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Constraints faced and external aids received by drought and flood affected dairy farmers of North Karnataka

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Abstract

Dairy farmers face problems in managing dairy farms during natural calamities such as flood and drought. The present research study was carried out in flood affected taluks of Belgaum and drought affected taluks of Gadag district of North Karnataka during 2021-22. The study focused on identifying the external aids received, constraints faced and the suggestions given by the dairy farmers in managing dairy farms during natural calamities. A total of 120 respondents were selected from flood and drought affected district using purposive random sampling method. Personal interview method was employed to collect the data. The results revealed that external aid/assistance received by the dairy farmers in case of drought condition is less when compared to that of the flood affected area farmers. Findings also revealed that shortage of feed and fodder was expressed as the major constraint by 96.67 per cent of the flood affected farmers whereas high cost on feeding and storage of feed was the major constraint expressed by 88.33 per cent of the drought affected dairy farmers. Majority (72.50%) of the dairy farmers suggested that government should provide feed and fodder during natural calamities (Rank I) followed by ensure timely availability of technical staff during natural calamities (63.33%) which was given as Rank II.

Keywords: Dairy farmers, constraints, external aid, suggestions, flood, drought

1. Introduction

Cattle are the primary source of income for two thirds of rural communities. In India, the dairy industry employs about 8.80% of the population. According to the 2019 livestock census, India has around 192.49 million cattle and 109.85 million buffaloes (Anonymous, 2019) [2]. In India, the dairy production contributed more than 4.20 per cent of the country's GDP in 2020. From 146.3 million tonnes in 2014-15 to 198.4 million tonnes in 2019-20, milk output has grown (Anonymous, 2021) [3].

Floods have been a common occurrence of nature in India. During the monsoon season, different parts of the country are frequently hit by floods of varying sizes. Floods have repeatedly occurred in India, resulting in major loss to human and livestock population.

Twenty nine states out of 36 states and UTs in the nation suffered flooding between 1995 and 2020. It is evident that in 26 years, there were more than 20 times as many floods in Bihar, West Bengal, Assam, Manipur and Tripura (Anil *et al.*, 2021) [1]. These natural calamities affect on the livelihood and more problems will be faced by the dairy farmers. In case of drought, Because of the persistent drought, dairy cattle always have a shortened lactation period. Milk production is both decreasing in quantity and quality (Maurya, 2010) [6]. Livestock is major victim in both the flood and drought condition. Every now and then, there are a lot of victims. Due to a lack of access to clean water and the rising price of feed, many are obliged to give up their animals. These will have a detrimental effect on the supply of feed and water, the health of the animals, the breed quality, and finally the production of milk. When the air is hotter and dryer, cattle are more susceptible to heat stress. Heat stress impairs dairy animals' capacity to procreate.

Different government and voluntary organizations play major role in assisting the dairy farmers during flood and drought by providing relief materials, shelter, finance etc., in the form of external aid which helps them to cope with the emergency situations during crisis period. Dairy farmers suffer significantly from any of these natural calamities like flood and drought. Assessment of external aids received, constraints faced during such calamities and enlistment of suggestions is necessary. Hence the present study was conducted to study the constraints faced, external aids received and suggestions of dairy farmers to overcome problems in dairy management during flood and drought situations.

2. Methodology

The present study was conducted in Belgaum and Gadag districts in the year 2021-22. Belgaum was affected by flood during 2021 and Gadag was affected by drought during 2018-19. Sixty dairy farmers each from both the districts were selected. Thirty farmers each from four affected villages were selected using purposive random sampling method constituting a total sample of 120 respondents. Data was collected by using personal interview method.

2.1 External aid/assistance

It refers to the extent to which respondents has availed the external assistance from the government organizations and voluntary organizations during flood and drought in the form of awareness, participation and benefits availed. The data was analyzed using frequency and percentage.

