

It's time for a national renewable energy database

Such a database will serve both policymakers and developers. For the former, it can be an early-warning mechanism, allowing them to make targeted, timely and effective evidence-based interventions. For the latter, it can be a valuable tool to source capital at scale on favourable terms as a result of increased transparency



GAGAN SIDHU

The author is adviser, CEEW Centre for Energy Finance

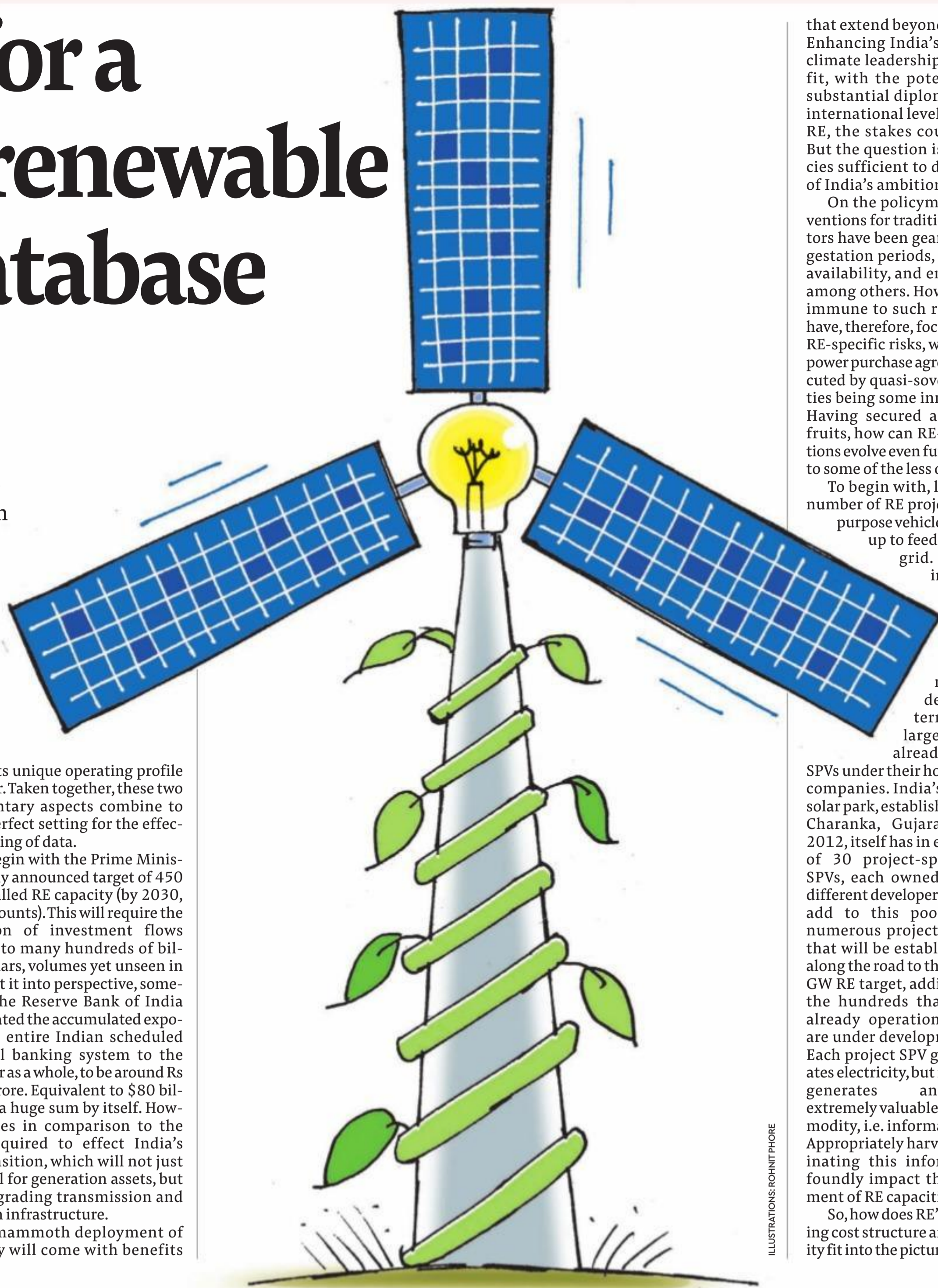
INDIA HAS COME a long way in its efforts to decarbonise electricity generation. Installed solar and wind capacity has now crossed 68 GW, compared to a modest 16 GW in 2010. In fact, from a utility-scale solar perspective, India already ranks the third largest market globally, after China and the US.

