

Stress and subjective wellbeing of Farmers, Konkan region: Descriptive correlational study

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Abstract:

Climate change is increasingly recognized as a profound threat to global agriculture and, specifically, the dairy industry, acting as a "hunger-risk multiplier" that compromises food security. The current study aimed to assess the level stress and subjective wellbeing in farmers with correlation in between them. Descriptive correlational study applied on 140 farmers, by using Structured Stress scale and Modified subjective wellbeing by using Interview technique. **Results:** Majority of study participants were aged 31-40 years and males. In stress Maximum farmers were had moderate level of stress 137(97.85%). Similarly in subjective wellbeing majority had moderate level of subjective wellbeing 138(98.57%), the correlation coefficient was found to be $\rho = -0.172$ (at $p < 0.005$) which shows that there is a statistically significant negative correlation between farmer's stress and subjective wellbeing and there was no significant association between farmer's stress and subjective wellbeing and selected socio demographic variables of famers. **Conclusion:** Moderate level of stress and subjective wellbeing should not be neglected that also need to be addressed because there may be other family members feel the effects as well.

Keywords :

Introduction:

Climate change threatens our ability to ensure global food security, eradicate poverty and achieve sustainable development. About 736 million people live in extreme poverty, and the global response to climate change today will determine how we feed future generations. By 2030, UN member countries have committed to eradicating extreme poverty and hunger for people everywhere. As ending poverty and hunger are at the heart of FAO's work, the organization is helping countries develop and implement evidence-based pro-poor policies, strategies and programmes that promote inclusive growth and sustainable livelihoods, as well as to increase the resilience, adaptive and coping capacity of poor and vulnerable communities to climate change⁽¹⁾.

Climate change is increasingly recognized as a profound threat to global agriculture and, specifically, the dairy industry, acting as a "hunger-risk multiplier" that compromises food security. To prove these Farmers in Ratnagiri are currently experiencing moderate to high levels of stress, primarily driven by severe climate-induced crop losses, specifically targeting the region's famous Alphonso mangoes. The 2026 season has already seen warnings of an up to 80% loss in mango production due to unseasonal rains and temperature fluctuations, causing significant financial instability⁽²⁾.

Climate-related productivity declines can reduce smallholder farm incomes by 15–25%. In developing economies, dairying is a key, often primary, source of cash income and nutrition, making its disruption a direct threat to poverty reduction efforts. A decrease in milk production affects the availability of animal protein, particularly for the rural poor and vegetarian populations, worsening nutritional security⁽²⁾.

India is mainly an agricultural country. Agriculture accounts for approximately 33 percentage of India's gross demographic production and employ nearly 62 percentage of population. 43 percentage of India's geographical area is used for agricultural activity⁽³⁾.

Farmers themselves are not the only ones impacted by stress, although they may experience the direct effects of an injury or illness. Other family members feel the effects as well. For example, several studies document that the daughters-in-law of adult male farmers may experience the most stress within farm families. Children also are likely to feel the effects of stress which may lead to behavioral problems or difficulty performing school or work activities⁽³⁾.

A major study by the National Institute for Occupational Safety and Health examined the incidence of stress related diseases for 130 occupations. The health records of more than 22000 Tennessee workers were examined. The study revealed that the farmers were among 12 categories of

workers that displayed high incidence of stress related illnesses. When death certificates were analyzed alone, farmers were second only to laborers in the rate of death from stress related diseases⁽³⁾.

Research Gap:

The Indian peasantry, the largest surviving body of small farmers in the world, is currently facing an epidemic of suicide. For thousands of years farmers have depended on the Earth to sustain their families. Now, in the twenty-first century, their livelihood, prosperity, and the well-being of their families for generations to come are being threatened by globalization and the shift in the linkage of agriculture from the Earth to a few profit-driven multinational corporations⁽⁴⁾.

Stress on today's farmers can mean pressure, conflict and uncertainty. As frustration and helplessness build, these can lead to problems between spouses, children, parents and relatives. If left unresolved, these feelings can lead to costly accidents and deaths as witnessed in many farmers' suicides in recent days all over country⁽⁴⁾.

According to a study farmers are considered to be the fourth highest occupation group at risk of committing suicide. However, the mental health needs of the farming community are currently poorly addressed by mental health nurses and community mental health teams⁽⁴⁾.

A study conducted to address the occupational stress of farmers. The program reached out to distressed farmers following referral from agencies, health professionals, and particularly, farm partners, volunteers selected from within the farm community to serve as case finders. These case finders were trained to recognize individuals and families who were dealing poorly with emotional stress. They

reported on the experience with 395 clients, over 1,000 personal interviews, and over 700 referrals to nearly 100 rural resources. The most frequent referral was for financial advice (17.9%), the next most frequent (10.6%) for health professionals and for support groups (10%), and for assistance with emotional problems (9.3%). Customer satisfaction survey data suggest the program was highly rated by clients⁽⁶⁾.

Objectives:

- 1) To assess the level of stress of farmers
- 2) To assess the subjective wellbeing of farmers.
- 3) To find out the correlation between stress and subjective wellbeing of farmers
- 4) To find out the association of the stress and subjective wellbeing of farmers with selected demographic variables.

