

AN OVERVIEW ON AGRICULTURE IN INDIA

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Abstract

Agriculture was a central factor in the growth of sedentary human civilization, since it allowed people to live in cities by creating food surpluses from domesticated species. In the recent era of growth, India's agriculture sector is experiencing a dynamic process. It provides 65 percent of India's working population with job opportunities. This review paper gives all details about agriculture, advantages of agriculture, disadvantages of agriculture and agriculture in India. This review also provides various data (such as production of great Crops production in the current year, Distributions of numbers of holding and area set off in India economic value in billions from different crops in various countries of the world) and there variations . It gives the details of major drawbacks of farm sector in India. Agriculture accounts for 13.7 percent of GDP and 57 percent of jobs in India. Agriculture provides the majority of raw materials to sectors such as sugar, paper, textiles, handloom, food manufacturing, and dairy.

Key words: Agriculture, Countries, Crops, Farmers, Food, Rice

Introduction

Agriculture was a central factor in the growth of sedentary human civilization, since it allowed people to live in cities by creating food surpluses from domesticated species. Agriculture has a long tradition dating back thousands of years. Farmers started planting wild grains about 11,500 years ago, after harvesting them for at least 105,000 years. Domestication of pigs, cattle and sheep, and began over 10 thousands years before. Plants were grown separately in at least 10 different parts of the planet. Agricultural productivity was mostly controlled by industrial agriculture in the twentieth century, which was based on substantial monoculture, despite the fact that about two billion people still depended on agriculture. They have lots of advantages and disadvantages of agriculture some are given below[1]:

1. Advantages of Agriculture:

- Animals consume agricultural products such as hay, fodder, silage, and other similar products.
- Agriculture is a major part of many people's lives. Farmers, agronomists, transporters, among others are among them.
- Agriculture is a direct or indirect source of income for people.
- Agriculture generates the raw materials used for production. Sisal, cotton, bamboo, and other natural fibers are examples.
- In the stock markets, goods such as maize, rice, and tea are traded as commercial commodities.
- Agricultural goods are traded between nations, so international trade is reliant on them.
- Agricultural countries profit from the sale of agricultural products.
- Agriculture is a major source of revenue for many governments, especially in developed countries.
- In many countries, agriculture is the largest employer.

2. Disadvantages of Agriculture:

Although it does have a lot of useful aspects, some things could go wrong. The following are the disadvantages of organic farming are given below:

- One of the biggest drawbacks of organic farming is that it can be very expensive at times. Any organic farming goods are prohibitively costly, excluding any ordinary citizens from purchasing them. Organic farming poses a significant problem in a country like India, where farmers provide the majority of the country's income. Organic cultivation, on the other hand, has had some success in Tamil Nadu.
- Organic farming necessitates a great deal of patience. This is due to the fact that pests and other obstacles must be dealt with manually. Pesticides and other additives are not allowed in organic farming, unlike in non-organic farming. This makes the farmer's job more difficult since constant focus and care are needed. A lot of time is wasted as a result of the relentless focus. Organic cultivation needs a great deal of time and attention, not to mention weed control.
- It is almost self-evident that the products of organic farming will be held at a high price due to the extensive precautions taken to go along with it. The majority of the space is dedicated to the selling of these fresh fruits and vegetables after they have been sold to the public. Because of this, the majority of citizens approve of organic products. The foods on the market are half the cost of non-organic items. As a result, we can conclude that organic products are costly, and not every buyer is able to pay the premium.
- GMO crops are produced when the seeds of GMO plants are cultivated. Seeds are produced by these crops, and the cycle continues. This makes distinguishing between organic and GMO crops very difficult. In the organic farming industry, this has been a major issue. This might jeopardize the viability of organic farming in general.
- The sum owed to someone who has been engaged in the construction or operation of something is referred to as labor charges. As previously stated, organic farming projects require a significant amount of labor, as well as a significant amount of time and stamina to complete. If one is unable to complete the task on one's own, a large amount of labour would be employed, resulting in a higher wage for such laborers.