Enabling policies and interventions is vital to any business generating returns over an extended time period, but requiring vast upfront capital investment. Renewable energy (RE) is no different from other infrastructure classes in this respect. However, what sets RE apart is the scale of the ambition set by the government on one

hand, and its unique operating profile on the other. Taken together, these two complementary aspects combine to form the perfect setting for the effective harvesting of data.

Let us begin with the Prime Minister's recently announced target of 450 GW of installed RE capacity (by 2030, by most accounts). This will require the mobilisation of investment flows equivalent to many hundreds of billions of dollars, volumes yet unseen in India. To put it into perspective, some time ago, the Reserve Bank of India (RBI) estimated the accumulated exposure of the entire Indian scheduled commercial banking system to the power sector as a whole, to be around Rs 5.65 lakh crore. Equivalent to \$80 billion, this is a huge sum by itself. However, it pales in comparison to the amount required to effect India's energy transition, which will not just need capital for generation assets, but also for upgrading transmission and distribution infrastructure.

Such a mammoth deployment of RE capacity will come with benefits



that extend beyond decarbonisation. India's claim over global climate leadership is one such benefit, with the potential to generate substantial diplomatic capital at an international level. When it comes to RE, the stakes could not be higher. But the question is, are current policies sufficient to deliver on the scale of India's ambitions?

On the policymaking front, interventions for traditional power generators have been geared to address long gestation periods, cost overruns, fuel availability, and environmental risk, among others. However, RE is largely immune to such risks. Policymakers have, therefore, focused on addressing RE-specific risks, with solar parks and power purchase agreements (PPAs) executed by quasi-sovereign counterparties being some innovative examples. Having secured a few low-hanging fruits, how can RE-specific interventions evolve even further by responding to some of the less obvious features?

To begin with, let's take the sheer number of RE project-specific special purpose vehicles (SPVs) that are set up to feed electricity into the grid. Each is distinctly incorporated under the Companies Act, primarily to enable sponsor developers to raise non-recourse debt on attractive terms. Some of the larger RE developers already have scores of

SPVs under their holding companies. India's first solar park, established in Charanka, Gujarat, in 2012, itself has in excess of 30 project-specific SPVs, each owned by a different developer. Now, add to this pool the numerous project SPVs that will be established along the road to the 450 GW RE target, adding to the hundreds that are already operational or are under development. Each project SPV generates electricity, but it also generates another extremely valuable commodity, i.e. information. Appropriately harvesting and disseminating this information can profoundly impact the pace of deployment of RE capacities in India.

So, how does RE's negligible operating cost structure and lack of complexity fit into the picture? It means that the

information that investors require from any project SPV is surprisingly modest in scope. It comprises a specific mix of techno-commercial data, including but not limited to grid availability, which can be correlated against variables such as PPA tariffs and off-taker identity. This information is, in fact, indirectly embedded in the annual accounts that individual project SPVs file with the ministry of corporate affairs. Incidentally, such accounts are readily available in the public domain, but the challenge is that the relevant datapoints are not easily extractable. Most crucially, existing databases that aggregate information at a state, distribution company, or even developer-level on the basis of voluntary and selective contributions, fail to match the granular detail that project SPV-level data contributions would provide.

