Indian Farmer
Volume 12, Issue 02, 2025, Pp. 88-94
Available online at: www.indianfarmer.net
ISSN: 2394-1227 (Online)

Original article

OPEN ACCESS

Suicidal Tendency in Farmers of Odisha- A Case Study

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Received: 07/02/2025 *Published:16/02/2025*

ABSTRACT

Majority of Odisha population lives in the rural areas where people mostly depend on farming as an income source. But there are various issues that farmers are facing at present which is not only affecting their economic status but also physical and mental health. Psychological issues like depression and anxiety have become common in farmers of Odisha that sometimes leads to suicidal tendency. In the current article, a field study was conducted in ten districts of Odisha where the psychological issues of farmers were recorded. It was observed that, out of 157 farmers, ~74 % had symptoms of depression, among which ~31 % of famers had severe depression, ~16 % had suicidal tendency and ~2 % farmers had already tried to commit suicide. However, in comparison to male, female farmers had shown low mental distress symptoms.

***Keywords**:* Odisha, Farmer, Depression, Suicide, Awareness.

INTRODUCTION

Farming system is determined according to the climate of that region. The agricultural production which indicates the food security is adversely affected by the climate change developing a threat to small and marginal farming households. From a study it is seen that the agricultural productivity is reduced due to rise in temperature and assessed sensitivity of Indian agriculture to climate change (Praveen and Sharma, 2019). Long-run and short-run agricultural outputs are negatively affected by the CO_2 emission while long-run agricultural output can be negatively affected by the temperature and rainfall (Chandio et al., 2020). Microbial population and their enzymatic activities in soil also affected by the climate change (Malhi et al., 2021). Fertilizer on the other hand, is a leading cause of nitrous oxide emission from agriculture (Aryal et al., 2021). Inorganic fertilizers can easily leach away from the root zone of the plant and contaminate ground water (Sharma and Chetani, 2020). The improper use of fertilizer coupled with a lack of attention on secondary micronutrients has resulted in suboptimal uptake of applied nutrients (Shukla et al, 2022). According

to recent research it appears that large scale farmers tend to use organic fertilizer more often and in greater quantities than their small-scale counterparts. Farmers in Haryana (India) have been found to be the most frequent users of Nitrogen fertilizer (Aryal et al., 2021). India is estimated to emit appropriately 6.24 Teragrams (Tg) per year of reactive nitrogen (Shukla et al., 2022).

Literature Review

Data collection for literature background was done by obtaining various articles related to impact of climate change on agriculture, impact of fertilizer and psychological issues of farmers from scholarly electronic databases, viz. Research gate, NCBI & Web of Science. Information from different literature was sequentially arranged in a systematic pattern for evaluation and data extraction. Keywords such as Odisha farmers, agriculture in Odisha, impact of flood on agriculture, mental distress in farmers, suicide rate and Indian farmer suicide were utilized for selecting specific articles needed for the current study.

Field Survey

Odisha is located in Eastern Ghats of India with large costal region and rich biodiversity. A case study was conducted in which 157 farmers from ten different district of Odisha were observed to detect any abnormal mental health conditions which will indicate the depression and suicidal tendencies in them. The ten districts are Balasore, Dhenkanal, Cuttack, Sambalpur, Jagatsinghpur, Khordha, Ganjam, Puri, Mayurbhanj & Kendrapada. All the 157 farmers were regularly monitored in a time gap of two months along with data collection from their family and friends regarding any improper behaviors (aggressiveness, anger, loneliness, etc.) expressed.

Suicides tendency in Farmers

Reason of farmers depression and suicide is majorly the changes in climatic condition along with other factors including trade and commerce which has influenced agriculture worldwide. In a research study conducted by Viswanathan et al. in the year 2019, it was recorded that from 194 farmers of 97.4% had depression, 67% had severe depression and about 60% had suicidal tendency. Farmer with few years of farming experience and several reductions in yield had a higher level of depression. Suicidal ideation was inflamed by gender, small-scale farming, few years of experience in farming and the impact of drought on yield (Viswanathan et al., 2019). In 2020, more than half 58 % of farmers have reported distress of mental health and 41.7 % farmers we reported no distress of mental health, means that mental health related to anxiety and insomnia.