Agriculture in India provides a living for the bulk of the population and can never be overlooked[2] In India, it has a long history dating back to the Indus Valley Civilization. It produces the most milk, spices and pulses in the world, as well as having the world's biggest cattle herd (buffaloes) and the world's biggest field under cotton, wheat, and rice. Tea, vegetables, fish, cotton, farmed cotton, sugarcane, goat and sheep meat, fruit, wheat, and rice are among the country's top exports. India is the world's 2nd agricultural product manufacturer[3]. Agriculture workers greater than half of the Indian workforce in 2018 and contributed 18 percent of the country's Gross Domestic Product (GDP)[4]. Since in mid-1990, India has increased its GDP per capita by more than 6% in a year, reduced poverty by half, dramatically reduced malnutrition, and turned itself into a global agriculture exporter.

India is the fastest growing economy in the G20, owing to an ambitious growth programme that has been in place since 2014. Since 2011, India's agriculture production has grown at a rate of 3.8 percent per year, owing to increased access for input such as fertilizers and crops, as well as improved irrigation and credit attention. Diversification in grains to pulses, fruit, livestock products and vegetables, has also occurred, owing to changing demographics, urbanization, and demand trends. India has reduced the proportion of its population that is undernourished, from about 25% in 1990-1992 to 16% in 2014-2016. They have also established themselves as a main agricultural exporter of a number of main commodities, currently becoming the world's biggest rice exporter and the 2nd biggest cotton exporter. However, in order for India's past achievements to succeed in the future, current reform attempts must be accelerated, and ambitious new policy proposals must be launched.

Many crops are grown in India's agriculture, with rice and wheat being the most important food staples. Pulses, sugarcane, potatoes, oilseeds, and non-food products such as jute, tea, cotton, rubber, and coffee are also grown by Indian farmers (a glossy fiber used to make burlap and twine). India is also a fishing behemoth. India ranks among the top 11 fishing nations in the world, with a combined catch of around 3 million metric tons per year. Despite the enormous scale of India's agriculture sector, crop yields per hectare in India are generally poor by international standards. Another concern impacting India's agriculture is inadequate water control. In India, for example, the rice crop is provided excessively significant volumes of water at a time when there are rising water deficits and environmental disasters. One effect of inefficient water usage is that water tables in rice-growing areas, such as Punjab, are rising while soil fertility is declining. An continuing Asian drought and inclement weather are exacerbating the agricultural situation. While a monsoon with normal rainfall was forecast for the period 2000-2001, agricultural production prospects were not anticipated to be bright. This is partly due to an

unfavorable spread of rainfall, which has resulted in flooding in some areas of the world and drought in others.[5].

Food grain demand is predictable to hit a new high of 296 million tonnes in the 2019-20 crop year (MT). The government of India plans to produce 299 MT of food grain in 2020 to 2021. According to second advance projections, India's horticulture crop production will reach a new high of 321 million metric of tonnes (MMT) by FY20. India has the world's largest livestock population, with 536 million animals, or around 32% of the world's population. Milk production in the country is forecast to rise to 208 MT in FY21, up from 199 MT in FY20, representing a 11% year-on-year increase. According to the Indian Sugar Mills Association, sugar manufacture in India reach to 27 MT flanked by October 2019 and May 2020. (ISMA). India is one of the top fifteen farm commodity exporters in the world. India's agricultural exports totaled US dollar 39 billion in fiscal year 2019 and US dollar 36 billion in fiscal year 2020. Between April and October 2020, agricultural exports totaled US\$ 11 billion. From Rs. twenty hundred crore (US dollar 387 million) in 2015, the organic food marketing in the India is forecast to expand at compound annual gro of 11% from 2015- 2025, reaching Rs. 76 Thousand crore (US dollar 10.75 billion)[6].

