

Chapter 8: Agriculture Sector

GSEB Class 12 Economics — Complete Board Exam Notes

INTRODUCTION

Agriculture sector is the primary and important sector of all economies of world. This sector not only provides foodgrains, vegetables, fruits, flowers, but it also provides raw material to the industrial sector. The agricultural productivity of every country of the world is different — that gives production, employment and income generation in various proportions.

8.1 BACKBONE OF THE ECONOMY

Since ancient times, India has been an agricultural nation, due to a high dependency on this sector for agriculture production, for employment and for exports. It is like the life-line of India. So it has the status of being the backbone of the economy.

Indian economy is dependant on agriculture for various aspects. If Indian agriculture sector fails to produce foodgrains, vegetables, fruits and flowers, not only they fail but raw material which are cash crops and used in industries also fails. Therefore they become costlier, which influences the life of people. In addition to that big proportion of India's population (**68.8% as per 2011 census**) live in rural areas.

India utilises industrialisation since 1956 (Second five year plan). Even today India is known as an agriculture oriented economy. Even today the development rate of economy is dependent on the growth of agricultural sector.

8.2 PRESENT SITUATION OF AGRICULTURAL SECTOR IN INDIA (IMPORTANCE)

India has been an agriculture oriented economy before the British rule, during the British rule and even after the British rule. During planning period, industrialisation is mainly focused upon and due to that as compared to past, the present scenario of agriculture shows abnormal changes.

8.2.1 Contribution in National Income (Table 8.1)

Year	Share of Agricultural Sector in National Income (in %)
1950-51	53.1
1960-61	48.7
1970-71	42.3
1980-81	36.1
1990-91	29.6
2000-01	22.3
2011-12	13.9

Table 8.1 — Source: Economic Survey, 2011-12

Usually the income of agricultural sector is also known as the income of primary sector. It includes agriculture crops, poultry farming, fisheries and cattle rearing. Contribution of agriculture sector in national income (GDP) was 53.1% in 1950-51 and had reduced upto **13.9%** (at constant prices) in the year 2011-12 due to greater emphasis on industrialisation since 1956. This fall in contribution is due to the speedy progress of non-agricultural sector.

8.2.2 Employment:

Agriculture sector provides maximum employment in India. At the time of independence, **72% population was engaged** in agriculture and allied agricultural activities (cattle rearing, fisheries, forest products, poultry farming). After independence, development of industries and service sector achieved much faster growth than agriculture sector, therefore employment dependency on agriculture has been reduced. In the year 2001-02 it was 58% which came to **49%** in the year 2014-15.

8.2.3 Export Income:

Indian agriculture helps our country to earn foreign exchange by exporting necessary exports and it helps to import necessary goods which are not produced or produced less in the country. During the independence period, the total contribution of India's total export earnings of **70%** has been obtained from agriculture. Due to development process, industries and service sector are at top and thus contribution of agriculture sector in export earnings has reduced. In the year 2013-14, the contribution of agriculture in the total export earnings was **14.2%**.

8.2.4 Living Standard:

Agriculture sector produces two types of crops: Food grains and Cash crops. All the cereals are included in food grains. Due to production of these food grains, India became self sufficient. Cash crops are cotton, jute, ground nut, oil seeds, sugarcane, etc. and are used as raw material. Average food grain availability was 395 grams per head per day in 1951 which increased to 511 grams in the year 2013 even though there was rise in population.

8.2.5 Growth of Agricultural Production (Table 8.2)

Sr. No.	Crop	1950-51	2013-14
1	Food grains (metric ton)	51.0	264.4
2	Pulses (metric ton)	8.4	19.6
3	Sugarcane (metric ton)	69.0	348.0
4	Oilseeds (metric ton)	5.1	32.4
5	Cotton (metric bale)	2.1	36.5

Table 8.2 — Source: Ministry of Agriculture, Government of India 2015

Food grains production was 51 metric tons in 1951 increased to 264.4 metric tons in 2013-14 — a 2.5 times rise. Sugarcane rose from 69 to 348 metric tons — five times rise. Oilseeds rose 6.35 times. Cotton rose 17 times. This became possible due to rise of cultivated land and rise in hectare-wise productivity.

