

A Study on Production and Productivity of Dry Land Crops in Tamil Nadu

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ABSTRACT

Dry land systems of ecosystem are characterized by lack of water. They include cultivated lands, scrublands, shrub lands, grasslands, savannas, semi-desert and true deserts. The lack of water constrains leads to low production of crops, forage, wood, and other ecosystem services. The main objective for this study was to analysis area, production and productivity of dry land crops in Tamil Nadu. This study intends to use secondary source of information. The secondary data had been used for the study purpose. The data was referred for in various issues of SHB from 2001-02 to 2014-2015. In overall performance of growth in area, production and productivity of dry land crops in Tamil Nadu was observed that the area under Cholan, Cumbu, Ragi, Groundnut and Gingili decreased. Whereas production and productivity of Cholan, Cumbu, Ragi, Groundnut and Gingili increased. Over the period of time at reference (2001-02 to 2014-15).

Key Words: Dry Land Crops, Ago System, Area, Production, Productivity

1. INTRODUCTION

The earth's land surface is covered by dry lands farming by about 41 per cent which happens to be by 2 billion people (about one third of world population). Dry lands were areas with low soil moisture, high evaporation or transpiration which results in water deficit prevailing throughout the year. The dry lands were not equally distributed between the rich and the poor nations. About 72 per cent of the global dry land are in the developing nations and rest of 28 per cent fall in industrialized nations. In a country like India, where 44 per cent of the total food production being supported by dry lands and thereby playing a critical role in nation's food security. With the increasing population food production had to be increased. A real need to second green revolution had been envisioned, which could be achieved by improving the dry land agriculture. Geographically dry land agriculture area in India includes the north western desert regions of Rajasthan, the plateau region of central India, the alluvial plains of Ganga, Yamuna river basin, the central highlands of Gujarat, Maharashtra and Madhya Pradesh, the rain shadow regions of Deccan in Maharashtra, the Deccan Plateau of Andhra Pradesh and the Tamil Nadu. Dry land Agriculture refers to growing of crops entirely under rain fed conditions. Based on the amount of rainfall received, dry land agriculture can be grouped into three categories:

- **Dry Farming:** Cultivation of crops in areas where rainfall is less than 750 mm per annum
- **Dry land Farming:** Cultivation of crops in areas receiving rainfall above 750 mm
- **Rain fed Farming:** Cultivation of crops in regions receiving more than 1,150 mm.

SOIL MOISTURE DYNAMICS IN DRY LAND

During rainy period, a portion of the rain received goes as runoff and remaining part enters the soil. It generally percolates to the lower layers and sometimes, goes beyond the root zone of crops. After the rain, the surface soil gradually dries out either due to evaporation or transpiration or due to both. The dry areas of the developing world presently occupy over 40 Per cent of the earth's land surface and were home to approximately 2.5 billion people. These regions struggle to provide sufficient food for their growing populations and face a series of daunting physical and demographic challenges like high poverty levels and unemployment, rapid urbanization, severe water scarcity, and land degradation. Unfortunately, many of these problems and constraints were expected to worsen as a result of climate change. "Making the desert bloom" had never been a harder challenge. Dry lands will increase.

DEFINITION DRY LAND

Dry land systems are ecosystems characterized by a lack of water. They include cultivated lands, scrublands, shrub lands, grasslands, savannas, semi-deserts and true deserts. The lack of water constrains leads to poor production of crops, forage, wood, and other ecosystem services.

CROPPING PATTERN

Cropping pattern is defined as the spatial representation of crops rotations, or as the list of crops that were being produced in an area and their sequence in time.

2. OBJECTIVES

To study the area, production and productivity of dry land crops in Tamil Nadu.

3. METHODOLOGY

This study intends to use secondary source of information. The secondary data had been used for the study purpose only. In order to analyze the growth rate, area, production, and yield or productivity of dry land crops were collected from publications like Statistical Hand Book of Tamil Nadu. Office of the Assistant Director of Statistics, Department of Economics and Statistics Chennai. The referred period for the collection of data was from 2000-01 to 2014-15. For the present study.

4. RESULTS AND DISCUSSIONS

The result of growth estimation of total area, production and productivity of dry land crops in Tamil Nadu during reference period was discussed below. In order to identify the significant role and the economic status of dry land crops in the Tamil Nadu

**AREA OF DRY LAND CROPS IN TAMIL NADU 2001 – 02 TO 2014 – 2015.
(HECTS,'000')**

YEAR	CHOLAM	CUMBU	RAGI	GROUNDNUT	GINGILI
2001-02	317	125	125	663	84
2002-03	320	102	104	502	64
2003-04	402	159	118	592	84
2004-05	377	98	109	616	73
2005-06	316	82	100	619	65
2006-07	294	66	95	508	53
2007-08	284	60	94	535	74
2008-09	259	57	90	490	64
2009-10	238	54	82	413	63
2010-11	243	49	76	386	48
2011-12	198	47	83	386	43
2012-13	211	43	70	339	33
2013-14	347	54	119	337	57
2014-15	415	58	104	337	64

Source: Department of Economics and Statistics, Chennai – 600006.

