

WEBINAR HANDOUT



Yojana and Kurukshetra

Yojana and Kurukshetra - June 2020

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Webinar Link: <https://attendee.gotowebinar.com/recording/93545758380132353>

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Gist of Yojana

1. INDUSTRY 4.0 :

Introduction:

Industry 4.0 also known as the Fourth Industrial Revolution is signaling a change in the traditional manufacturing landscape, which encompasses three technological trends driving this transformation: Connectivity, intelligence and flexible automation. It describes the growing trend towards automation and data exchange in technology and processes within the manufacturing industry, including the Internet of Things (IoT), Cyber-Physical Systems (CPS), Artificial Intelligence & Blockchain etc.

Evolution of Industrial Revolution:

- The first industrial revolution came with the advent of mechanisation, steam power and water power. The second industrial revolution revolved around mass production and assembly lines using electricity. The third industrial revolution came with electronic and IT systems and automation. The fourth industrial revolution is associated with cyber-physical systems.

Radical Pace of Innovation:

- Companies are radically overhauling entire systems of production, management, and governance on a constant basis of change. We have unprecedented processing power, storage capacity, and access to various avenues of knowledge.
- These are being combined with emerging technology in fields such as artificial intelligence, robotics, 3D printing, nanotechnology, biotechnology, material science, and quantum computing. It is creating fresh challenges and opportunities within innovation.

Impact of Industry 4.0 post Covid - 19

- Industry 4.0 is not only as relevant as it was before the global COVID-19 emergency; it is actually far more relevant moving forward.
- COVID-19 is causing radical shifts in workflow across the globe as millions practice social distancing and comply with self-quarantine recommendations.
- The pandemic's dramatic appearance has accelerated numerous trends while slowing others. Although businesses have had reason to embrace digital workflows in the past, COVID-19 has provided another strong incentive to move towards a smart factory, complete with smart manufacturing or smart printing processes.
- While conventional wisdom says that a dedicated office space is required to maximise productivity but this theory is being put to the ultimate test during COVID-19.

COVID-19 Leading to Digital Transformation:

- The impact of the COVID-19 pandemic has demonstrated the value of IT and digital transformation across industries and businesses and they must utilise this time to speed up the transition.
- The integration of digital infrastructure to streamline public health to respond to the COVID-19 pandemic is very crucial in the context of epidemic forecasting and decision-making, one such example in India is the Aarogya Setu app by the Government of India.
- The fastest scalable solution to India's COVID-19 challenge was to employ digital technology for diagnosis and for contact tracing. Aarogya Setu app can also be tapped for providing telemedicine, especially in remote parts, during this moment of crisis.

Many manufacturers are increasing efforts to equip their human workers with digital connected-worker tools, ensure collaboration with colleagues when physical contact is off the cards, and other such processes that ultimately balance business continuity and employee health. Manufacturers who understand and act on this new normal will have ample opportunities for growth in this era of Industry 4.0.



2. SOCIAL MEDIA - THE FORCE MULTIPLIER :

Introduction:

Bill Gates said - "The Internet is becoming the town square for the global village of tomorrow". While the physical world is constrained by the limitations of distances and boundaries, the virtual world is all encompassing. The beauty of the new age social media tools lies in their universality and pervasiveness. They are easy to install and use and have a simplified user experience.

Twelve ways by which GOI is using Social Media as a force multiplier:

Crisis / Disaster Management:

- Whenever there is a big, unexpected crisis, citizens tend to panic and look for directions and advisories from their elected representatives. What adds to the heat of the moment is the possibility of (panic induced) rumours that may lead citizens astray.
- Two recent examples bear out this trend. The first one is a cyclone alert from the National Disaster Management Agency (NDMA) on India's eastern coasts (in the state of Odisha), while the other one is an advisory from PIB (Press Information Bureau) to citizens for the lockdown imposed due to COVID-19.

Citizen Engagement:

- Citizens should feel their governments are participatory and welcoming, and be able to contribute their ideas, comments and suggestions in policy formulation and program implementation. The Indian Government's **MyGov platform** has proven to be popular with citizens in this regard.
- Apart from MyGov, other social media channels used by the Indian Government (Twitter, Facebook, WhatsApp, Instagram) also promote citizen engagement, participation, and transparency in this important relationship.