Agricultural Productivity In India

Nearly 1 billion people worldwide suffer from severe hunger and poverty. The world's population is expected to exceed 9 billion people past 2050. To feed these people, global food production will essential to increase by 70 percent to 100 percent. Agricultural production is being strained further by rising wages, increasingly scarce energy, and a changing environment. Malnutrition affects two billion people in developing countries. Malnutrition is the world's greatest significant public fitness problematic and principal cause of infant mortality. Agricultural production is two to four times more successful than any other industry at reducing hunger and poverty.

The 20 most valuable agricultural goods in India, by economic rate, are presented in the following Tables: Table 1, Table 2, and Table 3. The regular productivity of India's farms for each produce is included in the table. The regular of the world's most productive farms, as well as the name of the nation where the greatest industrious farm occurred in 2010, are included for reference and contrast. According to the Table 4, India has a lot of space for further progress in terms of production, agricultural growth, and agricultural profits.

For Indian farmers, transition is already a fact, and traditional agricultural investigation and postponement models will struggle to meet the needs of the hour unless radical recasting occurs. Standard models of study and support mechanisms are out of the question in the face of the imminent need for interventionist action, which necessitates alternate but urgent programmatic approaches driven by farmers' institutions and their local capital, expertise, and technologies. Existing mainstream farming models are also unsuitable for adaptation due to their heavy reliance on external inputs, which puts poor farmers at risk. Sustainable agriculture, on the other hand, has enormous mitigation and adaptation potential, especially in the sense of climate change, while also improving rural livelihoods and addressing India's ecological crisis (genetic erosion, land degradation, water depletion and Contamination etc.) Business as normal is no longer a choice, according to the International Assessment of Agricultural Science and Technology for Development (IAASTD). In fact, This Paper concludes that there are no options in front of the Indian government and Indian Farmers but to establish, promote and adopt sustainable agriculture for all of India. The graphical representation also shown in Figure 1, Figure 2, Figure 3, Figure 4 and Figure 5.

Table1: Production Of Great Crops Production In The Current Year

Crop	Seasons	2007-2008	2008-2-09	2009-2010	2010-2011	2011-2012 Final Estimate	2012-2013 2nd Advanced

							Estimate
Rice	Rabi	15	15	14	16	13	12
	Kharif	83	85	76	81	93	91
	Sum	98	100	90	97	106	103
Coarse Cereals	Rabi	9	12	10	11	10	10
	Kharif	32	29	24	34	33	29
	Sum	41	41	34	45	43	39
Total Cereals	Rabi	102	107	104	113	118	114
	Kharif	115	114	100	114	126	120
	Sum	217	221	204	227	244	234
Pulses	Rabi	9	10	11	12	12	13
	Kharif	7	5	5	8	7	6
	Sum	16	15	16	20	19	19
Food grains	Rabi	110	117	115	124	129	126
	Kharif	121	119	104	121	132	125
	Sum	231	236	219	245	261	251
Oil seeds	Rabi	10	10	10	11	10	11
	Kharif	21	18	16	22	21	20
	Sum	31	28	26	33	31	31