Farmers Suicidal Rate in India

In India according to the National Crime Records Bureau (NCRB) data, it was recorded that during 2014 a total of 1,31,666 people committed suicide and out of this 12,360 were farmers.

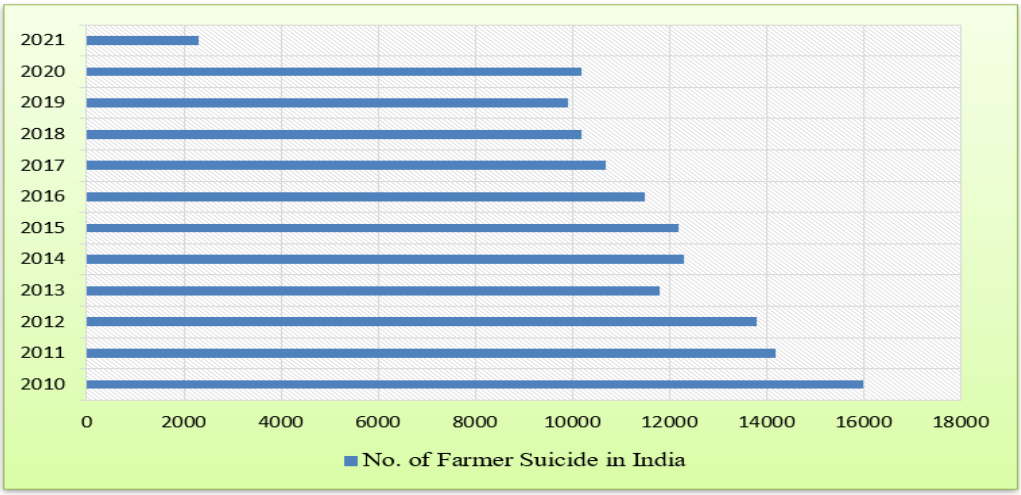

Figure 1: The number of famer suicide in India from the year 2010 to 2021.

The main issue of farmer depression is their financial problems because most of Indian farmers belong to poor and lower middle-class economic background. Most of the financial issues are caused due to drought or flood which hampers the yield of agricultural production. Research studies reported that the young age farmers are more affected by depression than old age farmers. Studies also reported that male farmers show more mental issues as compare to female farmers. After COVID-19 pandemic the suicide rate has reduces to a greater extend. The main reason behind this sudden fall is change in occupation which means many of Odisha farmers have left farming and started to do local small-scale business or worked as a daily worker. Although Indian government is organizing various event and projects for the benefit of farmers but all famers are not aware regarding those government schemes.

Farmer Suicide in Odisha

Odisha is located near the cost of Bay of Bengal which provides a good weather climate for different crops varieties. Rice is the major crop cultivated in Odisha. But due to frequent cyclones the farmers are greatly affected and suffer severe loss. In Odisha, the farmer suicide rate was around 140-160 per year during 2010-13 which reduced to around 40 from the year 2016-19. In the year 2020 and 2021, no farmer suicide was officially reported but there were many such cases. During the COVID pandemic the farmer suicides might be converted or reported as death due to COVID-19 infection.