Citizen Grievances & Support:

- Social media has emerged as a very impactful, real-time channel for citizen grievances and support.
- Most citizen services maintain active accounts on social media and encourage citizens to directly reach out with their grievances. Sometimes when the query gets resolved quickly, citizens express their gratitude and elation immediately. This expression can act as an authentic validation or testimonial for the service.

Law & Order

- Amongst governmental agencies, police departments are arguably one of the most active users of social media channels. This is because their jobs hover around real-time, public facing situations, which are frequently subject to rumours, false alerts etc.
- The Police frequently need to make public announcements—something that social media is well-suited for.

Hiring & Recruitment

- Some government agencies are using social media hiring channels for attracting best-in-class talent for their job vacancies. LinkedIn is a popular online recruitment platform.
- For instance NISG (National Institute of Smart Government) has posted vacancies for technical positions in UIDAI (Unique Identification Authority of India) which runs the Government of India's Aadhaar program.

Foreign Relations

- Social media bridges the distance between nations on the internet. Embassies and foreign consulates are active on Twitter & Facebook, engaging with each other or sharing important updates to their citizens.

Business & Industry Relations

- Government agencies partner with businesses, industry bodies and trade organisations on a regular basis for policy, consultations, networking etc.
- Many monetisation models on the internet (wholly or partially) rely on enterprises, B2B (business to business) and large corporations with large advertising and marketing budgets, which contributes to the nation's economy.

Live Traffic Updates

- Real time traffic updates and advisories get regularly shared in the metropolitan cities via the local Traffic Police social media accounts. These updates are helpful to commuters in avoiding traffic jams or taking detours to save time.

Crowdsourcing Ideas & Innovation

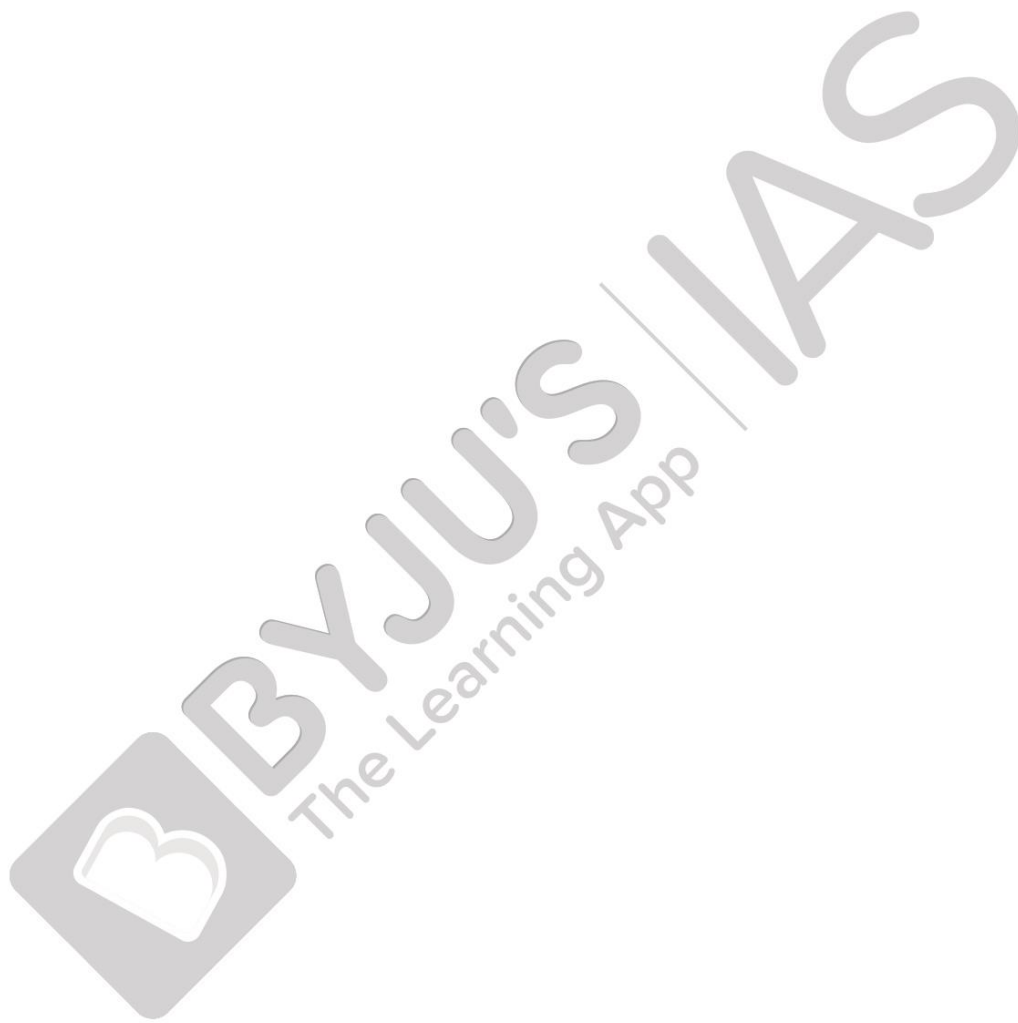
- Crowd-sourcing is a popular activity on the internet, where you get to tap into the collective "wisdom of the crowds".
- For example, Indian Government's community participation platform MyGov has leveraged crowdsourcing, by hosting a Logo Design Competition where citizens are invited to design and send the logos.

