gender-sensitive living environment and infrastructure, with provision to accommodate eight women officers. The ship will then accommodate 1,645 personnel in all, including 196 officers.

An aircraft carrier is a command platform epitomising 'dominance' over a large area, 'control' over vast expanses of the ocean and all aspects of maritime strength, says Capt. Padmanabhan, as he signals a sailor with the Falcons crest on his service overall to stop by. "Look, he's one of the air technical sailors who have worked on board *Vikramaditya* and would know how best to deploy and exploit the aviation support facility on *Vikrant*. It's just a matter of time before the aviation facility comes up." True to its purpose, *Vikrant*, meaning victorious and gallant, has its crest depicting arrows resembling the delta wing of combat jets going in all four directions. It is capable of blunting attacks from any direction, says Capt. Padmanabhan.

Safety boards stare at you from every corner on the vessel, cautioning against letting the guard down. Workers, nearly 1,200 of them, toil day in, day out on *Vikrant* in two shifts to realise the ambitious dream of operationalising a potent home-grown carrier.

#### Force multiplier at sea

Even as debate continues over the relevance of aircraft carriers with the proliferation of ballistic missiles and cost-benefit analysis with respect to submarines, there is an undeclared carrier race unfolding in the Indian Ocean Region (IOR) between India, China and Japan. India has its force structure planned around three aircraft Carrier Battle Groups (CBG). While one would be deployed on each coast in the Arabian Sea and Bay of Bengal, the third would be in maintenance and repairs – ensuring the availability of two ships at any point of time.

For now the Navy has only one carrier, *INS Vikramaditya*, contracted from Russia under a \$2.3-billion deal and inducted into service in November 2013. *INS Viraat* was recently retired from service after cumulatively serving the British and Indian Navies for over 50 years. In that line, when the new *INS Vikrant* joins the Navy sometime after 2020, it would be the fourth aircraft carrier to defend India's shores. Each of these carriers has grown in size, capability and sophistication, adding more teeth to India's power projection.

The first *Vikrant* displaced 20,000 tonnes and operated a mix of Westland Sea Kings, HAL Chetak and Sea Harrier jets. *Viraat* displaced 28,500 tonnes and *Vikramaditya* displaces 45,400 tonnes. The new *Vikrant* will displace 40,000 tonnes.

While the first two carriers operated the Harriers which are capable of short take-off and vertical landing, the *Vikramaditya*'s angular flight deck enables hosting of MiG-29K fighters; the modern Russian fighters will fly from *Vikrant* as well. In addition, the U.S. is expected to help India with the aviation trials of *Vikrant*.

Back at the gangway, as the sun beats down on the workers on a harsh tropical evening, some people are busy offering fresh lime juice to all. Capt. Padmanabhan bumps into Sunil Kumar, deputy general manager in charge of construction, introducing him as his "man Friday".

"Friday?" asks Kumar quizzically. "It means a man for all seasons."

"Is that good or bad?" asks Kumar, as everyone around laughs off their work fatigue.