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GRT **SOCIO-CULTURAL IMPACTS OF DROUGHT AND COPING STRATEGIES: A CASE STUDY OF DHARPUDI VILLAGE OF KHATAV TAHSIL, SATARA.**

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Abstract: Climate is one of the main determinants of agricultural production and it further leads to impact on social and economical conditions in the rural areas. Recent years across the World climatic variability is significant concern as it affects agricultural productivity and ultimately the livelihood of the people. This is the main threatening challenge before the mankind. Especially drought creates impact on agriculture and creates series of problems, mainly hampering of subsidiary activities like domestication of animals, use of resources, local economy and social well being of the people. In Maharashtra Eastern part of Ahmednagar, Satara and Sangli are belongs to rain shadow areas of Monsoon and frequency of drought is increased in these districts. Especially in recent decades in Satara district, Khandala, Man, Phaltan and Khatav tahsils are experiencing drought frequently. Natural scarcity of rainfall and unavailability of water further intensifies impact of drought. Dharpudi is the village of Khatav tahsil severely affected by the consecutive drought. Still villagers are survive in such intense worsen situation. It may be possible due to adopting certain indigenous coping strategies.

Keywords: Climatic variability, drought, coping strategies.

1. INTRODUCTION

Climate is one of the main determinants of agricultural production and it further leads to impact on social and economical conditions in the rural areas. Recent years across the World climatic variability is significant concern as it affects agricultural productivity and ultimately the livelihood of the people. This is the main threatening challenge before the mankind. Especially drought creates impact on agriculture and creates series of problems, mainly hampering of subsidiary activities like domestication of animals, use of resources, local economy and social well being of the people.

According to the IPCC (2007), The Climate change is any change in climate over time that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere in addition to natural climate variability observed over comparable time periods. Longer period of drought conditions in the Western India are the result of such climate change in recent decades and impact of such conditions much more concern. Maharashtra is one of the State belongs to Western India frequently facing drought as natural hazard.

In Maharashtra Eastern part of Ahmednagar, Satara and Sangli are belongs to rain shadow areas of Monsoon. Frequency of drought is increased in these districts. Especially in recent decade in Satara district, Khandala, Man, Phaltan and Khatav tahsils are experiencing drought frequently. Natural scarcity of rainfall and unavailability of water further intensifies. Impacts of drought is severe, still people are living there. It may be possible due to adopting certain indigenous coping strategies.

Dharpudi village of Khatav tahsil of Satara district is a representative of all the villages in this region. Agriculture and subsidiary occupations are collapsed by the consecutive drought, famine conditions. It also affected the social and economical conditions of the people. Still villagers are survive in such intense worsen situation. To put forth these, attempt is made to study the social and cultural impact of drought and coping strategies of the people.

STUDY REGION:

Dharpudi village is situated on 74° 41' 00" East to 74° 41' 30" East longitude and 17° 24' North to 17° 24' 30" North latitude. It is located 4 Km. away from tahsil head quarter Khatav of Satara district of Maharashtra. The average height of the study area is 790 meter above mean sea level. Dharpudi is a located at the confluence of two streams originated in northern hills. The general slope of the region is gentle.

Village is experiencing monsoon type of climate. Temperature is always high during the summer season. Summers are hot and dry with maximum temperature 42° c. Winters are cold and dry. Rainfall receives from the Southwest monsoon winds and it is very less 10 to 40mm. Very few rainy days not accountable. Humidity is always less than 17 to 20 percent. Climate affects the vegetation types, thickness and soils too. Vegetation of the region reflects the association of rainfall and its uneven distribution pattern. Dharpudi has 1264 population. Village is well linked by footpaths as compare to tar road. The village approach road is poor and rough condition and hence village is remote.

OBJECTIVES OF THE STUDY:

This particular study is emphasize discussed the impacts of drought and the people adopted certain strategies to cope with drought. Taking into consideration these facts, objectives have set as follows.

- 1.To study the various problems created and the impact of drought and post drought conditions on the people in Dharpudi village.
- 2.To study coping strategies adopted by the community of Dharpudi village.
- 3.To study the social conditions of people in Dharpudi drought and post drought period.
- 4.To study the cultural conditions of people of Dharpudi drought and post drought period.
- 5.To study the migration phenomenon in the Dharpudi village.