Production of major crops during the recent years

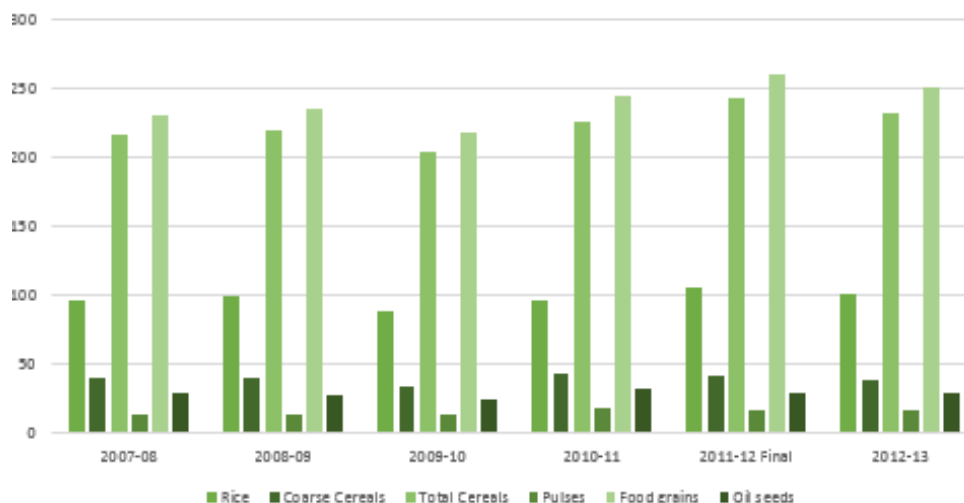


Figure1: : Production of Great Crops Production In The Current Year.

The number one rank for economic value in billions is in rice which is 38.41billion American dollars. In 2010 average yield is 3.31 tonnes per hectare andthe world most productive farm is in Australia.

Table2:Economic Value in Billions from Different Crops in Various Countries of the World

Rank	Product	Economic rate	Unit value	Average yield, India in 2010	World's greatestindustrious farms in 2010	
		(2009 prices, US dollar)(in Billion)	(US dollar / kg)	(tonnes /hect.)	((tonnes /hect.)	Countries
1	Rice	39	0.272	4	11	Australia
2	Buffalo milk	25	0.411	2	2	Pakistan
3	Cow milk	18	0.321	2	11	Israel
4	Wheat	13	0.152	3	9	Netherlands
5	Mangoes	10	0.610	7	41	Cape Verde
6	Sugar cane	9	0.031	69	125	Peru
7	Bananas	9	0.287	38	60	Indonesia
8	Cotton	9	1.432	2	5	Israel
9	Fresh Vegetables	6	0.191	14	77	USA
10	Potatoes	6	0.152	21	45	USA
11	Tomatoes	5	0.371	20	525	Belgium
12	Buffalo meat	5	2.69	1	1	Thailand
13	Soyabean	4	0.26	2	4	Turkey
14	Onions	4	0.21	17	68	Ireland
15	Chicken Meat	4	0.64	11	21	Cyprus
16	Chick peas	4	0.4	1	3	China
17	Okra	4	0.35	8	24	Israel
18	Cattle	3	0.83	14	25	Jordan
19	Eggs	3	2.7	1	1	Japan

20	Beans	3	0.42	2	6	Nicaragua
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Economic Values in Billoins from Different crops in various Countries of the World

