

Research Article

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Assessing Stress levels of Farmers in Telangana state

Kavitha Kiran V.^{1*}, Neela Rani R.², Asha Jyothi T.³ and Spanadana B.²

¹Department of Human Development and Family Studies, College of Community Science, Professor Jayashankar Telangana State Agricultural University, Rajendra Nagar, Hyderabad, Telangana, India.

²All India Coordinated Research Project on Women in Agriculture, Department of Extension, Professor Jayashankar Telangana State Agricultural University, Rajendra Nagar, Hyderabad, Telangana, India.

³All India Coordinated Research Project on Women in Agriculture, Department of Child Development, Professor Jayashankar Telangana State Agricultural University, Rajendra Nagar, Hyderabad, Telangana, India.



ABSTRACT

Farming is more challenging than ever before. Farm families are facing social and financial problems and these pressures can cause a high level of stress within many farm families. The purpose of this study was to identify and explore factors associated with stress among farmers. Exploratory research design and Edinburgh Farming Stress Inventory were used to study farmers' stress levels. A total of 135 samples were selected; 65 male and 70 female samples were selected from two different villages. The study results revealed that nearly half (48%) of the men scored severe stress, while only 21% of women assesses as having severe stress. This means that the men sample had scored slightly more stress compared to women. This might be because socioeconomic conditions, uncontrolled weather, and the marketing conditions of farmers led to high scores of stress. It is said that money and mental health are often linked. Major purchase for farming activities and farming-related activities like new technology and policies leads to debt and worrying about money can worsen mental health, causing depression and stress. The present study concluded that financial and farm-related factors make them more vulnerable to stress, hence study recommends stress management techniques for farmers to overcome the stress.

Keywords: Agricultural, Occupation, Financial, Farmer, Stress, Telangana

Introduction

India is a global agricultural powerhouse. It is the world's largest producer of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton. While agriculture's share in India's economy has progressively declined to less than 15% due to the high growth rates of the industrial and services sectors, the sector's importance in India's economic and social fabric goes well beyond this indicator. First, nearly three-quarters of India's families depend on rural incomes. Second, the majority of India's poor (some 770 million people or about 70 percent) are found in rural areas. Farming is a complex way of living that creates stressful life conditions among farmers in the primary sector.

Nowadays, many farmers face a different kinds of stressors. Stress is a feeling of emotional or physical tension. It can come from any event or thought that makes us feel frustrated, angry, or nervous. Stress is our body's reaction to a challenge or demand. In short bursts, stress can be positive, such as when it helps you avoid danger or meet a deadline. Numerous factors may cause stress for farmers and others who work in agriculture. Stress can arise due to changes in opportunities, demand, climate, environment, threats, constrains, equipment break down at any time and old farming practices.

*Corresponding Author: **Kavitha Kiran V**

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Farming is more challenging than ever before. Farm families are facing social and financial problems and these pressures can cause a high level of stress within many farm families. This constant stress that they experience will lead to physical, emotional and behavioral problems. Some ways have to be identified to reduce or remove the stress of the farm community. This study explores the farmer's stress levels and possible factors that may act as stressors in farming families.

Objectives of the study

1. To assess the stress level of the farming community.
2. To identify stressors or causative factors of stress among gender.
- 3.

Review of Literature

Swagata. G, Monirul. H and Sankar.K.A (2020) Studied Farmers and Stressful Farming: The Conflict and Chaos. The study found that Indian farmers, especially the owners of marginal and fragmented holdings, are running and reeling under incessant stress and drudgery. The stressors are dwindling and uncertain income, insurmountable debt trap and unpredictable climate. When costs are simmering, returns are extremely stoic; the farmers are being thrown into a hell of chaos. The sociology of Indian farming steers down the pathway of chaos and entropy; farmers' suicides are the shocking indicator to measure the unfathomable agony and distress.

