Geographical Analysis of Food Shortage and Desertification in Rajasthan

*Dr. Mamta Choudhary

Abstract -

The unpredictability and inconsistency of rainfall is the primary cause of hunger in Rajasthan. There is a state of hunger and drought as a result of Rajasthan's variable climate, the type of forests there, the state of the surface, and the Aravalli range's orientation parallel to the monsoon winds. The 20th century's worst famine was the one that struck in 1987. Trikala was the manifestation of this famine. A desert is a region of terrain where vegetation of any kind is either nonexistent or unlikely to occur. Put differently, typical, arid regions with consistently low vegetation and yearly rainfall of less than 100°C. It's referred to as the desert there. There are two types of deserts: hot and cold. Desertification refers to this process of turning a region into a desert. beneath which a dry region progressively transforms into a desert. Arid portions of northern Bihar, Uttar Pradesh, Punjab, Haryana, Rajasthan, Tamil Nadu, and Maharashtra are home to an intermediate amount of alkaline soil, with the exception of desert areas. This soil covers an area of around 68 thousand square kilometers. Arid soil evolved as a result of poor rainfall, high temperatures, and a lack of available water. This also applies to the "Kallar soil" that covers 12 lakh hectares in Punjab. Kallari, Reh Usar Athair, is the name of that soil. There are a lot of different soluble salts, chlorides, calcium, magnesium, and sodium sulphates, and sulphates in that soil. Here, the yearly rainfall average is 75°C. There are between 0.1 and 0.5 salts per acre feet in this water. A significant portion of the land in the watersheds of Ferozepur, Gurgaon, Rohtak, and Hisar is progressively becoming desertified as a result of irrigation using that water. A geographical analysis of Rajasthan's famine, drought, and desertification problems and their solutions is done in the research paper that is being presented.

Keywords: Rajasthani famine, arid, geographical and irrigation.

Introduction

A widespread scarcity of food that affects all animal species is known as famine. Epidemics, increased mortality, famine, and malnutrition are typically present in the region during or after this occurrence. Drought or famine occur when there is little to no rainfall in a region for an extended period of time (up to several months or years). The ecology and agriculture in the impacted area suffer greatly as a result of the drought. This chokes off the regional economy. Millions of people have died during some of the most notorious famines in history. The main ways to provide emergency famine relief are by supplementing or fortifying sugar powders with vitamins and minerals, which act as compensatory micronutrients. Instead of purchasing food from donor nations, which harm local food markets, aid

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organizations have started to employ famine relief models based on cash transfers to local farmers or providing cash vouchers to the poor. Investing in contemporary farming methods, such as irrigation and fertilizer, which have virtually eliminated hunger in the industrialized world, is one long-term strategy. World Bank commitments restrict government funding to farmers and are resented by some environmental organizations due to the unexpected repercussions of excessive fertilizer use, which include detrimental effects on habitat and water sources. Famines have a long history in India. A number of famines occurred in the years 1022–1033. All across India, a great deal of individuals perished. Famine had already manifested in its most terrible form in the early 1700s. After 1860, there were 25 significant famines. These famines affected Bengal, Bihar, Tamil Nadu, etc. The hunger wreaked devastation in 1876, 1899, 1943–1944, 1957, and 1966 as well. People used to starve for days in backward states like Bihar, Bengal, Orissa, etc. Grain used to be something people craved. India is an agricultural nation where people are dependent on the monsoon and the weather to survive. There are several of places like this around here where it rains a lot during the cold winter months and barely a drop falls during the rainy season. While overabundance of rainfall causes annual flooding in states like Bihar, Assam, Bengal, and so on, the majority of Rajasthan's northwest regions suffer from a deficiency of precipitation during the rainy season. Rainfall causes famine or drought and reduces the availability of food, fodder, grass, and other necessities. In Rajasthan, the issues of starvation, drought, and desertification are also major problems.



Objective

- 1. A geographical analysis of Rajasthan's hunger and drought issues.
- 2. To examine the effects, spread, and mitigation strategies of Rajasthan's desertification.

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Hypothesis

In Rajasthan, the issues of starvation and desertification are getting worse.

Data Source

In this study, primary and secondary data were utilised. The core data was gathered through inperson meetings, a timetable, and questionnaires; the secondary data came from a variety of official publications.

The Problem of Hunger in Rajasthan

Rajasthan is primarily an arid desert state. Its northwest region often receives fewer monsoon rains and has no access to irrigation or drinking water. Every year, thousands of communities suffer from famine as a result of the dearth of rainfall, casting a dark shadow over this region.

The desert's water level is steadily dropping, which portends a major problem. The majority of the state's dams appear to be in alarming condition. The serene rivers, which are constantly rushing, are a sign of the dreadful predicament that the people are in.

