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A Study to Understand the Status of Agriculture in Gola Village of Gulbarga District of Karnataka

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Abstract: ***Agriculture is the most important enterprise in the world. Agriculture is the cultivation and reproduction of animals and plants to provide food, medicinal plants, fiber and other products to sustain and enhance life. One of the world's workers is employed in agricultural activities. Agriculture is the backbone of Indian economy. India ranks the second worldwide in farm output. For many rural residents and communities in Karnataka agriculture is the major occupation. Therefore this present paper understands about the agricultural status in Goll village of Gulbarga districts. The study is based on Primary and secondary data collection, data is analyzed with Excel and statistical software SPSS. Study observed that 75 percentage of total population is engaged in agricultural activities. Both dry land and irrigated land they are using for farming. All farmers are depends this lake for cultivation. Water pollution is a major issue in Gola village; most of the well is polluted due to lack of proper maintenance. Still farmers are protesting for their rights. So, it's very necessary the growth of agricultural sector, because of agriculture is the backbone of Indian GDP. The proper intervention has to be done for the improvement of agriculture and proper awareness should give the protection of the natural resources.***

Keywords: Agricultural, Water pollution, Indian GDP

1. Introduction

Indian agriculture has long, old and beyond memory history which begins the Indus valley civilization. Indian agriculture commenced via 9000 BCE because of early cultivation of vegetation, and domestication of vegetation and animals. Settled lifestyles soon observed with implements and strategies being advanced for agriculture. Double monsoons led to two harvests being reaped in 365 days. Indian products soon reached the sector via present buying and selling networks and foreign plants had been added to India. Plants and animals taken into consideration essential to their survival with the aid of the Indians got here to be worshiped and venerated. The middle ages noticed irrigation channels reach a brand new degree of class in India and Indian vegetation affecting the economies of other areas of the world below Islamic patronage. Land and water management systems had been developed with an intention of imparting uniform increase. Despite some stagnation during the later modern-day technology, the unbiased republic of India changed into able to extend a comprehensive agricultural application. One of the maximum antique water regulating structure inside the global is Grand Anicut dam on river Kaveri (1st-2d Century CE).

2. Meaning and Definition

Agriculture helps to meet the basic needs of human and their civilization by providing food, clothing, shelters, medicine and recreation. Agriculture is the systematic raising of useful plants and livestock under the management of man (Rimando, 2004). It is a productive unit where the free gifts of nature namely land, light, air, temperature and rain water etc, are integrated into single primary unit indispensable for human beings.

Statement of the Problem

Agriculture is the most important enterprise in the world. Agriculture is the cultivation and reproduction of animals and plants to provide food, medicinal plants, fiber and other products to sustain and enhance life. One of the world's workers is employed in agricultural activities. Agriculture is the backbone of Indian economy. India ranks the second worldwide in farm output. For many rural residents and communities in Karnataka agriculture is the major occupation. The proper intervention has to be done for the improvement of agriculture and proper awareness should give the protection of the natural resources. The researcher observed that the development of agriculture is essential for the whole economic social improvement of the village or community. And it's essential to stop the development which is opposite or harmful to the nature. Hence, the study on the sustainable development and agriculture will be very essential in this context. Proper implementation of different governmental policies and programmes can be taken place only after knowing current situation of the village. The researcher hopes that this study will be a key towards that.

3. Review of Literature

Vaidyanathan (2000) "Research for Agriculture: Some Current Issues", the article tells about the current issue of Intellectual property rights in agriculture agricultural technology raise issues concerning the strategies and policies for a more dynamic national agricultural research system, the relative roles of public and private sectors and the role of MNC agribusinesses. Who argue in opposition to agreeing to introduce an IPR regime in agriculture and encouraging private zone studies are apprehensive that this may work to the downside of farmers by way of making them increasingly more dependent on monopolistic. We want address issues likely to get up on account of the public-non-public region complementarily and make certain that the public research gadget plays correctly. The tendency to equate the public quarter with the authorities is inaccurate. The public space is a lot wider than authorities departments and consists of cooperatives, universities, public trusts and a spread of non-governmental organizations.