8.2.6 Base for Industrial Development:

Agriculture is a base for industrial sector of India. Agriculture sector provides required raw material to industrial sector. In addition to that rural areas are becoming big market for industrial products because about **69% population of India live in rural areas**. Since 69% rural population has main source of income from agriculture — only rural areas are demanding industrial products like television, freeze, bike, mobile, etc.

8.3 CAUSES OF LOW PRODUCTIVITY IN AGRICULTURE

India is agriculture oriented nation but it has many agriculture related problems. One of the major problems is low agricultural productivity. Agriculture productivity is measured in terms of productivity per hectare or income per hectare. Agriculture productivity is very low as compared to world. Responsible factors are:

8.3.1 Institutional Factors:

Zamindari system, Mahalwari system, Ryotwari system are land revenue collection systems implemented by Britishers, facility of agriculture finance, agriculture marketing system, land ownership system etc. are included in institutional factors. These institutional factors remain resistant or negative. Due to this agriculture productivity has also remained low.

8.3.1.1 Land Revenue Collection Systems:

Three revenue collection systems — Zamindari, Mahalwari and Ryotwari — were prevalent during India's independence. Tenants of land or landless labourers were cultivating the land under these systems. A large share of crop or just by leaving subsistence level of farmer the entire crop was compulsorily taken by the landlords as rent of land. This was the reason why farmers were not interested in increasing productivity as they did not make efforts to increase production — agricultural production remained stagnant. After independence "Tillers land" act was passed to protect tillers and to control rent of land. But this act was not completely implemented.

8.3.1.2 Agriculture Finance:

Majority of the farmers are facing poverty in India and are in need of agriculture finance. To buy fertilisers, seeds, pesticides etc. they require finance to do cultivation. Since independence a great role is played by private money lenders. **71.6% agriculture finance business was managed by money lenders in 1951.** They were providing finance at a very high rate of interest, and doing manipulation of account to exploit poor farmers. After independence government nationalised banks which reduced importance of money lenders. Government expanded institutional agriculture finance by constructing regional rural banks in 1975 and **NABARD (National Bank for Agriculture and Rural Development) in 1982.** Due to all these efforts, the role of money lenders fell down to 27%.

8.3.1.3 Agriculture Marketing:

Due to weak infrastructural facility, Indian remote villages are not having adequate road or transportation facility to connect agriculture markets. Majority cases high price benefits go to traders and hoarders. Farmers who are under debt are forced to sell their crop before crop gets ready to local lenders and brokers. Farmers are least informative so they do not have knowledge of market, knowledge of market rates, selling procedure. Therefore they are not able to get good returns and due to this they become pessimistic.

8.3.1.4 Rural Social Structure:

Indian farmers are fatalist and having least information. Rural society is bound with old traditions and structure. As they are fatalist, they accept problems given by nature and accept situation of scarcity. So they do cultivation for their subsistence only. They are not having motivations to attain economic development, development of cultivation, increase in income. This is the reason why agriculture has low productivity.

8.3.2 Technological Factors:

Indian agriculture sector utilises old traditional technology, old equipments, ideologies, techniques etc. which make agriculture weak. Even in the present, farmers use plough and bullock instead of tractors. They use traditional seeds instead of hybrid seeds which give low productivity. They use cow dung as manure instead of chemical based fertiliser which give low productivity. Indian farmers use very less proportion of pesticides and newer technology to protect crops. Therefore Indian agriculture sector moves ahead very slowly.

8.3.3 Other Factors:

8.3.3.1 Pressure of Population:

One of the big reasons for low productivity of agriculture sector is population pressure on it. At the time of independence 72% population was engaged in agriculture that reduced to 58% in 2001-02, which was giving 49% employment in agriculture in 2013-14. Still it is higher than other sectors and even high compared abroad economies. Here total produce of agriculture is distributed on grounds of production or income among big mass of population — showing low productivity of labour.

