Role of Rice in Boosting Nourishment

Why in News

According to a recent study, as many as **12 folk varieties of Indian rice** examined by researchers can supplement the **nutritional demand of important Fatty Acids (FA) in undernourished mothers.**

- **Rice** contains various classes of fatty acids, vitamins, minerals, starch and a small amount of protein.

Key Points

- **Fatty Acids:**
    - Fatty acids are **natural components of fats and oils**. These have many important functions in the body, including energy storage.
    - Based on their chemical structure they can be differentiated into three groups: **'saturated', 'mono-unsaturated' and 'poly-unsaturated' fatty acids.**
        - **Saturated fatty acids (fats)** are mainly found in animal foods, such as (fatty) meat, lard, sausage, butter and cheese but even in palm kernel and coconut oil, which are used for frying.
        - **Most unsaturated fatty acids (fats)** are of plant and fatty fish origin. Meat products contain both saturated and unsaturated fats.
        - Within the family of **PolyUnsaturated Fatty Acids (PUFAs)**, there are two different groups: the **'omega-3-fatty acids 'and 'omega-6-fatty acids'.**
            - Both are considered essential fatty acids because they cannot be synthesized by humans.
    - **Trans fatty acids**, more commonly called trans fats, are made by heating liquid vegetable oils in the presence of hydrogen gas and a catalyst, a process called hydrogenation. These are the **worst types of fat** for the heart, blood vessels, and rest of the body.
- **Findings of the Study:**
    - **Helpful for Health:**
        - The **traditional rice varieties** can **add essential FAs in the staple diet** helping in the **normal brain development in infants.**
        - **Many folk varieties** like **Athikaraya, Dudh-sar, Kayame, Neelam samba, Srihati, Maharaji and Bhejri** are known in folk medicine to enhance milk production in lactating women.
        - Varieties like **Kelas, DudheBolta and Bhutmoori** are rich in iron and can be included in the diet of mothers to treat **anaemia**.
    - **Address the Problem of Undernutrition:**
        - The traditional varieties help **address the problem of undernutrition in under five children.**
        - India was placed at the **94th spot among 107 countries by the** Global Hunger

Index 2020. It is calculated on the basis of **total undernourishment of the population, child stunting, wasting and child mortality.**

- **Contributes to the Economy:**
    - Recently, the first export consignment of **Bao-dhaan (red rice) from Assam was sent to the US** in March 2021. This enhances incomes of farming families.
        - This **iron-rich** red rice is grown in the Brahmaputra valley of Assam, without the use of any chemical fertilizer.
- **Resistance against Disease:**
    - **Seven rice varieties of North East India** — Meghalaya lakang, Chingphourel, Manuikhamei, Kemenyakepeyu, Wainem, Thekrulha, and Koyajang — have the **potential to resist leaf and neck blast disease** in rice plants.
        - **Blast disease** caused by **fungal pathogen Pyricularia oryzae** is a major threat to rice productivity worldwide.
- **Conservation is Cheaper:**
    - **In situ conservation** of these **neglected and vanishing varieties of rice**, rich in nutrients, is a cheaper option **than High-Yielding Varieties (HYVs).**
        - **HYV seeds** were developed by scientists to improve food supplies and reduce famine in developing countries.
        - **In situ and ex situ** conservation focuses on the maintenance of species diversity within or away from their natural habitats, respectively.

Rice

- It is a **kharif crop** which requires **high temperature, (above 25°C)** and high humidity with annual **rainfall above 100 cm.**
- Rice is **grown in** the plains of north and north-eastern India, coastal areas and the deltaic regions.
- **West Bengal tops the list** of rice-producing states followed by Uttar Pradesh and Punjab.

Source: DTE