

Policies, Techniques, and Commercialization in Agriculture with Special Focus on Developing Countries Like India

Dr.Dinesh Kumar, Dr.Parveen Kumar Garg

^{1,2}University College of Commerce & Management

^{1,2}Guru Kashi University, Talwandi Sabo

Article Info

Page Number: 187 – 190

Publication Issue:

September-October 2019

Article History

Article Received: 3 January 2019

Revised: 25 March 2019

Accepted: 28 July 2019

Publication: 20 October 2019

ABSTRACT

Agriculture has always been the backbone of any global economy, and despite deliberate industrialization over the previous six decades, agriculture continues to have a prominent position. Agriculture has a long history in India, with records reaching back ten thousand

years. Agriculture is under a lot of pressure to produce more and increase farmer income; second, the rural workforce's reliance on agriculture for employment has not decreased in proportion to the sector's contribution to GDP. Agriculture and related sectors, such as forestry and timber harvesting, accounted for 16.6% of GDP in 2007, employed 52 percent of the total workforce, and, despite a steady decline in its share of GDP, remains the largest economic sector and plays a significant role in terms of socioeconomic progress. It aims to establish a sustainable and viable farming and livelihood support system through debt relief to farmers, improved supply of institutional credit, crop diversification.

Keywords: Agriculture, farmers, economic, farm output, credit

I. INTRODUCTION

Fresh fruit, fennel, badian, coriander, tropical fresh fruit, pigeon peas, pulses, spices, millets, castor oil seed, sesame seeds, safflower seeds, lemons, limes, cow's milk, dry chilies and peppers, chickpeas, cashew nuts, okra, ginger, turmeric, guavas, mangoes, goat milk and buffalo milk and meat are among India's top

export Millets such as Jowar, Bajra, and Ragi are also produced in considerable quantities in India. This is only next to China in terms of rice output. It is also home to the world's biggest herd of cattle (281 million). The second and third largest producers, respectively, are cashews, cabbages, cottonseed oil and lint, fresh vegetables, garlic, egg plant, goat meat, silk, nutmeg mace, cardamom, onions, wheat, grains, sugar beets, lentil, dry beans, groundnut, chai, peas, vegetables, potatoes, pumpkins, squashes, gourds, and inland fish. Tobacco, sorghum, rapeseed, coconuts, hen's eggs, and tomatoes are among the country's top crops. India produces 10% of the world's fruit and is the world's leading producer of mangoes, papaya, and bananas. India's entire geographical area is 328.7 million square kilometres, with a net sown area of a total area of 140.0 million square kilometres. The total cultivated area is 192.2 MH, resulting in a cropping intensity of 137.3 percent. According to land utilisation estimates from 2009-10, the net irrigated area is 63.3 MH. The agriculture business in India is diversifying. The report depicts the agricultural trend during the previous few years.

Some amazing facts:

India has the largest area in the world under pulse crops.

India is the world's first country to develop a cotton hybrid.

India has the world's highest percentage of arable land to the total geographical area, in the world.

About 50% of India's geographical area is used for agricultural activity. With the spread of irrigation facilities, the introduction of high yielding variety of seeds and farm

mechanization, the vulnerability of the Indian agricultural to earlier.

About 80% of India's agriculture is dedicated to the production of grains and pulses, which are the seeds of diverse pod crops including beans, chickpeas, and pigeon peas.

India possesses the world's largest herds of cattle and buffalo. Farmers maintain cattle and water buffaloes for plugging and milk, but they are not killed for meat. Water buffaloes produce the majority of commercial milk. Hides are used to protect cattle and water buffaloes from each other. After the animals have died, the hides of cattle's water buffaloes are used to make leather. Sheep are primarily grown for their wool and sheepskin.

Dairy accounts for nearly 26% of the total value of agricultural output. India produces the second most milk in the world. India has 26 excellent cow breeds and six buffalo breeds. India's cattle are known across the world for their endurance and resilience to tropical illnesses.

India grows more than half of the world's mangoes and leads all countries in the production of cashews, millet, peanuts, pulses, sesame seeds, and tea.

The nation ranks second in the production of cauliflowers, jute, onions, rice, sorghum, and sugar cane.

Apples, bananas, coconuts, coffee, cotton, eggplants, oranges, potatoes, rapeseeds, rubber, tobacco, and wheat are all key exports from India.

India is also the world's greatest producer of betel nuts, which are palm nuts consumed by many people in tropical Asia as a stimulant. It is also a major producer of cardamom, ginger, pepper, and turmeric, among other spices. India is fourth in the world in terms of gross

fertiliser use, after the United States, the former Soviet Union, and China.

