North Asian International Research Journal of Multidisciplinary

IRJIF IMPACT FACTOR:7.001

ISSN: 2454-2326 Vol.11, Issue, 9 September-2025

Index Copernicus Value: 58.12 Indian Citation Index

NAIRJC UGC-Aligned | HEI-Approved

IMPACT OF DROUGHT: MIGRATION AND ITS CONSEQUENCES IN RAYALASEEMA REGION OF ANDHRA PRADESH

***DR. B. DORA BABU**

**Dept. of Economics and Applied Economics, Sri Krishna Devaraya University, Anantapuramu.*

ABSTRACT

A drought is a period of time when an area or region experiences below-normal precipitation. The lack of adequate precipitation, either rain or snow, can cause reduced soil moisture or groundwater, diminished stream flow, crop damage, and a general water shortage.In India, thirty five 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 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. 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. 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.

1. INTRODUCTION

A drought is a period of time when an area or region experiences below-normal precipitation. The lack of adequate precipitation, either rain or snow, can cause reduced soil moisture or groundwater, diminished stream flow, crop damage, and a general water shortage.In India, thirty five 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 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. 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. 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. we can control drought choose a water-efficient irrigation system such as drip irrigation for your trees, shrubs, and flowers. Turn irrigation down in fall and off in winter. Water manually in winter only if needed. Put a layer of mulch around trees and plants to reduce evaporation and keep the soil cool.

2. RAYALASEEMA REGION:

Rayalaseema Region is located at the heart of Deccan plateau (in South India) is arid, semi-arid and chronically drought-prone for centuries. This backward region has a dubious distinction for twin problems of drought and poverty. It is the second most driest region in India after Rajasthan. This geo-political region consists of 4 districts i.e., Anantapur, Cuddapah, Chittoor and Kurnool. The region has a geographical area of approx 67.29 lakh ha. and has a population of 130 Lakhs. The cultivated area is 24.16 lakh ha. of which only 5.57 lakh ha 23% area is irrigated with underground water and some river water. It has 14.9 lakh ha. (22%) under forest land mostly without tree cover. The groundwater irrigation as well as river water irrigation is also undependable in the region. There is very little industry in the region and livelihoods are dependent on mostly rainfed farming which is prone for very frequent droughts. The annual average rainfall in this region ranges from about 350 mm to about 650 mm from both South-West mansoon (from June to September) and North-East mansoon (from October and November). The region cosists of predominantly (85%) small and marginal farmers mostly from poor and marginalized communities. From the year 1876 till 1975, in 100 years 64 years received less than normal rainfall and had witnessed more than 50 drought years including severe famines. In 1876 the region experienced a severe famine where in it was believed that almost 40% of the population died of hunger.

3. CAUSES FOR DROUGHT AND FAMINE IN RAYALASEEMA REGION

Due to poor rainfall this monsoon, Rayalaseema region in Andhra Pradesh is staring at a drought-like situation. The groundwater level in the region has just risen to 0. 24% owing to the deficit rainfall. There is a deviation of 42% rainfall, according to the groundwater department. Drought is one of the most frequently occurring national disasters in India. Due to erratic rainfall in Rayalaseema, the drought was found as an uninvited guest in the region. Rayalaseema of Andhra Pradesh which is historically known as 'Stalking ground of famines' Droughts are a fact of life in Rayalaseema, the arid western region of Andhra Pradesh comprising the four districts of Kurnool, Anantapur, YSR Kadapa and Chittoor. The district of "Anantapur" in Andhra Pradesh is often affected by droughts.

a. Why is Anantapur drought

Even though as per IMD data the district received deficient or scanty annual rainfall on 10 of the 20 years since 2000, the government declared Anantapur drought-affected in 18 of these years as rains were unevenly distributed within the district.

b. What are the main effects of drought

Drought can **limit the growing season and create conditions that encourage insect and disease infestation in certain crops**. Low crop yields can result in rising food prices and shortages, potentially leading to malnutrition. Drought can also affect the health of livestock raised for food.

c. Who is responsible for drought

Droughts are caused by **low precipitation over an extended period of time**. Atmospheric conditions such as climate change, ocean temperatures, changes in the jet stream, and changes in the local landscape are all factors that contribute to drought.

4. NATURAL AND HUMAN CAUSES OF DROUGHT:

1) Land and water temperatures cause drought.

As overall temperatures increase more water evaporates and severe weather conditions increase. Landscapes and crops need more water to survive and overall the demand for water increases. This is why it is so important to consider changes in ET when discussing water savings. You might be using more water or less water depending on weather conditions.