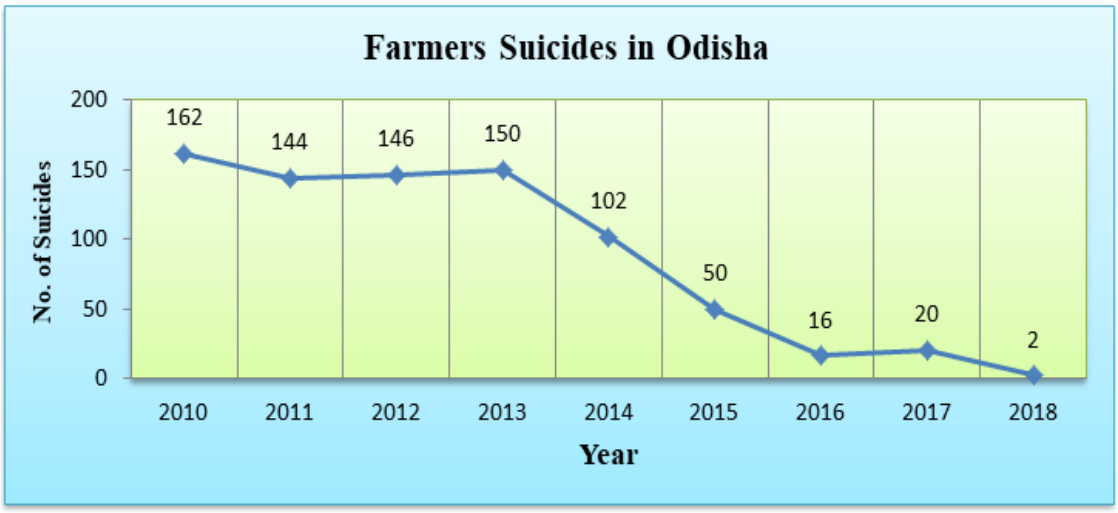

Figure 2: The number of farmer suicides in Odisha during the time period from 2010-2018 (Choudhury et al., 2017; NCRB database; News Articles).

Field Survey:

A field study was conducted from March 2023 to November 2024 in which 157 famers of different age group (30 – 80 years) and different gender (male and female), from ten district of Odisha were question answered to observe weather they have any symptoms of depression or not.

Out of 157 farmers 73.88 % (116 farmers) had symptoms of depression, among which 31.21 % (49 farmers) had severe depression, 15.92 % (25 farmers) had suicidal tendency and 1.91 % (3 farmers) had already tried to do suicide. It was observed that, in comparison to male, female farmers have low depression symptoms. The male farmers belong to age group of 40 – 60 years have high depression whereas the male farmers of age group 50 – 70 years has high suicidal tendency. Most of the male farmers lack proper knowledge related to different benefits that Indian Government is providing as a result of which monetary problem arising among them leading to psychological issues. Female farmers on the other hand do farming only to support their family occasionally. The female farmers are more aware regarding the government schemes provided to farmers through the Self-Help groups like Mission Shakti.

Awareness

Government and non-government organizations have conducted various awareness programs in different locations, all around India for developing skills of farmers. New technologies and agricultural techniques were demonstrated to famers for increasing the productivity (Deo et al, 2017).

Figure 3: Floriculture activities carried out by the students of Bharat Institute of Science and Technology (Higher Secondary School, Affiliated to CHSE) to understand the techniques used for Marigold (*Tagetes erecta*) Cultivation.

Many educational institutions in India have also introduced farming as a Co-curricular activity (CCA) among the students so that the young generation can better understand the advantages of farming, the problems a famer face and their remedies. By combining technology and traditional knowledge, promoting multidisciplinary approaches, and promoting flexibility and inclusivity within higher education institutions, the new education policy (NEP-2020) provides a thorough framework to advance agricultural education. We can significantly impact the formation of young minds by including agriculture education into school curricula (Lawankar et al., 2023). Through this integration, they get the knowledge and abilities needed to develop into responsible, proactive, and self-sufficient people who can significantly impact the nation's economy as a whole.

Figure 4: PG students from department of biotechnology, NIIS Institute of Information Science and Management helping the famers by providing information regarding advance farming techniques.

CONCLUSION

Agriculture plays a very important role in human civilization due to its contribution in development of human society in different sectors. But center factors like low availability of cultivation land, impact of climate change, development of IT Jobs and limited financial benefits are the major causes for distress in farming sector which somehow is related to depression and suicidal tendency recorded in farmers. Farming is a divine occupation and farmers are the most valuable asset of a civilization as it is the responsibility of a famer to place food on the plate for a human to eat. Farmers should adopt the transformational adaptations like substantial changes in land use, resources, labor allocations, occupational pattern and cropping system. The majority of Indian farmers should be aware about the meteorological data like rise in temperature, irregular pattern of weather and decreased amount of rainfall (Datta et al., 2022).

Government should put more emphasis on promoting awareness among the farmers and young generation regarding issues like climate change, effect of inorganic fertilizers, advance farming technology and schemes related to financial benefits. This will help in creating better environment for profitable farming which will help to develop farmer economic status ultimately developing the farmer's psychological health.

Acknowledgement

Authors are highly grateful to Er. Anshuman Pattanayak (Secretary-Cum-Managing Director) and Prof. Ashis Kumar Bhatttacharjee (Principal), Bharat Institute of Science and Technology, Bhubaneswar for providing all the facilities to conduct the current study.

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