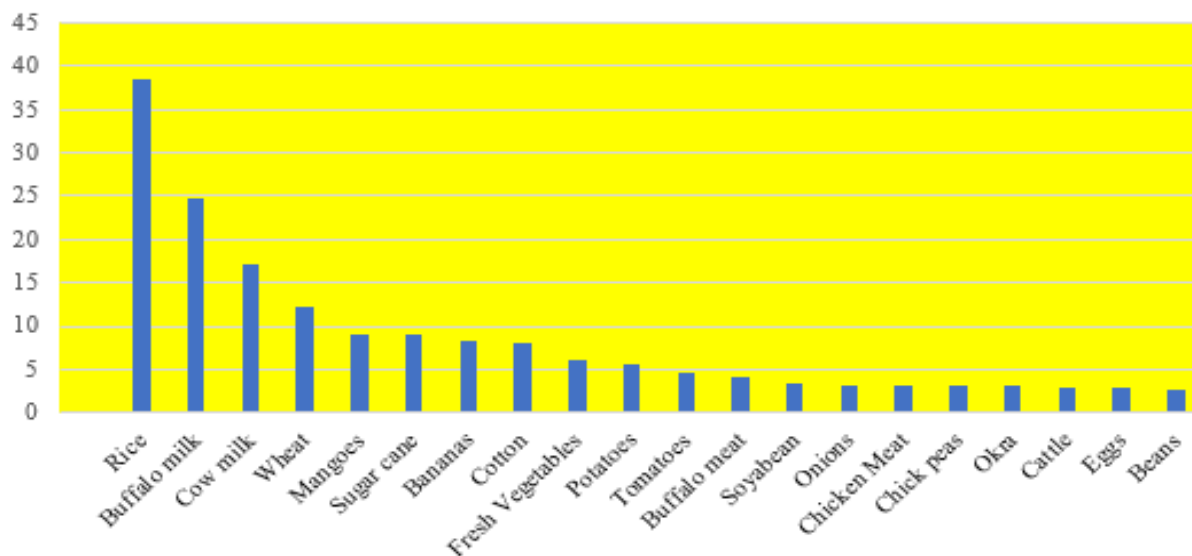


Figure 2: Economic Value in Billions from Different Crops in Various Countries of the World.

They have a size group of number of holding and number of operated area, the percentage of holding of total holding and percentages of area operate to entire area and the size group of different area.

Table3: Dispersal of Numbers of Holding and Area Worked in India.

Serial Number	Size Group	Numbers of holding (million)	Area operate (in million ha.)	Overall operate Area/ holdings (hectare)	Percentage of holdings to entire holdings	Percentage of area Operate to total area
1	Large (Above 10.00 ha.)	2	18	8	1	11
2	Semi-Medium (2.00-4.00 ha.)	14	38	3	11	24
3	Small (1.00-2.00 ha.)	25	36	2	18	23
4	Marginal	93	36	1	68	23

	(Below1.00ha.)					
5						
	Sum of holdings	134	128	14	98	81

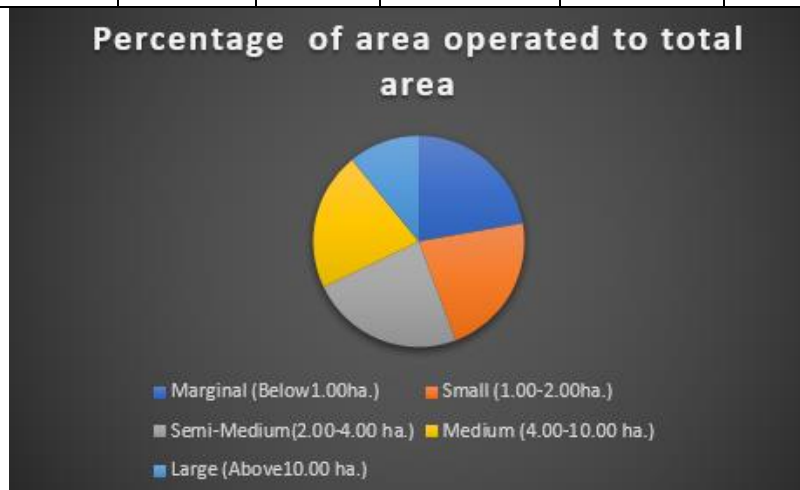


Figure 3: Dispersal of Percentage of Area Operated to Total Area In India.

