



ROLE OF IT IN AGRICULTURE A SURVEY

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ABSTRACT

Today information technology (IT) has long vision to estimates the calibre to improve the decision making in agriculture. All over the world is connected with IT and many organizations are changing the life style and social consciousness dynamically. From all stages of Information Technology and agricultural industry plays vital to the management and success of a business. Agriculture has also been greatly influenced by IT. Information Technology is rapidly becoming more and more visible in society and agriculture. IT refers to how we use information, how we compute information, and how we communicate information to people. The research aims to show the role of information technology by using various research methods in agriculture and aims to improve the agriculture in India.

Keywords: Agriculture, Information technology.

Introduction:

Information technology is the most widely growing area in the present world. The Internet is a standing topic in newspapers and on television, and the number of users doubles every year. People who use information technology creatively are pioneering careers in agriculture today. Jobs in today's agricultural workforce require greater use of technological skills than ever before.

IT supports new methods for precision agriculture like computerized farm machinery that applies for fertilizers and pesticides. Farm animals are fed and monitored by electronic sensors and identification systems. Selling or buying online began to become popular in the world. However, its most important role remains communication, and the Internet has provided us with an ideal opportunity to do so. One such communication tool is the Web Site, which simply replaces the newspaper as a communication tool. Presently, almost every company has its own web site.

The following are specific ways information technologies being applied through agricultural education:

- Basic Internet Applications
- PowerPoint Presentations
- Global Positioning Systems (GPS)
- E-Commerce



Fig: 1, System Services in Agriculture

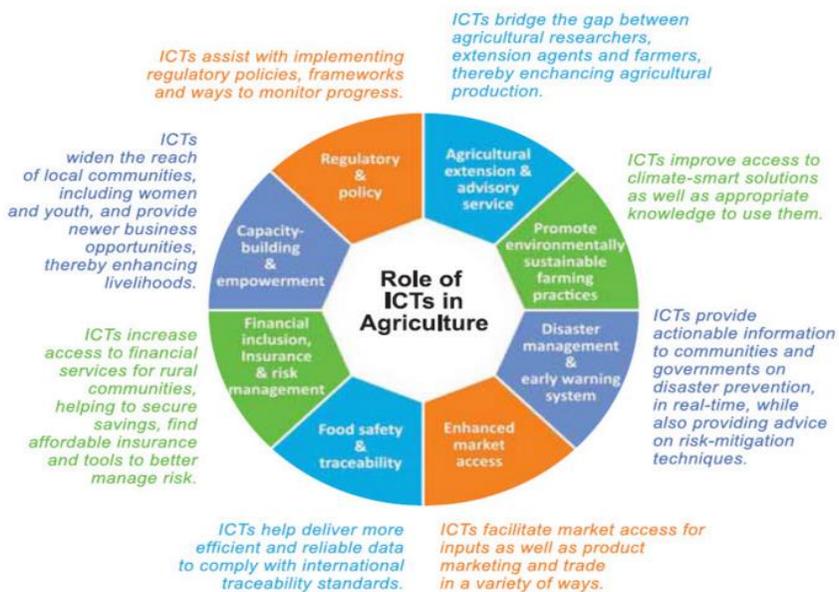


Fig: 2, Role of IT in Agriculture



The Importance of Agriculture

Agriculture is a major sector which is vital for the survival of modern man. Plants are the producers in the food chain, and without them, the life cycle would just not be possible. Agricultural produce, though highly perishable compared to other food sources, is essential for survival. Crops are used to produce several food sources by themselves or through by-products such as bread, powders, organic additives to other goods and the like.

The produce from agriculture drives trade from one country to another, brings income for farmers, makes productive use of otherwise idle land, and brings food on the table. It is such an important part of everyone's daily life, although it may not be seen as a direct factor since the produce goes a long way before reaching the hands of everyone who benefits from it. Because of its importance to society, it's must to evolve with the times and adjust to meet the needs of modern people. By adapting and making use of IT to help improve agricultural progress, everyone benefits from the union of these sectors.

Role of IT in Agriculture

In the context of agriculture, the potential of information technology (IT) can be assessed broadly under two heads: (a) as a tool for direct contribution to agricultural productivity and (b) as an indirect tool for empowering farmers to take informed and quality decisions which will have positive impact on the way agriculture and allied activities are conducted.