Investors have backed the deployment of sizeable RE capacities in India despite a discernible gap between the type of information valued by them and what is readily available. Multiple refinements to RE policymaking are under development to facilitate future deployments, including the introduction of new financial instruments and risk-mitigation measures. These will undoubtedly play a crucial role in mobilising the requisite hundreds of billions of dollars. However, they are unlikely to achieve their potential in an information vacuum.

This information vacuum can be best filled by a distinct National Renewable Energy Database, populated by mandatory data contributions by all RE project SPVs and suitably ring-fenced

from data generated by traditional generation sources. The added burden in terms of level of disclosure is neither significant nor time-consuming. This burden can be further mitigated by seeking precise, well-defined and limited datapoints, reflecting RE's simple generating profile. Such a database will serve both policymakers and developers in equal measure. For the former, it can be an early-warning mechanism, allowing them to make targeted, timely and effective evidence-based interventions. For the latter, it can be a valuable tool to source capital at scale on favourable terms as a result of increased transparency. Most importantly, for the nation, it represents a nominal cost investment force multiplier whose time has come.

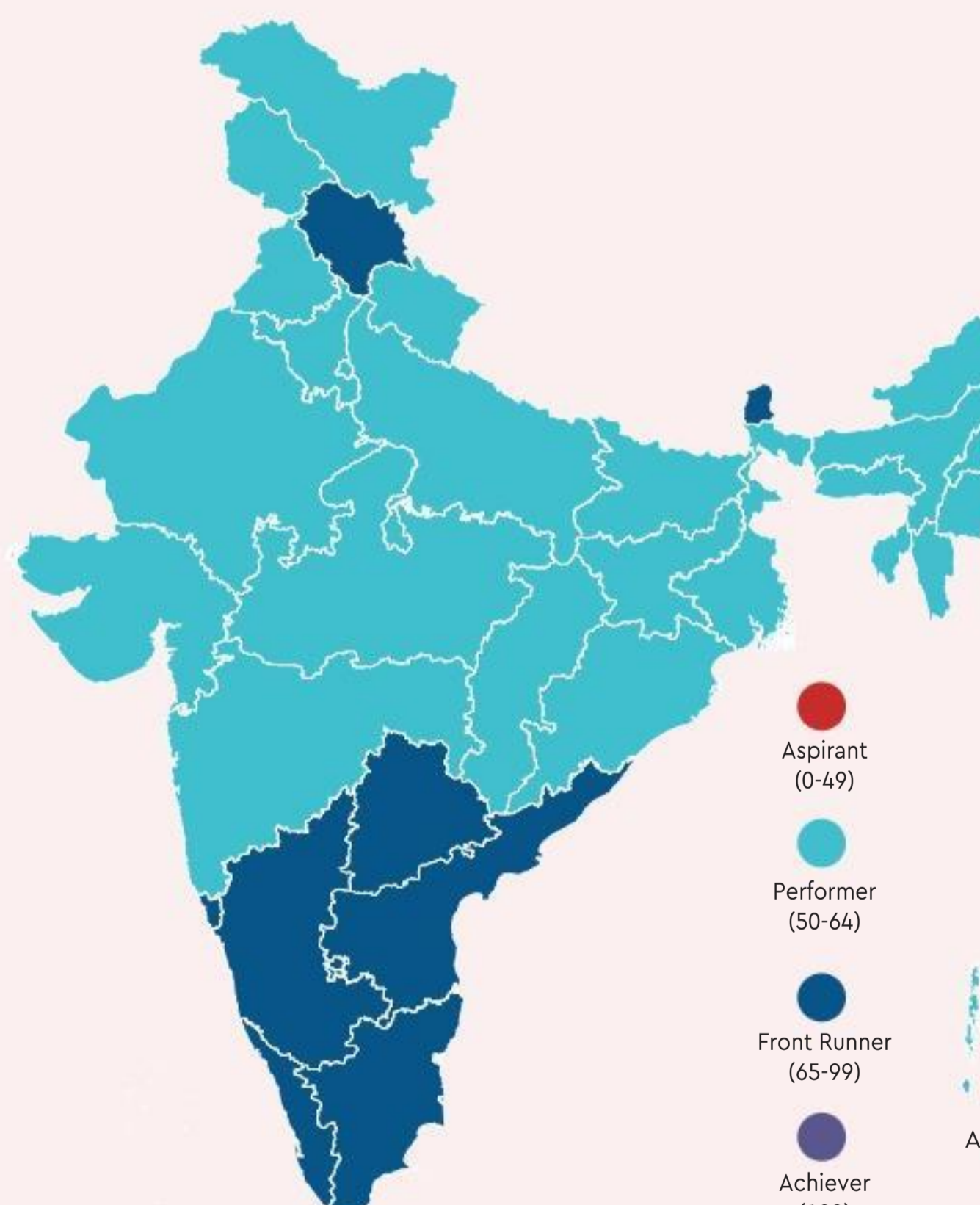
Existing databases that aggregate information at a state, discom, or developer-level on the basis of voluntary and selective contributions fail to match the granular detail that project SPV-level data would provide

