# **Daily News Juice**

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# 1. What is paraquat poisoning, by which Greeshma killed her boyfriend Sharon Raj?

#### Sharon Raj Murder Case

A 24-year old woman was awarded the death sentence by a Thiruvananthapuram court which found her guilty of poisoning her boyfriend in 2022 with a chemical herbicide called paraquat.

#### What is paraquat?



Paraquat, also known as paraquat dichloride or methyl viologen, is one of the world's mostused herbicides. A toxic chemical, paraquat is primarily used to control the growth of weeds and desiccate crops like cotton before harvest.

The WHO classifies paraquat as Category 2 (moderately hazardous and moderately irritating) chemical. Its sale is banned in over 70 countries, including China and the European Union, due to its potent toxicity. However, it is widely used in the US and in India.

According to the US Environment Protection Agency (EPA), "one small accidental sip can be fatal" to humans.

#### How does paraquat poisoning occur?

While ingestion is the most common route of exposure, the chemical may also be transferred and absorbed through prolonged skin contact. Its inhalation can also cause respiratory issues. According to the US Centers for Disease Control, paraquat causes direct damage when it comes into contact with the lining of the mouth, stomach, or intestines. It spreads rapidly through the body and causes adverse reactions to occur in the lungs, liver and kidneys. The CDC noted that cells select how they allow paraquat to enter, through "active transport," a process that moves molecules in and out of the cell.

# What are the symptoms of paraquat poisoning?

According to the CDC, the extent of paraquat poisoning depends on the amount, means and length of exposure to the chemical. This gets compounded further by any pre-existing medical condition the victim had. If ingested in a small amount, a person would display signs of

damage to the heart, kidneys, liver and lungs over several days or weeks. However, this timeline is reduced if the person was exposed to or ingested a large amount of paraquat.

#### What are some restrictions that have been placed on the use of paraquat?

In the US, paraquat sales are restricted only to commercially licensed users, with a ban on personal use or in residential areas.

In India, its use is governed by the Central Insecticides Board and Registration Committee (CIBRC), under the Ministry of Agriculture & Farmers Welfare. The Insecticides Act of 1968 authorises the manufacture, sale, storage, transport, and distribution of insecticides, including herbicides like paraquat.

A 2021 notification issued by the Agriculture Ministry restricts paraquat's use to the following crops: wheat, rice, tea, coffee, potato, grapes, maize, rubber and apple. Its spraying is also allowed in some waterways like ponds and canals to combat weeds.

Despite this, its use is largely unregulated. A 2015 paper titled "Conditions of Paraquat Use in India" noted that while the CIBRC only allows spraying paraquat as a herbicide, many farmers also disperse it by hand. These farmers do not use any personal protective equipment like gloves while mixing or dispersing paraquat with fertilisers, sand or salt. The paper also noted the need to train farmers on its safe use, as they tended to ignore the instructions on the label.

Relevance: GS Prelims; Miscellaneous Source: The Hindu

# **2. 31 Wetland Accredited Cities in the world include Indore in Madhya Pradesh and Udaipur in Rajasthan**

#### Introduction

Current trends in human settlement potentially pose a major threat for wetland conservation and wise use. As cities grow and demand for land increases, the tendency is to encroach on wetlands. They are often viewed as wasteland to be converted for other purposes including being used as dumping grounds.

Yet when preserved and sustainably used, urban wetlands can provide cities with multiple economic, social and cultural benefits. During storms, urban wetlands absorb excess rainfall, which reduces flooding in cities and prevents disasters and their subsequent costs. The abundant vegetation found in urban wetlands, acts as a filter for domestic and industrial waste and contribute to improving water quality.

Urban wetlands are prize land not wasteland and therefore should be integrated into the development and management plans of cities.

#### **Background and context**

The 172 Contracting Parties to the Convention have agreed to the conservation and wise use of wetlands in their territories. Recognizing the importance of cities and urban wetlands, the Convention has introduced a Wetland City accreditation scheme (Resolutions- XII.10, XVI.10).

This voluntary scheme provides an opportunity for cities that value their natural or humanmade wetlands to gain international recognition and positive publicity for their efforts.

The Wetland City Accreditation scheme will encourage cities in close proximity to and dependent on wetlands, especially Wetlands of International Importance, to highlight and strengthen a positive relationship with these valuable ecosystems, for example through increased public awareness of wetlands and participation in municipal planning and decision-making. The Accreditation scheme should further promote the conservation and wise use of urban and peri-urban wetlands, as well as sustainable socio-economic benefits for local people.