8.3.3.2 Lack of Economic Planning:

Government of India has used first five year plan exclusively for agriculture sector. But from the second five year plan (1956) India's economic planning centred to industries. Government has not taken that much efforts, not allocated time and money for the agricultural sector as compared to industrial sector. As agriculture sector has irregular and slow rate of development, government has not given help to it — and due to that only Indian agriculture sector is in a worrisome condition.

8.4 MEASURES TO INCREASE AGRICULTURE PRODUCTIVITY

Low productivity of agriculture sector shows backwardness. Agriculture sector needs improvement as it is a main occupation and very important pillar of Indian economy. In addition, if agricultural productivity increases then income of rural economy will increase which will force development of industry and service sector. It will also give solution of employment, urbanisation, migration and inequality of income.

8.4.1 Institutional Measures:

8.4.1.1 Land Related Reforms:

Law to abolish zamindari system, to protect tillers and to control rent are implemented in India so that it provides ownership of land to farmers and land labourers may have protection to till land. To stop exploitation of farmers and this way farmers may have big share of their crop — which may become cause to do more efforts to increase agricultural production. Overall it may increase agriculture productivity.

8.4.1.2 Availability of Institutional Credit:

To provide (reach) credit and other monetary facilities, nationalisation of banks undertaken by India. Even **National Bank for Agriculture and Rural Development (NABARD)** — which is body of RBI, set up in **1982** — to do special focus on agriculture sector, and Regional Rural Banks (RRBs) and Land Development Banks (LDBs) developed under it to provide cheap and enough credit to Indian farmers. So that they would have cheap and enough credit in order to increase agriculture productivity.

8.4.1.3 Improvement in Structure of Agriculture Marketing:

To overcome the shortcomings of the system of agriculture marketing, many important steps have been taken: (1) Regulated markets have been set up. (2) To classify agriculture produce as per their quality "**AGMARK**" (Agriculture Marketing) has been introduced. (3) National warehouse corporation and state warehouse corporation started. (4) Systems developed to provide information about prices of agriculture produce. (5) To protect farmers from market price changes, **Minimum Support Price (MSP)** being announced by government.

8.4.1.4 Agriculture Research:

Indian farmers are not able to do research as they are less educated, therefore that duty is allotted to NABARD. It does many researches and gives knowledge and training to farmers about it. To include them in agricultural reform programs, collective rural development programs, **Panchayati Raj**, **Integrated rural development programs**, **Jan-Dhan Yojana** etc. started to modernize the agriculture sector.

8.4.2 Technological Measures:

8.4.2.1 Improved Seeds:

Improved seeds (Hybrid seeds) are developed by scientific inventions. These scientifically developed seeds give more production, help in producing crops speedily and protect crop against diseases. India has achieved a notable rise in food grain production with the help of these type of seeds. Therefore, extraordinary rise in food grains production is known as "seed revolution". National agriculture research committee, National seed

corporation and agriculture universities give priority to seed development.

8.4.2.2 Use of Chemical Based Fertilizers:

Use of chemical fertilizer increased with the use of improved seeds in India. Chemical based fertilisers give enough nutrition to plant and helps it to grow rapidly. Nitrogen, phosphate, potash and other chemicals used as per crop. Chemical based fertilisers produced by public sector enterprises are also used in India. Even fertilisers are imported and distributed at lower rates (subsidy rates).

8.4.2.3 Increase in Irrigation Facility:

Indian agriculture sector depends on sky (for rain purpose) in majority cases but rain is quite uncertain. So it directly affects agricultural production and productivity. India has one of the big issues of agriculture which is inadequate facility of irrigation. If agriculture has to come out from uncertainty of rain, different motive of small scale and of medium scale irrigation projects should be developed. "Development program of irrigation sector" and "Infrastructural development fund" set up by India. NABARD also being assigned for incomplete irrigation projects.

8.4.2.4 Use of Machines:

One of the reasons for low productivity of agriculture is traditional equipment or machines. In reality, with the development of engineering and automobile sectors, Tractor, Trailer, Thresher, Electric pump set, Oil engine, Pesticide sprinkler pump etc. modern machineries are invented. These machines are very helpful to have more than one crop a year which increases productivity.