2.2 Constraints

To know the constraints faced by the dairy farmers in managing dairy farms during flood and drought, a list of constraints were prepared as expressed by the dairy farmers in the non-sample areas. Further, it was grouped into 6 categories viz., General, Feeds and feeding, Veterinary/Health care service, Care and management, Marketing and Other constraints after consulting the experts in the field of dairy. The respondents were asked to indicate the various constraints faced by them, it was measured with two point continuum such as ‘yes’ and ‘no’ rated with weightage ‘one’ and ‘zero’ respectively. These constraints were analyzed using frequency and percentage.

2.3 Suggestions: The suggestions to overcome the problems in management of dairy farms during flood and drought was elicited by giving an open end question to the respondents to indicate their opinion and the same was recorded. The data was analyzed using frequency and percentage.

3. Results and Discussion

3.1 External aid/assistance received by the dairy farmers during flood: The results in table 1 reveals different type of

assistance received by the flood affected dairy farmers through external aids from government and voluntary organizations. It is evident from the table that majority (80.00%) of the flood affected dairy farmers were aware of the assistance given by the government organizations for temporary rehabilitation of livestock, only 23.33 per cent of them participated and got benefited from it. All the flood affected dairy farmers (100.00%) were aware that the relief materials were being provided by the government organizations, more than half of them (61.67%) participated and got benefited with the relief materials.

All of them were aware of Ganji Kendra/Kalaji kendras, but only 53.33 per cent of them participated and got benefited from thoses kendras. About 30.00 per cent of the dairy farmers were aware of the financial support assisted from government organizations for the death or loss of animals during flood. Majority (80.00%) per cent of them had known that government organizations have provided assistance for health care and sanitation of the animals and 28.33 per cent of them participated and got benefited.

Results have also shown that 73.33 per cent of the flood affected dairy farmers were aware that voluntary organizations had provided food items during flood, 28.33 per cent of them participated and got benefited by it. Eighty per cent of them knew that voluntary organizations had provided clothes during the crisis, while 36.67 per cent of them had participated and benefited.

The reasons for the results mentioned above could be insufficient awareness of government schemes meant for flood affected areas, lack of access to external aids and improper distribution of aid being provided. The findings from the study of Mishra (2016) [7] shown that majority (83.00%) of the respondents agreed that government organizations assisted them with adequate support of relief materials whereas, 90.00 per cent of them didn't receive adequate support of relief materials from voluntary organizations.

Table 1: External aid/assistance received by the dairy farmers during flood (n=60)

Sl. No.	Nature of Assistance	Farmers affected by flood (n=60)		
		Aware	Participated	Benefited
		Freq. (%)	Freq. (%)	Freq. (%)
A) From Government organizations				
1.	Awareness camp and training to manage livestock during flood/drought	3 (5.00)	0 (0.00)	0 (0.00)
2.	Assistance for temporary rehabilitation of livestock (Goshalas)	48 (80.00)	14 (23.33)	14 (23.33)
3.	Providing relief materials	60 (100.00)	37 (61.67)	37 (61.67)
4.	Providing meals through <i>Ganji Kendra/Kalaji kendra</i>	60 (100.00)	32 (53.33)	32 (53.33)
5.	Financial support for death or loss of animal	18 (30.00)	3 (5.00)	2 (3.33)
6.	Financial support	44 (73.33)	33 (55.00)	32 (53.33)
7.	Health care and sanitation of the animals	48 (80.00)	17 (28.33)	17 (28.33)
B) Voluntary organizations				
1.	Providing food items	44 (73.33)	17 (28.33)	17 (28.33)
2.	Providing clothes	48 (80.00)	22 (36.67)	22 (36.67)
3.	Temporary shed	12 (20.00)	0 (0.00)	0 (0.00)
4.	Counseling/Moral support	2 (3.33)	0 (0.00)	0 (0.00)
5.	Animal health camps	15 (25.00)	15 (25.00)	15 (25.00)
6.	Providing medicines	10 (16.67)	7 (11.67)	7 (11.67)
7.	Providing fodder	1 (1.67)	0 (0.00)	0 (0.00)

