

Q1 Despite the success of PM Krishi Sinchayee Yojana, multiple challenges still remain on the irrigation front. Examine. (10)

Q2 What is Conservation Agriculture? What issues does it seek to resolve? Are there any limitations in this way of agriculture? (10)

Q3 Agricultural challenges in India vary across regions and time. Elucidate. (10)

Q4 What would be the major challenges before India for ensuring food security in the future? What should be India's strategy in addressing this issue? (15)

Q5 India needs significant structural and technological reforms in Agriculture to address the pertinent issues plaguing Indian agriculture. Do you agree? Examine. (15)

Ans. 1

PM Kishu Sanchayee Yojana (PMKSY), 2015 sought to bring about ~~uniform~~ uniform water resources with a motto of "Har Khet Mein Pani" (water to every farm)

~~Despite~~ the scheme has been focussing on the issue of water problem through enhancing efficient water resources, pumps, check-dams, etc.

There has been improvement in the water table in the north west region, dissemination of information about the micro-irrigation systems has been done.

However, challenges on the irrigation front still persists.

CHALLENGES

- 1) Water contamination like Arsenic in West Bengal.

2) Lack of Awareness about the scheme to the farmers.

3) Decline in Water Table though improvement is there but is abysmally low.

4) Electricity subsidy and Irrigation subsidy → leads to overuse of water by the farmers on lands.

5) Lack of incentives to the farmers and no information.

6) Traditional Practices are still used like tubewells, and pipes rather than sprinkler system.

7) Lack of modernisation hence they avoid micro-irrigation methods.

Hence, considering the problem of irrigation, there should be proper work on it with emphasis on micro irrigation, drip irrigation and fertigation.

Ans. 2

Conservation Agriculture is the method in which there is limited land and soil disturbance, and limited resources are used to produce crops.



Issues it seeks to resolve:

- 1) Degradation of land as there will be ~~no preparation~~ limited use of resources like fertilizers, etc.
- 2) Degradation of soil as no tillage, no disturbance to soil.
- 3) Ensure crop diversification have more nutrition.
- 4) Organic farming will be promoted as the artificial and chemical farming.

posing threat to the nature.

- 5) Soil erosion would be checked as there would be cover crops.

Limitations

- 1) Initially it can produce less production which would be demotivating for farmers.
- 2) Reduce Monoculture which has been promoted by farmers.
- 3) Can be costly initially for using cover crops, or other materials to cover the soil.



However, these limitations are very less in comparison to the benefits the method provides. Therefore, India should promote Conservation Agriculture.

Ans 5

Agriculture contributes 46% of the employment and around 16% to the GDP of our country.

The above contrast is because of Agricultural challenges that vary across regions and time.

Challenges :-

- 1) Regional Inequalities : In fact green revolution actually increased the inequalities like Punjab-Haryana rich, while Orissa poor.
- 2) Over Irrigation in North-West : has posed a new challenge of decrease in water table and degradation of land through salination, alkalinisation.
- 3) Dry in Central highlands : lack of irrigation facilities in Orissa, Madhya Pradesh → a difficult challenge.
- 4) Resource crunch in BIMARU states and existing poverty.

5) Dependence on Monsoon:

Some regions get early access to monsoon, some get summer monsoon like Karnataka, UP, Delhi while Tamil Nadu get winter rainfall -

6) Lack of farmer literacy in Bihar, Orissa, Jharkhand.

Hence, the agricultural challenges vary across region and time. It can be reduced through:

- 1) land reforms - uniform
- 2) doubling farmers income -
- 3) proper irrigation through PMKSY.
- 4) effective implementation of schemes of PMFBY, ~~per drop~~ per drop more crop, etc.
- 5) avoiding one size fit all approach

Therefore, agricultural challenges can be reduced by ~~not~~ bringing respective reforms according to the varied challenges

Ans. 4

Food security is the term which ensures when every person across time and space, get safe, healthy and nutritious food irrespective of any discrimination. SDG-2 ensures food security for all.

India has been a self-sufficient in food since 1970s however there is dearth of food security and even in the upcoming future, more challenges are awaited.

Major challenges for ensuring food security

1) Population: The overexploding population of our country. Infact World Population Prospects 2022 highlights India to be surpassing China by 2033 in population. Hence, meeting the demands would be a sure-shot challenge.

