



**SURVIVAL STRAGIES DURING DROUGHT:
A STUDY OF RAYALASEEMA REGION OF ANDHRA PRADESH**

Dr. Anitha Manne

Associate Professor,

Dept. of Economics,

Yogi Vemana University, KADAPA YSR District-516005

ABSTRACT:

Climate-related natural disasters such as drought, flooding, storms and tropical cyclones are the principal sources of risk and uncertainty in agriculture. The wide variations in agricultural output that have occurred throughout human history testify to the fact that farming is an economic activity dependent on the vagaries of weather. As a result, climatic variations significantly impact the livelihood of millions and particularly poor and vulnerable people. In India, 35 percent of the area receives rainfall between 750 mm and 1100 mm, and is considered as drought prone. In the arid and semi-arid regions in the nation, where rainfall is low at rainy times and abnormally low every few years, the drought is considered as a normal function of life. The present study attempt has been constituted to assess the coping mechanism strategies of the dryland farmers in Rayalaseema region. The state of Andhra Pradesh is conventionally splits into two geographical regions, one is Coastal Andhra and another one is Rayalaseema region, also the region comprises four districts namely Anantapur, Chittoor, Kadapa and Kurnool. The performance of agricultural sector in Rayalaseema region has great impact on people living on dryland agriculture.

Key words: *Coping strategies, Natural Disaster, Drought and Dryland Agriculture*

INTRODUCTION:

Famine may be distinguished from 'drought' and scarcity'. Former denotes dryness of weather or climate or lack of rain and latter denotes insufficiency of food. Drought and scarcities are generally confined to limited

localities and for shorter period of time (**Sorokin P.A., 1946**). Rural households, particularly in the arid and semi-arid areas of India routinely plan for and manage uncertainty associated with regular seasonal fluctuations and periodic drought-induced crises. These uncertainties pose particular hardships for the poor who face chronic vulnerability in terms of their access to resources. In fact, the lives of the poor in India have been characterized by the almost total absence of security (**Dreeze and Sen 1988**). People's Strategies to Cope with Climate Variations are shown in the following Table. The present study an attempts is made to examine the coping strategies during drought situation of dryland farmers in 24 villages of 12 selected mandals in Rayalaseema region of Andhra Pradesh.

Ex-ante (Based on Expectation)	Ex-post (Based on event Realization)
<ul style="list-style-type: none"> ➤ Diversify crops, livestock ➤ Occupational diversity ➤ Invest or disinvest in irrigation, fertilizer etc. ➤ Accumulate assets ➤ Purchase crop or weather insurance ➤ Make share cropping contract ➤ Arrange to share with family, community ➤ Diversify income sources 	<ul style="list-style-type: none"> ➤ Reduce or intensify inputs ➤ Change crops ➤ Depend on irrigation sources ➤ Buy or sell assets ➤ Receive or provide transfers ➤ Seek non-agricultural employment ➤ Migration

Source: Subbiah, 2004

REVIEW OF EARLIER STUDIES:

Ray Motha (**2000**), emphasized with the establishing an effective national drought information delivery system, a coordinated effort must be undertaken to bring more systematic data networks to rural and tribal areas. A comprehensive information gateway must be established to provide users with free and open access to observational network data and drought monitoring, prediction, impact, assessment, preparedness and mitigation measures. The key elements of an effective national drought policy include planning, proactive mitigation, risk management, resource stewardship and public education. All of these elements

require detailed knowledge of observational data and research products that form the foundation for efforts to reduce drought impacts on society.