3.2 External aid/assistance received by the dairy farmers during drought

With respect to drought affected farmers, only 3.33 per cent

of them were aware of the camp and training conducted by the government organizations, none of them participated in it. Majority (93.33%) of them got assistance for temporary

rehabilitation of livestock and half (50.00%) of them got benefited. Fifteen per cent of them were aware of the relief materials provided by the government organizations and equal per cent of them got assisted with the relief materials. The findings reveals that assistance through Ganji Kendra/Kalaji Kendras was not provided in drought affected area. About 73.33 per cent were provided assistance for health care and sanitation of the animals and 50.00 per cent got benefit from it. The voluntary organizations had played no role as external aids and had not provided any assistance to the drought affected farmers, only assistance through

animal health camps was aware to 73.33 per cent of the dairy farmers among which 63.33 per cent of the dairy farmers participated and availed benefits.

The probable reasons for the above findings is because severity of drought is less as compared to flood. Hence, less external aid/assistance is being received in the drought affected areas and improper distribution of the assistance provided might also be the fact for the above obtained results. The above findings are also in line with the results from Mallick (2011) ^[9].

Table 2: External aid/assistance received by the dairy farmers during drought (n=60)

Sl. No.	Nature of Assistance	Farmers affected by drought (n=60)		
		Aware	Participated	Benefited
		Freq. (%)	Freq. (%)	Freq. (%)
A) From Government organizations				
1.	Awareness camp and training to manage livestock during flood/drought	2 (3.33)	0 (0.00)	0 (0.00)
2.	Assistance for temporary rehabilitation of livestock (Goshalas)	56 (93.33)	30 (50.00)	30 (50.00)
3.	Providing relief materials	9 (15.00)	10 (16.67)	9 (15.00)
4.	Providing meals through Ganji Kendra/Kalaji kendra	0 (0.00)	0 (0.00)	0 (0.00)
5.	Financial support for death or loss of animal	0 (0.00)	0 (0.00)	0 (0.00)
6.	Financial support	5 (8.33)	7 (11.67)	5 (8.33)
7.	Health care and sanitation of the animals	44 (73.33)	30 (50.00)	30 (50.00)
B) Voluntary organizations				
1.	Providing food items	0 (0.00)	0 (0.00)	0 (0.00)
2.	Providing clothes	0 (0.00)	0 (0.00)	0 (0.00)
3.	Temporary shed	0 (0.00)	0 (0.00)	0 (0.00)
4.	Counseling/Moral support	0 (0.00)	0 (0.00)	0 (0.00)
5.	Animal health camps	44 (73.33)	38 (63.33)	38 (63.33)
6.	Providing medicines	0 (0.00)	0 (0.00)	0 (0.00)
7.	Providing fodder	0 (0.00)	0 (0.00)	0 (0.00)

3.3 Constraints in managing dairy farms during flood

The results in table 3 revealed that shortage of feed and fodder was expressed as the major constraint by 96.67 per cent of the flood affected farmers. Low milk yield (91.67%) was the next important constraint followed by, more ailments/diseases to the animals (81.67%), lack of market access (81.67%), Non availability of credit facilities for adaptation to flood/ drought (80.00%), low price of milk (80.00%), lack of timely veterinary services (78.33%), no access to milk cooperative societies (76.67%), low purchasing power (73.33%), no housing facilities for animals (66.67%), lack of awareness about government schemes for flood affected area (63.33%), low availability of dry fodder (61.67%), high cost on feeding and storage of feed (36.67%), lack of grazing land (33.33%), inadequate knowledge about feeding (30.00%), no local experts (28.33%), high cost of medicine and treatment services

(23.33%), low fat level in milk (23.33%), loan from money lenders with high interest (11.67%), lack of co-operation and co-ordination among the villagers during flood (8.33%), lack of knowledge on clean milking methods (6.67%), poor conception of animals (5.00%) are the other constraints faced by flood affected farmers.