8.4.2.5 Pesticides:

Ready crop has danger of various diseases and insects. To prevent crop from various diseases and to protect plants from insects, scientifically developed pesticides are very useful. By using them, the loss of crop can be restricted which also will give high productivity.

8.4.2.6 Soil Testing:

Soil testing is much popular in cultivation with the help of scientific techniques. That tests give information about land, whether it is land favourable to crop or not. Even it gives information of deficiency of elements of soil. That helps to remove deficiency of land. This way land can be made favourable to crop — capable to give high productivity.

8.4.3 Other Measures:

To improve agriculture productivity farmers are needed to educate or they may be well inform about new technology to bring changes in their working pattern. They should be awakened for bad customs of rural areas and explained about not believing in fatalism. New measures like **agriculture fair** can be used to increase agriculture productivity. In addition, agriculture allied activities like cattle rearing, poultry farming, food processing, jungle and others can be used to reduce dependency on agriculture — that can increase agriculture productivity. If small scale industries can be expanded to rural areas, that kind of industries can become supporting to agriculture and that can make improvement of agriculture productivity easier and possible.

8.5 MODERN AGRICULTURE

Indian traditional agriculture uses organic manure, seeds, simple plough, bullocks and primary instruments. These instruments give very less productivity. Since **1966** modern agriculture emerged in India. Modern agriculture uses modern inputs like hybrid seeds, chemical fertilisers, pesticides, new machines of agriculture, irrigation. Due to use of these modern inputs agricultural production increased enormously. This was counted as revolution — the revolution of agriculture — therefore it was called **Green Revolution**.

8.5.1 Green Revolution:

Use of new technology of agriculture started from the year **1960-61** at seven districts of India as 'pilot project'. This known initially as **IADP (Intensive Agricultural District Program)**. Due to wonderful success, it was applied to whole nation as **HYVP (High Yielding Varieties Program)** — also known as "Green Revolution" or

"Modern agricultural technology programme" or "Programme of seeds, fertiliser and water technology."

8.5.2 Multiple Cropping:

Multiple cropping can be obtained by different crops on a cultivated land area. Normally two types of crops are seen: (1) Food grains (2) Non food grains / cash crops. Wheat, Rice, Coarse grains (Millet/bajra, Sorghum/juvar, Maize etc.) and pulses are included in food grain crops. Different oilseeds (Groundnut, Sesame, Castor, Soyabean, Linseed, Sunflower) and sugarcane, rubber, cotton, jute etc. are included in cash crops. Reasons for multiple cropping are two: (1) Technological factors (2) Economic factors.

In 1950-51, approximately 75% crop of food grains and 25% crop of cash crops was taken. After 1966 (Green Revolution), multiple crops have been seen. It became as 64% food grains and 36% cash crops in 2006-07.

8.5.3 Crop Protection:

Agriculture productivity should increase with the use of pesticides but India has very less use of pesticides per hectare. Economic survey 2015-16 shows India has only **0.5 kg per hectare** use of pesticides where America has 7.0 kg, Europe has 2.5 kg, Japan has 12 kg and Korea has 6.6 kg. This is the reason why 15 to 25% Indian crop gets spoiled by insects, diseases, weed, cattles and birds. **CIBRC (Central Insecticide Board and Registration Committee)** is appointed to inform Indian farmers about various types of pesticides.

8.5.4 Agricultural Research:

ICAR (Indian Council of Agricultural Research) is the only institute which manages agricultural researches. It provides arrangements for research and also gives adequate help. It is also spreading awareness of Horticulture, Fishing and Cattle rearing science. ICAR has done pioneer work for expansion of green revolution. It has made appropriate efforts to have national food availability and nutrition.

EXERCISE — MCQs (Ch8)

(1) How much percent population live in rural area as per 2011 census?

Options: (a) 68.8% (b) 72% (c) 60% (d) 74%

✓ **Answer: (a) 68.8%**

(2) How much was the contribution of agriculture in national income of 2011-12?

Options: (a) 53.1% (b) 42.3% (c) 13.9% (d) 59.9%

✓ **Answer: (c) 13.9%**

(3) How much employment was provided by agriculture in the year 2014-15?

