

Crouching tiger, hidden data

The forest bureaucracy has ensured that tiger survey data continue to be withheld from independent scrutiny



ULLAS KARANTH

The fourth national tiger survey has generated much euphoria, whereas the first one in 2006 had cast a pall of gloom. However, missing from all the four survey reports are details necessary to assess the reliability of the tiger numbers. A brief history of India's tiger censuses can shed some light on this issue. The tradition of reporting tiger numbers dates back to the 1970s. These numbers were based on the 'pugmark census method', which simply-mindedly assumed that the pugmarks of every tiger could be found, recognised and tallied. As scientific critiques showed, these assumptions failed, rendering the numbers meaningless. However, the forest bureaucracy (the Ministry of Environment and allied institutions) ignored the problem for decades.

New methods

In the 1990s, many tiger scientists and statistical ecologists working in collaboration developed robust new methods for tiger monitoring. These methods could estimate numbers using 'distance sampling' and the extent of tiger habitat employing 'occupancy sampling of tiger spoor'. Critically, they could even directly estimate numbers, survival rates and recruitment in each population employing 'photographic capture-recapture sampling'. These methods were independently honed in tiger reserves across India and over 25,000 sq km in the Western Ghats harbouring 20% of India's tigers.

By 2004, the new methods had rapidly been adopted worldwide for assessing populations of threatened cat species such as leopards and jaguars. However, the Director of India's Project Tiger derided these as fancy sampling methods, inferior to India's indigenous pugmark census.

Then in 2005 came the shocking revelation that all tigers in Sariska Reserve had been poached, even as the pugmark censuses claimed all was well. A Tiger Task Force (TTF) appointed by the Prime Minister discarded the pugmark census. The Di-



Tiger cubs at Tadoba Andhari Tiger Reserve near Nagpur in Maharashtra.

■ K.R. DEEPAK

rector of Project Tiger performed a breathtaking backflip, now denouncing the pugmark census as "trash".

I had hoped these dramatic events would lead to a serious revamping of India's tiger monitoring methods. India's remarkable conservation efforts had rescued the tiger from the brink of extinction; they deserved an honest evaluation to identify both successes and failures. The dire situation demanded technically rigorous tiger population surveys conducted by independent, qualified scientists.

However, blocking this progress was a serious conflict of interest: The same forest bureaucracy that managed tiger populations was also expected to assess its own successes or failures by monitoring tiger populations. This had led to the fiascos in Sariska and other places.

Changes in tiger numbers, survival rates, and recruitment in key tiger populations have to be monitored every year to track the fate of tigers in real time. Periodic assessments of colonisation and extinction of tiger populations across larger regions by employing the cost-effective 'occupancy sampling of tiger spoor' method are required. A public-private partnership framework led by qualified scientists is needed to conduct such independent monitoring. However, instead of calling for better monitoring methods, TTF ended up further strengthening bureaucratic monopoly over tiger monitoring.

Eventually, the new National Tiger Estimation method, also created by the forest bureaucracy, ignored or distorted critical elements underpinning the new tiger survey methods. These flaws were masked by misleading technical jargon, hype about ad-

vanced technologies and cursory reviews by 'foreign experts'.

Consequently, in spite of all the effort and expenditure, four tiger surveys have not generated ecologically credible results. Nor are they practically useful. For instance, in spite of spending crores of rupees on official tiger research and monitoring, the government has failed to generate estimates of annual rates of changes in tiger numbers, survival or recruitment in tiger populations at key sites.

Plainly put, the tiger numbers reported are useful only to generate the media spin to meet the needs of the forest bureaucracy and to satisfy momentary public curiosity. This is clear from the 2006 survey report, which made a bold confession: India's tiger numbers had collapsed by a massive 61% (from 3,642 to 1,411 tigers) in just four years! This made no sense because the first number was from the discredited pugmark census and the second from the wobbly new survey method.

