



Agriculture and Sustainable Development in India

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Abstract:

Agriculture is a back-bone of Indian economy. It is important accusation in our country. Large Population of India is residing in rural Area. The objective of this research paper is to study of same issues and solutions of Agriculture in India. The green revolution may bring the efficiency in agriculture produce and thus, the productivity increases. The ultimate performance of agriculture depends on the performance of various resources, the strategies and methods adopted. To face dryness due to the decrease in the rainfall, the agriculturist has to use the innovative strategies. Being the largest private sector 'agriculture' is very valuable role in Indian economy also.

The research paper aims to study the significance of the sustainable development in the field of agriculture by using the secondary data. Agriculture is the main occupation in India as large population is living in the rural areas and having agriculture as their livelihood. Some issues and solutions of Agriculture in the agriculture sector aims to increase the productivity, efficiency and level of employment and further aims to protect and preserve the natural resources by the over utilization. It also provides mechanism to reduce the soil degradation through multiple cropping systems and through the deforestation and much other Causes, through scientific methods applied for the sustainable agriculture in India.

Introduction:

Agriculture is important occupation in India. Major agricultural part of the country depends upon Erratic Monsoon which is confined to 3 to 4 months of the year, much of the rain water runs off the sea a Irrevocably loss. So the sustainable source of water is essential for agricultural. The availability of adequate irrigation facilities transforms the subsistence agriculture landscape gradually into commercial one making agrarian economy

market oriented. In peninsular India, where agriculture is perpetual gamble with the monsoon, irrigation acts not only as a protective, establishing factor and a productive satiable factor for the agriculture sector.

For a country which has the capacity to produce three crops in a year, the ceaseless cases of farmer suicides are an ignominious fact. The statics of the deaths are so high that there is nothing personal or moving left in them. Death

count of a disaster raises more sympathy than the suicides of the Indian farmers. It has become more of a factor to lash the ruling party by the opposition than a warning sign to actually do something. Here are some reasons and a few solutions for sustainable agriculture in India.

Objectives:

1. To study and identify the issues of agriculture in India.
2. To make suggestions and solution for sustainable development agriculture in India.

Methodology:

Agriculture is important accusation in India. In our country the scope of the study is important to examine the benefits and applicability of agriculture. The study includes some issues or problems of agriculture and solutions of agriculture for future day.

The present research paper is based on secondary data. The data has been furnished from the related articles, research papers, books, reports and some document of the government of India. Some data has furnished from the websites of the government of India, as well as ministry of agriculture. Here some issues and suggest few solutions for future sustainable agriculture.

Issues of Indian agriculture:

Indian agricultural sector is in a difficult phase due to the lack of mechanization, lack of scientific attitude

and dearth of technological advances. The agricultural sector in India:

1. Fragmented land holding:

Nearly 80% of the 140 million farming families hold less than 2 acres of land. Large land holdings enable the farmer to implement modern agricultural techniques and boost productivity. Small land holdings restrict the farmer to use traditional methods of farming and limit productivity. As land holdings are small, more people invariably work on the farms in the rural areas and coupled with the obsolete technology, farm incomes come down.

2. Farms are small and economically unfeasible:

The ground reality is that majority of the farmers in India own as little as two acres of land. Cultivation on such small area is not economically feasible. Such small farmers have become vulnerable. In many cases, the farmers are not even the owners of the land, which makes profitable cultivation impossible because significant portion of the earnings go towards the payment of lease for the agriculture sector.

3. Irrigation problems:

Most of the farming in India is monsoon dependent - if monsoons are good, the entire economy (and not just the agricultural sector) is upbeat and when the monsoon fails, everyone everywhere takes a hit to some extent. The problem here is of proper management of water or the lack of it. Irrigation which consumes more than

80% of the total water use in the country needs a proper overhaul if the country has to improve agricultural output and boost the overall economy.

4. Agriculture is unorganized activity:

Indian agriculture is largely an unorganized sector. No systematic institutional and organizational planning is involved in cultivation, irrigation, harvesting etc. Institutional finances are not adequately available and minimum purchase price fixed by the government do not reach the poorest farmer and face the some problems.

5. Government program do not reach small agriculture sector:

Government has implemented agricultural debt. But some problems are their agricultural loan to stressed farmers under so called *Kisan credit Card* were also covered under this scheme. However, most of the subsidies and welfare schemes announced by the Central and State governments do not reach small file. On the contrary, only big land lords are benefited by those schemes.

6. High indebtedness and exorbitant interest rates:

The root cause of farmers taking their lives is the increase in their indebtedness and debt burden. Exorbitant interest rates have to be declared illegal and the government has to take strict measures against greedy money lenders. Easy access to institutional credits have to

reach the small and marginal agricultural sector, without cumbersome procedures.

V. Solutions for sustainable Agriculture development in India:

Based on the various aspects of agriculture discussed, modern technologies cannot be fully incorporated in the Indian subcontinent due to limitation of land holdings. However, some measures or solution can be adopted, which are:

1. Need to modernize agriculture:

By introducing farm techniques which guarantee a definite success, an increase in youth participation on agricultural fields is economically possible. This can be attained only by implementing new technologies. Research efforts should continue for the production of crops with higher yield potential and better resistance to pests. Technological advancement in agriculture should be passed down to the small farmers. Where the existing crops would not do well under drought and weather conditions, the farmers should be helped to shift to cultivating crops that would be easy and economical to cultivate every part of agriculture land.