India's 600,000 villages are home to the majority of the country's population.

Agriculture provides livelihood to about 65% of India's labor force.

Agriculture contributes nearly 33% to India's gross domestic product (GDP)

Agriculture accounts for about 10% of India's exports.

The farmers and their families use most of their crops. Half of all Indian farms are less than 2.5 acres (1 hectare) in area. Only 4% of the land is more than 25 acres (10 hectares). In India, around two-thirds of farmers own their own land. Most of their farms are shrinking with each generation due to inheritance norms.

Under the congress rules 2011-12

New Delhi, Aug 13 : Under the rashtriya krishi vikas yojana, the centre announced a new project called "vegetable program for urban clusters" in 2011-12 with a budget of Rs.300 crore.

New Delhi, Aug 15: asserting that there is a need for a second green revolution in agriculture, Prime Minister Dr. Manmohan Singh on Monday said the problem of rising food prices can only be dealt by increasing agricultural production and productivity.

President Pratibha Patil said on Sunday that more technology should be used in agriculture to improve output and to focus more on issues such as manpower shortages.

New Delhi, Aug 15: Asserting that there is a need for a second Green Revolution in agriculture, Prime Minister Dr. Manmohan Singh on Monday said the problem of rising food prices can only be dealt by increasing agriculture production and productivity.

III.METHODOLOGY

The study's goal is to learn about the diversification of Indian agriculture, the growth performance of major crops at the national level, the area, production, and productivity of major crops, the production and availability of various types of seeds, the Agricultural Trade and Export scenario, mechanisation and technology uses, agriculture holding conditions, change in cropping patterns, and the Horticulture Scenario (Area, Production, and Productivity). For the study, we rely on secondary data obtained from a variety of sources.

IV.AGRICULTURE GDP TREND

Agriculture and associated sectors provided 13.7 percent of India's GDP, according to preliminary national revenue estimates for 2012-13. The agricultural and allied sector's Gross Domestic Product (GDP) and its percentage of the country's overall GDP for the past three years and this year, at 2004-05 prices, are as follows:

Item	Year			
	2009-10	2010-11	2011-12	2012-13
GDP of	660987	713477	739495	752746
Agriculture and Allied Sectors				
% of total GDP	14.6	14.5	14.1	13.7

Crop ^[18]	Average YIELD, 1970-1971 kilogram per hectare	Average YIELD, 1990-1991 kilogram per hectare	Average YIELD, 2010-2011 kilogram per hectare ^[67]
Rice	1123	1740	2240
Wheat	1307	2281	2938
Pulses	524	578	689
Oilseeds	579	771	1325
Sugarcane	48322	65395	68596
Tea	1182	1652	1669
Cotton	106	225	510

India and China are competing to establish the world record on rice yields. In 2010, Yuan Longping of China's National Hybrid Rice Research and Development Centre broke a world record for rice yield in a demonstration plot, yielding 19 tonnes per hectare. Sumant Kumar, an Indian farmer, set a new record in 2011 with 22.4 tonnes per hectare in Bihar, again in a demonstration plot. These farmers claim to have used newly produced rice breeds as well as a recent farming technique known as rice intensification (SRI). The reported Chinese and Indian yields have yet to be proven on 7-hectare farm lots, and that they are repeatable over two years on the same farm.

Agriculture a crawling sector due to following reasons

1. Agriculture credit:

To share of co-operative bankers (22 per cent) during 2005-06 was less than half of what it was in 1992-93(62 per cent),while the share of commercial banks(33 to 68 percent) including RRBs(5 to 10percent) almost doubled.

2. Commercial banks saw a significant increase in overall loan to agriculture (from roughly 13 percent to around 21 percent),

whereas cooperative banks saw a decrease (over 14 percent to 10 percent).

3. State-wise Distribution of Institutional Credit:

In various states, the availability of institutional credit per hectare of gross cultivated land varies greatly. During 2001-02, it reached a high of Rs. 4,604 in Andhra Pradesh, a low of Rs. 311 in Assam, Rs. 667 in Rajasthan, and Rs. 698 in Madhya Pradesh.