However, this confession killed three birds with one stone. It gained public acceptance of the new "scientific method"; it set an unrealistically low baseline of 1,400 tigers, around which future claims could be tailored; and the National Tiger Conservation Authority walked away unblemished from tiger declines, blaming them on State governments.

The results of subsequent surveys show that the new methodology is flexible enough to generate increases or decreases in coarse-scale estimates of tiger numbers and habitat occupancy. And this is what seems to be going on now, in preparation for claiming a 'doubling' of India's tiger population at the next Global Tiger

Summit in 2022.

Over the past decade, independent researchers have published several critiques of the design, models and flaws in field implementation in India's tiger surveys. Most of them had to rely on sparse information gleaned from skimpy survey results in the public domain. The magnitude of the problem that could be revealed by a deeper examination of actual survey data is mind-boggling. The forest bureaucracy, however, has stubbornly blocked qualified scientists from conducting any such deeper scrutiny. The astuteness with which it has maintained monopolistic control over tiger monitoring is a testimony to its political skills.

Nothing has changed

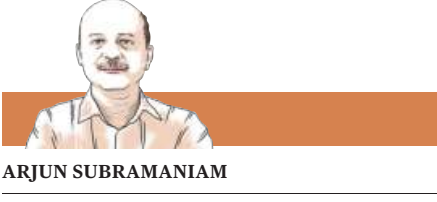
While releasing the 2010 tiger survey results, Planning Commission Member Montek Singh Ahluwalia suggested "aggregate tiger survey data" to be shared in the public domain. He pointed out how Economics had progressed through such data transparency. Unfortunately, nothing has changed since. The hiding of tiger data by the forest bureaucracy is in clear defiance of scientific ethics and public interest. Sadly, even larger conservation NGOs have not challenged this.

When Prime Minister Indira Gandhi set out to rescue India's wild tigers, there were less than 2,000 left. Intense struggles of foresters and conservationists for five decades resulted in sporadic population recoveries at some sites, and continuing losses elsewhere. How many tigers should India now aspire for, given that habitat potential exists for 10,000-15,000 tigers? The current crop of forest bureaucrats, in spite of being flush with resources, believe we cannot have more than 3,500. Surely a nation aspiring to be a \$5 trillion economy should set its sights higher? India's political leadership recognises past successes achieved by infusing creativity and private enterprise in sectors like communication technology. These became possible only after jettisoning inefficient, over-funded, self-serving government monopolies, not by pandering to them. Conservation cannot be an exception.

K. Ullas Karanth is Director, Centre for Wildlife Studies, Bengaluru. Views are personal

Can a CDS act as a catalyst for further defence reforms?

In India, a strategic process delivers results only when it is backed by political heft, which this government can provide



ARJUN SUBRAMANIAM

Prime Minister Narendra Modi's announcement from the ramparts of the Red Fort that India will soon have a Chief of the Defence Staff (CDS) is a welcome step and reflects a multi-sectoral urgency within the government to initiate reform. To be honest, this writer had earlier been sceptical about such a measure because of the fear that it would be a piecemeal step without any accompanying change in the Ministry of Defence (MoD).

While the previous dispensations did not display the seriousness and political will needed to view the military as a tool of statecraft, this government's approach seems to be different. The close involvement of the political leadership, ever since the cross-border strikes into Myanmar, in the military's operational matters has probably given it a bird's-eye view of the necessary reforms.

Further, even while acknowledging the military's contribution to national security, Mr. Modi has often expressed concerns about the lack of synergy within the armed forces – not to the media, but directly to the senior leadership of the forces at the Unified Commanders' Conference.

The three services, on their part, have been involved in sparring for space in this debate by protecting their respective turfs and trying to orchestrate some middle-level reform. Here again, this writer has repeatedly argued that to be effective, a top-down approach to defence reform is the only way forward.

