



Mautam Phenomenon

A Study of Farmers' Observations



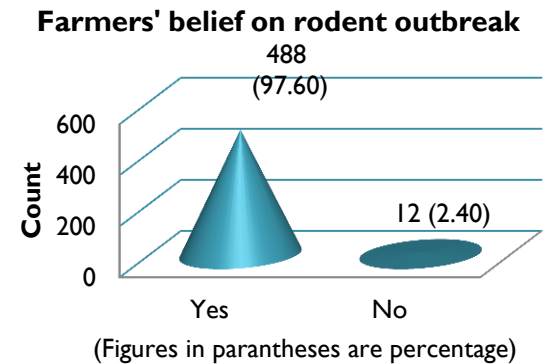
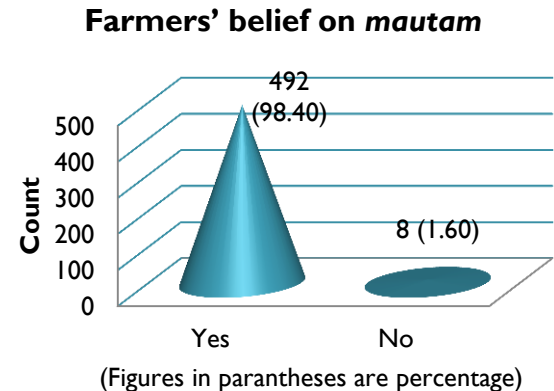
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Background and approach

- *Mautam* (Bamboo flowering) can be said to be a grand event as it ensures the survival of the species. It can be said to be celebration time for the rodents since the abundant food supply gives their population a boost. But for other species that depend on bamboos it is a calamity. Bamboo flower – the '*flower of evil*' as some people call it, has traditionally been associated with impending calamities and misfortunes.
- The people of Mizoram are indeed inseparable from the phenomenon of '*Mau*' bamboo flowering which comes in a cycle of every 48 years. *Mautam* in Mizoram are recorded in 1815, 1863, 1911 & 1959. This gives a cycle of 48 years.
- The Mizo elders, based on their indigenous knowledge which has been orally passed on for generations, predicted the *mautam* to occur in 2007. True to the prediction, the recent *mautam* occurred and reached its peak in 2007. The most affected ones are the shifting cultivators who mainly depend on their annual crops.
- The study was carried out in two districts of Mizoram viz. Lunglei and Mamit. - the largest bamboo areas according to assessment made by Mizoram Remote Sensing Application Centre (MIRSAC, 2005).
- A total of 50 villages were selected from both the districts (30 villages from Lunglei and 20 villages from Mamit) on random basis. Ten farmer households each from the 50 selected villages were identified to make a total sample of 500 households with the simple criteria that the households were affected at least to some extent by the *mautam*.
- Most of the information obtained from the fields were based on the simple recall of the respondent farmers.
- The present presentation is a part of the larger study on socio-economic impact of *mautam*.

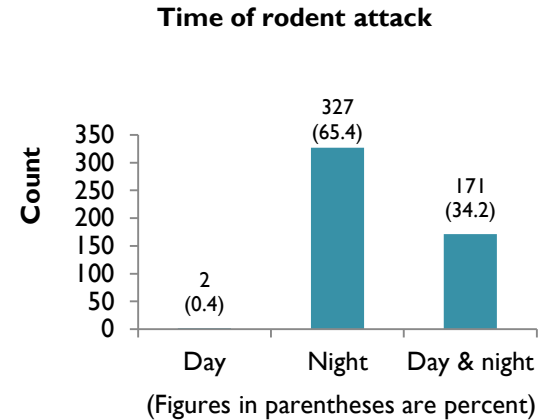
Farmers' belief on *mautam* and rodent outbreak

- The farmers were asked if they really believe the prediction of Mizo elders about *mautam* that will occur in the year 2007.
 - Large majority (98.40%) of farmers said that they really believed *mautam* was going to come as predicted by the elders.
- Attempt was also made to learn about farmers' belief on rodent outbreak
 - Most farmers (97.60%) believed that the bamboo flowering would be followed by rodent outbreak.