The amount of water remaining in Rajasthan's dams is just 34%; this represents a 6% drop from the previous year. In addition, Rajasthan's annual average rainfall is decreasing at the same period. These signs are all urging us to save water, one drop at a time. The worst famine to ever strike the state occurred in 1869; it is also known as the Great Rajputana Famine. This famine had a severe impact on the lives of people in Punjab, Rajasthan, Gujarat, and Western Uttar Pradesh. In August of this year, 1869, there was hardly much rain. In the hope of rain, the entire year went by, but not a drop of water fell. Both human and animal sustenance was severely in short supply.

This year, starvation and thirst claimed thousands of lives. One such instance of rainlessness dates back to 1899, during which Vikrami Samvat (the year of 1956) was observed. As a result, these prints were dubbed famine. This year, hardly a single drop of water fell, making it harder to survive in the famine-stricken conditions. others who were able to persevere in the battle for food and water were spared, while others who were overcome by this calamity were forced to die.

The famines in Panchkal in 1812–13, Chalisa in 1783 AD (V. Samvat 1840), and 1842–1843 AD (V. Samvat 1899–1900) are a few notable instances of famine that occurred in Rajasthan. The terrible famine was known as Sahasa Mudsa.

- The famine of 1899–1900 AD and Trikal in 1868–1869 (Vikram Samvat 1956).

- During the famine in Chhappaniya, the villagers relied primarily on the Khejdi tree for support.

The following years, from 1952 to 2016, saw no famine in Rajasthan: 1959–60, 1973–74, 1975–76, 1976–77, 1990–91, and 1994–95.

Desertification

Desertification is the process by which dry environments deteriorate to the point where few organic

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AIJRA Vol. VI Issue III www.ijcms2015.co

life forms remain in the desert and there are fewer opportunities for economic growth. The definition paints a picture of the process through which the dry region's ecology is destroyed and no biological element can persist, ultimately leading to a reduction in economic opportunities.

The process of desertification primarily takes two forms:

- Desert Expansion: In arid desert nations, winds cause sand particles on the edges of the desert to be deflected, which causes the deserts to spread outward. The Rajasthani Thar desert's expansion into the western regions of Uttar Pradesh, India, is one illustration of this.

- Change in Desert Soil: Fertile lands have become deserts due to erosion, overuse of chemical fertilizers, chemical medications, etc. Occasionally, after floods, rivers leave behind sand particles on a large tract of fertile land, which causes the fertile area to begin to burn into a desert.

Impacts of Desert Development

Rajasthan's natural life is being severely impacted by desertification, which presents a problem for the whole country. The process of desertification is causing the following issues:

- Wind erosion causes rocks to erode quickly and to deflect across large distances.
- Fertile ground being destroyed by sand drift caused by high wind speeds.
- A sharp drop in groundwater levels.
- A scarcity of potable water.
- Quick devastation of trees as a result of desert growth.
- A steady rise in arid and alkaline land.
- The pasture's ongoing shrinkage.
- The likelihood of an ongoing famine.
- Issues with irrigation and hunger.

Desertification Causes

Desertification has several causes, some of which are listed below:

Destruction of Forests: In order to meet his physical wants, man is constantly chopping down woods, which is why Rajasthan's forest area is getting smaller. Similarly, the National Remote Sensing Agency (N.R.S.A.) reports that the Aravalli mountain range has been left barren by forest degradation, with increased deforestation for firewood making the situation worse.

- Overgrazing: In dry and semi-arid regions, overgrazing causes a reduction in vegetation cover, a rise in soil erosion, and a decrease in soil fertility, all of which hasten the process of desertification.

- Over Irrigation: Over-irrigation causes the land to become barren by causing evaporation,

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waterlogging, and the upward transfer of salts from lower soil layers. This issue is especially noticeable in India's Terai regions.

- Overuse of Chemical Fertilizers and Pesticides: Overuse of chemical fertilizers and pesticides leads to a gradual deterioration of soil quality, which turns productive land into arid soil and accelerates desertification.

Control Strategies for Desertification

Controlling desertification requires the following actions:

- Optimized Irrigation: Applying suitable irrigation techniques in regions of productive land to avoid waterlogging and reduce the build-up of salt.

- Sustainable Grazing Practices: Encouraging controlled grazing methods to prevent soil erosion and preserve vegetation cover in arid areas.

- Water Management: Building canal networks in arid areas to transform barren terrain into fruitful farming areas. The Indira Gandhi Canal Project, for example, has greatly helped Rajasthan.

Conclusion

As a result, these elements and practical actions serve as something of a roadmap for the nation's future efforts to stop desertification. For many years, Rajasthan has experienced ongoing famines, which has forced the state administration to repeatedly request financial support from the federal government. In order to help famine-stricken areas, cooperation from philanthropic individuals and voluntary organizations is essential. Rajasthan can only be saved from the miseries of starvation by concerted efforts.

*Associate Professor Department of Geography Government College Jaipur (Raj.)

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