P: ISSN No. 0976-8602 RNI No. UPENG/2012/42622 VOL.-10, ISSUE-4, October 2021

E: ISSN No. 2349-9443 Asian Resonance

Impact of Drought on Social Conditions of Farmers in Latur District

Paper Submission: 10/10/2021, Date of Acceptance: 22/10/2021, Date of Publication: 23/10/2021

Pramod Hanmantrao Patil
Assistant Professor
School of Management Sciences,
Swami Ramanand Teerth Marathwada University, Nanded
Latur, Maharashtra, India

Sakeb Abdul Hakim Osmani
Management Officer,
District Disaster,
Management Office
Collector Office,
Latur,
Maharashtra, India

Abstract

Droughts keep on having substantial impacts on the community in both developed and developing nations. Recurring droughts over Latur district had a disastrous impact on the agriculture field. Even societal relations are being reconfigured due to the scarcity of water. Women in Marathwada are indisposed to marry into families that live in the worst affected region, like Latur. Social issues such as difficulties in children's marriage, addiction, suicide, migration, conflicts, festival celebration, children exploitation, domestic violence and increased crime rate are experienced by farmers during drought conditions. Findings are given on the basis of the survey of farmers of Latur district. It is observed that drought has a significant impact on overall social conditions of farmers.

Keywords : Drought, Drought Impact, Social Impact.

Introduction

Maharashtra is a well-developed and industrialized state of India. It is the third largest state with a geographical region occupying 3,07,713 sq. km, holding 112.3 million population [1]. The cultivable area is 2.25 lakh Sq. Km and 17.6% is under forest[2]. Around 55% of the population depends on farming and related activities for their livelihood. Annual accessibility of water resources consists of 164 km[4] of surface water and 20.5 km[5] of subsurface water. In Maharashtra, drought is one of the major natural disasters which lead to multiple hazards. Nearly half of the state region is prone to drought, experiencing deficit rainfall once in a 5 to 6 year, and severe drought situation once in 8 to 9 years[6]. The extreme summer is observed in Vidarbha, Marathwada and Khandesh regions. The major agricultural part of the state is irrigated by main rivers like Godavari, Krishna, Koyana, Tapi, Narmada, Bhima, Wardha and Wainganga. Deccan trap covers around 80 % area of the state which is serene of Basalt and has low permeability and porosity causing less water percolation leading to water scarcity in many parts of the state.

The severity of drought effects is mostly seen in rural areas as compared to the urban areas. The most drought susceptible group includes farmers, labor and livestock. The direct effect of droughts is the decrease in agricultural yield and trade production[7]. The development from agriculture drought to socio and economic drought causes famine situations.Social impacts such as population migration, impacts on health and schooling of children, hopelessness and sense of loss, conflicts in society for water, and malnutrition due to changed food preferences are also reported during drought conditions[8]. The situation also results in land deprivation, fall in livestock population. Farmer suicide is theanother severe social issue having logterm impact on the society. In 2016, 3,661 cases of farmers suicide were recorded in Maharashtra out of total 11,379 such suicides in nation[9]. Marathwada area had experienced consecutive years of drought, reported 291 suicide cases till April 2017, the figure in April 2016 was 375[10]. A typical rural household in India spends about 15% of its annual income on celebrating festivals[11], but with reduced disposable income festival celebration also become difficult during drought. Hence, an understanding of the socio-economic impacts of drought is essential in designing technological and policy interventions for effective drought mitigation and relief[9]

Objective of the Study

To study the impact of drought on social conditions of farmers in Latur district

Methodology

The research is descriptive and exploratory in nature .Primary data is collected from farmers of Latur district using the standard survey method through fact finding techniques such as questionnaire and interview. The main purpose of this research is to study the impact of drought on the social condition of farmers. Descriptive research involves hypothesis formulation and testing. Multi stage sampling technique was used to collect responses from 400 farmers of ten talukas of Latur district.