Assumptions:

1. Farmers may experience stress.
2. Farmers may have different levels of subjective wellbeing.

Methodology:

Research Approach: Quantitative research, **Research design:** Descriptive correlational design. **Setting:** Farmers of Konkan region, Maharashtra. **Sample and Sampling technique:** Farmers of Konkan region and Non- probability, convenient sampling technique. **Tools used in the study:** Tool 1: Demographic profile, Tool 2: Structured Stress scale, and Tool 3: Modified subjective wellbeing inventory. **Method of data collection:** Interview technique.

RESULTS:

Table 1: Frequency and percentage distribution of Sociodemographic variables of farmers

Socio-Demographic variables	Responses	Frequency	Percentage
Age in years	21 to 30 yrs	14	10
	31 to 40 yrs	114	81.4
	41 to 50 yrs	12	8.6
Gender	Male	72	51.4
	Female	68	48.6
Educational status	10 th Std and below	35	25
	12 th Std and below	105	75
Type of family	Nuclear	59	42.1
	Joint	81	57.9
Land size	≤ 2 acres	33	23.6
	>2acres	107	76.4

Cont...

Annual family income in rupees	≤ 30.000	23	16.4
	≥ 30.001	117	83.6
Marital status	Married	93	66.4
	Unmarried/Divorced	47	33.6
No of family members	≤ 6	61	43.6
	≤ 7	79	56.4
Previous source of information	Yes	39	27.9
	No	101	72.1
Chronic disease	Yes	42	30
	No	98	70
Off farm job	Yes	70	50
	No	70	50

Maximum age group was between 114 (81.4%) 31-40 years, in gender major were males 72(51.4%), in educational status major were completed 12th Std and below 105(75%), in type of family maximum were belong to joint family 81(57.9%), maximum subjects had land size >2acres 107(76.4%), in Annual family income in rupees major farmers had 117(83.6%) monthly income ≥ 30.001, in marital status

major were 93(66.4%) married, in number of family members majority farmers family members more than 7 79(56.4%), in Previous source of information maximum farmers had no previous information 101(72.1%), only 42 (30%) had chronic disease, and 70(50%) of farmers were doing other jobs.

Table 2: Analysis of farmer's stress.

Variable	Mean	Median	Mode	SD	Minimum	Maximum
Stress	31.92	32	31	4.34	22	46

Level of stress	Frequency	Percentage
Lower	**	**
Moderate	137	97.85
Higher	3	2.14
Total	140	100

In analysis of stress mean score was 31.92 and range of score is from 22-46. Maximum farmers were had moderate level of stress 137(97.85%).

Table 3: Analysis of farmer's subjective well being.

Variable	Mean	Median	Mode	SD	Minimum	Maximum
Subjective well being	42.69	43	43	5.84	27	59

Level of Subjective well being	Frequency	Percentage
Lower	**	**
Moderate	138	98.57
Higher	2	1.42
Total	140	100

In analysis of subjective wellbeing mean score was 42.69 and range of score is from 27-59. Maximum farmers were had moderate level of subjective wellbeing 138(98.57%).

Table 3: Findings related to correlation of farmer's level of stress and their level of subjective wellbeing
Correlation of farmer's level of stress and their level of subjective wellbeing

	Correlation coefficient	P value
Spearman's rank correlation between farmer's stress and subjective wellbeing	$\rho = -0.172$	> 0.005

The above table indicates the correlation coefficient between farmer's stress and subjective wellbeing. Spearman's rank correlation formula was used to work out the correlation between stress and subjective wellbeing. The correlation coefficient was found to be $\rho = -0.172$ (at $p < 0.005$) which shows that there is a statistically significant negative correlation between farmer's stress and subjective wellbeing.

Table 4: Findings related to association between farmer's stress and selected demographic variables.

Socio-Demographic variables	Responses	Modified SWB inventory		Chi Square	df	Inference
		Below median	Above median			
Age in years	21 to 30 yrs	7	7	2.30	2	NS
	31 to 40 yrs	54	60			
	41 to 50 yrs	3	9			
Gender	Male	32	40	0.09	1	NS
	Female	32	36			
Educational status	10 th Std and below	19	16	1.38	1	NS
	12 th Std and below	45	60			
Type of family	Nuclear	29	30	0.48	1	NS
	Joint	35	46			
Land size	≤ 2 acres	17	16	0.58	1	NS
	>2a cres	47	60			
Annual family income in rupees	≤ 30.000	12	11	0.46	1	NS
	≥ 30.001	52	65			
Marital status	Married	42	51	0.03	1	NS
	Unmarried/Divorced	22	25			
No of family members	≤ 6	31	30	1.13	1	NS
	≤7	33	46			
Previous source of information	Yes	19	20	0.19	1	NS
	No	45	56			
Chronic disease	Yes	23	19	1.97	1	NS
	No	41	57			
Off farm job	Yes	30	40	0.46	1	NS
	No	34	36			

The above table depicts that there is no significant association between farmer's stress and selected demographic variables

Table 5: Findings related to association between farmer's subjective wellbeing and selected demographic variables.