Citizen Service-Delivery Apps

- The government has launched various service delivery apps for its citizens. Social media is a key channel to drive awareness about these apps and get people to download them.
- Because these apps are mass targeted, the intent is to make them –go viral and spread via –word-of-mouth from person to person.
- The two examples here showcase this–DigiLocker is meant for digitised documents & certificates, while UMANG is like a gateway (or a directory) to multiple government services. While these apps have their individual social media handles, they are also promoted by the government departments.

Transparency & Accountability

- Citizens want ready access to government departments and its functioning officers.
- Given the size and expanse of the official setup, it is often not easy to figure out who is the concerned officer-in-charge and their contact details. The police department in Dima Hasao, one of the districts in Assam has publicly shared telephone numbers of their top officers and their rank and file.
- Such measures reduce bureaucracy, while promoting transparency and accountability in the eyes of the citizens.



3. DIGITAL PLATFORMS :

Aarogya Setu App

- The Aarogya Setu' App enables people to assess themselves the risk of catching coronavirus infection.
- It calculates this based on people's interaction with others, using cutting-edge bluetooth technology, algorithms and artificial intelligence. The app detects other devices with Aarogya Setu installed that come in the proximity of that phone.
- The App can then calculate the risk of infection based on sophisticated parameters if any of these contacts is tested positive.

Chatbot

- The Government of India has launched a WhatsApp chat bot so that the citizens can get instant and authentic answers to all of their queries related to the Coronavirus pandemic.
- Users have to drop a 'Hi' on the number +91-9013151515 or can call on the MyGov Corona Helpdesk to get answers to pertinent queries such as the symptoms of the deadly disease nearest COVID-19 testing facility.

Corona Kavach

- It is a COVID-19 tracker application, created by the Union Ministry of Electronics and Information Technology in collaboration with the Ministry of Health and Family Welfare.
- This application provides users with real time location of infected users who have activated the 'Kavach' feature.

COVID-19 Feedback

- This application has been developed by the centre to get direct feedback from people who have undergone coronavirus treatment in the country.
- This application provides users with real time location of coronavirus treatment in the country.

SAMPRAC

- The Defence Research and Development Organisation (DRDO) has developed an app called 'SAMPRAC' to enable tracking people under quarantine.
- The system enables geofencing, AI-based automated face recognition and would have the capability to display the information to the state officials on a map which can be colour-coded to depict hotspots and containment zones.
- Honest usage of this app can give them an option of home isolation instead of isolation in a government facility.

Other digital interventions by GOI

Bhim App

- BHIM (Bharat Interface for Money) is an Indian mobile payment app developed by the National Payments Corporation of India (NPCI), based on the Unified Payments Interface (UPI).