Yazd.S.Det al.(2019) studied Key Risk Factors Affecting Farmers' Mental Health: A Systematic Review. The study revealed that comparative studies on the mental health of farmers and other occupational workers showed mixed results, with a larger portion identifying that psychological health

disturbances were more common in farmers and farm-workers. Knowledge of farmer psychological disorder risk factors and its impacts is essential for reducing the burden of mental illness.

Samuel O. T *et al.* (2019) Taming Occupational Stress among Farmers in Developing Nations. The study results revealed that about 98% of the respondents identified stressors that are related to their occupations. These stressors included unfavorable government policies, long hours of farm labour, labour scarcity, poor harvest anxiety, poor transport infrastructure, poor access to credit facilities, untimely access to farm inputs, poor market proximity and poor access to market information, among others.

Gregory D. Ket, *al* (2014) A Cross-Sectional Study of Stressors among Farmers in Eastern North Carolina. The study results revealed that experiencing 8 or more factors as "very stressful" was found to be positively associated with working more than 40 hours per week on the farm ($P = .008$) and with being a farm manager or a farm worker who does not operate equipment ($P = .001$).

Bin.H and Ang (2010) studied Occupational stress among New Zealand farmers a review. This study found that farmers are experiencing high level of stress due to the impact of various uncontrollable factors in the work environment. Occupational stress pertinent to the New Zealand agriculture sector includes: (i) economic factors, (ii) adjusting to government regulations, (iii) labour shortage, (iv) effect of trade globalization, (v) climatic conditions, and (vi) size of the farm.

Materials & Methods

A sample of thirty-five farmers was selected from Maheshwaram Mandal in Telangana state is selected as sample for this study. 65 men and 70 women sample were selected. Age between 18 to above 60 years of age group selected as the sample for this study Edinburgh Farming Stress Inventory was used to study the stress levels of farmers.

Table 1. To assess the stress level of farming community (N=135)

| Stress Levels of Farmers | Male | | Female | | Total | |
|--------------------------|------|----|--------|----|-------|----|
| | F | P | F | P | F | P |
| No stress | 0 | 0 | 0 | 0 | 0 | 0 |
| Little stressful | 0 | 0 | 11 | 17 | 11 | 8 |
| Moderately stressful | 16 | 24 | 27 | 38 | 43 | 32 |
| Very stressful | 18 | 28 | 17 | 24 | 35 | 26 |
| Severely Stressful | 31 | 48 | 15 | 21 | 46 | 34 |

Results and Discussion

It was evident from the above table that nearly half (48%) of the men scored severe stress when compared to women comprising of (21%), one-fourth (28%) of men scored very high stress whereas women only 22% for the same. In total 34% of both gender samples were in the severely stressful category. This means that the men sample had scored slightly more stress compared to women. High levels of stress indicated that financial pressures, debt load, unpredictable weather and market conditions led them to score high stress levels of farmers. Another study which is in line with the results of the study conducted by Kureshi JS *et al* (2018) studied occupational stress among farmers in the Aurangabad district, Maharashtra. The results of the study revealed that while farming occupation encompasses all types of stresses to farmers, the study area farmers were experiencing unpredictable weather and financial problems as major stress factors.

Table 2. To identify stressors or causative factors of stress among men farmers

| S.No | Items | No stress | Little stressful | Moderately stressful | Very stressful | Severely Stressful |
|------|--|-----------|------------------|----------------------|----------------|--------------------|
| 1 | Filling in government forms | | | 34(52%) | 18(28%) | 13(20%) |
| 2 | Adjusting to new government regulations and policies | | | | 54(83%) | 11(17%) |
| 3 | Machinery breakdown at busy times Complying with environmental regulations | | | 51(78%) | 9(14%) | 5(8%) |
| 4 | Too much to do and too little time to do it | 5(8%) | 21(32%) | 27(42%) | 8(12%) | 4(6%) |
| 5 | Changes in CAP Unpredictability of weather | - | - | 33(51%) | 27(41%) | 5(8%) |
| 6 | Increased work load at peak times | | | | 57(88%) | 8(12%) |
| 7 | Long hours of work | | | 23(35%) | 26(40%) | 16(25%) |
| 8 | Not enough ready cash | | | | 53(82%) | 12(18%) |
| 9 | Concerns about the continuing viability of the farm | | | 36(56%) | 25(38%) | 4(6%) |
| 10 | Unplanned interruptions | | | 15(23%) | 39(60%) | 11(17%) |
| 11 | Making major purchases for the farm | | | 13(20%) | 47(72%) | 5(8%) |
| 12 | Few holidays away from the farm | | 11(17%) | 20(31%) | 27(41%) | 7(11%) |
| 13 | Worrying about market conditions | | | | | 65(100%) |
| 14 | Problems of balancing work and family duties | 8(12%) | 23(35%) | 34(53%) | | |
| 15 | Debt load Worrying about owing money | | | | 38(58%) | 27(42%) |
| 16 | Having to make decisions without the necessary information | | | | 46(71%) | 19(29%) |