DATA COLLECTION AND METHODOLOGY

The entire research paper is based on primary and secondary data. During the Field work the observations, interviews of the people in Dharpudi village have taken and fill the questioners as per the requirements. The secondary data is collected from the various sources including gram panchayat records, gazetteer of Satara district and local news papers. The collected data processed by using statistical techniques.

RELEVANCE OF PROBLEM

In India agriculture is the source of rural economy and main source of livelihood. It always suffers with fluctuation in agricultural production due to drought like natural hazards. The rain shadow region on the Deccan plateau is suffers lot due to frequent drought conditions. The district of Satara mainly Khatav, Man, Phaltan, Khandala, tahsils always faces scarcity of water due to drought. Among these tahsils Khatav is severely in the grief of drought.

Dharpudi is a small village in Khatav tahsil facing drought since 2011-12. Yarala River is almost seasonal river not useful at all, as not flows in these years. Agriculture and families depends on it ruined completely. People become bankrupt, their life style changed strikingly. Livestock is also suffering due to lack of fodder and water. Government is giving assistance through refugee camps for fodder and water to livestock. Provision of drinking water through water tankers is not sufficient. Even in such worsen situation people are still living there while people in other parts of Maharashtra especially Marathwada committed suicide. It makes challenge to put forth real picture in front of society and government.

REVIEW OF LITERATURE

In recent years lot of discussion is going on various natural hazards and the impact of climate change. These are core subject of discussion in thinkers scholars, administrators and even in common man. Lot of literature is devoted to discussion of natural hazards like drought. Paul Quinnes and Qarrett Nagle describe the concept of drought. They also studied the Europe drought of 2003 and drought in Africa 2003 as case studies. M. Sombisvia Rao, G. Qandari and others tried to explain the drought occurrence, water balance and water shade development programs in Anantpur District which faces disasters climatic phenomenon since last 90 years.

P. C. Bansil authored book "Agriculture Problem of India", he gave emphasize in analyzing the drought and its impact on Indian agriculture. G.K. Ghosh in his book "Disaster Management" discussed how to cope with drought like disaster and also gives suggestions about water shade development programmers in drought prone region. A.K. Barua in his book "Water technology management: Challenges and choices", discussed the modern technology in water shade development.

Savindar Singh briefly summarized the chronic drought prone zones form over the rain shadow areas from Western Ghat and drought control measures adopted in Sahel region applicable to rain shadow region of Maharashtra. Thomas, D. Hankins wrote an articles ‘Response to drought in Jukunaland: Tanzania’ this particular article is deals with adaptive capacity which is developed in the farming system of Sukmoland. Sicelo Mniki in his Degree work, “Socio-Economic Impact of Drought Induced Disasters on Farm Owners of Nkonkobe Local Municipality”, was discussed about the socio-economic impacts particularly on farm owners whose livelihood is agriculture.

ANALYTICAL PART

Impact of drought is a cyclic process, It is generally depends upon the number of factors. Social, economical impacts strike with hampering of the agriculture and allied activities. It further leads to the adversities like decline in income, rise in unemployment, erosion of assets mainly livestock, migration and worsening of the lifestyle. Combine effect of this is more on poor community.

Family Type and Size

Family is the most important primary group in society. It is simplest and the most elementary form of society. According to Anderson and Parker “family is a socially recognized unit of people related to each other by kinship marital and legalities”.

Generally Indian families are classified in to two basic types one is joint family and other is nuclear family. Both these are different in social values ethics.

Table No. I
Dharpudi: Family Type and Size

Sr. No.	Family Type	Select Option	Number of Family Members	
			In Drought	Post Drought
1	Joint	80	641	638
2	Nuclear	145	543	540
3	Total	225	1184	1178

Source: Author

Joint Family

The joint family is also known as ‘undivided family’. These families are larger in size and many times members of the family belong to two to three generation. Joint family is found in almost all the parts of India. It is an age old system having a long history. Now a day the condition of joint family has been changed. As compares to rural area there is very low ratio of joint family in the urban areas and it is vital to create unit in the society.

In Dharpudi village 80 joint families are consisting 641 family members in drought and post drought 638 family members. Joint families have the strong economic and social bonding and unity, provides distinct status to them. The unity is much natural and social. These families survive better in drought like condition because of certain attachment and cohesiveness.