DATA DRIVE

Limping towards SDGs

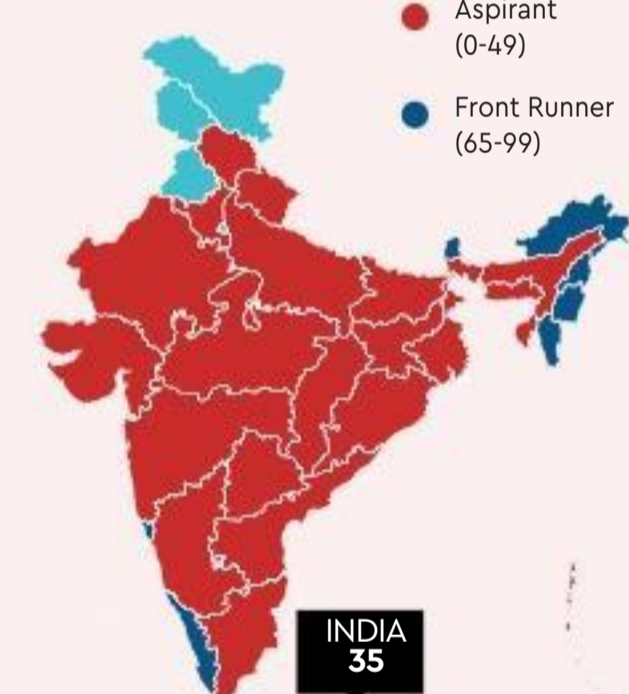
THE RECENTLY PUBLISHED Sustainable Development Goals (SDGs) Index 2019-20 by the NITI Aayog gives India an overall score of 60—a three-point improvement from 2018. Kerala (70) topped the list, while Bihar (50) was at the bottom. The marginal improvement in the overall score for India has been due to its improvement in the areas of clean water and sanitation, affordable and green energy, and innovation. With regards to SDG 6—clean water and sanitation—India's overall score is 88. Andhra Pradesh (96) was the best performing state and Tripura (69) the worst.

However, the fact that there has only been marginal improvement is because India is limping with the other SDGs—mainly zero hunger (SDG 2) and gender equality (SDG 5). India's overall score on SDG 2 is 35, with states' scores ranging from 22 to 76—Goa has the highest score and Jharkhand the lowest. Given that India is facing high levels of malnutrition and hunger—it ranked 102 on the Global Hunger Index—it should tackle this at the earliest. India's overall score on SDG 5 is 42 and the states' scores range from 26 to 52—Himachal Pradesh is at the top and Telangana is at the bottom. Indicators such as low sex ratio (896 per 1,000 males), low political representation, gender wage gap and informality of labour have contributed to this. The worst-performing states must take urgent action and the Centre's support to these states must also factor in the areas where they lag the others.