Questions and challenges

So, will the CDS be a glorified Chairman of the Chiefs of Staff Committee, or will he be an empowered bridge between the military and the political leadership? Will the government be bold enough to immediately assign him operational responsibilities in a phased manner, or will it follow an incremental approach of first entrusting him with issues such as acquisitions, training and policy? Will there be an accompanying reform in the MoD? These are among the questions that merit serious reflection. It also needs to be assessed whether the military ecosystem has kept pace with the rapid changes in warfare and geopolitics.

Navarros on the ascendant

What explains the trend of economists taking odd policy positions, defying scholarly evidence?

CHIRANTAN CHATTERJEE

The term 'Navarro recession' was recently coined in the U.S. media, and highlights the manner in which misguided trade and currency policies by the current U.S. administration, guided by economist Peter Navarro, may be creating distortions in the economy, leading to a slowdown. Apparently, U.S. President Donald Trump overruled all his economic advisers but Mr. Navarro in imposing new tariffs on China.

This begs the broader question of whether economies across the world are in turmoil because of the rise of the 'Navarros', with trained economists taking unconventional policy positions that undermine market expectations and scholarly evidence on free markets. In some cases, they seem to have received robust training in U.S. universities such as the University of Chicago. This argument applies to Brazil, Turkey, India and Hungary.

There are also cases where their candidacy has been mired in corruption. Some of them have also turned against their leader if the latter is not in alignment with their policy vision.

Trained in Chicago

Consider the case of Paulo Guedes, the Chicago-trained economist who was the Chief Economic Adviser to the campaign of Jair Bolsonaro and is now the Economy Minister under President Bolsonaro. While Mr. Guedes is being touted as the principal force behind the opening up of Brazil's markets, there are also reports suggesting that he is being investigated over accusations of fraud tied to the pension funds of state-run Brazilian companies.

Meanwhile, Turkish President Recep Tayyip Erdoğan's strategy seems to be different, in that he has nominated a body of 76 members to nine policy boards to overhaul Turkish economic policy, raising the possibility of a 'club of Navarros' there. In addition, the economic committee of Mr. Erdoğan includes Servet Bayındır, a theology and economics professor specialising in Islamic finance.

This is interesting since, perhaps for the first time in many decades, theology and divinity are jointly influencing economic policy decisions.