2) Air circulation and weather patterns also cause drought.

Key events like El Nino or La Nina help contribute to drought in areas. All the water we ever had we have today and it is stored in the air or on land. Weather patterns move the water in the air around. This is constantly changing.

3) Soil moisture levels also contribute to drought.

When soil moisture is depleted there is less evaporation of water to create clouds. Surface temperatures rise, more water is needed and less is available which contributes to a more severe drought.

4) Drought can also be a supply and demand of water issue.

When a region is growing rapidly the demand for water can exceed the supply. When weather conditions, temperatures or air patterns push a region toward a drought the demand for water by people can offset or worsen the situation depending on how the region reacts. Excessive irrigation is an excellent of people contributing to a drought.

5) If the timing of water doesn't match the agricultural season you may have too much water when you don't need it and too little when you do need it.

Proper storage and collection of water is key to counter balancing this cycle and clearly in the scope of human management. Severe droughts also impact the migration of people. As countries continue to protect their natural resources people will move to water. The amount and timing of the movement can contribute to water issues not previously felt before.

5. VARIOUS CAUSES OF DROUGHT

1. Natural causes

Some droughts have occurred naturally, plaguing humankind throughout much of our history. Until recently naturally occurring droughts were often natural phenomena triggered by cyclical weather patterns, such as the amount of moisture and heat in the air, land, and sea.

2. Altered weather patterns

The distribution of rainfall around the world can also be impacted by how air circulates through the atmosphere. When there is an anomaly in surface temperatures, particularly over the sea, air circulation patterns are altered. This changes how and where precipitation falls around the world and the new weather patterns will most likely throw water supply and demand out of sync, as is the case when earlier-than-usual snowmelt reduces the amount of water available for crops in the summer.

3. Excess water demands

Drought can also result because of an imbalance in the supply and demand of water. As the global human population continues to balloon, and intensive agricultural practices continue to be employed, more water is required to sustain the human race as well as the agricultural practices. This continues to tip the scales, making droughts a reality with each passing day.A study estimated that between 1960 and 2010 the human consumption of water increased the frequency of drought in North America by 25%. The situation is worsened by dwindling rainfalls, forcing people to pump more water from rivers, aquifers and reservoirs. Doing this depletes valuable water resources that could take years to replenish and could permanently impact future water availability.

At the same time, demand for water supplied by upstream lakes and rivers, particularly in the form of irrigation and hydroelectric dams, leads to the diminishing or drying out of downstream water sources, further contributing to droughts in other regions

4. Deforestation and soil degradation

Trees and plants are important as they release moisture to the atmosphere, resulting in clouds forming and rainfall falling, returning the moisture to the ground. Unfortunately, the human race is the best at destroying these natural resources. When forests and vegetation disappear, less water is available to feed the water cycle, making entire regions more vulnerable to drought. Meanwhile, deforestation and other poor land-use practices, like intensive farming, continue to diminish soil quality and reduce the land's ability to absorb and retain water. As a result, soil dries out faster, inducing agricultural droughts, and less groundwater is replenished, contributing to hydrological drought.

5. Global warming

As the name suggests, the planet is being warmed at alarming rates and could result in droughts. Global warming is mostly associated with human activity such as releasing greenhouse gases which cause a trapping effect, causing global temperatures to rise.

6. Climate change

Rising temperatures have the effect of making wet regions wetter and dry regions drier. For wetter regions, warm air will absorb more water, leading to larger rain events while in more arid regions, warmer temperatures mean water evaporates more quickly. Climate change also alters large-scale atmospheric circulation patterns, causing a shift in storm tracks off their typical paths. This, in turn, magnifies weather extremes, which is one reason why climate models predict the already parched U.S. Southwest and the Mediterranean will continue to get drier.

6. TYPES OF DROUGHT

- **Meteorological Drought**. When dry weather patterns dominate an area.
- **Hydrological Drought**. When low water supply becomes evident in the water system.
- **Agricultural Drought**. When crops become affected by drought.
- **Socioeconomic Drought**. ...
- **Ecological Drought.**

Table No. 1

District wise Rainfed area in Rayalaseema region from 2015-2016

(Area in Hectares)

SI. NO.	Districts	Net Sown Area	Net Irrigated Area	Net Unirrigated Area	% to Rainfed area	% to Net irrigated area
1	Anantapur	849106	138652	710454	83.67	16.32
2	Chittoor	371644	175452	196192	52.79	47.20
3	Kadapa	340271	132919	207352	60.93	39.06
4	Kurnool	851882	175304	676578	79.42	20.57
5	**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.