Nuclear Family

The individual nuclear family is a universal social phenomenon. In simple words, a nuclear family is one which consists of the husband, wife and their children. The nuclear family is independent family have separate sources of employment. In earlier period nuclear families are increasing in the society. Education, job, occupation etc. are the causes of migration to city regions. Development of society is limited in rural areas where member of nuclear families are more. It is mainly because selfish people. Families become nuclear in the society only for self reliance and self development.

In Dharpudi village 145 families are belong to nuclear category consisting 543 family members during drought and post drought 540 family members. These nuclear families survive better than the joint families during droughts. They possess coping ability to drought as they are self reliance and independent. They are better look after their families and not bothering of other.

Sex Composition

India is a second largest populous country in the world. Sex composition study is very important in economical and social point of view in any country. Sex ratio is the demographic concept that measures the proportion of males to females in a given population. Sex ratio of India varies from region to region and not balanced

in recent years.

According to census of India 2011, sex ratio is 940 females per 1000 males. Sex ratios vary in India, because of different patterns of fertility, mortality and migration of males and females. The Satara district has a sex ratio of 986 females per 1000 males.

Table No. II
Dharpudi: Sex Ratio

Sr. No.	Stage	Number of Males	Number of Females	Total	Ratio %
1	In Drought Year	601	583	1184	970
2	In Post Drought Year	603	575	1178	954

Source: Author

In Dharpudi village, total population is 1264 in 2012-13 year. In this total population 650 are males and 614 females. The sex ratio in this particular year is 945 females per 1000 males. The important reason behind the low sex ratio is migration. In this year 80 peoples are migrated in seasonal and temporary reason mainly men and hence sex ratio is 970 females per 1000 males (See Table No. II).

Post drought, the total population is 1250 persons. In the total population the number of male is 648 and the number of female is 602. The sex ratio is 929 females per 1000 males. In post drought 72 peoples are migrated in seasonal and temporary reason and hence sex ratio is 954 females per 1000 males. Thus the sex ratio of Dharpudi village is decline in post drought (See Table No. II). the drought conditions were not improved hence people tendency to migrate growing continuously.

It means that the sex ratio in this region is get influenced by frequent drought like phenomena. It is an outcome of migration. Literates tend to migrate elsewhere along with their families but illiterates are compulsory to reside there. But in recent years continuous drought conditions make illiterates too migrate elsewhere at least for few months or season hence the sex ratio of the region get affected strikingly.

Literacy Level

Literacy is most important aspects of population. The population fertility, mortality, economic and social development are greatly influenced by literacy level. Illiteracy is a curse of human development. The literacy level of males and females in under developed countries are more adverse. Literacy is always helps to find out solutions and adopt better manner in droughts like adversities.

Table No. III
Dharpudi: Literacy

Sr. No.	Literacy Level	Number of Family members
1	Illiterate	250
2	Primary School	221
3	High School	316
4	H.S.C.	196
5	Degree	137
6	Post Graduate Degree	45
7	Professional	13
	Total	1178

Source: Author

There is a great difference in literacy level of people in Dharpudi village. Some people are totally illiterate, some taking educations and some of the people completed their education with post graduate degree and professional education. There are 316 children are learning at the high school level.

In Dharpudi the economic condition of the people is not good hence education of the children suffers notably. The number of illiterate dependents is 250; it includes mainly old people and children under the age of 5 years. On the other hand 221 children are taking education at primary school. Some 196 people stopped their education at H.S.C level and 137 at degree level, it reflects the economical condition made them compulsory to stop. Still some 45 are taken post graduate degree and 13 professional educations (See Table No. III).

The overall literacy of the Dharpudi is about 80 per cent it is less than the State's literacy. People are keen to adopt even in natural hazards and take education only for possibilities of seeking jobs and survive by choosing

possibilities. More than 30 students migrated elsewhere for studying.

Religion and Caste

There are various social institutes created by human. Social institute is nothing but organizational structure established by man for fulfilling their needs, it includes religion, family, cast, marriage etc. It is seen that there is a great influence of religion in rural areas. In India the ratio of Hindus is very high as compare to other religion. It includes various casts, sub casts and creeds.

