



BPSC

BIHAR PUBLIC SERVICE COMMISSION

**AGRICULTURE, SCIENCE & TECHNOLOGY
AND POST-INDEPENDENT INDIA**



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INDIAN AGRICULTURE

AGRICULTURE

Importance of Agriculture for economy

(1) Impact on Employment & Poverty

→ GDP share of agriculture declined to 14%.
but share in employment still about 50%.

→ Such mismatch causes rural unemployment, low average income & poverty.

→ Lower rural income leads to large scale rural-urban migration, increase in informal sectors size & urban poverty.

(2) Impact on Industrial Growth

→ Agriculture is okay source of raw material to many industrial.

→ Agriculture is linked to industries because recently demand for industrial goods has increased

(a) Increase in rural income with employment generation programmes.

(b) Slower growth in urban demand

- The focus should be agriculture with industry to achieve growth rate.

Impact on food Security

- No substitution for agriculture in achieving food security.
- Since 60 food grain product growth (less than 2%) has been lower than population growth, making agricultural growth indispensable.
- Need to diversify such growth to allied sector as well
 - (Cattle, Foothy, Fisheries etc.)

AGRICULTURE

Presently, the country is in fiscal deficit is largely due to Agriculture sector due to subsidies and other factors.

→ Agriculture is an important reason sometime for Inflation.

→ So many item (eg. gases fertilizers) are important in the country and hence influence the situation of Country.

Social Situation

Rural Out

Migration

Push Factor

(when there is a helplessness because of factor opportunity)

Pull Factor

(when there is an opportunity of profit)

According

And in this kind of migration, who do not have skills good for getting employment in Urban Centre just because labours.

→ Now a day there is a feminisation of Agriculture as now females do most of Agricultural work.

As Agriculture is now not a beneficial Sector, so because of monsoon failure, etc. Farmer's Suicides Situation happens. So disturbingly Social Situation.

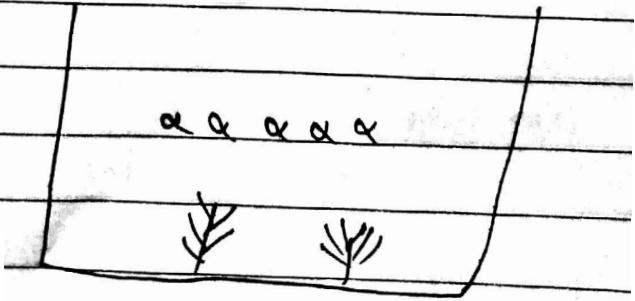
Bullock Capital → People who became rich after Green Revolution because of Agriculture.

Paddy Cultivation and Cattle Rearing are two reason for releasing of methane Gas. (CH_4). So Agriculture is contributing to Global and hence change.

⇒ Desperobling of food claim: Those animals mate for human get killed by hence and it's beneficial made population increase by them.

⇒

Eutrophication



When Fertilizers are released in water bodies plants grow fast but Algae also, grow fast and blocks sunlight to reach to plants and photosynthesis process stops. The plants stop releasing oxygen. And Biological oxygen demand (BOD) increase in the water body. And aquatic Animal start dying. And whole process is Eutrophication and these facilities seep through soil in the water bodies.

Soil Salinisation - - - - -

⇒ So faultly Agriculture is responsible for so many problems with ecological System.
But it is also a sector which is worse affected by climate change.

Importance of Agriculture

Around 49% of the population is directly Agriculture. Agriculture contributes about 17% to national GDP. Most of the economic indices in the country repeat the importance of the Agriculture. Many of the social prosences that we witness in the country at present like migration and its associated conflicts, Farmer suicides, low sex Ratio of the Urban Centres etc, are due to nonprofitability the agriculture.

Agricultural Contribution to global Warming

Warming where rice cultivation and cattle rearing release methane Gas (a green house gas). Many of the ecological problems like Eutrophication, Soil Salinization exceeding ground water tables etc. can be attributed to faulty agricultural practices. Agriculture in one centre is worst affected by Change in Rainfall & temperature patterns.

Agriculture is a means of important and development of Country is not possible until and unless agriculture is given the importance it deserves.

Features of Indian Agriculture

⇒ Most of the farmers do mixed Agriculture in India.