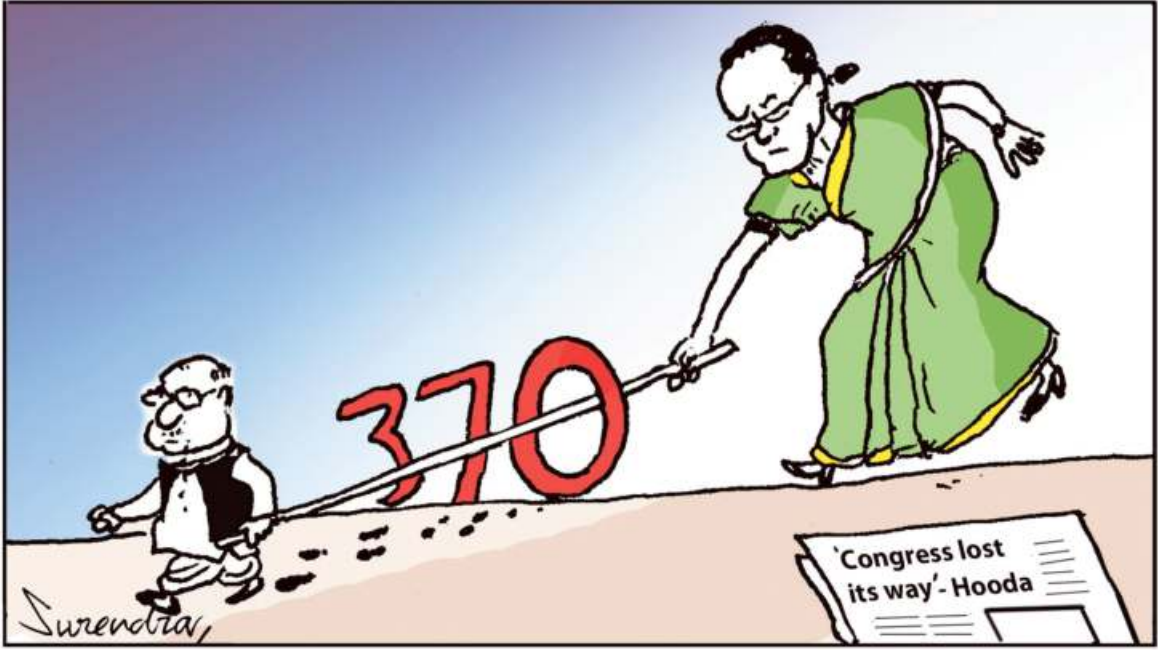
Maa Sharada and Article 370

In India, Chief Economic Advisor (CEA) K.V. Subramanian, also a Chicago-trained economist, invoked Indian goddess Maa Sharada, whom he also referred to as 'Kashmira Pura Vasinini', while welcoming the government's decision to abrogate Article 370, the constitutional provision granting special status to Jammu and Kashmir. One would have expected the CEA to outline a policy pathway to incentivise entrepreneurship, economic growth and development in Kashmir, but nothing much has been said on that by his office yet. This is all the more remarkable when we consider the fact that he and Finance Minister Nirmala Sitharaman are struggling to revive a slowing economy. Meanwhile, in Hungary, Lajos Simicska, an oligarch and friend of Prime Minister Viktor Orbán, guided the Orbán economics of fear and his policy of setting up of large nationalised organisations. However, he has since fallen out of favour with the Hungarian Prime Minister.

Overall, these examples point to a larger trend as the discipline of economics tries to reinvent itself to adjust to globalisation and automation, factors that have created inequality and have been instrumental in the growth of social unrest and the rise of populists across the world.

Should these 'Navarros' be allowed to capture the pole positions in economic policymaking and guide the new economics of a populist world? What explains their rise and unconventional stances? Even more, how are their policy ideas impacting and deepening social and economic distortions? The answers are not clear yet, but their examination cannot be postponed any longer.

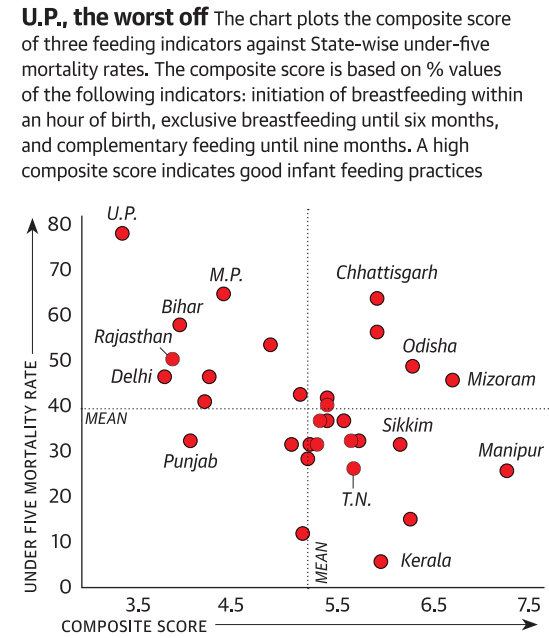
Chirantan Chatterjee is ICICI Bank Chair in Strategic Management at the Indian Institute of Management, Ahmedabad



DATA POINT

Variably nourished

U.P., Rajasthan and Bihar fare the worst among States in breastfeeding. Infant mortality under the age of five is relatively higher in these States than others. In India, less than 50% of newly borns receive breast milk within the first hour of their birth, a low number compared to other developing countries. By **Sumant Sen**