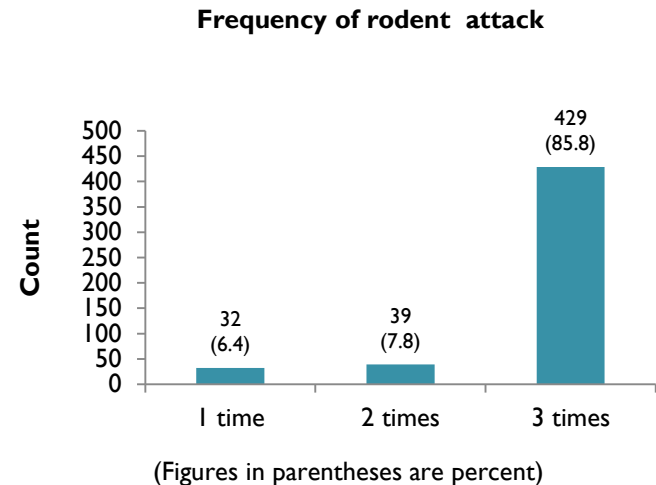
Rodent attacks on crops

- One of the main attributed causes to crop loss, a part from others, was rodent attacks. All farmers reported that one or more of their crops were attacked by rats.
- The elders' version on the previous *mautam* was that most rodent attacks occurred in the nights and the rats finished all the crops of a particular jhum land within a single attack.
- Attempt was made to understand about the time and nature of rodent attack on crops.
 - Majority of farmers (65.4%) said the rodent attack occurred during the night only while 34.2% reported that the attack occurred both during the day and night. Only 2 (0.4%) said that they witnessed the attack of rats only during the day.



Frequency of rodent attacks on crops

- On the frequency of rodent attack, most farmers (85.8%) reported to observe rodent attacks on their jhum crops for at least 3 times while only 7.8% and 6.4% reported to observe for 2 times and 1 time respectively.
 - Based on the results, it is obvious that the rodent attacks on crops in a particular jhum field did not occur only once as observed by the elders in the previous *mautam*.
 - Rather the rats came to feed on the crops in a particular jhum field during the night and after some times they came back to the same jhum field for 2 or 3 times to feed on whatever crops available.



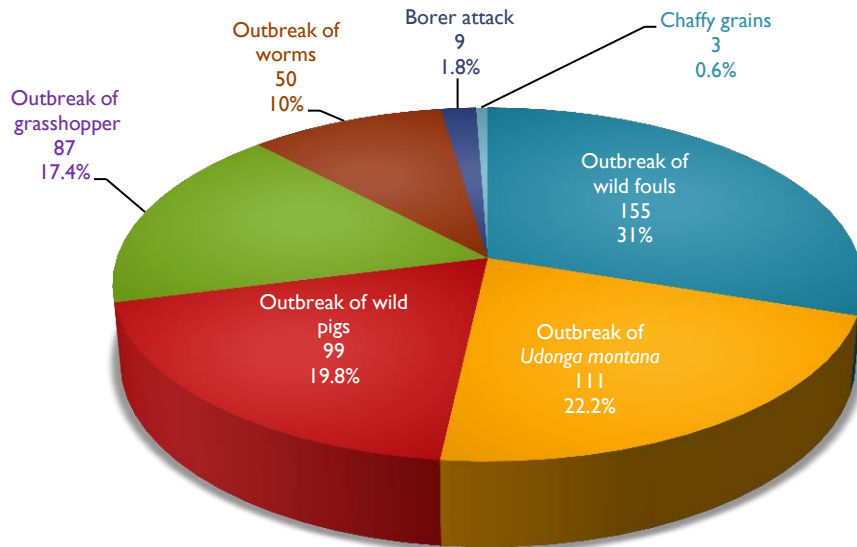
An interesting story of a 57 years old key informant

(Village Council President of Darngawn village, Lunglei district)

