

AN INVESTIGATIVE REPORT ON CIRCUMSTANCES LEADING TO DEATH AMONG INDIAN COTTON FARMERS

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Abstract. Andhra Pradesh, a southern state of India has been in the news for cotton farmers' deaths/suicides since 1998. The occurrence of 12 deaths among the farmers in the years 2001–2002 clustering around September–October expedited the investigation. The objective of our investigation was to identify the circumstances leading to death of cotton farmers in Warangal district of Andhra Pradesh. Some of the broadly held hypotheses were also analyzed for their validity. The socio-economic-political factors emerge as very strong determinants of deaths, given the occupational work environment.

FINDINGS AND DISCUSSION

Non-adherence to technical recommendations: The cotton plantation attracts multitudes of pests at different stages of its development warranting heavy pesticide usage. The farmers breached the guidelines on dosage, frequency, timing and methodology of pesticide usage in the field. They were doubling or tripling pesticide doses, experimenting with the mixture of 2–3 pesticides to overcome pesticide resistance. An uninterrupted spraying for long hours was being done, disregarding the mandatory break while spraying. The sprayers blamed the farm owner for not allowing them to take a break to extract maximum work for a day's wage, while the farmer counter blamed the sprayers for their late coming to the field (e.g. at 10:30 am). Spraying was being done in the mid-day high temperature, which increased the susceptibility to pesticide poisoning, owing to the enhanced basal metabolic rate in the body. Farmers were spraying 15 rounds of pesticide on cotton crops instead of the required 5 rounds.

Cotton production: Cotton yield has fallen drastically from 20 quintals per acre in the 1980s to just one quintal

in the recent years. The use of high yielding variety cottonseeds devoid of natural resistance to the pests and requiring regular irrigation was partly responsible for this decline. In the earlier decades, Indian farmers used the native variety of cottonseeds inherently resistant to local pests and very well adapted to dry climate of India. Additional issue highlighted by farmers was the height of the crop in recent years. The crop being higher than before compelled the farmer to face the nozzle of the spray upwards while spraying, leading to the increased inhalation due to drift. Another reason attributed to the increased height apart from hybrid variety seeds, was the supply of spurious seeds, which did not bear fruits. The fruit formation requires lots of nutrients, in the absence of fruits, all the nutrients in the plant are diverted to vegetative growth. Loss of soil fertility also contributes to a drop in the cotton yield due to intense cultivation of the same crop for years without change.

Behavioral aspect: Spraying was carried without using prescribed protective devices. Poor hygiene practices also posed a risk for pesticide poisoning, e.g. tobacco chewing,

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bidi smoking with unwashed hands. Farmers justified such addictions as necessary for the much needed break and relaxation during tedious field work. The theory was disputed by them in general, having lived with this behavior for more than 15 years of cotton farming in the area. Health care seeking behavior, following acute poisoning was also a risk factor, as the first contact point was always the village quacks.

Pesticide knowledge: Ironically, a pesticide retailer who often sells pesticide on credit to the farmer is the main educator on this issue in rural areas. He obviously lacks the required expertise, moreover, being a businessman would promote in ways that would boost his sales. Some “special imported” pesticides (quoted “Tracer”) in the market are more expensive than most of the common pesticides, apparently highly effective against most resistant pest, and claimed to impart healthy green look to crops. These expensive pesticides are often being used as “tonic” to the plants. Agriculture Extension Officer whose chief responsibility is to educate the farming community, enjoy very little credibility among farmers. Being a government employee he is disregarded for not possessing practical knowledge of agriculture and is suspected to be mainly interested in collecting statistical data. He is ridiculed for providing health education on protective equipment “only when somebody dies in the village”.

Government version: Officials allege that farmers are committing suicides to avail financial compensation from the government, which was being paid until 1998. Farming community deny this assumption, being aware of the discontinuance of compensations. Another frequent reaction is “Farmers are greedy and want to make fast buck”. Many members of the ruling party used this as an argument even at legislative assemblies to explain the reason for farmers’ deaths. It is true that remuneration for cotton is one of the highest, ranging from Rs 1800 to Rs 2000 per quintal, while any alternative food crop, e.g. corn, would bring them only Rs 300 to 400 per quintal and the prices are highly fluctuating. Naturally it makes commercial sense for the farmers to grow cotton and it is not greed as postulated.

Inability of debt clearance owing to crop failure: This assumption of the farmers’ suicides does not hold well, it rather seems to be an antithesis in Andhra Pradesh. The cotton is cultivated at the end of June or early July every year. At least 5–10 pickings of cotton are to be made in a season lasting until February. September–October are usually the months for the first pick after sowing, which generally tends to be the lowest one. There are at least couple of pickings of cotton to be made every fortnight before the farmer can work out whether his income over-balance the investment. Hence, in September/October it is too early to assess the situation and resort to suicide. Interestingly, to be eligible for crop insurance, the yield from the land has to be below the *taluk* average for a five-year period. The *taluk* is an administrative unit, having more than 100 villages, the yield thus calculated does not reflect the situation in individual villages.

Biological methods: Biological control of pest and organic farming is rarely practiced. The economic benefits as a result of such alternative methods are matter of the wait and see policy for the majority of farmers. Few ardent farmers who have accepted the biological control are closely monitored. But the majority prefer to compare the yield and savings of those farmers before adopting such methods for their own fields.

Scientific experts state that according to the controlled studies, the pesticide doses recommended for agricultural use are not lethal and cannot cause farmers’ death during spraying. The field scenario differs from the controlled experimental conditions, where the farmers are not following the recommendations in terms of dosage, frequency and timing. Evaluation of adverse health effects among farm workers due to use of mixture of 2–3 pesticides with varied strength, sprayed during high temperature in the field conditions, is not generally documented.

CONCLUSIONS

1. Economic reasons, such as debts/credits/globalization, etc. fail to account for deaths among the sprayers who are basically daily wage casual laborers without any land holdings. The reason could have been credible if all the deaths

were only among farmers since they have to invest heavily to get good yield.

2. September-October is a peak spraying period in the cotton cultivation, and the fact that many deaths have occurred in this period may lead to the assumption that pesticide poisoning could be the cause of all these deaths. The said months have been the peak period for intense pesticide usage for decades and in all other states. These do not provide a credible account for clustering of deaths in the period of September and October in 2001.

3. There is a biased report on the Warangal farmers' death tragedy in the media. No distinction has been made

between the farmer and the sprayer by the journalists. Given the complexity of the problem, no single causal factor could explain all the deaths, however, pesticides appear to be the reason. A well-designed epidemiological study is urgently needed to find out what factor/s are responsible for deaths, so that the government could take effective corrective measures.

4. Biological control of pests and promotion of cooperative farming with restructured credit lending system could alleviate many of the farmers' distress.

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