TABLE NO 1

Table.1 pertains to the data of area under dry land crop in Tamil Nadu during 2001-02 to 2014-15. The area under the dry land crop Cholan increased during the reference period, which was increased from 317 hectares in 2001-02 to 415 hectares in 2014-15. The area of Cumbu had been decreased during the reference period. Which had decreased from 125 hectares 2001-02 to 58 hectares in 2014-15. Other dry land crop like Ragi, Groundnut and Gingili was also decreased during the reference period which had been decreased from 125 hectares 2001-02 to 104 hectares 2014-15 for Ragi followed by Groundnut 663 hectares 2001-02 to 337 hectares 2014-15 and Gingili 84 hectares 2001-02 to 64 hectares 2014-15.

**PRODUCTION OF DRY LAND CROPS IN TAMIL NADU (2001-02 TO 2014-15).
(‘000’ TONNES)**

YEAR	CHOLAM	CUMBU	RAGI	GROUNDNUT	GINGILI
2001-02	275	153	235	1250	46
2002-03	211	89	140	717	28
2003-04	246	172	176	918	29
2004-05	252	124	154	1005	34
2005-06	231	95	132	1098	31
2006-07	294	99	148	1006	27
2007-08	248	86	176	1045	32
2008-09	213	84	170	975	32
2009-10	222	83	161	890	29
2010-11	247	77	171	896	25
2011-12	253	114	225	1061	26
2012-13	175	57	138	786	17
2013-14	513	117	362	916	34
2014-15	869	178	350	925	44

Source: Department of Economics and Statistics Chennai – 600006.

TABLE NO 2

In Table 2. The data of Production in dry land crop for Tamil Nadu during 2001-02 to 201-15 was presented. The production under the dry land crop Cholam had been increasing during the reference period and which was increased from 275 tonnes in 2001-02 to 869 tonnes in 2014-15. The production of Cumbu had been increasing during the reference period which had been increased from 153 tonnes 2001-02 to 178 tonnes in 2014-15. The production under the Ragi crop had been increased during the reference period which was increased from 235 tonnes in 2001-02 to 350 tonnes in 2014 -15. The production under the Groundnut had decreased during the reference period and the decrease was from 1250 tonnes in 2001-02 to 925 tonnes in 2014-15 and the production Gingili had also decreased during the reference period, which was 46 tonnes in 2001-02 to 44 tonnes in 2014-15.

**PRODUCTIVITY OF DRY LAND CROPS IN TAMIL NADU (2001-02 TO 2014-15).
(KG. /HEC)**

YEAR	CHOLAM	CUMBU	RAGI	GROUNDNUT	GINGILI
2001-02	866	1223	1883	1885	548
2002-03	660	869	1344	1429	435
2003-04	612	1085	1489	1552	346
2004-05	669	1273	1416	1632	465
2005-06	732	1157	1325	1775	469
2006-07	999	1511	1552	1981	519
2007-08	874	1436	1878	1957	433
2008-09	824	1483	1887	1990	506
2009-10	931	1519	1955	2169	463
2010-11	1014	1564	2262	2323	527
2011-12	1277	2453	2716	2751	613
2012-13	830	1316	1963	2314	518
2013-14	1479	2158	3053	2721	596
2014-15	2093	3077	3348	2753	697

Source: Department of Economics and Statistics Chennai – 600006.

In Table 3. The data of productivity in dry land crop for Tamil Nadu 2001-02 to 2014- 15. Was presented The productivity under the dry land crop Cholam had been increasing during the reference period and which was increased from 866 Kg/Hectares in 2001-02 to 2093Kg/Hectares in 2014-15. The production Cumbu had been increasing during the reference period, which had increased from 1223 Kg/hectares in 2001-02 to 3077 Kg/hectares 2014-15. The production under the Ragi crop had been increased during the reference period, which was increased from 1883 Kg/Hectares in 2001-02 to 3348 Kg/Hectares 2014-15. The production under the Groundnut had increased during the reference period and the increased was from 1885 Kg/Hectares in 2001-02 to 2753 Kg/Hectares 2014-15 and the production of Gingili had also increased during the reference period, which was 548 Kg/Hectares in 2001-02 to 697 Kg/Hectares 2014-15.

5. CONCLUSION

In overall performance of growth in area, production and productivity of dry land crops in Tamil Nadu was observed that the area under Cholam, Cumbu, Ragi, Groundnut and Gingili decreased. Wher as production and productivity of Cholam, Cumbu, Ragi, Groundnut and Gingili increased. Over the period of time at reference (2001-02 to 2014-15).

6. REFERENCE

- [1] Gunnell, Y. (2003).”**Past and present status of runoff harvesting systems in dry land peninsular India**” *A critical review.Ambio*. Vol. (3), No. (2), Pp: 320-324.
- [2] Shafi, M. and Raza, M. (1987).”**Dry land agriculture in India**”. *In Dry land agriculture in India. Rawat Publications, Jaipur (RAJASTHAN) INDIA*, Vol. (3), No. (2), Pp: 820-825.
- [3] Singh, H.P., Sharma, K.P., Reddy, G.S. and Sharma, K.L.(2004).”Dry land Agriculture in India”. *Challenges and strategies for dry land agriculture. Crop Science Soc of*, Vol. (13), No. (2), Pp: 62-89.
- [4] Sastry. G., Reddy. Y.V. R., Prakash. Om and Singh H.P. (2003), “**Reshaping of Dry land Agriculture Watershed Management Programmes in Different of India**”, *Agricultural Situation in India*, Vol. (60), No.(8), Pp.503-510.
- [5] Rama Krishna R. and Tata Rao D. (2008), “**Strengthening Indian Agriculture through Dry land farming: Need for Reforms**”, *Indian Journal of Agriculture Economics*. July – September, Vol. (63), No. (3), Pp. 460-476.