



ANALYTICAL SOLUTIONS
WORLDWIDE

SHIVA ANALYTICALS (INDIA) PRIVATE LIMITED

Plot No. 24D(P) & 34D, KIADB Industrial Area,
Hoskote, Bangalore - 562 114. Karnataka, India
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Date : 07/06/2018

Page 1 of 5

Conclusion on Pollution Monitoring of Chulha

Stove trials were conducted in the month of August (2017) in an urban slum in Bangalore. After examining the women participating in the trials, they were instructed to cook using both the traditional chulha and the low smoke chulha. We chose the sheds of similar dimensions, with one small window and a single room for sleeping, bathing, and cooking for comparability. The average temperature inside the shed ranged from 27°C- 30°C and the humidity from 63%-78%. There were 5-7 people present inside the shed during the trials. The participants were given a weighed amount of wood to start with and a similar amount of cooking ingredients, however, they were not restricted to use more wood as per their convenience. They were asked to prepare a full meal, consisting of rice, vegetable, and rotis. The cooking duration was approximately 2 hrs. The fire starters used were empty cement bags or rags soaked in oil. The moisture content of the wood used ranged from 12%-24%. The data recorded by us during the trials suggests that there was at least 50% reduction in the amount of PM2.5 and CO when using the low smoke chulha as compared to the traditional stove. The mean reduction in CO was 64% and that for PM2.5 was 89.4%.

Participant 1

Traditional chulha: average CO= 19 ppm; average PM2.5= 10.691 mg/m³

Ashwini
Field in-charge
07/06/2018

Krishnamurthy
Manager – Environment Dept.
07/06/2018

K. H. Aggarwal
Head of the Dept.
07/06/2018



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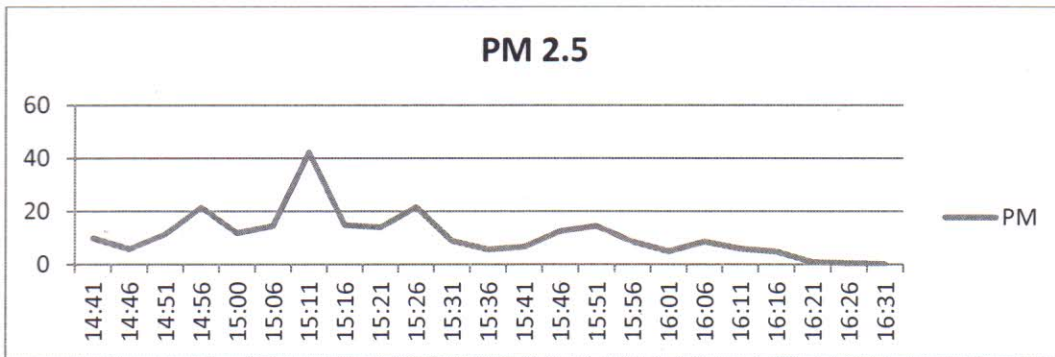
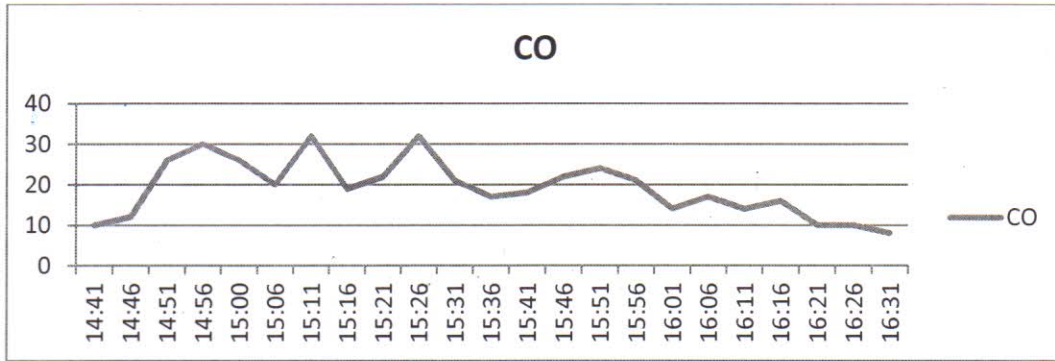
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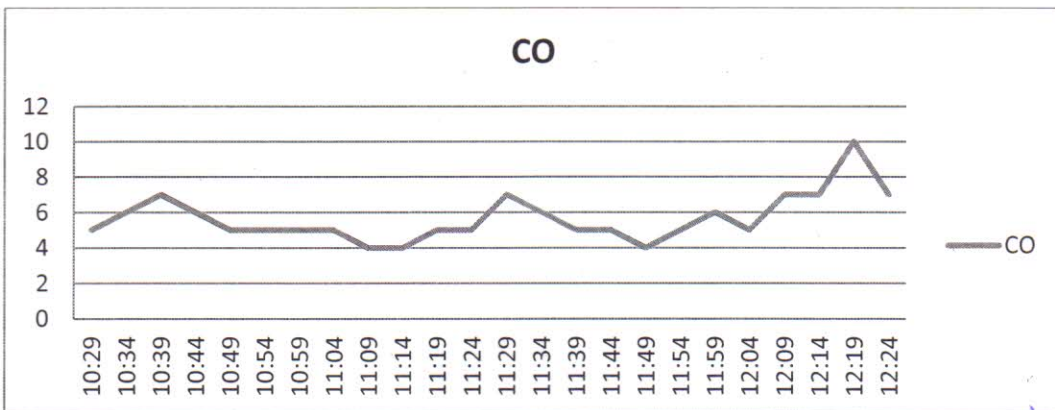
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Low smoke chulha: average CO= 6 ppm; average PM2.5= 1.171 mg/m³