Dairy farmers in flood affected areas face feed and fodder shortage due to displacement and non-availability of feed and fodder for dairy animals. Since the floods may disturb availability of local experts and can effect on ‘timely availability of veterinary services’ to treat the animals during the crisis, these above problems were faced by the dairy farmers. The above results are in line with Sharma *et al.* (2021) ^[8] who revealed from his study that 59.39 per cent of the respondents expressed unavailability of emergency veterinary services. Due to immediate effects of flood lead to lack of access to market for selling milk.

Table 3: Constraints in managing dairy farms during flood (n=60)

Sl. No.	Constraints*	Flood affected farmers (n=60)		
		Freq.	%	Rank
I. General				
1.	Low milk yield	55	91.67	II
2.	Low fat level in milk	14	23.33	XV
3.	Poor conception of animals	3	5.00	XIX
II. Feeds and feeding				
1.	Inadequate knowledge about feeding	18	30.00	XIII
2.	Shortage of feed and fodder	58	96.67	I
3.	High cost on feeding and storage of feed	22	36.67	XI
4.	Lack of grazing land	20	33.33	XII
5.	Low availability of dry fodder	37	61.67	X
III. Veterinary/Health care service				

1.	Lack of timely veterinary services	47	78.33	V
2.	High cost of medicine and treatment services	14	23.33	XV
3.	No local experts	17	28.33	XIV
IV.	Care and Management			
1.	No housing facilities for animals	40	66.67	VIII
2.	Lack of knowledge on clean milking methods	4	6.67	XVIII
3.	More ailments/diseases to the animals	49	81.67	III
V.	Marketing			
1.	Lack of market access	49	81.67	III
2.	Low price of milk	48	80.00	IV
3.	No access to milk cooperative societies	46	76.67	VI
VI.	Others			
1.	Low purchasing power and credit facility	44	73.33	VII
2.	Lack of awareness about government schemes for flood/drought affected area	38	63.33	IX
3.	Non availability of credit facilities for adaptation to flood/drought	48	80.00	IV
4.	Lack of co-operation and co-ordination among the villagers during flood/drought	5	8.33	XVII
5.	Loan from money lenders with high interest	7	11.67	XVI

*More than one responses is possible

3.4 Constraints in managing dairy farms during drought

The findings in table 4 had observed that high cost on feeding and storage of feed was the major constraint expressed by 88.33 per cent of the drought affected farmers. Non availability of credit facilities for adaptation to drought (83.33%) was the next major constraint expressed followed by lack of awareness about government schemes for drought affected area (81.67%), low price of milk (80.00%), low milk yield (61.67%), shortage of feed and fodder (58.33%), lack of timely veterinary services (43.33%), no access to milk cooperative societies (30.00%), more ailments/diseases to the animals, lack of market access (28.33%), no local experts (28.33%), inadequate knowledge about feeding (21.67%), loan from money lenders with high interest (18.33%), lack of co-operation and co-ordination among the villagers during drought (15.00%), high cost of medicine and treatment services (13.33%), poor conception of animals (13.33%), low fat level in milk (10.00%), lack of knowledge on clean milking methods (8.33%), low

availability of dry fodder (6.67%), no housing facilities for animals (5.00%), low purchasing power and credit facility (5.00%) are the other constraints faced by drought affected farmers.

The reasons for above findings might be poor management of animals during natural calamities, stress faced by the dairy animals and improper feeding during crisis or due to starvation. The results are in line with the results of Sharma *et al.* (2021) ^[8] who reported that 43.58 per cent of the respondents expressed low average milk yield of the milk animals. Drought affected farmers use stored fodder and purchase feeds for feeding animals during drought because which they face problems like higher cost of feeds. The findings of Kant *et al.* (2015) ^[4] had shown that shortage of feed and fodder was given fourth ranking. Major constraint was expressed as low price of milk which may be due to lower quality of milk. Kant *et al.* (2015) ^[4] revealed that lack of market access for inputs was ranked fourth.