Socio-Demographic variables	Responses	Modified SWB inventory		Chi Square	df	Inference
		Below median	Above median			
Age in years	21 to 30 yrs	8	6	0.31	2	NS
	31 to 40 yrs	67	47			
	41 to 50 yrs	8	4			
Gender	Male	39	33	1.60	1	NS
	Female	44	24			
Educational status	10 th Std and below	30	15	0.08	1	NS
	12 th Std and below	63	42			
Type of family	Nuclear	35	24	0.00	1	NS
	Joint	48	33			
Land size	≤ 2 acres	19	14	0.05	1	NS
	>2acres	64	43			
Annual family income in rupees	≤ 30.000	13	10	0.08	1	NS
	≥ 30.001	70	47			
Marital status	Married	57	36	0.46	1	NS
	Unmarried/Divorced	26	21			
No of family members	≤ 6	36	25	0.00	1	NS
	≤ 7	47	32			
Previous source of information	Yes	23	16	0.00	1	NS
	No	60	41			
Chronic disease	Yes	20	22	3.38	1	NS
	No	63	35			
Off farm job	Yes	43	27	0.26	1	NS
	No	40	30			

The above table depicts that there is no significant association between farmer's subjective wellbeing and selected demographic variables

Discussion:

Major findings of the study

1. Findings related to the demographic characteristics

In this section, the demographic characteristics of farmers are discussed. 140 farmers were selected from the 3 villages of Taluka Khed, Dist Rtanagiri. Findings related to socio-demographic variables were discussed as follows:

- Maximum age group was between 114 (81.4%) 31-40 years
- Major samples were males 72(51.4%)
- Maximum samples were completed 12th Std and below 105(75%)
- Majorly farmers were belong to joint family 81(57.9%)
- Maximum subjects had land size >2acres 107(76.4%)
- Major farmers had 117(83.6%) monthly income ≥ 30.001

- Maximum farmers were 93(66.4%) married
- In Majority farmers family members were more than 7, 79(56.4%)
- Maximum farmers had no previous information 101(72.1%)
- Only 42 (30%) had chronic disease
- 70(50%) of farmers were doing other jobs

The first objective was to assess the farmer's stress level

The study found that majority 137 (97.85%) sample had moderate level of stress where as 3 (2.14%) had higher level of stress.

Similar study said that farmers had problems with record keeping and paperwork (62%), difficulty understanding forms (56%), and problems arising from the effects of new legislation and regulations (49%). Nearly a quarter (23%) reported financial problems and most worried about money (79%). Very few were socially isolated, with over 90% having at least one confidant. 70% worked > 10 hours a day, and 31% had health problems which interfered with their work, including more than a quarter of those < 50. 16% of the sheep farmers reported

symptoms which they attributed to organophosphate poisoning. The survey confirms findings from several regional studies that many farmers are experiencing considerable stress from various causes.⁶

The second objective was to assess the level of subjective wellbeing among farmers

The study found that majority 138 (98.57%) sample had moderate level of subjective well being whereas 2 (1.42%) had higher level of subjective wellbeing.

The results of present study supported by the study revealed evaluations by 701 Alabama farmers of recent life experiences in farming and expectations for life quality in the future as a function of farm structural characteristics were more important determinants of well-being than were farm structure dimensions. The study concluded that the subjective wellbeing among farmers vary and is considerably lesser than that of other workers.⁷

Third objective was to find out the correlation between stress and subjective wellbeing

The correlation between the stress and subjective wellbeing was assessed and depicted in table No 3. It was found that there was a significant negative correlation between the farmer's stress and subjective wellbeing. The Spearman's rank correlation formula was used and the score was $\rho = -0.172$ ($p > 0.05$).

These results are in consistent with the results of study to examine the structural relationships among socio-demographic characteristics, health status, stress, psychological resources, and subjective well-being (SWB) among the Black elderly. Results reveal that poor subjective health status was predictive of lower levels of personal efficacy and subjective wellbeing (SWB). Stressful life events tended to depress subjective assessments of health and had negative effects on self-esteem and SWB. Marital status and age had positive effects on SWB. Chronic health conditions and other demographic variables, however, had indirect effects on SWB.⁸

The fourth objective was to find out the association of stress and subjective wellbeing with selected demographic variables:

Results found that there is no significant association between farmer's stress and subjective wellbeing and selected demographic variables

Conclusion:

Present study focused to assess the farmer's stress and the level of subjective wellbeing. 114 farmers aged between 31-40 years were participated in the study. Among the 140 samples majority of the farmers i.e. 137 (97.85%) sample had moderate level of stress whereas 3 (2.14%) had higher level of stress. Similarly majority 138 (98.57%) sample had moderate level of subjective wellbeing whereas 2 (1.42%) had higher level of subjective wellbeing. Regarding association between the stress and subjective wellbeing with socio demographic variables of farmers, there no significant association found between that. At the end conclusion was Moderate level of stress and subjective wellbeing should not be neglected that also need to be addressed because there may be other family members feel the effects as well.

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