4. Resent policy Initiatives:

In his Union budget presentation for 1995-96, the Finance Minister stated, "Inadequacy of public investment in agriculture is today a matter of common concern." This is an area in which states are in charge. However, several states have forgotten to invest in agricultural infrastructure. They represent a major loss of potential income and employment to rural population." Rural infrastructure development fund (RIDF) was set up in NABARD. Since then, 11 tranches of allocation have been made towards the fund. Commercial banks make contributions towards the fund on account of the shortfalls in their priority/ agriculture sector landing. The scope of RIDF has been widened to enable utilization of loan by

Panchayati Raj Institution (PRIs), self-help groups (SHGs), Non-Government Organization (NGOs), etc., since 1999-2000. Special Rehabilitation Package for the districts severely affected by Farmers' Suicide the incidents of suicide by farmers have been mainly reported from the states of Andhra Pradesh, Karnataka, Maharashtra, and Karla, such incidents have also been reported from reported from the states of Orissa, Gujarat,

and Punjab. To help farmers, the Indian government has decided to implement a special rehabilitation programme in 31 districts throughout Maharashtra, Andhra Pradesh, Karnataka, and Kerala.

Ex-gratia support from the Prime Minister's National Relief Fund (PMNRF) was also offered to alleviate the challenges faced by debt-stricken farmers' families in the impacted areas.

BUDGET 2017-18: ANNOUNCEMENTS FOR AGRICULTURE SECTOR

- Push to reforms in agriculture marketing. New model law on contract farming

- Rs9,000 crore for Crop insurance, up from Rs5,500 crore budgeted for 2016-17

- Agriculture Credit disbursement target of Rs10 trillion, up from Rs9 trillion in 2016-17

- Additional Rs20,000 crore to NABARD for long term irrigation fund, Rs5,000 crore for setting up a dedicated micro irrigation fund

- Rs8,000 crore dairy development fund under NABARD

- Assistance to rural entrepreneurs to set up soil testing labs in Krishi Vigyan Kendras

- Rs1,900 crore support to NABARD to bring co-operative banks under core banking platforms

- Total support to rural and agriculture sector raised by 24%, to Rs1.87 trillion in 2017-18

Source: Budget Speech by Finance Minister Arun Jaitley on 1 February, 2017

4 Issues:

The insufficiency of farm investment capital has been one of the key hurdles to the adoption of new technology methods, land improvements, and the construction of irrigation and marketing infrastructure. Out of the total number of suicide cases reported, 76 per cent of the victims were dependent on the rain-fed agriculture and 78 percent were small

and marginal farmers. An important finding was that 76 to 82 percent of the victim households had borrowed from 24 to 36 percent. Improvements to irrigation coverage, agricultural diversification, animal husbandry promotion as an alternative source of income, increased access to institutional financing, and general marketing infrastructure improvements are among them.

Information Technology :

Uninterrupted power supply (UPS) devices are crucial to ensure the longevity of the IT equipment as well as provided backup mechanisms. The potential of solar power packs to provide a feasible solution of power in the rural areas needs to be exploited. The indirect benefits of IT sector in empowering Indian farmers are significant and remain to be exploited. The Indian farmer urgently requires timely and reliable source of information inputs for taking decisions. The changing environment faced by Indian farmers makes information not merely useful, but necessary to remain competitive.

Since removal of restriction throw open Indian agricultural markets, the macro economic situation related to foreign exchange, inflation, the current tariff structure within and outside the country etc. and their likely impact on Indian agriculture will have a direct bearing on the decisions of segments of Indian agriculture.

It is necessary to equip Indian farmers to come together for value additions to their agriculture output. This will require system to provide information to farmers on agro processing industries, aqua culture units, animal husbandry etc.

6. Constraints:

Power supply: in most of the rural India, power supply is not available for long hours. This will make the intended services less valuable. Because practically the whole country is exposed to sunlight for the most of the year, solar power packs for UPS and power supply are a viable option. The Ministry of Non-Conventional Energy Sources may devote special attention to this field, which has the potential to be a major

contributor to the expansion of information technology in villages.

Connection: Despite the tremendous progress achieved in recent years, rural connectivity still requires improvement. Reliable connectivity is a prerequisite for a successful penetration of IT into rural areas. Many private ISPs are constructing extensive networks that connect many major cities. Several technologies exist that can be utilized for connecting rural areas. A cable network might be used to provide last-mile connection to settlement.

Bandwidth: The available bandwidth is a substantial barrier even in regions where telephone and other communication services are accessible. Low bandwidth is a fundamental restriction in offering good e-service to farmers since internet-based rural services demand a lot of graphics.