- He spent about 3 continuous weeks in his jhum fields to protect his crops from rat attack as well as to learn the nature of rat attack on crops.
- He got a good harvest of rice in 2007 (highest in the village i.e. about 90 Tins – 1 Tin of rice is about 15 Kg).
- Rats started to appear in the jhum field when it started to get dark. When the rats started to move into the jhum fields they could hear hissing like sounds. The rats carried the rice stalks and pile them up in the nearby forest. Such pile ups of rice stalks of about 1 ft diameter were seen in various places of the nearby forest.
- One morning he saw a strange rat underneath his farm house. The size of the rat was as big as his arm and it was brownish in colour. It could also produce strange sound like that of piglets. It would move around and eat the smaller rats.

Other phenomena of *mautam*

- A part from the expected rodent outbreak, the farmers also observed some unusual phenomenon that they believed to be the signs associated with *mautam*. It is interesting to learn that these signs were rarely observed by the farmers during the normal years.



Signs of *mautam*



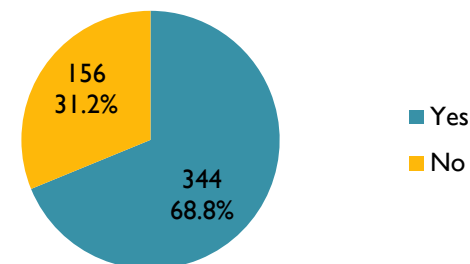
Among the signs, outbreak of wild pigs was reported to cause huge crop damage and borer attack and chaffy grains were also reported to result in crop failure.

Rest of the other signs were reported not to cause any crop damage or failure.

Preventive measures and effectiveness

- It was believed that the farmers knew in advance about the impending *mautam* to be followed by rodent outbreak that would feed on their jhum crops. They were asked whether they took up preventive measures to minimize the risks of rodent outbreak.
 - Majority (68.8%) of the farmers reported to have taken preventive measures on rodent control.
 - The preventive measures include:
 - **poisoning by 310 farmers**
 - 58.06% rated 'not effective'
 - 29.10% rated 'moderately effective'
 - 3.70% rated 'highly effective'
 - The rest 24.34% remained 'not certain'
 - **Rat trap by 189 farmers**
 - 42.86% rated 'not effective'
 - 29.10% rated 'moderately effective'
 - 3.70% rated 'highly effective'
 - The rest 24.34% remained 'not certain'
 - **Clearing of jhum boundaries by 53 farmers**
 - 62.26% rated it 'not effective'
 - 26.42% rated 'moderately effective'
 - 1.89% rated 'highly effective'
 - The rest 9.43% remained 'not certain'

Preventive measures on rodent control taken or not



- *Most of the poisoning and rat traps were taken up with the assistance from Government while clearing the boundaries of jhum fields were done on the respondents' own initiatives.*
- *Based on the traditional knowledge, the respondents believed that keeping the boundaries of jhum fields clean will prevent the rats from entering into the jhum fields hence minimize the attack on crops.*

Preventive measures and effectiveness (Continue..)

- The farmers tried their best to control the increase of rodent population by applying several measures available within their knowledge and reach. In spite of the efforts made by them, the measures taken were of little help in preventing the rats from entering their jhum fields. Hence, the findings entail more effective means of controlling rodent population increase in order to prevent crop damage.

An account of a 52 years old key informants from Buarpui village, Lunglei district

-He practiced wet rice cultivation (wrc-rice) in 2007.

-When the rice started to form grains in October he started fencing all around the wrc areas using wooden materials of about the height of his waist.

-He put local rat trap (vaithang) at an interval of about 15 ft. all around the fence. The rats destroyed the wooden fence at the ground level and entered the wrc field.

-In spite of their efforts to prevent the rodent attack most of their crops (rice) were eaten by the rats.

-Though he could not give the exact number of rats killed. As he could recall, the number of rat tails submitted to Agriculture Department in exchange of cash (Re. 1 /tail) to be as many as 1000.

-He said the number of rats killed were much more than the ones submitted to Agriculture Department.



THANK YOU