Study Area

Recurring drought is a major challenge in the drought prone area of Maharashtra State where agriculture is the main source of income[12] Latur is one of the drought prone districts of Maharashtra state. Topographically, it neither falls in Godavari Basin nor in Krishna river basin. Its rivers such as Manjra, Terna, Manyar originated from the rain shadow area of the Western Ghat (Sahyadri Mountain renege). First time in the history of Maharashtra and second time in India water was supplied through railway wagons in this region. Total 111 trips by train from a distance of 343 kms delivered water of 2,595 lakh liters to 5 lac people of Latur city for 120 days.

Review of Literature

1. Singh T.P., Vidya Kumbhar and Sneha Kumari (2016) studied the socioeconomic status of farmers in drought prone areas of Maharashtra, India through a case study method. It is found that the socio-economic condition of farmers is affected because of frequent drought.
2. Siyuan Liu, Jianfeng Zhang, Ni Wang, and Na Wei (2020)[13] investigated large-scale connections of socioeconomic drought with climate variability and its progression features in Northwest China. The main origin of socioeconomic drought is the inconsistency between water supply and demand.
3. Khem Chand and Nagarathna Biradar (2017)[14]. The socio-economic effects are discussed in this study keeping this large portion of rain fed farmers at attention. The impact of drought differs with the time scale of droughts. The longer the period of drought and the higher the number of consecutive droughts, the bigger will be its impact on agriculture, ecology and economy.
4. B. Edwards, M. Gray and B. Hunter (2018)[15] - This study reports the lack of research into the socioeconomic impact of drought. One of the main help of this analysis is to provide consistent estimates of the social effects of drought by employment position. Some comments on how to best measure drought, and an introduction to both the socioeconomic results analyzed and the method for estimating the impact of drought.
5. Margaret Alston , Kent Jenny (2004)[16] - found social impacts of drought on farm families such as debt restructuring and income access; loss of crops and livestock; educational access for family members; implications for employment of family members; health status of family members; welfare implications; impacts on social interactions; changes in lifestyle and knowledge of service providers.

Findings and Analysis

Social impacts include public security, health, battles between water users, reduced superiority of life, and biases in the supply of impacts and calamity relief. Many of the impacts identified as economic and environmental have social components as well. Population migration is an important problem in many nations, often enthused by a greater supply of food and water away

The Social factors, such as income, education level, employment, social security, disputes and social supports can considerably influence how well and how long we survive. These factors have an effect on our capability to make strong choices, afford medical care and housing, handle anxiety, and more. In this study, 400 farmers were surveyed to investigate how far their social conditions were affected by drought.

Key findings

1. 10.8% of the farmers said that drying of water resources (river, lakes, dams, and boreholes) was a significant impact of drought in their area. Majority of farmers around 15% told that, drying of water resources, Famine, Crop yield impact, Loss of livestock, Cattles's health, decline in livestock value etc. were impacts of drought in their area.
2. Majority of the farmers have rated the social factors which were surveyed in this study in high scale. Social factors such as difficulties in Son's/ daughters marriage, conflicts in society due to scarce resources, fear of future /uncertainties, increase in suicidal tendency, difficulty for celebrating festivals/ recreation activities, family issues /disputes, domestic violence, children's exploitations, school drop outs, increased Crime rate, migration in search of employment etc. were affected by drought.
3. 41.3% agricultural dependents laborers during drought got employed through MGNREGA, and 55.8% of the farmers said that agricultural dependents laborers during drought were migrated to other places in search of employment.
4. Around 40% of the rural farmers responded that, Anxiety / depression levels caused by the drought increase comorbidity (eq. Hypertension, diabetes etc.), heart arrest, Family health issues, Malnutrition, shortage of food grains,

epidemics in drought situation and Expected / pregnant women's health were on a high scale.

Hypothesis Testing

1. H0- Drought has no impact on social conditions of farmers
2. H1- Drought has a significant impact on social conditions of farmers

Table no. 2: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Social Impact	400	1.50	4.91	3.6659	.52636	-.003	.122	1.206	.243
Valid N (list wise)	400								

The sample mean (average social impact of farmers) is 3.6659 with standard deviation of 0.52636.

One Sample T-Test

The social impact of drought was studied in scale of 1 to 5 as mentioned in table no.1 where,1 represents very less impact, and 5 represents Very High impact .The scale represents less impact up to a score of 2. Thus, taking the test value as 2 scores, one sample t-test is applied to test the above hypothesis.