7. Improving farmer access to modern farming practices and information:

India's current farming practises are much behind those used in other regions of the world. Indian agriculture still lacks mechanisation, with just 15 tractors per 1,000 hectares of agricultural land (compared to Japan's 461 tractors and the United Kingdom's 88 tractors), while sowing, irrigation, and plant protection procedures are either antiquated or reliant on human lab testing. This can largely be attributed to the fact that most Indian farmers do not have access to the solution used in more developed nation, either because India's farmers lack access to information on global agriculture developments or are too poor to afford them. Unfortunately, this is a vicious spiral in which a lack of knowledge and money causes the

farmer, and the rural population as a whole, to never break the paradigm and so never receive the education and capital they require, thereby immobilising India's rural people and sector. If India wants to catch up to other Asian nations in terms of agricultural production, it must solve this problem.

8. Enabling lands consolidation:

Indian farmers land holdings, always sub-scale have been in continuing decline, due to a combination of growing population, and inadequate growth in off-farm employment opportunities (commensurate to overall labour force growth). India's average agricultural land holdings per farmer have shrunk from 2.3 hectares in 1970 to 1.2 hectares in 2011, well below the world average of 3.7 hectares. Increased agricultural land fragmentation in India has resulted in farmers having less access to financing, a shortage of mechanised equipment (since most mechanised equipment is too large for small holdings), and an over-reliance on agricultural middlemen to aggregate production.

9. Direct Government investment,(rather than only subsidy):

Crop price support or input subsidies for agricultural inputs, such as fertilisers, electricity, and water, account for over 80% of government investment in India's agriculture industry today. These monies would be better spent on investments that boost productivity and the sector's long-term competitiveness (such as technology and modern equipment), which are considered to be three to four times more effective than subsidy spending. However, as things stand, this sort of investment is virtually completely made by the

private sector, a situation that is unsustainable for long-term industry growth.

10. Improving Institutional credit availability for farmers:

As previously stated, a lack of institutional finance available to farmers in India is a significant result of rising agricultural land fragmentation. According to recent polls, just 14% of marginal farm owners (less than 1 hectare) and 27% of small farm owners (less than 2 hectares) are able to acquire financing from official institutions. As a result, most farmers are compelled to either borrow money at a substantially higher rate from local unorganised lenders – with many borrowers failing to service these financing fees and being forced to leave their property – or rely on out-of-date, manual labour equipment.

Each of these issues has been thoroughly investigated by renowned Indian and international organisations, and their remedies are likewise well-defined. However, the issue has always been one of time. The over 260 million individuals engaged in India's primary sector make up a significant political voting bloc in the country's fractured political landscape. As a result, major reforms in the sector have been few and far between, with successive governments either afraid of alienating India's farmers by enacting bold but unpopular policies, or unable to build the political consensus (particularly among regional political parties) required to pass important agriculture-related legislation. In this environment, Prime Minister Narendra Modi's administration is in a unique position, with an overwhelming majority in the lower house of parliament, increasing its power in the upper house, and controlling state

legislatures that represent just over 40% of India's population. Given that merely having a chance does not guarantee success, the risk of inaction is also significant. While the Modi government lacks a strong opposition, it does benefit from the above-mentioned election failure of the BJP-led government in 2004. If the government wants to transform India's agriculture sector, it will need to develop a bold vision of what agriculture could mean to the country and invest some political capital in engaging with farmers, local political leaders, consumers, academia, and industry bodies, as well as launching a number of scaled and radical initiatives.

V. CONCLUSION

1) low productivity, 2) declining water levels, 3) costly loans, 4) a skewed market, 5) numerous middlemen who add cost but little benefit, 6) policies that impede private investment, 7) regulated pricing, 8) bad infrastructure, and 9) improper research continue to plague Indian agriculture.

Through greater use of technology and related processes, there is also a need to explore new breakthroughs in product design and delivery techniques. Agriculture employs over 60% of the country's entire workforce. Agriculture's importance in India stems from the fact that

agricultural growth is a necessary prerequisite for the country's economic development.

REFERENCE

Links:

Government of India, Economic survey, various issues.

NABARD”Annual Report” various issues.

Reserve Bank of India “Annual Report “various issues.

Handbook of statistics on the Indian Economy, 2004-05.

Report on Trend and progress of Banking in India, various issues.

Websites:

- www.agricoop.nic.in
- www.indiastat.com
- www.indiaagristat.com
- www.nhb.gov.in

BOOKS:

- Problems of Agriculture growth in India by Manish Dubey Jan 2011.
- Agriculture Growth in India: the role of Technology and Institution by A.Vaidyanathan 2010..