Ellen Wall & Barry Smit (2005) "Climate Change Adaptation in Light of Sustainable Agriculture, Journal of Sustainable Agriculture", this article identifies several climates and climate hazard variation techniques presently. The history of agriculture reflects a sequence of variations to a sizable range of factors from each inner and without agricultural structures. The motive of this newsletter is to demonstrate how sustainable agriculture practices and weather trade adaptation techniques are collectively supportive. An assessment of relevant strategies shows that the two are closely aligned. Many climate and climate hazard management strategies healthy squarely into sustainable agriculture practices and can, consequently, be promoted with several of the applications and policies focused on environmentally accountable manufacturing.

Conclusion: The article concludes that the same time supportive relationship between sustainable agriculture and climate exchange variation might be used to justify more authorities support for sustainable agriculture guidelines and packages.

V. S. Vyas (2001) "Agriculture Second Round of Economic Reforms", this article tells about the bringing economic changes in agriculture. From last few years, there has a major shift in economic. Because many policy measures aimed at liberalization and globalization were started in this period that the former challenges the very basis of planning and policy-making which guided our Indian economic development since independence. We have the old structure and more so the old attitude, at different levels and in different areas of our economy and polity, but a new change happens in our economic policies and development strategies.

What reforms in Agriculture of the slow pace of reforms in the country, policy changes in agriculture were still slower; there were sufficient reasons to take a more cautious approach to economic reforms in the agriculture sector. Reforms in non- farm sectors, and better alignment of Indian currency had a salutary impact on agriculture. Such as the development of technology and creation of infrastructure, were more important for agricultural growth than market-oriented measures.

4. Objectives of the Study

- To understand the agricultural activities and production, crops of the village.
- To find out the natural resources and the problems regarding.
- To understand the agricultural development programmes implementation in the village
- To suggest the programmes for improving the current status of agriculture sector and sustainable development.

Profile of the Study Area

Gulbarga is the one among 30 districts of Karnataka state. In the ancient history it was known as "Kalaburagi" which means the stony land or stone roofing at the time of Bahumani empires rule. It was named as Gulbarga which is having the meaning of "Gul-flower Burg-leaves." It was a Persian word. In 2015 after a lot of attempts of different associations again, it was renamed with its historical name Kalaburagi". It is also one of the three districts which were transferred from the Hyderabad state to Mysore state in 1956. It is geographically situated in the North part of the state; it lies between North latitude 17° 10 and 17° 45 and between East longitudes 76° and 77°. This district is the second biggest districts (Area wise) in the state, covers 8.49% of the area and 5.9% population of the state. It shares its boundary in the East with Medak and Mehabubnagar Districts of Andhra Pradesh, West with Vijaypur district of Karnataka state, and Solapur district of Maharashtra state, North boundary with Bidar districts of Karnataka state, and Osamanabad district of Maharashtra state. South with Yadgir district of Karnataka state and it consist of seven taluka namely Afzalpur, Aland, Chincholi, Chitapur, Gulbarga, Jewargi, Sedam and 10 sub-urban areas (Dr. Nanjundappa Committee Report 2002). The study is done in Gola village of Gulbarga district.

5. Methodology

The researcher will adopt descriptive research design to evaluate the status of agriculture activity in Gola village. In this study researcher followed stratified simple random sampling. The sample size of this study is 130 households out of 852 households of Gola village. The numbers of households are based on the data collected from the Anganwadi teachers. Among all 850 families, General 369 (43%), SC/ST three hundred (35%) and OBC 78 (22%).Out of these all household's researchers selected 54 General, 46 SC/ST and 30 OBC as a sample size of through stratified simple random sampling. Researcher used primary and secondary method of data collection. Primary data includes household survey, interview, and direct observation. Secondary data has been collected from Anganwadi, ASHA worker and Gram panchayath.

Direct interview method with the families in the village and observation of the realities those existing in the village, and discussion with the village people. The tool used for data collection is the social development tool developed by Dr. Channaveer R. M. Dean, school of social and behavioral science and HOD department of social work, Central University of Karnataka.

6. Analysis and Interpretation

Agriculture is the main occupation in Gola village, 75 percentage of the total population in Gola village is depending on agricultural activities. Farmers are cultivating different agricultural activities. They are using both dry land and irrigated land. None of them is cultivating any fruit in Gola village. Because of the land is not capable for fruit cultivation. Lake is the main water resource for agricultural activities. Compare to irrigated land dry land is more in Gola village. And farmers are earning more income from dry land. There are land which is affected land degradation and desertification. Farmers are changing their land from many years for different crops according to the season and the market. 98 percentages of the farmers are aware about agricultural schemes. But nobody is getting any crop insurance from Government. They cut trees and plants for

road construction and other developmental activities. And villagers cut for their individual needs.