The above 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.

7. MEASURES TO FIGHT DROUGHTS IN INDIA

1. Proper implementation of MGNEREGA wage days and timely payment.
2. Arrangement of drinking water tankers for basic requirements.
3. Medical support in affected areas. ...
4. Proper implementation of PDS supplies.
5. Support with the help of NGO's and other local bodies to control the situation.

The governments help with droughts these include: Water storage and transfer developments; Water infrastructure such as dams and conveyance pipelines will be developed to redistribute water over time and space; Review and promulgate restrictions within the legislation to restore and protect ecological infrastructure.

8. EFFECTIVE SOLUTIONS TO DROUGHT

1. Harvesting rainwater

This is an easy solution to droughts and can be employed with ease at home. With rainwater harvesting, homes can store the water they get from rain and then use it when they need it in dry conditions, rather than exhausting present water bodies like rivers. If a house has a primary water source, then rainwater harvesting provides them with an auxiliary option that they can use when water is not available.

2. Planting more trees and combating deforestation

This is something that needs to be employed by everyone in the world and can result in billions of trees planted daily. It is a piece of old-age advice but still applies today. Planting more trees will improve the quality of the environment and increase the success of precipitation.It can also reverse the drought and arid conditions of an area if the trees are maintained well until maturity. With planting more trees, the other solution is to avoid the existing ones, unless more are planted.

For instance, the Amazon in South America is being destroyed at alarming rates, and scientists have warned that decades of human activity and a changing climate will bring the jungle near a “tipping point.” The deforestation coupled with forest fires and global temperature rises will soon result in the water cycle being irreversibly broken and locking in a trend of declining rainfall and longer dry seasons that began decades ago.

3. Switching to renewable energies

We have, for long, relied on non-renewable sources for our energy, like petroleum. The extraction and use of these energies results in more greenhouse gases being pumped into the atmosphere, resulting in global warming, and of course droughts. The alternative is to switch to renewable sources like wind and solar, which have little to no effect on the environment and will not result in droughts.

4. Stricter government policies

These can be used at the local, national, regional and international levels. Stringent laws need to be implemented on those who use practices that can result in droughts or other environmentally damaging results. Doing this will stop climate change and solve the ongoing droughts. They include limiting the amounts of greenhouse gases being pumped into the atmosphere and higher taxes for non-compliance.

5. Becoming environmentally conscious

This includes educating the younger generation on the need to protect, preserve and improve the environment, recycling, reusing and planting more trees. The education curriculum, the news media and companies also need to stress the need to care for the environment, so that it becomes an individual task to prevent droughts.

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 dryland 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. migration is an important coping mechanism adopted by the 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 faming, agro based village industries may be of great help in keeping the people busy during off season and drought period. we can control drought choose a water-efficient irrigation system such as drip irrigation for your trees, shrubs, and flowers. Turn irrigation down in fall and off in winter. Water manually in winter only if needed. Put a layer of mulch around trees and plants to reduce evaporation and keep the soil cool. This includes educating the younger generation on the need to protect, preserve and improve the environment, recycling, reusing and planting more trees. The education curriculum, the news media and companies also need to stress the need to care for the environment, so that it becomes an individual task to prevent droughts.

REFERENCE:

1. International Journal of Multidisciplinary Educational Research.ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286 Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:5(1), May: 2022 Online Copy of Article Publication Available (2022 Issues): 2022 Publisher: Sucharitha Publication, India. Pp.161-164.
2. Sorokin P.A., 1946 and Dreeze and Sen, 1988.
3. Richard Restuccia, August 16, 2016
4. District Handbook statistics of Anantapur, YSR Kadapa, Kurnool and Chittor District.← Dreeze J and Sen A.K. (1988)
5. “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.
6. 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:
7. URL: http://www.jstor.org/stable/4418402 Accessed: 29-06-2017 04:38 UTC Ray Motha. “Recommendations on Drought Monitoring by the U.S. National Drought Policy Commission” Proceedings of an← Expert Group Meeting, Lisbon, Portugal, 2000.
8. Sorkin P.A.(1963) Man and Society of Calamity, New York: E.P. Dulton &Co. Inc, 1946, p.13.
9. Subbaiah A.R. (2004), State of the Indian Farmer, Academic Foundation, New Delhi, association with Ministry of Agriculture,← Government of India.

10. https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperatureand https://drought.unl.edu/Education/DroughtforKids/DroughtEffects.aspx.