| | | | | | | |
|----|---|---------|---------|---------|---------|----------|
| 17 | Keeping up with new technology and procedures | | 26(40%) | 32(49%) | 7(11%) | |
| 18 | Significant production loss due to disease/pest/weeds Decision when to sell produce | | | | | 65(100%) |
| 19 | Personal illness during busy times | | | | 54(83%) | 11(17%) |
| 20 | Worrying about keeping the farm in the family | | | 21(32%) | 34(52%) | 10(15%) |
| 21 | Hazardous materials on the farm (dust/chemicals/powders) | 13(20%) | 21(32%) | 31(48%) | | |
| 22 | No farm help or loss of help when needed | | | | 43(66%) | 22(34%) |
| 23 | Farming related accidents Feeling isolated on the farm | 34(53%) | 27(41%) | 4(4%) | | |
| 24 | Not seeing enough people Having to travel long distances for services, shopping and health care | 1(2%) | 17(26%) | 47(72%) | | |
| 25 | Lack of close neighbours | 21(32%) | 19(29%) | 20(31%) | 5(8%) | |

Note: 'F' represents frequency and 'p' represents percentage

From table- 2 it was observed that fifty-two percent of male sample had moderate stress; one fourth (28%) of them had a very high stressful category, and twenty percent of the sample were reported severe stress when filling out government forms. Three-fourths of the sample had scored very high levels of stress. This means that farmers were facing problems in adjusting to new government regulations and policies.

Seventy-eight percent of the sample had reported moderate stress levels at busy times when machinery was broken followed by very less of them having severe stress. Nearly half (42%) of the sample had reported a moderate category of stress level and more than one-fourth (32%) of the sample had little stress. This might be due to plenty of work with limited time. Half of the sample very had moderate levels of stress followed by less than half (41%) of the sample had very high levels of stress. Very few (8%) of them had reported severe stress levels. This might be because of unpredictable weather changes in common agricultural policies (CAP).

This table depicts that eighty percent of them reported very high levels of stress Very few of them experienced severe stress due to increased workload.

Nearly half (40%) of the farmers reported a very high category of stress level and less than half (35%) of them scored moderate stress levels. Less than one-fourth (25%) of them experienced severe stress levels due to long periods of doing work in farms.

The majority of the sample (56%) and (60%) were in moderate and very high categories of stress levels. This might be because men are fearful of the continuing viability of farms and unplanned interruption in farming could be stress predicted. None of the samples had scored very little and no stress.

This table clearly states that three-fourths (68%) of the farmers had scored very high-stress category and less than one-fourth of them were in the moderate category and the remaining 8% reported severe stress. Spending more money on major purchases for farming could be the reason for scoring high stress.

A total of seventy-two percent of the sample was in moderate and very high categories. Very few (11%) of them were found in the severely stressful category. The remaining sample reported little stress. This might be due to no holidays for farmers and unpredictable marketing conditions, which make them become

more stressed.

Forty-one percent of them reported no and little stress none of them scored in high and severely stressful categories. The remaining fifty-three percent of the sample reported moderate levels of stress. High stress in farmers could be due to an imbalance of work and family responsibilities.