Table no. 3: One-sample t-test

	Test Value = 2					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Social Impact	63.298	399	.000	1.66590	1.6142	1.7176

Discussion

Since significance value of 2 tailed test is 0.000 which is very less than 5% i.e. 0.05, hence we reject Null hypothesis- "Drought has no impact on social conditions of farmers" and accept alternative hypothesis i.e. Drought has a significant impact on social conditions of farmers.

Conclusion

Drought is a very complex phenomenon which impacts the overall socio conditions of the farmers. Majority of the farmers have rated in "High" scale for the social factors which were surveyed in this study. In this study it is observed that drought has a significant impact on social conditions of farmers. As Latur is not an industrial hub, therefore employment opportunity is mostly in agriculture and allied activities .With frequent droughts economic conditions of farmers is becoming worst day by day and ultimately affecting social conditions of the community. There is a need for social awareness of the farmer's community in this region. Psycho-social support should be provided to the farmers through counseling and mass education drive. Educating people about various new farming techniques and government schemes will help in capacity building and uplifting social conditions of the farmers.

References

1. *Census (2011), Registrar General of India, Ministry of Home Affairs, Government of. India, Available at: http://www.censusindia.gov.in*
2. *Patil A. S Vaishampayan A.R.., Problems and Prospects of Agriculture in Drought Prone Areas in Maharashtra. Scholarly Research Journal for Interdisciplinary Studies 3(24) 2154-2161*
3. *Nearly half of Maharashtra faces drought, 26 districts affected, Hindustan Times,01 November 2018*
4. *Al-Riffai, Perrihan, et al. (2012), Droughts in Syria: an assessment of impacts and options for improving the resilience of the poor. Quarterly Journal of International Agriculture, 51.1: 21.*
5. *Udmale, P., Ichikawa, Y., Manandhar, S., Ishidaira, H., & Kiem, A. (2014). Farmers' perception of drought impacts, local adaptation and administrative mitigation measures in Maharashtra State, India. International journal of disaster risk reduction, 10, 250-269.*
6. *Farmers' suicides highest in Maharashtra despite loan waiver, reform measures, Indian express, 14 October, 2020, https://indianexpress.com/article/india/farmers-suicides-highest-in-maharashtra-despite-loan-waiver-reform-measures-6720184/*
7. *Drought in Maharashtra, Times of India, retrieved from https://timesofindia.indiatimes.com/topic/ drought-in-maharashtra*
8. *Rao V. Poverty and public celebrations in rural India. Washington DC: The World Bank; 1999.*
9. *Pandey S, Bhandari H. Drought, coping mechanisms and poverty: insights from rainfed rice farming in Asia. Occasional Paper 7: knowledge for development effectiveness. International Fund for Agricultural Development ;2009*
10. *S.A.Osmani, P.H.Patil, (2020) "Drought Management: A case study of Latur Drought 2016" Shodh Sarita .7(26), April-June, 2020 Page Nos. 48-52*
11. *S.A.Osmani, P.H.Patil, (2020) "Drought Management: A case study of Latur Drought 2016" Shodh Sarita .7(26), April-June, 2020 Page Nos. 48-52*
12. *Tarun, P. S., Vidya Kumbhar and Sneha Kumari, 2016. "Study of socioeconomic status of farmers in drought prone regions of Maharashtra, India- A Case Study" International Journal of Current Research, 8, (06), 33304-33306.*
13. *Siyuan Liu, Jianfeng Zhang, Ni Wang, and Na Wei (2020), Large-Scale Linkages of Socioeconomic Drought with Climate Variability and Its Evolution Characteristics in Northwest China, Advances in Meteorology 2020(2):1-13*
14. *Khem Chand and Biradar Nagaratna, 2017. Socio-economic impacts of drought in India. Scientific Publishers, New Delhi. Pp 245-263*
15. *B. Edwards, M. Gray and B. Hunter (2018), the social and economic impacts of drought, CSRM Working Paper NO. 5/2018, the Australian National University.*
16. *Alston, Margaret and Jenny Kent (2004) Social Impacts of Drought: Report to NSW Agriculture . Wagga Wagga: Centre for Rural Social Research, Charles Sturt University*