- It was launched on 30th December, 2016 and helps in facilitating e-payments directly through banks as a drive towards cashless transactions.

RuPay

- It is a card scheme, conceived and launched by the National Payments Corporation of India to fulfil the Reserve Bank of India's vision to have a domestic, open and multilateral system of payments.

UMANG App

- UMANG (Unified Mobile Application for New-age Governance) is a Government of India all-in-one single unified secure multi-channel multi-platform multi-lingual multiservice freeware mobile app for accessing over 1,200 central and state government services in multiple Indian languages.
- It includes services such as AADHAAR, Digi Locker, Bharat Bill Payment System, PAN, EPFO services, PMKVY services, AICTE, CBSE, tax and fee or utilities bills payments.

SWAYAM

- It is an online education programme initiated by the Government of India to achieve the principles of education policy by providing access, equity and quality.
- The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged.



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The Learning App

4. MIGRATION & ECONOMIC GROWTH :

A Challenge and an Opportunity

- As workers began returning due to the pandemic, there was an opportunity to prepare a database of this labour market, which is significant, given the employment potential and contribution of this sector to the GDP.
- This opportunity was available in the posts where they had to register themselves, and seek a medical certificate to be allowed to return to their home states. Registration forms could include the details of demographic information, level of skill, the kind of employment, the income earned, and whether or not the worker intended to return to work after the normalcy.
- This information is crucial for proper utilisation of funds allotted towards social protection of migrant workers, and the need for a sound database cannot be overemphasized.

An Opportunity for Social Dialogue

- It's a phenomenal task to 'settle' millions of workers and it requires effective collaboration from many interest groups.
- Considering that the land and its people form inseparable components of sustainable development, this pandemic can provide a good opportunity to revive social dialogue as well.
- States with a large inflow of return migrants are likely to face a downward pressure of wages. An effective social dialogue can ensure that such revisions are acceptable, and at the same time 'sweat shops' are minimised.

Economic Growth: Slowdown & Lock Down

- The GDP growth rate of the economy had slipped to 5 per cent in the first quarter of FY20.
- The annual report of the RBI for the fiscal year 2018-19 (or FY19) shows a significant decline in every macroeconomic indicator.
- Following Pigou's Maximum Social Advantage principle, it would be baseless to carry on with the lockdown extension beyond its optimum. i.e. when the net benefits from lockdown have been maximised.
- Net benefits would be an estimate of the number of lives saved, including the cost of medical assistance and equipment needed to look after number of patients added in the absence of lockdown, and perhaps the environmental 'recovery' if that can be factored in, minus the costs in terms of loss of production, livelihood and the rate of economic growth.
- And though the chances of a big spike in the number of infected persons in the absence of the lockdown are very real, the resulting poor economic growth has now become an overwhelmingly strong reality, enough to convince us that we might have passed the optimum.

Opportunities Ahead

- Boosting the consumption demand at the earliest is the need of the hour, since consumption expenditure constitutes almost 60 per cent of India's GDP.

- Ensuring decent earnings to the workers in general, including the migrants can easily facilitate this, mainly because of their high propensity to consume.
- Economists have also suggested use of surplus food grain stock to help the workers tide over the immediate periods of 'coerced unemployment'.
- There are successful examples of migrant workers' cooperatives that emerged as a response to the crisis in many countries.
- Creating opportunities of gainful employment by utilising the skills the return migrants have acquired so far, especially through cooperatives not only follows the Prime Minister's call to be 'Atma-Nirbhar' (self-reliance), but it can also facilitate decentralisation of the process of growth.



5. e- NAM: PLATFORM FOR MARKETING :

What is e-NAM?

- National Agriculture Market (eNAM) is a highly ambitious and successful scheme of Government of India which networks the existing APMC mandis to create a unified national market for agricultural commodities with a vision to promote uniformity in agriculture marketing by streamlining procedures and removing information asymmetry between buyers and sellers.
- It provides a single window service for all APMC related information and services which includes commodity arrivals, quality & prices, provision to respond to trade offers and electronic payment settlement directly into farmers' accounts and helping them for better market access.