More than half (58%) of the sample had scored a very high category of stress and nearly half (42%) of them experienced severe stress due to there being so many debts to pay.

Three-fourths (71%) of the sample had reported very high and one-fourth (29%) of them had scored severe categories of stress due to making decisions in farming-related information was limited. None of them were in the very low category.

Almost equal samples were scored in little (40%) and moderate (49%) categories of stress levels. Only 11% of them reported a very high-stress category. This means that farmers not adjusting to new technology procedures.

The majority of the sample scored high and severely stressed category. This might be because of loss of production due to crop disease, pests and personal illness during busy times.

This infers that half (48%) of the sample scored moderate category of stress levels and more than one-fourth (32%) of them had in low category of stress levels. None of them were in the high and severe category.

From the table-1 it was clear that more than half of the sample 66% of the farmers had scored very high stress. It was also observed that 34% of them had also scored severe stress category. This might be due to the lack of manpower in farming led to scoring the high stress category. It was surprising to note that half of the sample scored in the stress category. Nearly half of the farmers were in the little stressful category.

Interestingly none of them had reported high and severe stress categories. Three-fourths (72%) of the sample were in the moderate category and 26% of the sample reported little stress. This indicates that farmers might not be interested traveling long distances for services, shopping and health care.

A total of half of the sample were in moderate and low categories of stress and very few (8%) of them scored very high categories of stress levels. lack of friends, and neighbors that caused farmers to score moderate stress.

Table: 3 To identify stressors or causative factors of stress among women farmers.

| S.No | Items | No stress | Little stressful | Moderately stressful | Very stressful | Severely Stressful |
|------|---|-----------|------------------|----------------------|----------------|--------------------|
| 1 | Filling in government forms | | 18(26%) | 41(58%) | 11(16%) | |
| 2 | Adjusting to new government regulations and policies | | 23(33%) | 51(73%) | 4(6%) | |
| 3 | Machinery breakdown at busy times Complying with environmental regulations | | 17(24%) | 40(57%) | 13(19%) | |
| 4 | Too much to do and too little time to do it | | | 13(19%) | 31(44%) | 26(37%) |
| 5 | Changes in CAP Unpredictability of weather | - | 14(20%) | 23(33%) | 28(40%) | 5(7%) |
| 6 | Increased workload at peak times | | | 35(50%) | 23(31%) | 17(24%) |
| 7 | Long hours of work | | | 37(49%) | 21(%) | 17(%) |
| 8 | Not enough ready cash | | | 41(59%) | 26(37%) | 3(4%) |
| 9 | Concerns about the continuing viability of the farm | | | 26(37%) | 25(36%) | 19(27%) |
| 10 | Unplanned interruptions | | 11(16%) | 25(36%) | 34(48%) | - |
| 11 | Making major purchases for the farm | | 19(27%) | 37(53%) | 14(20%) | |
| 12 | Few holidays away from the farm | | | 32(46%) | 29(41%) | 14(20%) |
| 13 | Worrying about market conditions | | | 44(63%) | 26(37%) | - |
| 14 | Problems of balancing work and family duties | | | 17(24%) | 30(43%) | 28(40%) |
| 15 | Debt load Worrying about owing money | | | 18(26%) | 48(68%) | 4(6%) |
| 16 | Having to make decisions without the necessary information | | 13(18%) | 34(49%) | 23(33%) | |
| 17 | Keeping up with new technology and procedures | 10(14%) | 12(18%) | 26(37%) | 22(31%) | |
| 18 | Significant production loss due to disease/pest/weeds Decision when to sell produce | | | | 48(69%) | 22(31%) |
| 19 | Personal illness during busy times | | 10(14%) | 36(51%) | 24(34%) | |
| 20 | Worrying about keeping the farm in the family | | 13(18%) | 28(40%) | 29(42%) | |
| 21 | Hazardous materials on the farm (dust/chemicals/powders) | 19(27%) | 23(33%) | 28(40%) | | |
| 22 | No farm help or loss of help when needed | | 16(23%) | 31(44%) | 23(33%) | |
| 23 | Farming related accidents Feeling isolated on the farm | | | 19(27%) | 31(44%) | 20(29%) |
| 24 | Not seeing enough people Having to travel long distances for services, shopping and health care | | | 22(31%) | 34(49%) | 14(20%) |
| 25 | Lack of close neighbours | | | 10(14%) | 24(34%) | 36(52%) |

Note: 'F' represents frequency and 'p' represents percentage

From the above table- 3 it was clear that half sample were in moderate category and less than on fourth (26%) of them in low category of stress. Very few (16%) of them were scored in high category of stress levels. This might be due to fear of filling farm related government forms.

