

Wet And Dry Agriculture – A Geographical Profile of Kollegala Taluk in Chamaraajnar district in Southern Karnataka**Dr. CHANDRASHEKARA. Y.P.**

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Abstract

Wet and dry land farming's are two important segments of Indian Agricultural system. The dry land and wet land agriculture generally stands at the ratio of 3:1 of the total cultivable land and accounts for about 70 percent (100million ha) of the total cropped area (143 million hactares). However, dry land in the country contributes 40 percent of the total grain production, nearly $\frac{3}{4}$ of the total farm population is engaged in the dry land farming in the country.

The study area is situated in Chamaraajnar district in southern Karnataka. The kollegala taluk lies between 11° 30 minutes and 12° 45 minutes north latitude and 75° 41 minutes and 77° 45 minutes East longitude. The total geographical area of kollegala taluk is only 2785.82 sq K.m with population is about 357853. (2011). With population density of 128 per sq.km.

Introduction

Water is a critical input into agriculture in nearly all its aspects having a determining effect on the eventual yield. Good seeds and fertilizers fail to achieve their full potential if plants are not optimally watered. Adequate availability of water is important for animal husbandry as well. Fisheries are, of course, directly dependent on water resources. India accounts for about 17% of the world's population but only 4% of the world fresh water resources. Distribution of these water resources across the vast expanse of the country is also uneven.

India ranks 2nd world wide in farm output. Agriculture and allied sectors like forestry and fisheries accounted 13.7% of the GDP (Gross Domestic Production) in 2013, and employed 50% of the workforce. The irrigation infrastructure includes a network of canals from rivers, ground water, well based systems, tanks and other rain water harvesting products for agriculture activities. Today ground system is the largest, covering – 160 million ha of cultivated land in India with 39 million ha irrigated by ground water, 22 million ha by irrigated canals and about two third of cultivation in India is still depending on monsoon.

The agriculture system forms the backbone for the economic development of Karnataka. It contributes 37% o the total State domestic product. Karnataka state covers an area of 192204 sq km. Agriculture plays an important role in the growth of Karnataka's economy despite a fall in its share in the state domestic product.

Objectives

The present paper attempts to focus on wet and dry land agricultural systems of the study area. An attempt is made to investigate agricultural scenario in the dry and wet area. With reference to the area under irrigation, intensity, cropping system and crop calendar.

Methodology

The relevant data will be collected by secondary source of information, like government reports, survey settlement records, and published journals

Dry farming in the study area

Kollegal has nearly 28.69 percent of cultivated area under irrigation (22026 ha) and the rest of the area, 12701hr) a little over 71 percent is depending on rainfall. The rainfall is not only low but also not well distributed (see chart 2.2). Besides this, in these areas, water is lost due to the occurrence of run off and excess evaporation. Thus lead to the reduction in the yield of crops and crop failures in certain years. Successful crop production in dry areas envisages soil, water conservation and change in the choice of crop varieties and management practices based on yearly changes in the rainfall pattern.

Average rainfall of the district is 671 mm received over 55 rainy days it varies across seasons and regions. The main source of rainfall in the district is south – west monsoon and the north east monsoon. The district is occupied by shallow and highly readable types of soils, with low moisture retention capacity.

Table - 1 Distribution of Temperature and rainfall in Different Seasons in study area

Seasons	Rainfall		Type of Monsoon	Season	Rainfall In%
	-x Max	-x Min			
June - Sept	29	21	South– West	Kharif	40.47
Oct - Dec	27	18	North- East	Rabi	32.62
Mar- May	35	12	Pre monsoon	Early Kharif	25.77
Jan – Feb	35	18	Hot Weather	Winter	1.14

According to the climatic classification of Thornthwaite, the Chamrajanagar district falls under the semi arid climate where the weather cycle of the region could be classified into four agro climatic seasons as can be seen in the table.

The distribution of rainfall in the district clearly envisages that uniformity is totally absent there by putting the farming community under a state of uncertainty. Nearly 40-47 percent of the rainfall is received during the south west monsoon period in the months of June and September. About 32.62 percent is experienced during north east or retreating

monsoon period between October and December. In the months of March and May 25.77 percent of rainfall occurs as the pre monsoon rainfall or mango shower. The rest 1.14 percent of rainfall occurs in January and February months. Normally due to the development of depression over Bay of Bengal.