2. Special agricultural zone:

Now a day, Just like industrial zone, there is an urgent need to establish special agricultural zones, where only farming and agriculture related activity should be allowed is best way of agriculture.

3. Storage facilities:

Storage facilities can be boosted by small cold storage or granaries at village level which can be established from Panchayat funds and loans to the village society (this eliminates dumping of excess crops in the market yard).

4. National level an agricultural strategy or policy:-

Now, National level an agricultural strategy or policy to improve information exchange, national level cold storage chains and logistic network is the need of the hour.

5. Educate the farmers:-

Many farmers in India are not aware of crop rotation. Though education in urban areas has improved a lot, the government has ignored the same in rural areas in general and in agriculture sector in particular. This is the reason why farmers are not adequately aware of the various schemes provided by the government.

6 .Organic farming:

For organic farming, first of all, a proper awareness has to be built – among both the farmers as well as consumers. Organic farming reduces the unnecessary usage of artificial fertilisers, reduces water consumption, strikes a good balance between the local environment and the farm output, helps the land retain its fertility for a long time, reduces costs in the long run and also with the creation of a proper market in the towns and cities

establishes a virtuous cycle between consumers and agriculture occupation.

7. Clubbing of small fields may help:-

Several farmers who own small piece of land can join together and combine all small fields into one large chunk. This may help in variety of ways.

8. Multiple crops:

Multiple crops are beneficial such as coconut, turmeric, pine apple, banana, apple, papaya, ginger will yield profitable results to the agriculture.

9. Need for meaningful crop insurance policies:

Crop insurance is must and the claim should be settled easily under the supervision of the district collectors. Traditional crop insurance depends on the direct measurement of the damage suffered by a farmer to determine his/her payout. However, field loss assessment is often not feasible or expensive, since most of our farmers are small holders. Index based insurance, on the other hand, responds to defined parameter. Index based insurance has the advantages that it is transparent and all the insurers within the defined geographical area are treated equally. It has low operational and transnational costs, while also ensuring quick payouts.

10. Need for better water management:

Irrigation problems as well as problems due to single/traditional crop dependence can be solved by a national

level plan for agricultural production. Irrigation facilities that are currently available do not cover the entire cultivable land. Apart from the areas where perennial rivers flow, most of the agricultural fields do not have irrigation facility.

Improved modern methods of rain water harvesting should be developed. Water management can be made more effective through interstate co-operation on water resources, where surplus water from perennial rivers can be diverted to the needy areas. Connecting the rivers throughout the country will solve this problem. Construction of National Waterways will improve the irrigation facility, which in turn can save the farmers, if the monsoon would fail.

11. Alternate source of income for farmers:

Small farmers should be encouraged to develop alternative sources of income and the government should take up the responsibility for providing training to the farmers to acquire new skills. In drought affected areas, the government should start alternative employment generation programs to reduce the dependence on agriculture as the sole source of income. Such programs should be standardized.

Farmers should be enabled to divide their activities into three parts. One for regular crop production, one for animal husbandry or fisheries and another for timber production. These activities complement each other and also alternate

sources of income of farmers can be ensured.

12. Need for national weather risk management system/disease alert system:

Facilitating national weather risk management system that alerts farmers when there is a danger of extreme weather, would go a long way in reducing losses in agriculture. Value added services like pest and disease alert applications, in combination with the weather forecast would equip the farmers to handle and manage their crops better. For example, *Water Watch Cooperative*, a Netherlands based organization, has developed a disease alert system that sends an alarm to farmers, if probability of a pest/disease would be detected.

the field water content, biomass and rainfall probability, would aid in optimization of water provision to the crop and ensure efficient crop management. Some sustainability solutions are proper crop management on the basis of water availability, crop rotation, deploying modern agricultural practices to boost productivity, switching over to organic farming.

13 Sustaining the environment and future agricultural productivity:

In parts of India, the over-pumping of water for agricultural use is leading to falling groundwater levels. Conversely, water-logging is leading to the build-up of salts in the soils of some irrigated areas. In

rain-fed areas on the other hand, where the majority of the rural population live, agricultural practices need adapting to reduce soil erosion and increase the absorption of rainfall. Overexploited and degrading forest land need mitigation measures. There are proven solutions to nearly all of these problems.

The most comprehensive is through watershed management programs, where communities engage in land planning and adopt agricultural practices that protect soils, increase water absorption and raise productivity through higher yields and crop diversification. At issue, however, is how to scale up such initiatives to cover larger areas of the country. Climate change must also be considered. More extreme events – droughts, floods, erratic rains – are expected and would have greatest impact in rain-fed areas. The watershed program, allied with initiatives from agricultural research and extension, may be the most suited agricultural program for promoting new varieties of crops and improved farm practices.

Conclusion:

Agriculture is back-bone of Indian economy. It has been observed that for a growing country, the practice of sustainable agriculture is of quite importance as it accelerates the productivity, efficiency, employment, and providing guidance to reduce the practices which affect the quality of soil, water resources and degradation of other natural resources.

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It basically aims at adopting specialization and using environment friendly tools to protect and preserve the environment as well as to enhance the level of production with-out harming to the environment. As we see the performance of agricultural sector of India we will be easily recognize that performance have been increased in a significant manner over the years. Despite of many challenges like urbanization, Growth of secondary sector etc. it has achieved a significant growth.

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