Precision farming, popular in developed countries, extensively uses IT to make direct contribution to agricultural productivity. The techniques of remote sensing using satellite technologies, geographical information systems, and agronomy and soil sciences are used to increase the agricultural output. This approach is capital intensive and useful where large tracts of land are involved. Consequently it is more suitable for farming taken up on corporate lines.

The indirect benefits of IT in empowering farmer are significant and remain to be exploited. The farmer urgently requires timely and reliable sources of information inputs for taking decisions. At present, the farmer depends on trickling down of decision inputs from conventional sources which are slow and unreliable. The changing environment faced by farmers makes information not merely useful, but necessary to remain competitive.



The Effects of IT on Agriculture

IT has made its way into the agricultural sector, and with positive results. To name a few, here are some of its effects:

- Improved decision making
- Better planning
- Community involvement
- Agricultural breakthroughs
- Agriculture for everyone

People only have to open their minds to the endless possibilities that technological advancement can bring to agriculture. Instead of being locked away with the traditional strategies for planting, why not get involved in new and improved methods of farming? Today's society can benefit from agricultural advancements and live sustainable lives by improving the production, harvest methods, and distribution of agricultural goods. All of these effects and more are possible through the successful merge of IT and agriculture which is why farmers are getting more and more encouraged to take part in this positive change.

Conclusion

In this paper, the main aim is to show the role of agriculture in IT and uses of agriculture in IT. The use of IT in agriculture has grown rapidly in the past few years. It is increasingly being used to help managers make better decisions. However, IT and the problem facing decision makers are constantly changing. Thus, future information systems for research purposes will be significantly different than current systems because of these changes. IT has been one of the most aspired fields in today's world. Integrating IT with agriculture will help any country to regulate its overall economy and trade.

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AGRICULTURE DIVERSIFICATION IN ANDHRAPRADESH ITS IMPACT ON RURAL EMPLOYMENT AND INCOME

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Indian agriculture sector is one of the main source of many poor families in our country. According to the Tendulkar report in our country poverty ratio is 32% and the same way NSS report 27.5% people are below the poverty line and Indian population according to the 2011 reports 121 crores. So in this report above 50% of Indian population depend on agriculture sector. So that reason agriculture diversification importance increases in India to solve food and employment problems. Green Revolution is one of the major steps for better crop diversification in India and also in Andhra Pradesh.

INTRODUCTION:

Agriculture is continue to play an important role for poverty alleviation in India, even in the era of economic liberalization and globalization. Generation of gainful employment and income for the rural poor, strengthening of house hold food and nutritional security and sustainable use of natural resources shall continue to be the main objectives of agricultural development in the country. And also crop diversification is the major role to play for better production in agriculture sector. More than 70 percent of India's population lives in rural areas where the man occupation is agriculture. Indian agriculture is characterized by small farm holdings. The average farm size is only 1.57 hectares. Around 93 percent of farmers have land holdings smaller than 4ha and they have cultivated nearly 55 percent of the areable land.

Crop diversification is intended to give a wider choice in the production of a variety of crops in a given area so as to expand production related activities on various crops and also to lesson risk. Crop diversification in India level and also in Andhrapradesh level is generally viewed as a shift from traditionally grown less remunerative crops to more remunerative crops. The crop shift (diversification) also takes place due to governmental policies and thrust on some crops over a given time, for example creation of the technology mission on oilseeds (TMO) to give thrust on oilseeds production as a national need for the country's requirement for less depending on imports. Market infrastructure development and certain other price related supports also induce crop shift often low volume to high value crops like spices also aid in crop diversification.

Crop diversification and also the growing of large number of crops are practiced in rain fed lands to reduce the risk factor of crop failures due to drought or



less rains. Crop substitution and shift are also taking place in the areas with district soil problems.

ANDHRA PRADESH AGRICULTURE SYSTEM:

Andhra Pradesh State is identified as the “bejeweled rice bowl of india”. Agriculture plays a crucial role in the economy of Andhra Pradesh. Large segment of the population is dependent on the agriculture sector for employment and income. About the population of A.P. lives in rural areas and depends for tis livelihood on agriculture and the rural non-farm sector. Expansion of farm incomes continues to be an effective strategy for reducing poverty. Rapid and sustainable growth in Agriculture has been identified not only as a key driver for economic development but also for achieving self – sufficiency and ensuring food security to the people.