# **Accredited Wetland Cities**

List of 31 newly accredited Wetland Cities, announced at the 64th meeting of the Standing Committee. Argentina: Trelew Belgium: Mechelen Botswana: Kasane-Kazungula, Shakawe Chile: Valdivia China: Chongming, Dali, Fuzhou, Hangzhou, Jiujiang, Lhasa, Suzhou, Wenzhou, Yueyang France: Abbeville, Arles, Hampigny India: Indore, Udaipur Iran (Islamic Republic of): Babol, Bandar Kiashar, Gandoman Japan: Nagoya City Morocco: Mehdya Philippines: Balanga City Poland: Poznan Republic of Korea: Gimhae, Mungyeong Serbia: Novi Sad Switzerland: Geneva Zimbabwe: Victoria Falls

Relevance: GS Prelims; Environment Source: Official Website of Ramsar Wetlands

#### 3. How has India revised obesity parameters?

#### Introduction

India has revised guidelines for obesity treatment and diagnosis after 15 years. The move comes after a call for global recalibration on how obesity is measured. In a recent report published in The Lancet, the global commission noted that Body Mass Index (BMI) apart, the distribution of body fat is also a key indicator of overall health and disease patterns. In step with this report, experts in India, including a group of doctors, nutritionists, and others from the National Diabetes Obesity and Cholesterol Foundation, Fortis C-DOC Hospital, and the All-India Institute of Medical Sciences (AIIMS), have issued updated guidelines for India.

## What is new?

The revised classification system introduces two stages in obesity — 'innocuous obesity', characterised by increased body fat without organ or metabolic dysfunction; the second stage is obesity with consequences, marked by the impact on physical functions and presence of obesity-related diseases. This framework places special emphasis on abdominal fat distribution, which has particularly adverse effects on Asian Indian populations.

Variable	Consensus guidelines for Asian Indians <sup>a</sup>	Prevalent International Criteria
Generalized obesity	Normal: 18.0-22.9	Normal: 18.5-24.9 b
(BMI cut-offs in kg/m <sup>2</sup> )	Overweight: 23.0-24.9	Overweight: 25.0-29.9 b
	Obesity: ≥25	Obesity: ≥30 <sup>b</sup>
Abdominal obesity (Waist	Men: $\geq 90^{\circ}$	Men: $\geq 102^{d}$
circumference cut-offs in cm)	Women: ≥80 <sup>c</sup>	Women: ≥88 <sup>d</sup>

The new guidelines set lower thresholds for BMI criteria which are now adjusted downward, with overweight defined as  $\geq 23-24.9 \text{ kg/m}^2$  and obesity as  $\geq 25 \text{ kg/m}^2$ , compared to the Western standards of  $\geq 25 \text{ kg/m}^2$  and  $\geq 30 \text{ kg/m}^2$  respectively. Also, ideal waistlines have to be >90 cm for men and >80 cm for women, lower than Western standards of 102 cm and 88 cm respectively.

# Why are Indian bodies different?

Studies show that excess fat in Indian populations leads to higher levels of inflammation and metabolic disturbance at lower BMI thresholds compared to Western populations. The only available antidote is to start exercising and have a diet plan early in life.

The current report states that using BMI alone to diagnose obesity is not a reliable measure of health or illness at the individual level. This can result in misdiagnosis, with negative consequences for people living with obesity.

# What does obesity do to the body?

Naval Vikram, Department of Medicine, AIIMS, says studies have shown a strong correlation between abdominal obesity in Indians, resulting in inflammation and the early onset of diseases with co-morbidity. "Abdominal fat, which is closely linked to insulin resistance and prevalent in Asian Indians, is now recognised as a key factor in the diagnosis. The new definition integrates the presence of co-morbidities — such as diabetes and cardiovascular disease — into the diagnostic process, ensuring that obesity-related health risks are better accounted for, and taken care of in management," he pointed out. An early diagnosis translates into targeted management strategies, Dr. Vikram contended.

"There is also inclusion of mechanical problems associated with obesity, for example, knee and hip osteoarthritis, etc., or shortness of breath during daily activities, which lead to a poor quality of life," he added.

Relevance: GS Prelims & Mains Paper II; Governance Source: The Hindu