2) Pressure on land: Growing population and increasing factories on land,

which is a limited source holds problem of sustaining or growing crops on limited land.

3) Degradation of Land Due to over-exploitation of the agricultural land, making it bad quality, use of pesticides and fertilisers etc. can cause a huge problem.

4) Dependancy on Monsoon Indian agriculture depends on monsoon and distortions in monsoons, extreme weather conditions like heatwaves, etc. can lead to issues.

5) International Market: The increasing problems, like in prices of imports and oils.

6) Climate Change droughts, floods can lead to problems.

Hence the above challenges will threaten agriculture which will in turn pose serious challenges to agriculture.

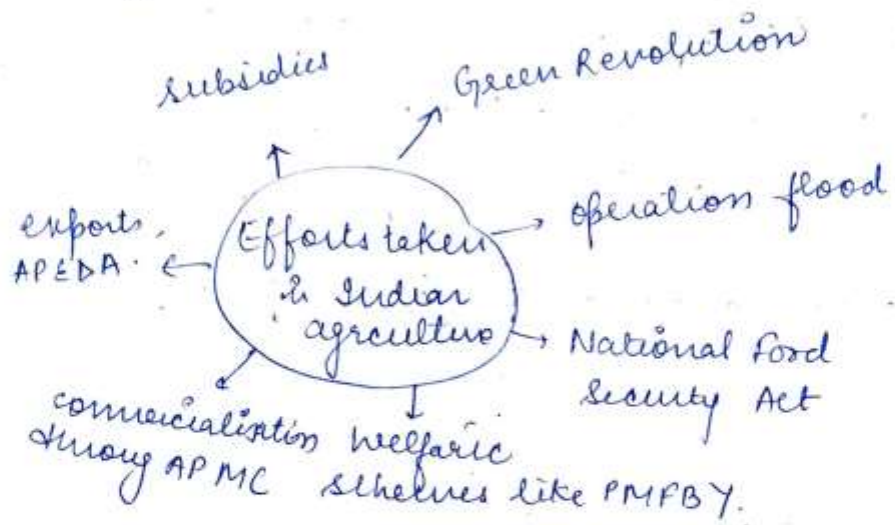
India's strategy

- ① Multipronged approach involving various reforms - technological, structural, institutional.
- ② Mechanisation to ensure greater production and productivity.
- ③ Implementation of schemes with proper enthusiasm and will.
- ④ Controlling the population demands and needs through awareness, contraceptive and changing perception of "more hands, more income".
- ⑤ Increasing farmer's income Doubling farmer's income by 2022 vision.
- ⑥ Storage facilities and ensuring no wastage of foodgrains.

Hence, India can ensure food security for all through various schemes like PDS, NFSA 2013, and multi-stakeholder approach in future.

Aus. 5

Agriculture is the primary sector employing around 46% of the labour force and agricultural products like basmati rice, spices are the leading exports from India.



STRUCTURAL REFORMS required

1) Institutional reforms

Revamping of PDS system ;
reforms in the APMC mandi system ;
logistics improvement like Krishi
Udan 2.0.

2) Infrastructural reforms

increasing storage capacities; strengthening Food Corporation of India; proper functioning of irrigation pumps; promotion of solar pumps.

3) Land reforms there is a need for proper landforms in order to improve the condition of Indian agriculture. 85% are marginal farmers.

land consolidation and computerization of land records must.

4) Administrative reforms so as to ensure proper implementation of various schemes like MGNREGA, PM-KSY, PMFBY, etc.

5) Legislative reforms strengthening of APMC acts, promotion of Farmer Producer Organisations; farmers cooperatives strengthening, etc.

TECHNOLOGICAL REFORMS

- 1) Computerisation of land records & database like Bhoomi project of Karnataka.
- 2) Digitisation by increasing the efficiency.
- 3) e-NAM to be implemented effectively.
- 4) NEGP-A for ensuring delivery services need to be strengthened.
- 5) Apps for information dissemination required like other initiatives Kisan Call Centre, ~~DD~~ Kisan etc.
- 6) Mechanization of farm is a high time need in the ~~current~~ situation.

Hence, this can be done through administrative and political will, ensuring farmers literacy and bringing Rainbow revolution. Through these reforms, there can be an improved agriculture of the country.