Kharif sowing are generally taken- up during June and July and the major crops are finger millet, sorghum, groundnut and minor millets. Cyclones generally occur in late October and November, with adverse effects on paddy harvesting. The period between January and February remains dry with cool weather with little rains.

The study area is basically an agriculture district, more than 70 percent of its inhabitants are directly or indirectly depending on this sector. More than 70 percent of the gross sown area in the district is found in the low rainfed dry area. This dry belt alone contributes 42 percent of the district total food grain out put. This includes to the bulk of its coarse cereal out put of over 80 percent of its oil seeds and pulses out put. Apart from several other agricultural commodities. Large sections of poor farmers consisting of small and marginal landholdings as well as the landless reside and depend on agriculture and the related activities in the dry regions for their livelihood. The development and prosperity of the dry regions holds the key to the dry regions.

Definition of Dry Land Agriculture

Those regions where agriculture is mainly and having little of negligible area under irrigation is considered as dry land. Planning commission has defined the dry land as; “Dry lands are those areas, which receive annual rainfall ranging between 375 mm to 1125 mm and with limited irrigation facilities”. About 128 districts in the country fall under this category. Of the total 128 dry district, 25 districts belong to high intensive dry land areas, 12 districts have been brought under comfortable irrigation position and the remaining 91 districts with mostly dry conditions are mainly spread over the states of Madhya Pradesh, Gujarat, Maharashtra, Andhra Pradesh, Karnataka, Uttar Pradesh, parts of Haryana and Tamilnadu.

Table-2

Dry villages with differences in rain fall classes:				
Name of Taluk	No of dry villages	Rain falls		
		<550	550-650	>650
Kollegala	52	13	13	26

Source: Computed by the author by using the survey of India Toposheet.

The table 2 explains that, between the rainfall category of than 550 and more than 650 of rain fall 52 villages have been identified as dry villages with no irrigation facilities, In Kollegala taluk.

In the rainfall category, 13 villages have been considered as moderate rainfall villages and 26 villages are identified in the rainfall class these villages are only found in Kollegala taluk respectively.

Table -3

No irrigated villages by rainfall distribution				
Name of Taluk	No of wet villages	% village wise Rain falls (in mm)		
		<550	550-650	>650
Kollegala	33	20	08	05

Source: Census of Karnataka, 2011

Nearly 33 villages in the study area have been identified as irrigated villages. Among these 20 villages are identified in the rainfall limit of less than 550 mm. Another 08 wet villages come under the category of 550-650 mm of isohyets line. Remaining 05 villages come under the rainfall category of more than 650 mm.

Taluk wise irrigated Unirrigated areas

Chamarajanagar district is predominantly an agricultural district. It comprises of 569901 ha of total geographical areas of which 61210 ha is belongs to irrigated and 136571 ha is identified as un irrigated lands (see table 2.4)

Table- 4: Irrigated and Un-irrigated areas

Taluks	Total Geographical Area	Irrigated	Un Irrigated
Kollegala	279743	22026 (7.8)	40060 (14.32)
Chamarajanagara (District)	569901	61210 (29.11)	136571 (30.12)

Source: District at a Glance – 2011

The total geographical area of the Kollegala taluk is 279743 ha. Out of which 22060 ha identified or irrigated land and 40060 ha identified as Un- irrigated land.

Crop Calendar

To give an idea of the crop calendar for the study area the crops by soils and seasons are listed below; the list makes possible to get an understanding of the different agricultural seasons and crops grown under irrigated and dry conditions in the district.

The major crops grown in the dryer and wetter parts of the district are rice, sugar cane, jowar, ragi [finer millet] pulses, oil seeds and a variety of vegetables and fruits such as Banana, Mango, Guava are also cultivated. In Kollegala taluk, Yellendur is famous for its Jasmine and betal leaves. In recent year's turmeric is also being cultivated in coconut gardens. Coconut occupies the major area among the above said crops.

Irrigated crops

Chamarajanagara district has a net work of canal system in the part of Kollegala. The canal system which provides a net irrigation to nearly 4215 hectare. Important Irrigated crops in the taluk are Rice, sugarcane ,vegetables and fruits.

Conclusion

The study deals with the analyses of dry land and wet land agriculture systems of Kollegala taluk of Chamarajanagar Distirct of Karnataka state, India. It is well understood by experience that dry lands are on for with wet irrigated land production, in this context the study attempts to cross check the various factors of production of these two agrarian system for a better living.

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