In every household there is proper tap system is there. For drinking water villagers are depending on the tap system. Villagers are not using water for any commercial purpose. Water pollution is an important problem in Gola village. There is no waste water treatment in the village. Proper maintenance is the reason for the water pollution in Gola village.

Table 6.1: Agricultural land

Total agricultural land (in Acrs)	Irrigated land (in Acres)	Dry land (in Acres)	Percentage of Irrigated land to Total agriculture land
695	216.5	478.5	31.15 %

The above table explains the agricultural land of 130 households. 695 acres is the total agricultural land, from that 216.5 is irrigated land and 478.5 land is irrigated land. So this date shows Compare to irrigate land dry land is more than double. 31.15 percentages only is the irrigated land in Gola village.

Table 6.2: Total agricultural land use

Total agricultural land(in Acres)	Vegetable Growing land (in Acres)	Fruit growing land (in Acres)
695	26	0

This table describes the total agricultural land use in Gola village. From the 695 Acres, 26 Acres they are used to cultivate vegetables and none of them are not using land for growing fruits. Because of the land is not suitable for fruit growing.

Table 6.3: Land Use

Total agricultural land(in Acres)	Land use change(percentage)	Period / frequency land use change	Land degradation	Land affected by desertification	Arable and permanent crop land area(Acres)
695	56	43.07	4	14	454.5

This table explains the land use change, degradation, desertification, arable and permanent crop land area. From 695 Acres land 56 percentages of people in samples are changing their agricultural in a year many times for different crops. According to the season farmers are changing their land for different crops 43.07 percentages. 14 people land is affected by desertification because of the unsustainable agricultural techniques. Deforestation also is a cause of land desertification.454.5Acres is there in village which is arable and permanent crop land area. That means 65.3 percentage of agricultural crop land area is arable permanent.

Table 6.4: Use of fertilizers

Total fertilizer use efficiency	638
Quantity of fertilizer	13372
Total use of agricultural pesticide	596.5
Quantity of pesticide	556
Fertilizer use in dry land	423.5
Quantity of fertilizer used in dry land	3880
Pesticide used in dry land	399
Quantity of pesticide used in dry land	295
Fertilize used in irrigated land	190
Quantity of fertilizer used in irrigated land	1519
Pesticide used in irrigated land	190.5
Quantity of pesticide used in irrigated land	281.5
Expenditure on agriculture (fertilizer, pesticides, cultivation, crops, harvesting)	2059100
Total agriculture production income Rs.	6437501
Dry land agriculture production income Rs.	3524204
Total irrigated land production income Rs.	2266244
Vegetable production income Rs.	647053
Fruits production income Rs.	0

This table is showing the fertilizer and pesticide use and quantity in different type of land, the expenditure for various agricultural activities of village and the income from different type of land and different type of crops. 423kg farmers are using fertilizer inn dry land and they are using 295kg pesticide in dry land. 190 kg farmers using fertilizer in irrigated land and they but they are using more pesticide in irrigated land. More than 281 kg farmers using pesticide in irrigated land. Farmers are mainly expensing money for fertilizer, pesticide, cultivation, and crops and harvesting. The main production income is from dry land. 54.74 percentages of total production income is from dry land, 35 percentages is from irrigated land and 10 percentages production income is from vegetable production. There is no fruit cultivation is Gola village.

7. Community Data

Demographic

Population of the village	Men population	Women population of the village	Gender ratio of the village	Population growth rate of the village
6251	3341	2910	1000 : 728	1.58

The table describes the population of the village is 6251. Men population of the village is 3341 and women population is 2910.the population growth rate of the village is 1.58. The gender ratio of the village is 1000: 728. For 1000 males 728 females are there in Gola village. Compare to men population women population is 25 percentages in Gola village.