Table 4: Constraints in managing dairy farms during drought (n=60)

SI. No.	Constraints*	Drought affected farmers (n=60)		
		Freq.	%	Rank
I.	General			
1.	Low milk yield	37	61.67	V
2.	Low fat level in milk	6	10.00	XIV
3.	Poor conception of animals	8	13.33	XIII
II.	Feeds and feeding			
1.	Inadequate knowledge about feeding	13	21.67	X
2.	Shortage of feed and fodder	35	58.33	VI
3.	High cost on feeding and storage of feed	53	88.33	I
4.	Lack of grazing land	0	0.00	XIX
5.	Low availability of dry fodder	4	6.67	XVI
III.	Veterinary/ Health care service			
1.	Lack of timely veterinary services	26	43.33	VII
2.	High cost of medicine and treatment services	8	13.33	XIII
3.	No local experts	17	28.33	IX
IV.	Care and Management			
1.	No housing facilities for animals	3	5.00	XVII
2.	Lack of knowledge on clean milking methods	5	8.33	XV
3.	More ailments/diseases to the animals	18	30.00	VIII
V.	Marketing			
1.	Lack of market access	17	28.33	IX
2.	Low price of milk	48	80.00	IV
3.	No access to milk cooperative societies	18	30.00	VIII

VI.	Others			
1.	Low purchasing power and credit facility	3	5.00	XVII
2.	Lack of awareness about government schemes for flood/drought affected area	49	81.67	III
3.	Non availability of credit facilities for adaptation to flood/drought	50	83.33	II
4.	Lack of co-operation and co-ordination among the villagers during flood/drought	9	15.00	XII
5.	Loan from money lenders with high interest	11	18.33	XI

*More than one responses is possible

3.5 Dairy farmer’s suggestions in managing dairy during natural calamities (Flood and Drought)

The findings in table 5 reveals that majority (72.50%) of the dairy farmers suggested government should provide feed and fodder during natural calamities (Rank I) followed by ensure timely availability of technical staff (63.33%) which was given rank II and create awareness about government schemes (60.00%) was ranked III. Further, more than half of the farmers (55.00%) suggested that credit institutions should provide credit at lower interest rates (rank IV) and provision of insurance for death or loss of animals during natural calamities (52.50%) was given rank V.

The dairy farmers after facing the calamities felt the

shortage of feed and fodder, lack of access to technical guidance, lack of awareness, lack of financial support, loss or death of animals during crisis and non-availability of timely veterinary services during crisis period, they expressed that either the government organizations or developmental departments/NGOs should come to the rescue of the dairy farmers during natural calamities. The findings of the study were similar to the findings of Kant *et al.* (2015) ^[4] who reported majority (60.83%) suggested establishment of fodder banks so that farmers can get fodder during drought situation/scarcity period while 68.75 per cent suggested to organize awareness campaign about climatic problems.

Table 5: Suggestions of dairy farmers related to dairy management during natural calamities (n=120)

Sl. No	Suggestions*	Frequency	Percentage	Rank
1.	Government should provide feed and fodder during flood and drought	87	72.50	I
2.	Ensure timely availability of veterinary staff during natural calamities	76	63.33	II
3.	Create awareness about government schemes during natural calamities	72	60.00	III
4.	Credit institutions should provide credit at lower interest rates for the affected dairy families	66	55.00	IV
5.	Provision of insurance for death or loss of animals during natural calamities	63	52.50	V

*More than one responses is possible.

4. Conclusion

It can be concluded from the study that the shortage of feed and fodder was the major constraint faced by 96.67 per cent of the flood affected farmers. Therefore it is necessary that government has to provide feed and fodder as relief materials to the dairy farmers during the flood. High cost and storage of feeds was found to be the major constraint expressed by 88.33 per cent of the drought affected farmers. Hence, government and voluntary organizations must assist the dairy farmers by providing access to feeds at reasonable cost and has to establish feed storage godowns in the drought affected areas. Lack of awareness and non-provision of credit support to the affected farmers during crisis situation must be resolved through awareness campaigns from the government. There is also a need to establish community level fodder banks and timely availability of veterinary service, provisions for market access during natural calamities is necessary.

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