K N Selvaraj, C Ramasamy (2006) explained the drought scenario in the State of Tamilnadu. Rainfall, groundwater availability, reservoir levels and crop conditions determine the nature and extent of drought in the state. Tamil Nadu has eight drought-prone districts covering 8,33,997 km, or about 64 per cent of the total area of the state. The southern zone of Tamil Nadu is under the rain shadow region, having prolonged dry climate. Drought occurs frequently in Tamil Nadu and in the districts, namely, Ramnathapuram, Thiruvallur, Coimbatore and Sivagangai. However, is on the earnings of agricultural labourers, who make up about one-third of rural population (as per the 2001 Census agricultural labourers constitute 9.42, 11.39, 9.80 and 13.95 per cent of the total population respectively in Coimbatore, Ramnad. Thiruvallur and Tamil Nadu). It was noticed in the study villages that when the crop is struck by drought and starts to wither farmers have no option but to cut it as soon as possible and sell it as feed for cattle. For agricultural labourers this means not only untimely work at a fraction of the normal wage rate, but also the disappearance of an entire chain of post-harvest operations that would have given them a daily cash flow throughout the period. Migration is often common among the households due to crop failure and low wage rate.

OBJECTIVES:

1. To study the coping strategies of the farmers during drought.
2. To analyses the various seasonal straggles adopted by different households.

METHODOLOGY:

Rayalaseema region was selected purposely for the present study on Dryland Agriculture. Rayalaseema region consists of four districts namely Anantapur, Chittoor, Kadapa and Kurnool. Each district has been divided into three revenue divisions. In each division, one Mandal is selected and in each Mandal two villages are selected for the study, four districts and twelve Mandals and

twenty four villages have been selected randomly. The total sample size was 600 farm households. The data were tabulated through Statistical SPSS and tables were drawn through cross tabulation in the following pages, the results of the survey data and analysis are presented.

COPING STRATEGIES WITH DROUGHT:

Before going to analyze the strategies adopting by farmers, the total rainfed area of Rayalaseema is explained in the table 1. The table clearly shows that dryland agriculture accounts for about 74.20 percent of its cultivated area. The part of the area of dryland agriculture to the total cultivated area is lowest in Chittoor district 52.79 percent and the highest in Anantapur district 83.67 percent, the latter is followed by Kurnool district 79.20 percent and Kadapa district 60.93 percent. The agricultural economy of the Rayalaseema region today stands at crossroads. Out of 75 percent of rainfed area only 25 percent of area is under irrigated in the study area. The major source of irrigation of the region is well i.e., tubewells. Most of the cultivators nearly 82 percent and all the agricultural labourers are under pressure by stagnation. The mainstream of small and marginal farmers has already been pushed under the poverty line what the study observed.

Table 1: District wise Rainfed area in Rayalaseema region from 2015-16
(Area in Hectares)

Districts	Net Sown Area	Net Irrigated Area	Net Un-irrigated Area	% to Rainfed area	% to Net irrigated area
Anantapur	849106	138652	710454	83.67	16.32
Chittoor	371644	175452	196192	52.79	47.20
Kadapa	340271	132919	207352	60.93	39.06
Kurnool	851882	175304	676578	79.42	20.57
Andhra Pradesh	2412903	622327	1790576	74.20	25.79

Source: Directorate of Economics & Statistics, Government of Andhra Pradesh.

Note: Net Un-irrigated area= Net Sown Area- Net Irrigated.

Table 2: Strategies adopted in agricultural operations-wise

Name of the District	Grow drought resistant crops	Mix crops growing	Late growing	Less use fertilizers	Other preparation	No other preparation	Total
Anantapur	16 (5.6)	24 (8.4)	17 (5.9)	11 (3.8)	6 (2.1)	6 (2.1)	80 (27.9)
Chittoor	17 (5.9)	17 (5.9)	12 (4.2)	7 (2.4)	4 (1.4)	6 (2.1)	63 (22.0)
Kadapa	19 (6.6)	26 (9.1)	13 (4.5)	15 (6.89)	1 (0.3)	3 (1.0)	77 (26.8)
Kurnool	21 (7.3)	19 (6.6)	10 (3.5)	9 (3.1)	3 (1.0)	5 (1.7)	67 (23.3)
Total	73 (25.4)	86 (30.0)	52 (18.1)	42 (14.6)	14 (4.9)	20 (7.0)	287 (100.0)

Source: Field Data

Figures inside parentheses are percentages

Famers in all 24 villages, which have been surveyed, have described various kinds of adaptability to manage with drought. Table 2. Most of the farmers are adopted the seeds as drought tolerance variance particularly in the case of groundnut. Groundnut is the major crop of these four districts. There are Four districts in the Rayalaseema region, they are Anantapur, Chittoor, Kadapa, Kurnool. Anantapur is arid region, rest of the three Districts are under semi-arid situation.

