

- Absence of checks and balances - The previous experience with attempts to patent Indian Basmati, Neem, and Turmeric by MNCs provides for little confidence.
- Data can be used as an instrument of coercion, manipulation, and control

How to balance the conservation of traditional knowledge and the growth of agri startups ?

- The awareness about the Protection of Plant Variety and Farmers Right Act (PPVFR Act) that aims to achieve a delicate balance between farmers' and breeders' rights has to be enhanced.
- The Traditional Knowledge Digital Library (TKDL) such as e-Kutir and Geographical Indications initiatives have to be strengthened.
- eKutir is a for-profit social enterprise group that provides economically sustainable solutions anchored with technology, micro-entrepreneurship, and community engagement.
- Farmer-owned cooperatives and producer companies have to be enabled to function as custodians of intellectual property and traditional knowledge of farming communities.
- There is a need for other complementary interventions and appropriate safeguards against inequitable appropriation of traditional knowledge.
- India needs to ensure that the digital push enables the transition towards decreased resource intensity or costs of agriculture, enhanced crop diversification, and nutritional security, and increased farmers' income.

3.5 Food and Fertiliser Crisis

Why in news?

A direct economic impact of Russia's Ukraine war is that prices of food, energy, fertilisers will tend to rise.

How will the conflict add to the food and fertilizer crisis?

- **Food Crisis-** Ukraine is a major foodgrain (wheat and corn) producer.
- Russia is known for its wheat and sunflower oil exports.
- The crisis would
 - spur food inflation
 - propel the poor harvest due to dry spells in South America and Indonesia
 - aggravate the rising demand for wheat and oilseeds in China and India
- **Fertiliser Crisis-** Russia is a major supplier of natural gas to Europe, and the Black Sea area is a major hub of fertiliser production and trade.
- Russia supplies about one-third of Europe's natural gas supply, the main feedstock to major power and chemical producers.
- Russia is the second-largest producer of ammonia, urea, potash and the fifth-largest producer of complex phosphates.
- The country accounts for 23% of the global ammonia export market, 14% of urea, 21% of potash and 10% of complex phosphates.

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India is the world's
largest urea importer.
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What will be the potential implications of the food crisis?

- Russia accounts for about 10% of global wheat production while Ukraine has a 4% share.
- Russia and Ukraine are important players in corn production and had a 14% share of global maize exports in 2020.
- These two countries lead in sunflower oil production and have a 40% share in exports.
- **Food security-** The armed conflict between the two countries has raised concerns over food security for the Middle East and Africa.
- Food security has six dimensions - availability, access, utilisation, stability, agency, and sustainability, which are expected to be affected by this crisis.
- **Price rise-** There can be an upside risk to global commodity prices, which have been at an elevated level since April 2021.