Population

Total area of village(acre)	Density of population
100	62.51

The total area of village residence area is 100acre. 6251 is the total population of the village. From that the density of population in village is that 62.5.

$$\text{Density of population} = \frac{Total\ population\ \ of\ the\ village}{Total\ \ area\ \ of\ \ the\ Village} \times 100$$
$$= \frac{6251}{100} \times 100 = 62.51\%$$

Agriculture and Land

Total agriculture land	6402Acre
Total irrigated land	1800Acrs
Percentage of irrigated land to total agriculture land	28.11
Land use change	YES
Land degradation	489Acre
Land affected by desertification	YES
Arable and permanent cropland area	YES
Fertilizer used efficiency in acre	5800Acre
Quantity of fertilizer	2000 kg
Use of agriculture pesticides in acre	5800Acre
Quantity of pesticide	1000kg

This above table is explaining the total agricultural land, type of land, land use change, using and quantity of fertilizer, use and quantity of pesticide in agricultural land. 6402Acre is the total agricultural land in Gola village, from that 1800 Arce is irrigated means 28.11 percentage is irrigated and in Gola village. Farmers are changing their land for different crops according to the season. 489Acre is affected by land degradation. in village there are land affected by desertification and permanent cropland and arable land also. 5800acre is the fertilizer efficiency land area in village. For 5800 acre land 2000 kg fertilizer is using .but for 5800acre 1000 pesticide is only using. Compare to pesticide using fertilizer is using double in agricultural land.

Forest

Area under forest cover	Percentage of area under forest cover to total area	Deforested area in acre	Percentage of deforested area to total forest area reserved
92Acre	1.4	26	28.26

This table describes the forest information about the village. 92 acre is the total forest area in the village. Only 1.4 percentages is covering forest in the total village. 26 acre is the total deforested area in the village. For the construction of house and road villagers cut the trees, and farmers cut the trees to expand their agricultural land. 28.26 is the percentage of deforested area to total forest area reserved.

Water sources and use

Reserved water sources						Water use intensity in economic activity	Proportion of total water resources used	Waste water treatment
Tap system	Well	Hand pipe	Bore well	Water tank	Lake			
852	10	5	12	3	1	NO	NO	NO

This table is showing the water use and sources of Gola village. Tap system is there in every household. Most of them are using water from tap system. Only 10 well is there in Gola village. But nobody is using the water in well, because water is not good in wells. 5 hand pipes and 12 bore wells are there in Gola village. For washing and cooking villagers are depending bore well water and tap system. There are 3 public water tanks in Gola village. 1 lake is there in Gola village. For agricultural purpose farmers are mainly depending on this lake.

8. Major Findings

- 75 percentage of population in Gola village is engaged in agricultural sector.
- Dry land is more in Gola village compare to irrigated land and farmers are earning more income from dry land.
- Nobody has accessed the agriculture schemes in Gola village.
- None of them is growing any fruit in Gola village.
- Water pollution is a major issue in Gola village. Lack of proper maintenance is the main reason of the water pollution.
- Many farmers having debts on them from banks.

9. Conclusion

This study is conducted to understand agricultural status of Gola village, because the agriculture is the main occupation in Gola village. It is the back bone of the whole Indian economy. Agriculture is a way of life, a subculture, which, for hundreds of years, has fashioned the concept, the outlook, the subculture and the economic lifestyles of the people of India. Agriculture, consequently, is and will continue to be vital to all techniques for planned socio-monetary development of the sustainable development is the interaction between man or women and their environment. It is emerged out of the fear from over exploitation of herbal sources and growing population.

In Gola village the population is 6251, the 75 percentage of total population is engaged in agricultural activities. Both dry land and irrigated land they are using for farming. They are cultivating different crops. But none of them cultivates fruits. The main income is from dry land. They are using different fertilizer and pesticides in their land. Farmers don't have any access to agricultural crop insurance, 98 percentages of farmers are aware about the crop insurance, but no one is getting any benefits from government. Lake is the major water resource in Gola village. All farmers are depends this lake for cultivation. Water pollution is a major issue in Gola village; most of the well is polluted due to lack of proper maintenance. Villagers are depending tap system for drinking water. There is no water using for any economic purpose, and there is no waste water treatment facility in Gola village. Deforestation is another problem in goal village. 28 percentage of total village is deforested for new developmental activities and individual needs.

Government is implementing many policies programs for the development of agriculture and protection of natural resources. But still India agriculture area is not secured, because due to proper implementation process of programs and bureaucrats red tapism. Still farmers are protesting for their rights. So, it's very necessary the growth of agricultural sector, because agriculture is the backbone of Indian GDP. And it is the center of Indian economic development. Protection of natural resource is essential for the present and future generation. Today's environmental problems are largely the consequence of the unsustainable consumption of natural resources and the mismanagement of waste products. Sustainability is about environmental protection, sustained economic growth and social equity. Sustainable

development focuses on improving the quality of life for all. Through awareness, campaign and proper use of natural resources we have to protect the natural resources.

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