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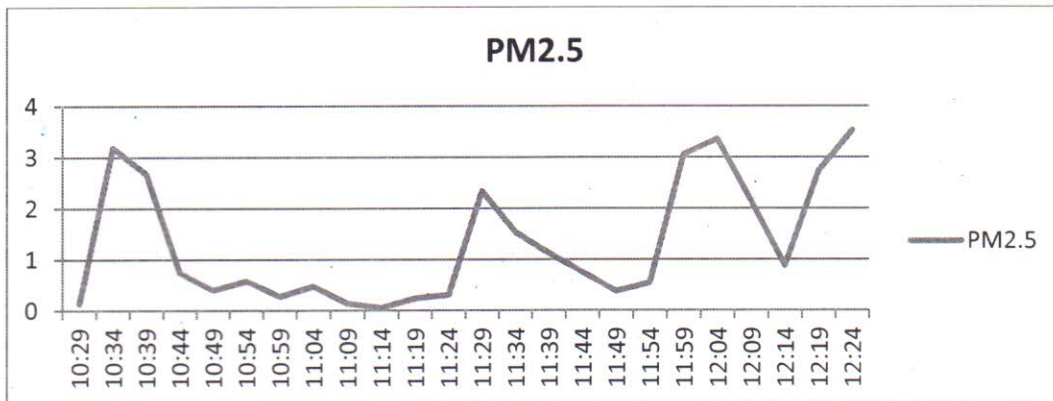
K. Aggarwal
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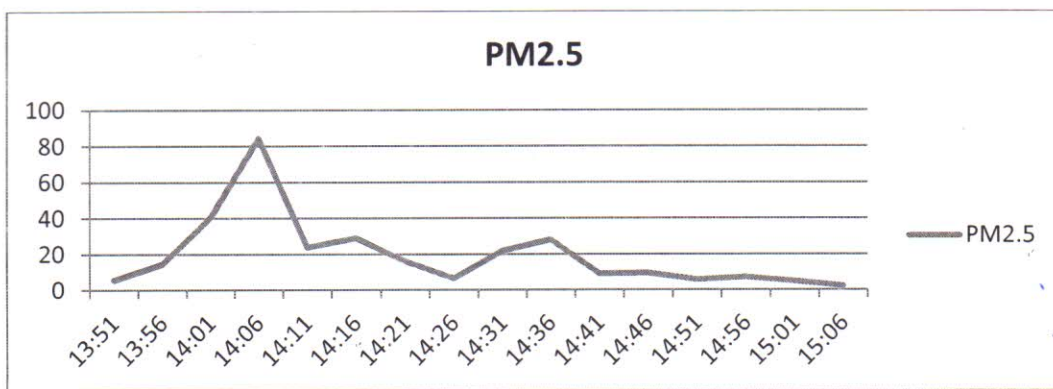
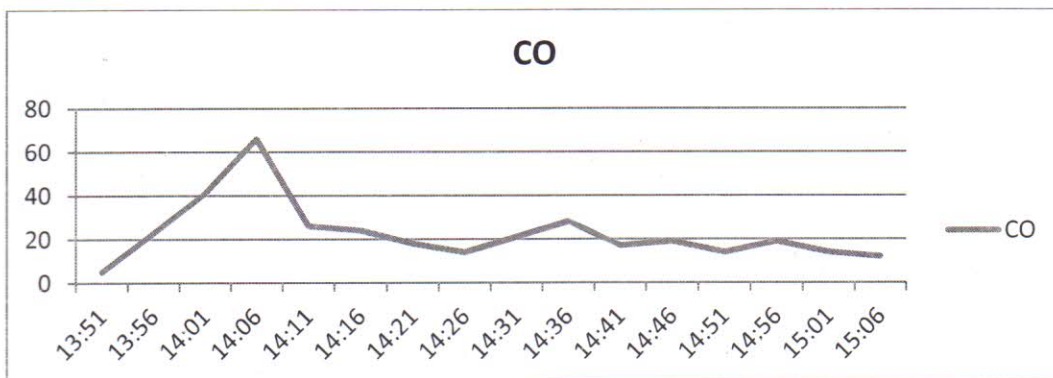
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Participant 2

Traditional chulha: average CO= 22 ppm; average PM2.5= 18.22 mg/m³



Low smoke chulha: average CO= 8 ppm; average PM2.5= 1.692 mg/m³

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