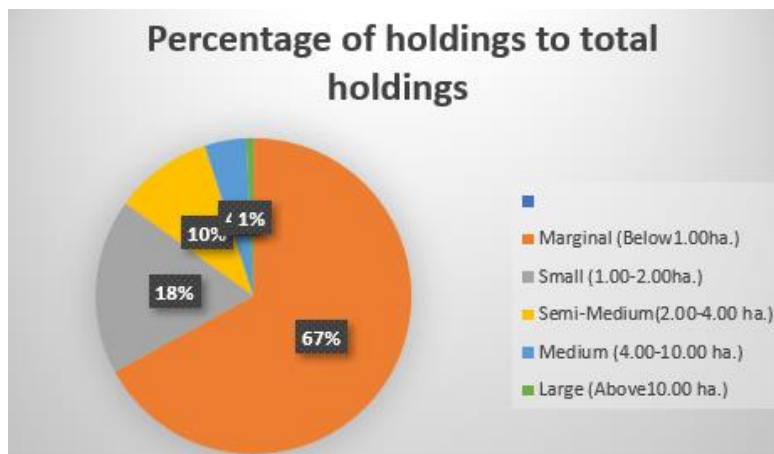


Figure 4: Dispersal in Percentage of Holding to Total Holding Operated in India.

They have different cropping area in India such as total area under crops, net area sown etc. Which start from 1990 and ends up to 2010.

Table 4: Cropping Pattern in India.

Year	1990-1991	2003-2004	2009-2010
Total	64	79	87
AL/Gross Irrigated Area			
Net Irrigated area	49	58	64
Area under Non-Food Crops	45	48	52
Area under Food Crops	142	143	142

Cropping Intensity (percent)	130	135	138
Net Area Sown	144	141	141
Total Area Under Crops	186	190	193

Total AL/Gross Irrigated Area for Different Years in India



Figure 5: Total AL/Gross Irrigated Area for Different Years in India for Different Years.

Agriculture Policies in India, a novel journal from Organization for Financial Co-operation and Development (OECD) proposes a comprehensive set of policy measures that, Indian Council for Research on International Economic Relations (ICRIER) when combined, will improve farm household income and as well as recover nutrition outcome for India's most vulnerable citizens. The study highlights both the country's agricultural sector's notable success for the last 2 decades as well as the significant challenge it today faces, including diminishing but still determined foods poverty and nutrition shortages, a high number of small and resource-poor farm, rising water shortage, low output growth, and unpredictable effects of climate change. In this context of study emphasizes the chance for policymakers to balance again their efforts by everchanging from nuanced, unpredictable, and sometimes overlapping market initiatives and toward policies that address poor people's nutritional needs and the economic potential of farmers and rural residents in general.

Major Disadvantages from Farm Sector In India

The drawbacks of farm sectors in India are given below:

- Agricultural sector's productivity growth rates are far below global averages.
- Rice and wheat production has decreased since the green revolution of the 1980s.
- A steady reduction in soil fertility has been discovered as a result of declining fertilizer-use production. In addition, the food subsidy has risen significantly in recent years.
- GDP fell to 15.2 percent during the Eleventh Plan and then to 13.9 percent in 2013-14, according to the study.
- In addition, the numbers of cultivator has decreased from 128 million in 2001 to 119 million in 2011.
- Agriculture in India is also reliant on rainfall. During the kharif season, about 60% of the whole foods grain and oilseed produce are cultivated, with only about 35% of the total area irrigated.
- On the one hand, India is largely self-sufficient, with vast supplies of food grains, and on the other, it is experiencing high food inflation. The main cause of the high inflation rate is artificial scarcity.
- Excessive government efforts use to create a market set-up have really acted as trades walls in both domestic and foreign marketing.

Literature Review

They have various researcher who do the researches and studies about the Agriculture in India. The few of analyzer and researcher and there researches and there studies are: Dr. D. Kumuda investigates how increases in farm production have social and economic ramifications. Small farmers may help provide food for their families, send their children in school, care their welfare, and invest in their farms with increased profits. This strengthens and stabilizes their societies' economies. Agricultural transformations have occurred in almost every region of the developing world over the last 200 years. Incomes, wellbeing, and industries all changed as farming increased. In recent years, we've seen incredible change in areas of the developed world. Developments in main crops like corn, rice and wheat helped doubled the quantity of food grown, save hundreds of millions of lives, and drive wider growth in much of Asia and Latin America in Green Revolution, which lasted from 1960-1980. There were also some significant unintended effects, especially in terms of the climate, which taught us valuable lesson for nowadays. However, interventions showed that important strides toward injustice and hunger can be made. The international community has started to refocus its efforts on agriculture in recent years. Increasingly, organizations and policymakers recognize the importance of promoting agricultural production in light of rising food costs and questions about feeding an increasing population [7].