Andhra Pradesh over the decades has witnessed gradual transformation of the agricultural sector. The nature of the transformation itself has undergone change overtime. During 1980s, there was a shift in agriculture from traditional cereal based system towards commercial commodities such as oil-seeds, cotton and sugarcane. By 1990s, even though the crop sector sector witnessed high volatility due to consecutive droughts and decelerating crop yields, the transformation continued towards high – value commodities such as fruits, high-value commodities performed impressively and rescued the agriculture sector to a great extent.

Making agriculture viable and profitable, improving incomes in agriculture and allied sectors are of top priority for the State. Andhra Pradesh is set to scale new heights in agriculture during the 12th Five Year Plan with renewed focus on Micro Irrigation, system of Rice Intensification (SRI) cultivation, Micronutrient Application, Development of Dry Land Agriculture, Farm Mechanization, increasing storage capacity and other agriculture related strategies.

Priority was accorded to the Agricultural sector during 12th Five Year Plan period with an objective of shifting the excess labor force from the sector to other non-farm rural sector jo other non-farm rural sectors such as rural industry through skill development to improve productivity. Ensuring food security and and provision of gainful employment continues to be the essential premise of socio economic development Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and other Rural Livelihood programmes

So agricultural diversification help to the better income and employment to the rural people.

NEED FOR THE STUDY:

Agriculture continues to play a predominant role in influencing the overall performance of the Indian economy. In spite of the advancement in chemical, biological and information fields, there has been a district slowdown in agricultural growth during the past two decades. By the year 2003-2004 only 35.3 percent of the



net sown area of 140.9 million hectares was utilized for double cropping. Further, even after five decades of planning, crop diversification in favour of remunerative cash crops is quite insignificant which can be understood from the high proportion of area under different food grain crops. Between 1990-1991 and 2006-2007, the annual rate of growth of food grains production at 1.2 percent was lower than that of population at 1.9 percent. The share of agriculture in GDP has registered a steady decline from 36.4 percent in 1982-83 to 18.5 percent in 2006-2007. Extension and other support services to crop diversification have weakened. All these have resulted in poor performance of the sector leading to agrarian distress, manifested through migration, farmer's suicides and reduced participation in agricultural activities. Keeping this in view, an attempt has been made to focus on the current status of farmers and the likely strategies to address the constraints to development.

The decade of the 1980's saw the diversification of agriculture from cereal to cash crops like cotton, oilseeds and also to horticulture and live stock. Thus, the major policy during the period between the 60s and 80s were on achieving self-sufficiency in food grains production, but it lost its flames towards the last part of the 80s. Since 1982-83 the public investment in irrigation, rural infrastructure and agricultural research have started declining and this declining trend dampened the growth perspective in agriculture sector, as a result, some of the positive gains of green revolution got erased and the constraints arising from the patterns of land ownership and unequal access to irrigation water began to surface.

The crisis has been exacerbated further by rapid environmental degradation and plateauing of the existing agricultural technology. These factors impinge adversely on the production potential of the agricultural sector. The slowing down and stagnation of agricultural growth has adversely affected the income and employment of a vast majority of rural people dependent on agriculture. Scanty irrigation facility for the agriculture sector is another cause of concern. Out of the total 190.6 million hectares of gross sown area, only 76.8 million hectares of land have irrigation facilities and the remaining 113.8 million hectares have been cultivated in rain-fed conditions by the year 2003-2004. Unlike irrigated agriculture, rain-fed agriculture is characterized by low levels of productivity. The existing irrigated areas are also experiencing serious water stress as both reservoir and ground water resources are depleting in many parts of the country. The growing demand for drinking water and other needs associated with rapid urbanization and industrialization further increased stress on available irrigation resources.