Different from the conventional Mandi system:

- eNAM is **not a parallel marketing structure** but rather a device to create a national network of physical mandis which can be accessed online.
- It seeks to leverage the physical infrastructure of the mandis through an online trading portal, enabling buyers situated even outside the Mandi/ State to participate in trading at the local level.

How does eNAM operate?

- The eNAM electronic trading platform has been created with an investment by the Government of India (through the Ministry of Agriculture & Farmers' Welfare).
- It offers a —plug-in to any market yard existing in a State (whether regulated or private).
- The special software developed for e-NAM is available to each mandi which agrees to join the national network free of cost with necessary customization to conform to the regulations of each State Mandi Act.

Do the conventional Mandis lose business due to eNAM?

- Mandis do not lose any business. e-NAM basically increases the choice of the farmer when he brings his produce to the mandi for sale.
- Local traders can bid for the produce, as also traders on the electronic platform sitting in other States/Mandi. The farmer may choose to accept either the local offer or the online offer.
- In either case the **transaction will be on the books of the local mandi** and they will continue to earn the market fee.
- In fact, the volume of business will significantly increase as there will be greater competition for specific produce, resulting in higher market fees for the mandi.

Gist of Kurukshetra

6. WATER MANAGEMENT: TOWARDS SUSTAINABLE AGRICULTURE :

Water is one of the most critical resources for sustainable agricultural development worldwide. Sustainable water management in agriculture aims to match water availability and water needs in quantity and quality, in space and time, at reasonable cost and with acceptable environmental impact. Sustainable agriculture is a form of agriculture aimed at meeting the needs of the present generation without endangering the resource base of the future generations.

Efficient Water Management Practices:

A plethora of technologies and practices focusing on enhancing water use efficiency at all levels, are described below:

1. Laser Land Levelling:

- Proper land levelling is one of the management options which is generally ignored by most farmers. It increases the water application efficiency which leads to higher yields as well as rise in water use efficiency (Table 1). It also has a direct impact on the nutrient use efficiency.

Table 1. Increment in crop productivity and water saving through Laser Land Levelling

Crop	Grain yield (t/ha)		Water saving over without laser levelled field (%)
	Laser levelled field	Without laser levelling field	
Paddy	6.79	6.50	38
Wheat	4.75	4.55	20
Sugarcane	112.00	98.75	24
Summer mungbean	0.55	0.38	20
Potato	10.00	9.00	25
Onion	10.00	9.00	20
Sunflower	2.25	2.00	20

2. Irrigation Scheduling:

- Irrigation scheduling is the decision-making process for determining when to irrigate the crops and how much water to apply. The goal of an effective irrigation scheduling programme is to supply the plants with sufficient water while minimising loss to deep percolation or runoff.