Mixed Agriculture	Mixed Cropping	Multiple Cropping
Crop + non Crop option	Nov - April	Rice in July - Nov.
Sugar cane + cattles	Wheat, grain	Season
Here again process is complementary	Some Season two or more than Crops	Wheat in Nov - April
green leaves for animals and Animal dung as farm manure.	then mixed Cropping	Farmer Cropping different Crops
Maize + Poultry	Crops are chosen in such a manner that they are complementary to each other	Indifferent Season
⇒ Mustard + Apiculture	Eg. Wheat Subs nutrient from soil and grow via nitrogen	Cultivation of two or three Crops on the same field in different seasons.

=> Indian Agriculture is Rain fed

We have very less efficiency (approx 38%) in agriculture of water. Water is wastage at every points.

If there is a canal for irrigation than it is open on tops and hence evaporative losses.

And when we irrigate our lands with canals we use flood irrigation which is again wastage idea.

Because of excess use of ground water in irrigation the water tables are going down by 0.3 m./year.

Ground water could be used in scarcity. (When other sources fail)

Only Tamilnadu, Andhra Pradesh, Punjab, Haryana than 50% of Irrigated lands

Crops are chosen in such a manner that they are completely nurtured by kind of Climate these wrong choice of crops generally need ground water in irrigation.

=> India Agriculture is Non-Mechanized

Machines are not used largely in Indian farmers

{ only 38% Farmers who own 20 acres have tractors
only 12% Farmers who own 5-20 acres has tractors }

This is because 67% Farmers are marginal farmers as they hold small farms.

except for ploughing every other work is done by women's and lack of machines can be used by women is also a reason.

lends machines to farmers but it is not in the poor parts of the country.

1. Most of the farmers in India practice Mixed Agriculture i.e., a crop and a non crop option.
Eg. maize + poultry, Mustard + Apiculture, Sugarcane + Cattle etc.

Mixed Cropping refers to cultivation of two or more than two crops on the same field in the same season. Multiple Cropping on the other hand is about cultivation of two or more than two crops on the same field in

different Seasons.

Q. Indian Agriculture is Rain Fed where more than 60% of the area does not have Irrigation

Support some other Areas of concern in Irrigation

I Efficiency of irrigation is very low at 38%.

The used for irrigation (Flood irrigation) is obsolete and waste ful.

II The ground water irrigation systems although offer better efficiency on excessive use of ground water based to declining in the Country. In India e.g. water table is receding at a rate of 0.3 m/year.

III The more efficient irrigation systems drip & sprinkler irrigation are confined to only some high value crops.

Q. Indian Agriculture is non Mechanized. less than 5% of the farmers cultivating crops other than Rice & wheat use machines for harvesting and threshing operations. Tractor penetration in India is 38% that to far farmers who own more than 20 acres of land. Some other issues are

I Small Size of farm holdings which makes the use of machines very difficult. More than 67%.

of the farmers in the Country are marginal farmers farm size less than hectares.

II Non availability of Machines which can be used in smaller fields.

III Although Feminization of Agriculture is reality machines are not designed for women use

IV Lesser success of the Custom Hiring Centres.

=> Indian Agriculture marked by backward and forward linkage.

Backward

Seeds

Fertilizers

Pesticides

Irrigation

Machinery

as edit

Forward

Market

Storage

Transportation

Value Addition

(area) (DAP) (MOP)

Nitrogen, Potashy, Potassium

3 most

Fertilizers

Most of the farmers do not have access of fertilizers and if they have access than they do not know how to use it and as urea is easily available fertilizers farmers use urea very much and others fertilizer less and it makes so much losses. The correct ratio of use of three nutritions is

$$\begin{matrix} 4 : 2 : 1 \\ (\text{Urea}) \quad \text{DAP} \quad \text{MOP} \end{matrix}$$

But actually what farmers do to have is $8.2 : 3.2 : 1$ (which is wrong use)

govt. offers subsidy on urea

Urea
Agricultural 268 Rs/ 50 kg
Industry 1300 Rs/ 50 kg

and using the crop having lot of urea is diverted which is for farmer to Industries, And those is also Smuggling to the neighbouring countries.

needed in those case

Direct benefits, are ↑ case but are can not be