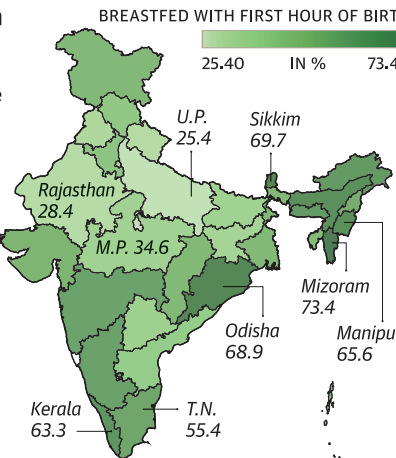


Most States with an above average score have a lower under-five child mortality rate while States with a poor composite score tend to have a higher under-five child mortality rate (per 1000 live births). **Uttar Pradesh** has a composite score of 3.32, the lowest, and under-five mortality rate of 78, the highest, in India. **Manipur** has the highest composite score (7.27) and is one of the best performing States for under-five mortality rate (26)

Source: Breastfeeding and Infant and Young Child Feeding Practices Report Card (Health Ministry), NFHS-4, UNICEF REPORT 2018

Best in Mizoram

Over 73% of newly borns were breastfed within the first hour of birth in Mizoram, the highest percentage in India. According to the WHO, this "first milk" which the infant receives is rich in protective factors and nutrients. A State-wise look



Poorly positioned

Only 41.5% of infants in India received breast milk within the first hour of birth. India was ranked 56 out of 76 nations that were surveyed. Sri Lanka topped the charts with 90%

Rank	Country	Infants who received breast milk within first hour of birth (%)
1	Sri Lanka	90.3
2	Vanuatu	85.4
3	Burundi	85
4	Kazakhstan	83.3
5	Kyrgyzstan	82.5
56	India	41.5

The Hindu.

FROM THE ARCHIVES

FIFTY YEARS AGO AUGUST 20, 1969

DMK ready for agitation

The ruling Dravida Munnetra Kazhagam will launch an agitation if the Centre refused to accept its plea for greater autonomy to the State Governments, declared Mr. M. Karunanidhi, Chief Minister, in the Tamil Nadu Assembly to-day [August 19]. The Chief Minister said the Government had appointed a committee headed by Mr. P. V. Rajamannar, former Chief Justice of Madras High Court, to recommend in what manner the powers may be reallocated between the Centre and States. The State Government would place the recommendations of the Committee before the Centre and try to "persuade" it to accept them. "If we fail in our persuasion, we will launch an agitation", Mr. Karunanidhi said. He said the D.M.K. had never hesitated to spearhead agitations to achieve its objects. The Chief Minister asked Mr. M. P. Sivagnanam, leader of the Tamil Arasu Kazhagam, to abandon his one-day token agitation proposed to be launched to-morrow, to demand greater autonomy for States.

A HUNDRED YEARS AGO AUGUST 20, 1919.

Soldier, Explorer and Naturalist. (Book review)

No picture of late President Theodore Roosevelt is more familiar to the average man than that which represents him as a fighter and a man of action, not merely a militant advocate of aggressive Imperialism, but the champion of popular liberties and honest government against organised forces of privilege and corruption. It is naturally in this light that Hermann Hagedorn [the author] exhibits the object of his admiration. The stubborn courage and dogged persistence, the resolution to "carry through" in the face of all difficulties, the consciousness of the vital importance of realising in modern social and political life the good old common place virtues which all assume but few practise – these and other qualities which distinguished the late President stand out in vivid relief in the pages of this work. Alike as a young man resolving to live up to the ideals embodied in the deeds of his heroes; as a statesman putting into practice radical schemes of reform in the teeth of the unforgiving hostility of the 'interest'; as a ranchman; as colonel of the "Rough Riders" charging wildly at the Spaniards; as a naturalist hunting big game and collecting specimens in the wilds of Africa; as explorer; and as man of letters... the wonderful personality of Roosevelt is brought home to us.