Soil erosion, water logging and shifting cultivation also cause land degradation. Similarly, excessive and unbalanced use of fertilizers and pesticides reduces soil fertility due to soil nutrient depletion. Among states, there are a few peak achievers in agricultural productivity. In Punjab at Rs.35, 087 during 2004-2005 was 7.2 times that of Bihar and 5.3 times that of Madhya Pradesh. The workers' productivities in 11 major states are below the national average of Rs.12, 371. Thus, regional disparity is another factor increasing agrarian distress. This is further



exacerbated by the growing differences in workers productivity in agricultural activities and non-agricultural activities. For instance, at an all India level, the workers productivity in non-agricultural activities at Rs.61,432 was 4.96 times higher than that of agricultural activities at Rs.12,371 in the year 2004-2005. All the more, income from agriculture is increasingly becoming inadequate to meet the basic consumption requirements of the farm family and it is more so for marginal farmers.

Since the early 90s, in order to benefit from global trade, some farmers have embarked on the production of remunerative cash crops without adequate knowledge on grades and standards. As big farmers are the most important information source for the common farmers, some of the small farmers are tempted to cultivated high valued commercial crops. Because of the implied investment requirements, these changes have tended to exclude most of the small farmers from participating in market growth. It is a fact that every farmer wants to sell his produce near the top price and when he is unable to achieve the goal of selling his produce, he becomes confused and this confusion leads to frustration. Many a time, when the prices of his produce sinks, he finds it difficult to manage the situation. Further, adverse weather conditions, unstable markets and poor profit margins are weakening the ability of farmers in producing traditional crops. Inappropriate application of inputs mix, ignorance on technical know-how and spurious use of fertilizer and pesticide add price of these crops has brought misery to the farmers in the form of increasing debt burden, distress sale and even, the extreme step of committing suicide. Some such incidents have been recently witnessed in states like Maharashtra, Andhra Pradesh and Karnataka. On the overall, agrarian distress is increasing.

In this secondary data crop diversification is useful for better changes at the same way

1. Minimum supporting price to the farmers
2. Agricultural subsidies
3. Credit facilities to the farmers for better crop production
4. Given importance to the crop diversification

OBJECTIVES OF THE STUDY:

Keeping in view the importance of the topic the study is intended to analyze the following objectives.

1. To examine the impact of green revolution on crop diversification.
2. To examine the crop diversification role on rural employment at the state level.
3. To analyze the crop diversification and its impact on crop production level in the study area.
4. To study the government programmes on crop diversification and its impact on crop production.



5. To study the Genetically Modified Organisms (GMO) and its impact on production and health conditions of the farmers.
6. To examine the impact of green revolution on crop diversification.
7. Analyze present policies and its impact on crop diversification.
8. Identify the major factors for crop diversification in different areas.
9. Identify the previous data and present data to analyze the crop diversification importance.

METHODOLOGY:

The present paper includes a brief review on the working of Agriculture Diversification In Andhra Pradesh: Its Impact On Rural Employment And Income. The methodology included secondary data collected from various sources like magazines, journals and various works cited in the internet.

STATEMENT OF THE PROBLEM:

India with 70 percent of rural population is mostly dependent on agriculture for employment as well as income for the rural masses. The share of agriculture in GDP is also high. In 1950s the share of agriculture in GDP was around 57 percent and it was reduced to 25 percent by 2001 and in 2010 it was 14.1 percent. But, still now agriculture is the main source of employment and it is still remained as the backbone of India. Hence it is very essential to study in depth the present state of crop diversification and its impact on rural employment and income.

The Crop diversification has a main role to develop food production and employment generation to rural poor. But at the same way more production purpose highly used different types of chemical seeds and its bad impact on human health and also many animals. So to control chemical usage in agricultural sectors and given more importance to natural farming.

Eg: AndhraJyothi paper 24-02-2013 impact of green revolution for the farmer's health and production

SUGGESTIONS AND CONCLUSION:

Agriculture diversification is mainly helpful to the rural poor because of their better development in financial levels. Agriculture sector people mainly do not have better employment facilities in rural areas and seasonal unemployment for 2 and 3 months they have no sufficient financial position to run their families on that time. A better way to change other jobs so it gives financial stability to the poor. So agriculture diversification gives priority for better living and financial support to the rural poor. In my view, mostly agriculture diversification is helpful to the poor families. On that time financial stability is possible to the rural poor. MGNREGP, JRY, and PMRY programmes mainly support to the rural employment programmes.



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