3. **Methods of Irrigation:** Water use efficiency mainly depends on the way water is applied in the field. Efficient irrigation method is always aimed at reducing the various losses of water during application.
 - 3.1 **Check Basin and Border Strip Irrigation:** Check basin is the easiest and least costly method, but is usually highly inefficient only less than 20 percent of the water is taken up by the plant. Unfortunately, this is also the most widely used method among Indian farmers in different crops and cropping systems.
 - 3.2. **Furrow Irrigation:** The furrow method of irrigation is generally used to irrigate row crops and vegetables. Excessive water intake and deep percolation losses are its major limitations.
 - 3.3. **Surge Flow Irrigation:** Surge flow irrigation, the intermittent application of water in a series of on and off modes of constant or variable time spans has the potential of reducing intake and percolation losses, increasing the irrigation efficiencies and conserving irrigation water.
 - 3.4. **Micro-irrigation:** Micro-irrigation is one of the most efficient methods of irrigation which not only enhanced water use efficiency but also increased crop productivity. It mainly includes drip irrigation and sprinkler system water application.
 - 3.4.1. **Sprinkler Irrigation:** Sprinkler irrigation systems imitate natural rainfall. Water is pumped through pipes and then sprayed onto the crops through rotating sprinkler heads. These systems are more efficient than surface irrigation, however, they are more costly to install and operate because of the need for pressurised water.
 - 3.4.2. **Drip Irrigation:** Drip method of irrigation helps to reduce the over-exploitation of groundwater that partly occurs because of inefficient use of water under the surface method of irrigation.
 - 3.5. **Deficit Irrigation Practices:** In arid and semiarid regions, water availability is usually limited. Then, irrigation strategies should be based on rational use of water based on the critical or sensitive growth stages to water deficit. Thus, at non-sensitive growth stages irrigation is withheld which is called deficit irrigation.
 - 3.5.1. **Regulated Deficit Irrigation (RDI)** is an optimising strategy under which crops are allowed to sustain some degree of water deficit and yield reduction. The main objective of RDI is to increase Water Use Efficiency (WUE) of the crop by eliminating irrigations that have little impact on yield and to improve control of vegetative growth.
 - 3.5.2. **Partial Root Drying PRD** is a new irrigation technique, first applied to grapevines that subject one half of the root system to drying conditions while the other half is irrigated. PRD uses biochemical responses of plants to water stress to achieve balance between vegetative and reproductive growth.
4. **Agronomic Practices** such as soil management, fertiliser application, and disease and pest control are related to sustainable water management. These practices

are very important for increasing crop productivity as well as WUE. Some of the important agronomic practices, which increase the water use efficiency, are discussed below:

- **Broad Bed Planting:** Cultivation of crops on broad beds and irrigation is applied in furrows. This method helps to save 30–40 percent water and is typically suitable for close planted field crops and horticultural row crops.
- **Addition of Clay or Hydrophilic Compound:** This technique increases the water retention capacity of the soil and controls deep percolation. Thus, water availability in soils with low water holding capacity is increased.
- **Integrated Pests Management (IPM):** IPM techniques aim to increase crop productivity with the same amount of other inputs like water, fertilisers etc. Pests cause severe losses to the different crops and cropping systems. However, timely control of the severe pests and diseases of different crops will not only increase the productivity and profitability to the farmers but also improve water use efficiency and water productivity.
- **Mulch:** Mulching with crop residues on soil surface shades the soil, slows water overland flow, improves infiltration conditions, reduces evaporation losses and also contributes to control of weeds and therefore of non-beneficial water use.

Conclusion

Share of water to agriculture is going to decline in the future due to the stiff competition from the industrial and domestic sectors and compounded further by adverse impact of climate change. Since, water is a critical input for agriculture, therefore, adoption and upscaling of new technologies of efficient water management, especially micro-irrigation as quickly as possible is the only viable solution to sustain agricultural productivity.

7. SOLUTION TO GROUNDWATER CRISIS :

Ground Water Crisis in India: How severe is it?

- According to the maiden CWMI report released by the NITI Aayog in 2018, 21 major cities (Delhi, Bengaluru, Chennai, Hyderabad and others) are racing to reach zero groundwater levels by 2020, affecting access for 100 million people.
- Nearly 40 percent of the population will have absolutely no access to drinking water by 2030, and 6 percent of India's GDP would be lost by 2050 due to the water crisis.

Anatomy of the Problem:

- While talking about the water crisis, potability is only a small part of the problem. In fact, many developed countries have already found a solution for potable water by turning seawater into drinkable water on mass scale.
- But the real catastrophe waiting to happen, is in agriculture. As per a World Bank report, India withdrew a total of 761 billion cubic meter ground water in 2018 out of which 688 billion cubic metre was used for agriculture. This is 90 percent of the total groundwater withdrawn in a year.
- We, as a country, have a troubling record of rationalising crop selection on the basis of availability of water and that is a big part of the problem.