Afroz Alam studies Agriculture is a vital component of developed countries' economies. Farmers have once again embraced many conventional agricultural systems in order to obtain crop yields to meet their food needs in recent years. Orthodox methods, however, are insufficient in the modern agriculture world because biotic and abiotic forces are posing new obstacles to farming. New methods and systems are gaining prominence in modern farming due to their significant benefits in solving all farming challenges. Innovative agricultural system, such as organic agricultural and genetically improved crops system, have been explored alongside conventional farming systems in India in their study. The aim of their current analysis is to emphasize the advantages of organic farming and genetically modified crop farming over conventional farming. A difference of organic and genetically improved crops system has also been made [8].

Lopamudra Lenka Samantaray studies the current research in paper attempts for create a connection flanked by structural, technical, and institutional strategy changes that are accountable for the progress of long-term agricultural production. Agricultural distress still exists in India, despite the fact that it has recently achieved a strong growth rate. As a result, the aim of this paper is to expose the current state of agricultural production as well as its potential prospects. Any secondary data was gathered to investigate the current state of agriculture and the government's different policy initiatives [9].

C S C Sekhar examines Indian agricultural policy and its long-term impact on agricultural development. Following the presentation of the analytical context, a comprehensive account of policy evolution and growth success is given. The first and third functions necessitate strong overall agricultural productivity, while the second necessitates sufficient food supplies. As a result, both total agricultural growth and food production growth are needed for long-term economic growth. Natural (climatic), technical, fiscal, institutional, and policy factors all have an impact on agricultural development. Soils, rainfall, and temperature are only a few examples of natural causes. Seeds, machinery, pest-control, and fertilizing technology are among the technological factors available in the world. The 3rd group of changeable is purely economic [10].

This paper gives all details about agriculture in like definition of agriculture, advantages of agriculture, disadvantages of agriculture and agriculture in India This paper provides various data (such as production of great Crops production in the current year, Distributions of numbers of holding and area set off in India economic value in billions from different crops in various countries of the world) and there graphical representation. This paper also give the details of greater disadvantages of farms sectors in India.

Discussion

There are many researcher who studies and analyzed about the Agriculture in India but they did not explain well like the, meaning of agriculture, benefits of agriculture, and disadvantages of agriculture graphical representation of data of agriculture in India etc. This paper gives all details about agriculture in like definition of agriculture

,advantages of agriculture(such as Food for Human beings,Source of Income,Raw Materials etc.), disadvantages of agriculture(Such as Expensive Products, More Labor, High MRP and agriculture in India). This paper provides various data (such as production of great Crops production in the current year, Distributions of numbers of holding and area set off in India economic value in billions from different crops in various countries of the world) and there variations for different years. This paper also give the details of major drawbacks of farm sector in India(such as numbers of cultivators has decreased from 127.4 million to 118.8million, Excessive government efforts use to create a market set which have actually acted as trades walls in both domestic and foreign marketing etc.)

Conclusion

This paper gives all details about agriculture in like definition of agriculture benefits,drawbacks of agriculture and also agriculture in India This paper provides various data (such as production of great Crops production in the current year, Distributions of numbers of holding and area set off in India economic value in billions from different crops in various countries of the world) and there graphical representation. This paper also give the details of major drawbacks of farm sector in India. Agriculture accounts for 13.7 percent of GDP and 57 percent of jobs in India. Agriculture provides the majority of raw materials to sectors such as sugar, paper, textiles, handloom, food manufacturing, and dairy. Food is essential for human survival. We can live without technology but not without food, so agriculture is critical to the survival of every nation or civilization.

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