

## In this issue

### Per Capita Energy Use

#### *Rationalising targets*

The 2018–19 Economic Survey by the Ministry of Finance recommended a four-fold increase in India's per capita primary energy use to achieve the targeted human development index (HDI). A General Article in this issue questions this estimate and argues that, though energy is necessary for human development, it is not sufficient. The authors point out countries that have high per capita energy use and yet have comparatively low HDI, on the one hand, and countries that have low per capita energy use and yet have relatively high HDI, on the other, to prove their point.

To achieve the development targets, they suggest greater focus on health care and education – two factors that impact human development more consistently than per capita energy use. To free up funds for education and healthcare, the authors rationalise the targets for energy generation, with due consideration to new technologies and their carbon footprint – a factor that plays a role in the sustainable development goals. Read on from **page 1620**.

### Myopia in School Children

#### *Need for farsighted policies*

The desire to provide the best education leads parents to herd their children into kindergarten. The children spend most of their lives inside four walls, transported to private tutors, hobby classes... And till they come out of university, their eyes don't need to focus on objects more than a few feet distance and are not exposed to the bright light of the sun. By the time they are teenagers, more than 80% develop myopia, near sightedness, in countries such as Singapore and South Korea. The case in India is not as bad, but if the available data is indicative, India is catching up with the trend seen in East Asian countries.

A General Article by researchers from the myopia lab of L. V. Prasad Eye Institute, Hyderabad presents a perspective that opens our eyes to the problem of growing numbers of myopic children and the reasons for it. The solution they present is simple: a public health policy that regulates how children spend their time in schools. For tips on immediate remedial action from parents and educators, read on from **page 1616** in this issue.

### Antarctic Ice-shelf Margins

#### *Mapping changes*

The Antarctic continent has a coastline of more than 40,000 kilometres. It extends into the sea in the form of ice-shelves. Influenced by the atmosphere from above and the sea currents below, occasionally parts of the ice-shelf break off. Such calving of ice bergs, big and small, reduces ice-shelf area. This process is expected to be enhanced by the projected changes in climate.

Esha Shah and James at the Gujarat University have been examining Antarctic ice using satellite data for some years now. This time, they teamed up with researchers from the ISRO-Space Applications Centre to examine the changes from 1997 to 2019, using Sentinel-1 and RADARSAT-1 images of Antarctica, using change detection techniques.

They find that, though there is a reduction in the ice-shelf area by about one per cent in the last 22 years, while some parts calve ice-bergs, other parts seem to grow. The data presented in the Research Article on **page 1633** pose challenges to researchers for years to come, to unravel the mechanisms involved.

### Sparrows in Delhi

#### *Urban density and seasonality*

*Passer domesticus* is called house sparrow, since the species has been associated with human habitations.

Yet, the species that has been a companion to humans at least from the Bronze Age, is now finding itself confronted with the unprecedented urbanisation of human populations. But surprisingly, sparrow populations have been dwindling in low density urban areas rather than in very densely populated areas of Delhi.

Shikha Choudhary and team have been studying house sparrow populations in East Delhi for some time. Now they investigate how sparrows adapt seasonally to changes in the availability of food and nesting sites near different types of human habitations with varying densities of populations. You cannot pass the passerine bird by without interest, once you read the Research Communication on **page 1706** in this issue.

### Raw Herbal Drugs

There are more than a thousand medicinal plants in India that enter the trade route for Ayurvedic and herbal preparations. More than 200 of them are traded in quantities exceeding 100 MT per year. A Research Communication in this issue examines foreign material content in raw herbal drugs from 35 most common species traded in most parts of India, taking care to include samples of flowers, fruits, fruit rind, seeds, leaf, stem, root, rhizome, heartwood and whole plant as mentioned in the Ayurvedic Pharmacopeia of India. Nearly 50% of the samples contained 10% or more foreign matter.

To ensure and enhance the quality of herbal medicines, there is a need for a comprehensive national level policy that addresses various issues related to the cultivation, harvesting, collection, processing, quality and marketing of herbal raw drugs, say the researchers. For details, turn to **page 1699**.

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