Three fourth (73%) of the women farmers were reported moderate category of stress and more than one fourth of sample were in little stress due to adjusting to new government regulations and policies.

One-fourth of the sample (24%) were in low category and more than half of sample were reported moderate stress and 19% of them were in very high stress category. This might be due to machinery breakdown at busy timings.

Almost equal sample were reported high and severely stress categories. Remaining 19% of them were in moderate category. This might be because of female farmers were in high stress levels due to very limited to finish so much work fields.

Total three fourth of the sample were in moderate and high categories and less than one fourth of the sample were reported low stress cate Very few (7%) of them were in severe stress due to unpredictable changes in weather and agricultural policies.

More than half (59%) of the sample were in the moderate category and thirty seven percent of the farmers reported high category of stress. Very less 4% of them were in severe stress category. This might be due to the unavailability of less cash leading to stress among women farmers.

Almost equal sample were experienced moderate and high stress categories. Severe stress was observed by less than one-fourth of the sample. This might be due to concerns about the continuing viability of the farm resulted in high stress levels.

More than fourth (36%) of the sample were reported moderate stress and very high stress was observed by half of farmers (48%). The remaining twenty percent of them were in the low stress category. This might be due to unplanned interruptions make them to more vulnerable, which leading to more stress among women farmers.

27% of them were score low category of stress levels. Fifty-three percent of the sample were in moderate and the remaining one fourth of them reported very high stress categories. High stress indicates that (pending more money on farm purchases) purchasing farm- related material them to scored high stress category.

Majority sample half of the sample were in moderate and very high categories and less than one-fourth of the sample were in severe stress category. This means that very high and severe levels of stress was observed by famers. This might be due to they are not having few time to spend with their family, relatives and taking rest results in high stress.

Sixty-three percent of the farmers were reported moderate and 37%of the sample were in scored very high stress due to unpredictable changes in market conditions.

Majority of the female sample were in very high and severe stress categories and less than one-fourth of them were moderate category. This indicates that farmers had reported high stress levels due to problems of balancing work and family responsibilities and worrying about paying loan amounts.

Half percent of the sample were in the moderate category and more than one fourth of the sample had scored very high category of stress. Very few (18%) of them were in low category.

Majority of the sample were reported moderate (37%) and very high (31%) levels of stress when come up with new technology and procedures. Eighteen percent of them were in low stress and remaining sample had no stress.

Three-fourths (69%) of the sample were in very high category of stress and remaining thirty one percent of them were in severe stress levels. This might be due to loss of crop production due to diseases and pest.

Majority of the farmers were in the moderate (51%) category and more than one-fourth (34%) of the sample were reported very high stress levels. Very few (14%) of them were scored in low category of stress. Almost equal sample were reported moderate and very high categories of stress. Remaining (18%) of them were in low category of stress. This might be due to personal health issues and worrying about taking care of family, children and farm activities.

Three fourth of the sample were in low and moderate categories of stress. None of them were in very high and severe categories. Forty four percent of sample were scored in moderate and 33% of them were in very high category, remaining 23% of sample were scored in low category of stress. High-stress levels indicate that using harmful material on the farms and there was no help from others when farmers required help in farming.

Three fourth of the sample were in very high (44%) and severe (29%) categories of stress. Remaining twenty-seven percent of them had scored low-stress levels. This might be due to farming-related accidents make them to more vulnerable to isolate from the farms.

