

- This could expand the cultivation of wheat to higher latitudes by 2030, increasing its global yield.
- However, the nutritional value of such wheat would be reduced.
- Also, the increase in global wheat yield could level off by 2050.
- While wheat yield would increase 17% by 2030, global maize (or corn) yield would decline 24%.
- Maize is grown all over the world and large quantities are produced in countries near the equator (North and Central America, West Africa, central Asia, Brazil and China).
- So, farmers need to adapt much faster by changing the planting dates and using different crop varieties to avoid severe losses.


3.4 Agritech & Traditional Farmers' Knowledge

What is the issue?

With the emergence of agri-tech unicorns in the digital revolution in agriculture, farmers' traditional knowledge are often neglected or exploited.

What is the role of the Agri-tech start-ups in the digital revolution?

- The internet penetration of about 32 % provides the basis for the growth of digital platform-based enterprises.
- Agri-tech start-ups aim to address the knowledge gaps among the farmers.
- They provide goods and services to farmers, such as access to quality inputs, and reasonably priced credit.
- Several start-ups are providing various value chain services. ITC's e-Choupal and related one-stop retail formats were considered as precursors to the digital revolution in agriculture.
- On the output side, start-ups are working to reduce the farm-to-fork gap, enhance market access and bargaining power of smallholder farmers.



e-Choupal is an initiative by ITC Limited that provides Internet access to rural farmers to enable them to order supplies, learn best agricultural practices, receive weather reports & read about pricing for crops.

What efforts have been made by the Government in this respect?

- **Use of technology** - The government has taken steps to create a farmers' and land ownership database.
- The Digital India Land Records Modernization Programme, Unique Land Parcel Identification Number (ULPIN), etc. were the efforts taken in this direction in this direction.
- India Digital Ecosystem of Agriculture (IDEA) - The government has released a consultation paper on the IDEA that would place the farmer in the centre of the agriculture ecosystem leveraging open digital technologies.

What are the benefits of inculcating technology in agriculture?

- Provision of agri related information
- Increased productivity
- Reduces the risk of farmers
- Aids in precision farming
- Reduce the incidence of benami properties
- Reduce the incidence of protracted land disputes
- Enable farmers to use their assets to access institutional finance
- Reduce the challenges banks face in conducting due diligence before advancing agricultural loans.

What are the challenges in the emergence of agri-tech startups?

- Privacy and security concerns
- Issues of exploitation of farmers
- Unfair appropriation of traditional community knowledge – [PepsiCo India Holdings](#) had earlier sued 11 farmers for illegally growing and selling a potato variety registered in the company's name.