Options: (a) 72% (b) 49% (c) 26% (d) 24%

✓ **Answer: (b) 49%**

(4) When was NABARD constructed?

Options: (a) 1947 (b) 1969 (c) 1975 (d) 1982

✓ **Answer: (d) 1982**

(5) When was the utilization of green revolution applied on overall India?

Options: (a) 1961 (b) 1966 (c) 1969 (d) 1991

✓ **Answer: (b) 1966**

(6) How much is the use of pesticides per hectare in India?

Options: (a) 0.5 kg (b) 2.5 kg (c) 6.6 kg (d) 7 kg

✓ **Answer: (a) 0.5 kg**

(7) Which is the institute of agriculture research?

Options: (a) ICAR (b) CIBRC (c) Regional rural banks (d) RBI

✓ **Answer: (a) ICAR**

Key One-Line Answers

(1) When was the second five year plan started?

The second five year plan was started in 1956. From this plan, India's economic planning centred to industries.

(2) How much is the export income of agriculture?

In 2013-14, contribution of agriculture in total export earnings was 14.2% (down from 70% at time of independence).

(3) Give names of methods to collect land revenue under British rule.

Zamindari system, Mahalwari system and Ryotwari system were three land revenue collection systems under British rule.

(4) Give examples of cash crops.

Cotton, Jute, Ground nut, Oil seeds, Sugarcane, Rubber, Tobacco, Tea, Coffee etc. are cash crops. These are mainly non-food grain crops used as raw material in industries.

(5) What is AGMARK?

AGMARK (Agriculture Marketing) is a quality standard for classifying the agriculture produce as per their quality, introduced to improve agriculture marketing in India.

■ BOARD EXAM QUICK REVISION — CHAPTER 8: AGRICULTURE SECTOR

1. Agriculture = Backbone of Indian Economy. 68.8% population lives in rural areas (Census 2011).
2. Share of agriculture in national income: 1950-51 = 53.1% → 2011-12 = 13.9% (at constant prices).
3. Employment in agriculture: At independence = 72% → 2001-02 = 58% → 2014-15 = 49%.
4. Agriculture export earnings: At independence = 70% → 2013-14 = 14.2%.
5. Average food grain availability: 1951 = 395 grams/head/day → 2013 = 511 grams/head/day.
6. Agricultural production (Table 8.2): Food grains: 51 MT (1950-51) → 264.4 MT (2013-14). Sugarcane: 69 → 348. Cotton: 2.1 → 36.5 metric bales.
7. CAUSES OF LOW PRODUCTIVITY — Institutional: Land Revenue Systems (Zamindari/Mahalwari/Ryotwari), Agriculture Finance (71.6% by moneylenders in 1951), Marketing, Rural Social Structure. Technological: Old equipment, traditional seeds, cow dung manure. Other: Population pressure (49% in agriculture), Lack of economic planning.
8. NABARD = National Bank for Agriculture and Rural Development. Body of RBI. Set up in 1982. Central bank of agriculture.
9. AGMARK = Agriculture Marketing quality standard. Regulated markets + MSP (Minimum Support Price) for farmers.
10. Green Revolution started: 1960-61 (pilot at 7 districts as IADP) → applied nationally as HYVP (High Yielding Varieties Program) after 1966.
11. IADP = Intensive Agricultural District Program. HYVP = High Yielding Varieties Program. Green Revolution = Modern agricultural technology programme.
12. Pesticide use per hectare: India = 0.5 kg (very low) | America = 7.0 kg | Europe = 2.5 kg | Japan = 12 kg | Korea = 6.6 kg. 15-25% Indian crops are destroyed due to pests.
13. CIBRC = Central Insecticide Board and Registration Committee — informs farmers about pesticides.
14. ICAR = Indian Council of Agricultural Research — only institute managing agricultural researches.
15. MEASURES TO INCREASE PRODUCTIVITY — Institutional: Land Reforms, NABARD credit, AGMARK, Agriculture Research. Technological: Improved Seeds, Chemical Fertilizers, Irrigation, Machines, Pesticides, Soil Testing. Other: Education, Allied activities, Small scale industries in rural areas.