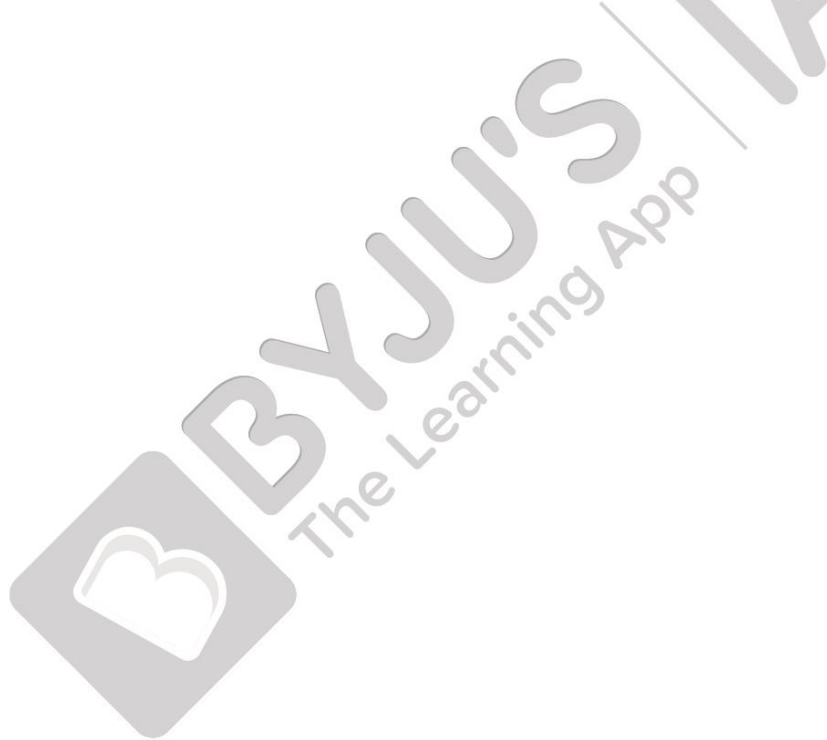
What is the solution?

- One thing is very clear. We cannot create water. We can only preserve water that we already have with us and that we will get in future in the form of rains.
- 90 percent of the water is used by agriculture, no solution will work lest we should keep cultivation in the centre. The key to the solution is producing more with less water.
- This goal can be achieved in two ways, one by shifting from more water guzzling crops to lesser ones and two, by creating awareness among farmers to use micro-irrigation tools.
- The crop planning would be based on local climatic conditions, water availability and overall demand-supply situation and could help the government to plan its incentives in such ways that farmers will adopt those recommended crops.
- Experts say there is a need to double the area under micro-irrigation from the current level of nine million hectares. But it is easier said than done.
- The farmers should be taught how flood irrigation results in wastage of water and energy as well as reduce the efficiency of fertilisers. Also, there should be stress laid on the need for scheduling of irrigation processes and said technologies like moisture sensors and other software that are available to achieve this aim.
- Moreover, due to lack of awareness, most farmers think that micro-irrigation is only for the regions where farmers don't have much water availability. To change the mindset of the producers, the government needs to rope in the private sector along with its own agencies for successfully running focussed awareness programmes around benefits of micro-irrigation.

Case Study: Subhash Sharma, a progressive farmer from Yavatmal in Vidarbha, Maharashtra practises natural farming. Sharma has developed a 5-point technology to preserve the rain water pouring in his farmland.

- The first point is about the natural way of farming in which many small insects who live in the soil work as the carrier of water. The second point of the technology is called 'grid-locking' where grids are made at every 6–8 feet. Crops are sown on the grids, which hold the water.
- The third point is 'micro-locking' for the farms where crops can't be sown on grids. The fourth point is 'contour farming' where green fodder is cultivated to hold the water and the fifth point of this technology is created by a 'locking trench'. The result is mind blowing as million litres of water was conserved.

In a nutshell, the challenge before us is formidable. Nevertheless, the silver lining is that there are easy remedies available. Only thing we need is a perfect combination of government and people's efforts. With all means of communication, it has to be made a part of national conscience that groundwater rejuvenation has no option and that it is needed not only for future generations, but also for the present population.



8. SMART AGRICULTURE :

India has demonstrated a big transformation in the agriculture sector in the second half of the 20th century with the 'Green Revolution' but now we need to go for a 'technology revolution' to accelerate the growth in the agriculture sector. Smart agriculture has all the technological inputs that can steer us away from the problems of present-day agriculture. Smart agriculture has the potential to double the food production in 40 years with lesser impact on climate change. Further, it can reduce the losses and wastage by 50 percent.