Table 3: Respondents Diversification of Occupation

Occupational diversification	Anantapur	Chittoor	Kadapa	Kurnool	Total
Dairy	14 (28.57)	12 (24.48)	13 (26.53)	10 (20.42)	49 (100.0)
Private service	1 (33.33)	1 (33.33)	0 (0.0)	1 (33.33)	3 (100.0)
Animal Husbandry	20 (29.85)	14 (20.89)	18 (26.86)	15 (22.38)	67 (100.0)
Business	5 (15.62)	9 (28.12)	14 (43.75)	4 (12.5)	32 (100.0)
Agricultural Labour	23 (31.08)	18 (24.32)	14 (18.91)	19 (25.67)	74 (100.0)
Fishery	5 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (100.0)
Total	68 (29.56)	54 (23.47)	59 (25.67)	49 (21.30)	230 (100.0)

Source: Field Data

Figures inside parentheses are percentages

In Rayalseema as in many villages the traditional economy was organized largely along caste lines. The above table clearly shows that the cultivators diversify their occupation like agricultural labor in general; afterwards they are opting dairy farming. Most of the small and marginal landholding cultivators informed that they shifted their occupation and played in different activities such as construction of building workers and as Mahatma Gandhi National Rural Employment Guarantee workers.

CONCLUSION:

A large number of neighborhoods in India are characterized as dry lands where conventional rain-fed agriculture is practiced. In this context, many disciplines is focused on the livelihood and poverty and the consequences of dependence on dry land agriculture with a focus on socio-economic aspects. Problems such as rural poverty and livelihood of small holdings differ from region to region and the intensity varies from person to person. Area specific and in depth studies agricultural distress in dry land regions are a few in number and time has come for researchers and academicians to conduct detailed analysis of distressed conditions of farm households in dry land farming.

The major finding of the present study is that, migration is an important coping mechanism adopted by the sample households during the crisis. The outcome shows that out of 600 farm households around 182 (30.4 percent) farmers migrated, whereas approximately 7 percent migrate out in Kurnool district, in order to cope with the distress situation - the pace of migration was noted to be higher in Anantapur and Kadapa districts compared to Chittoor district.

Diversity in occupation through development of dairy farming, poultry farming, agro based village industries may be of great help in keeping the people busy during off season and drought period.

Short term protective policies are like provision of drinking water, adequate supplies of food grains through fair price shops, provision of fodder and fodder. In long term preventive policies the main cause of drought is inadequacy of irrigation, a plan for development of scarcity prone areas should ensure

maximum increase and in addition, following tube well and lift irrigation schemes to enhance the farmers to sustain.

REFERENCES CITED:

1. **District Handbook statistics of Anantapur, YSR Kadapa, Kurnool and Chittoor District.**
2. Dreeze J and Sen A.K.(1988) "Public Action for Social Security: Foundation and Strategy", paper prepared for STRICTED/WIDER Workshop on Social Security in Developing Countries, London: London School of Economics.
3. K. N. Selvaraj and C. Ramasamy (2006), Drought, Agricultural Risk and Rural Income: Case of a Water Limiting Rice Production Environment, Tamil Nadu , Economic and Political Weekly, Vol. 41, No. 26 (Jun. 30 - Jul. 7, 2006), pp. 2739- 2746 :URL: <http://www.jstor.org/stable/4418402> Accessed: 29-06-2017 04:38 UTC
4. Ray Motha. "Recommendations on Drought Monitoring by the U.S. National Drought Policy Commission" Proceedings of an Expert Group Meeting, Lisbon, Portugal, 2000.
5. Sorkin P.A. (1963) Man and Society of Calamity, New York: E.P. Dulton &Co.Inc, 1946, p.13.
6. Subbaiah A.R. (2004), State of the Indian Farmer, Academic Foundation, New Delhi, association with Ministry of Agriculture, Government of India