Table No. IV
Dharpudi: Cast wise families

Sr. No.	Cast	Number Of Family
1	Maratha	146
2	Ramoshi	16
3	Mang	14
4	Mahar	10
5	Teli	9
6	Sutar	9
7	Brahman	5
8	Chambhar	4
9	Koli	4
10	Nhavi	3
11	Muslim	3
12	Lohar	3

Source: Author

According to Prof. Chandrakant Khandagle in their book "Rural Social Science", Religion is the system of beliefs and practices found in every culture that formalizes the conception of the relation between man and his environment. In Indian society Hindus are dominant while Budhist, Jain, Sikhs, Islam, Christians and Parasi are in minorities.

Varna system further leads to develop Balootedar system (Barter system) in rural area. Brahman is included in upper cast and posses more rights followed by Kshatriya, Vaishya, Shudra in caste system of India. It is responsible for creating inequality and disparity in the society. In Dharpudi there are 225 families belongs to Balootedar system of different casts. Among these casts 146 Maratha families followed by Ramoshi 16, Mang14, Mahar 10 and others (See Table No. IV).

This particular aspect is important in case of distribution of the resources. The people belong to upper cast Maratha, Brahman always has an upper hand in social and economical status, it further helpful in survival in drought like hazards. The artisans are suffering more as their occupation is depending on agriculture which ruined due to drought.

Migration

Migration is the process of displacement of people from one place to other place. In India rural to urban and rural to rural migration is much more. The causes of migration of people may be different but more people migrated from rural area to urban area for employment. The drought is other important aspect responsible for migration; it forcibly makes people to migrate elsewhere from their origin. Migration becomes an important phenomenon in drought prone regions of Maharashtra.

Table No. V
Dharpudi: Migration

Sr. No.	Status	Purpose	In Drought Year		Post Drought Year	
			Male	Female	Male	Female
1	Permanent	Job	35	20	37	16
2	Seasonal	Occupation	8	5	6	3
3	Temporary	Education	10	2	9	1
4	Total	Total	53	27	52	20

Source: Author

People are migrated from Dharpudi due to the different causes mainly seeking jobs, occupation and education, all these aspects are closely associated with the droughts. The ratio of migrated people is more at the time of drought. During the drought 53males and 27females were migrated from Dharpudi for survival. Among the 80 people 35 males are migrated permanently for job, for seasonal employment (8) and educations (10). On the other hand 20female migrated permanently for job, for seasonal employment (5) and (2) for education. During the post drought period 52 males and 20 females where migrated for various reason from Dharpudi. Among these 72 people, 37 males migrated permanently for job, for seasonal employment (6) and (9) for education and among 20 females 16 migrated permanently for job, for employment (3) and (1) for education (See Table No. V).

Due to drought agriculture is hampered severely and many people lose their jobs. According to Sally Masendeke and Kampion Shoko, 'when people's abilities to acquire food are outstretched by drought and local resources are no longer support the people, members move out to other areas to source of food or other means of accessing food'. To survive in such conditions people of Dharpudi migrated elsewhere one kind of push factor made them compulsory to leave the place. More young people and children are migrated as compare to old persons as they don't have any option instead of working in agriculture.

Lifestyle

Way of behaving in the society by following rituals and social conventions is said to be lifestyle. The system of living of human in the society means life style. Every society has it's an art of living, wearing cloth, eating food, festivals, habits, rituals and superstitions. It is mainly depend upon religion. For example there is a great variability in Muslims in their Bhurakha style, Jains they make food without onions.

Table No. VI
Dharpudi: Expenditure on Lifestyle

Sr. No.	Name of the element	Expenditure on Lifestyle in Rs.			
		In drought year		Post drought year	
		Small Family(Min.)	Large Family(Max.)	Small Family(Min.)	Large Family(Max.)
1	Food Consumption	10000	210000	10000	216000
2	Clothing	300	10000	500	15000
3	Use of Vehicles	1000	36000	1500	50000
4	Purchasing	200	7000	300	12000
5	Festivals	1000	25000	1500	32000

Source: Author

According to FAO's, "Agriculture Food and nutrition for Africa, 1997 Report, People change their consumption patterns prior to drought situations. These strategies usually follow a sequence such as the reduction in the number of meals followed by migration and the sale of assets such as livestock". Communities that have lived under drought situations for many generations develop coping strategies to lessen the impact of drought. This fact is reflected in the lifestyle of the people of Dharpudi.