Half of the sample were reported very high stress category and 20% of them were in severe category. More than one fourth of them were in moderate category of stress levels.

Majority of them were in very high and severe categories. This might be due to women had facing problems in long hour's travels for services, shopping, and health care.

More than half (52%) of farmers scored severe category and more than one fourth of sample were very high category of stress and rest of them 14% were in moderate. The majority of women sample were in severe and moderate categories. This might be due to the lack social interactions that caused to the women farmers have resulted in high scores. One study in the United States reported that while men and women farmers experienced stress differently, particularly around childcare, where women reported inadequate childcare as more stressful than men, these findings were not statistically significant. (Gunn, K.M et.,al 2012)

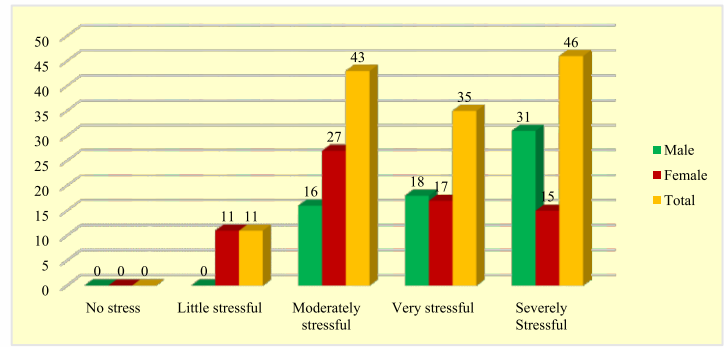


Fig. 1. Stress levels of farming communities

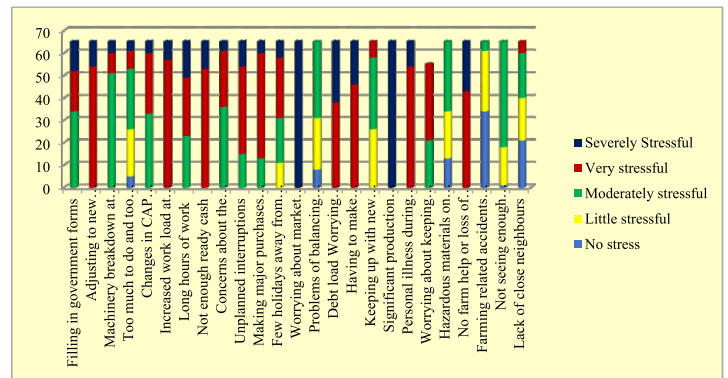


Fig. 2. Stressors or causative factors of stress among men farmers.

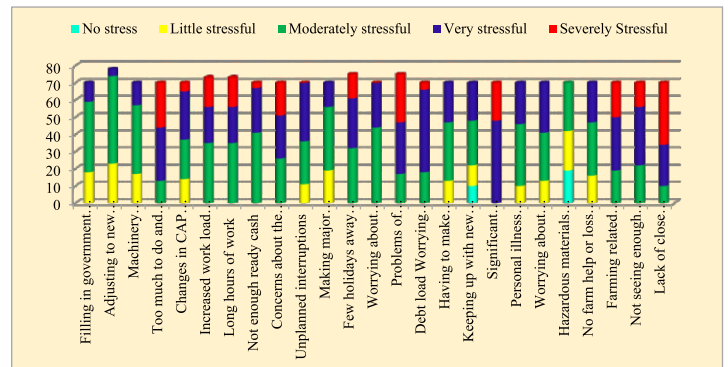


Fig. 3. Stressors or causative factors of stress among women farmers.

Conclusion

India is primarily an agricultural nation. Agriculture is the most significant occupation for most of the Indian families. This study was examined to find out the stress levels of farmers. The study results reported that the majority of the male sample were had scored high category of stress when compared women.Men sample had scored slightly more stress compared to women. Factors associated with increased stress scores included financial, farm-related, and social factors related to stress. Higher levels of stress in individuals will show a portion of the physical and mental side effects of stress. Hence, researchers can plan appropriate intervention techniques for farmers to overcome these stressors.

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