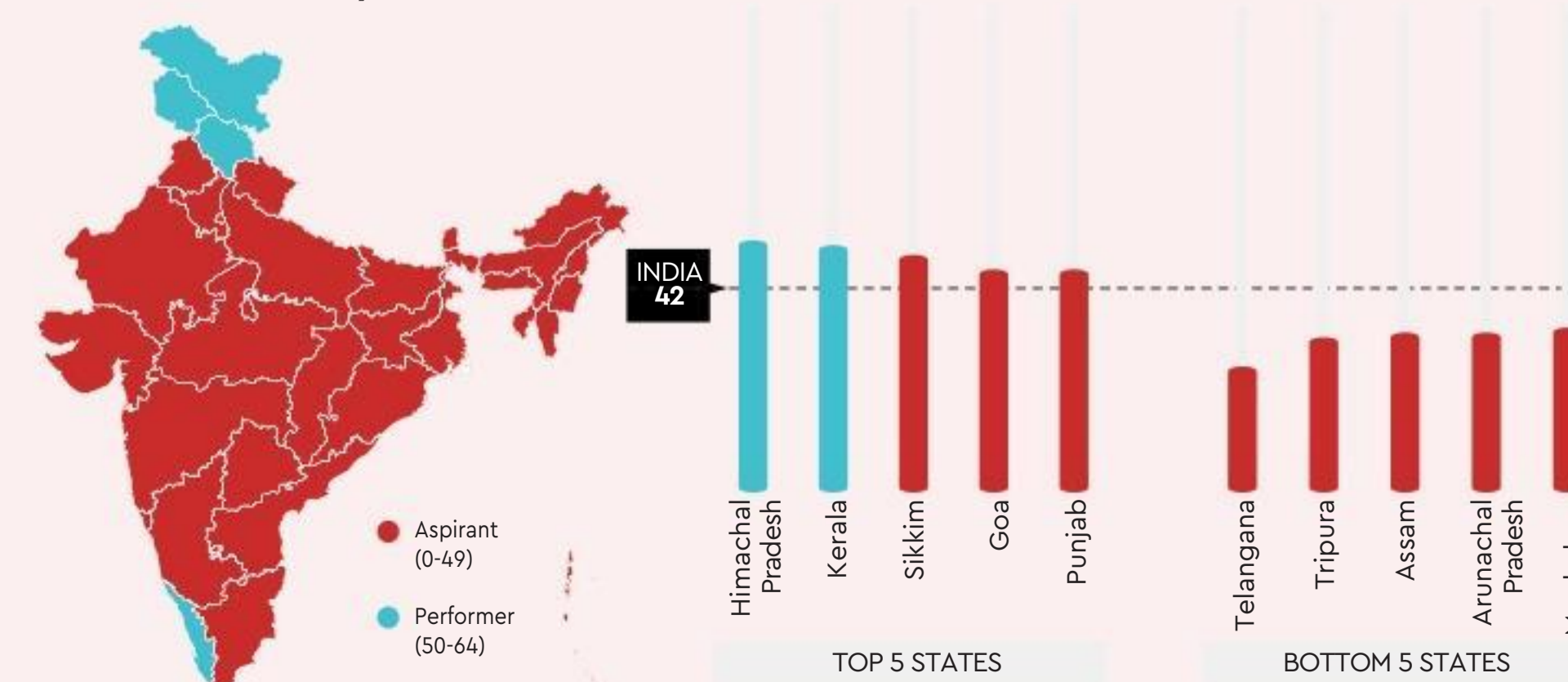


India SDG Index Score of States and UTs

Index Score of States/ UTs on SDG 2



Index Score of States/ UTs on SDG 5



Index Score of States/ UTs on SDG 6