Human always think about his surrounding its economic conditions which are different from place to place and time to time. Farmers, employers, children, male, and females everyone has different attitudes to look at life. Dharpudi is agricultural dominance traditional village. Drought is prevails for longer period and its impact on agriculture and rural economy influenced the lifestyle of the people.

Food Consumption

Food, clothing and shelter are three basic needs of human life. Human is always struggled for his existence. In Dharpudi village it come to know that the minimum spend on food by small to medium family is 10000 Rs. per annum and maximum spend by large families is near about 210000 Rs. per annum in a drought year. In post drought minimum spend by small families is10000 Rs. and the maximum spend by large families is 216000 Rs. There is a huge difference in the expenditure of small family and large family on food. There is no change in spending on food stuff in post drought in case of small families, while slight increase in the expenditure of large families (See Table No. VI).

Clothing

Human has need of clothing for protect himself. Spending of money on clothing is depending upon the purchasing capacity of the family and it differs family to family because of the sources of income. In some families on occasion of festival, birthday, people buy cloths. But poor people buy cloths as per requirement of family members and their capacity they are spending minimum.

The striking feature is found in the Dharpudi, poor families spending minimum on cloths in the drought year on an average 300 Rs. and while large families 10000 Rs. In the post drought year this situation changes 500 Rs. to 15000 Rs. respectively by small and large families. Poor people are not spending on cloths; they try to live with simplicity. In case of large families spending on purchasing of cloth increased significantly mainly because of false status of perception (See Table No. VI).

Use of Vehicles

In modern period use of automobile is increased significantly. It is observed that this phenomenon is not confined only to city level but spread in villages too. People are inclined to use the private, own vehicles rather than the public bus services. In Dharpudi people are using their own vehicles for their daily routine but many are using as habit and prestige. In the drought year the expenditure on a fuel of the vehicles is minimum 1000 Rs. to maximum 36000Rs. per family. In post drought it increases about minimum of 1500Rs. to maximum of 50000Rs. (See Table No. VI).

It means that people attitude is not much more affected by the drought in case of two wheeler owner. In case of four wheels vehicle owner it happened that they are not used their vehicle in drought period on large scale, use it occasionally. As drought conditions vanish they started using vehicles on large scale hence expenditure increased significantly.

Purchasing

Everyone likes purchasing, but this purchasing is depending upon economic conditions of family. Generally purchasing is on the occasion of family functions. At the time of drought, financial condition of family declined; so that people afford less money on purchasing. The expenditure on purchase is minimum 200 Rs. to maximum 700 Rs. only in that particular year. It shows the purchasing power of the people is declined drastically due to drought. Post drought economic condition of the people improved slightly, so that people afford more money on purchasing, it ranges 300Rs. to12000Rs. per annum. The tendency of the people is to live simple and do not make prestige issues. Still it is observed that in the Dharpudi village people do not bought thing of basic needs people ready to cope in drought by using money optimum manner (See Table No. VI).

Festivals

In India there is a unity in diversity and people are expressing it in celebrating festivals. According to Lokmanya Tilak, celebrating of festivals is good for creating unity among people. They are celebrating festivals to preserve the culture. During the drought the minimum spend is on festivals 1000 Rs. in and maximum spend 25000 Rs. Even there was a serious drought, people tried to enshrine of cultural through celebrating festivals. In the post drought the minimum spend is 1500 Rs. per annum and maximum 32000 Rs. (See Table No. VI).

There are two beggars, orphans. They are living without anybody's support, some time they live without food. People are get affected by the drought conditions but they have find out certain strategies to cope in such conditions. They possess more awareness due to facing frequent drought conditions. They adopt to change themselves accordingly. Minimizing the expenditures live simple, and keep themselves optimistic about better future. It is one kind of endless struggle for existence.

CONCLUSION

It is difficult to measure the social and cultural impacts of drought. The lack of consensus about how to measure drought in the first place ensures that such impacts can always be debated and contested. However study illustrates that there are substantial impacts that cannot be ignored.

Dharpudi village is severely affected by consecutive two years of drought, destructive natural hazard destroyed rural economy, social and cultural conditions of the village. The more number of joint families in the village are surviving better due to the strong economic and social bonds, unity and cohesiveness. Strikingly single families are self reliance and independent hence surviving better than the joint families in droughts. Sex ratio of the village is get influenced strikingly by the continuous drought, which further leads to migration.

It is found that educated people are keen to adopt conditions, choosing possibilities for surviving. People of

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