Transformative Discoveries for Smart Agriculture:

- **Internet of Things (IoT):** IoT is described as a network of physical objects. These can be "things" that can be embedded with technologies, software or sensors which further helps in connecting or the exchange of data with other devices or systems via the internet or vice versa.
- **Artificial Intelligence (AI):** It is the science of instilling intelligence in machines so that they are capable of doing tasks that traditionally required the human mind. It will help farmers determine which crops to grow and anticipate potential threats by combining historical information about weather patterns and crop performance with real-time data.
- **Blockchain:** It is a recent technological advancement with potential for addressing the challenge of creating a more transparent, authentic, and trustworthy digital record of the journey that food and other physical products take across the supply chain.
- **Autonomous Swarms:** Autonomous swarms combine the technology of swarm robotics with a blockchain-based backend. Swarm robotics involves multiple copies of the same robot, working independently in parallel to achieve a goal too large for any one robot to accomplish.
- **Big Data:** It is a combination of technology and analytics that can collect and compile novel data and process it in a more useful and timely way to assist decision making.

Need for Water Accounting:

- Water accounting includes sophisticated approaches to demand forecasting on the basis of demographic change, urbanisation, industrialisation and energy production. Water accounting is an essential underpinning to transparent and effective water allocation systems.
- Such systems have been developed in some countries (e.g. Australia, China, France, Iran, and the US) with varying levels of sophistication and effectiveness.

Initiatives of Smart Agriculture:





- NITI Aayog came up with a National Strategy for Artificial Intelligence in India, which is aimed at focusing on economic growth and social inclusion.
- The Government signed an MOU with IBM to use AI to secure the farming capabilities of Indian farmers. IBM's Watson decision platform will provide a farm-level solution for improving the agriculture sector.

- It will provide weather forecast and soil moisture information to farmers to make pre-informed decisions regarding better management of water, soil and crop.
- Maha Agri Tech Project in Maharashtra is another such project which seeks to use innovative technologies to address various risks related to cultivation such as poor rains, pest attacks, etc., and to accurately predict crop yield.

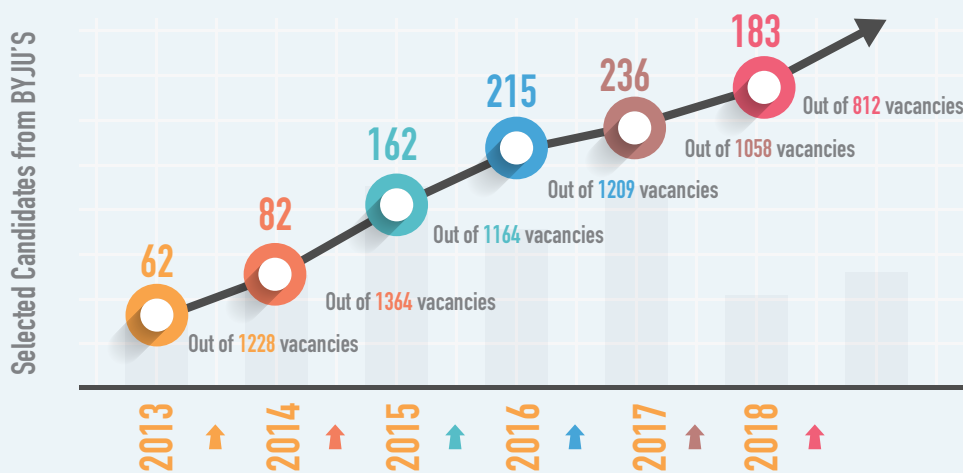
There is a need to develop an infrastructure in our agricultural institutions to have scientific understanding for such technologies so that the farmers can be trained to use such technologies and equipment in the field. There is a need to remember the visionary water administrator and second Prime Minister of Australia, Alfred Deakin who said “It is not the quantity of water applied to a crop, it is the quantity of intelligence applied which determines the result - there is more due to intelligence than water in every case.”



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