

Pollution factors affecting health and safety in rural Zimbabwe

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Background

Households in developing countries are characterised by the use of inefficient and polluting energy sources. The implications of such on the health and safety of family members in rural households is rarely explored with the commitment it deserves.

Smith (2002); Cecelski (2005); Mishra (2003) and Charron (2005) are some of the scholars who have written on indoor air pollution. Charron (2005:12) draws attention to the fact that indoor air pollution is now rated by the World Health Organization as the second most dangerous environmental health risk in rural areas (after dirty water and poor sanitation).

This article is based on qualitative fieldwork done by the author in rural areas of Zimbabwe from September 2005 to the end of January 2006. The study was done to examine energy consumption patterns in rural Zimbabwe, as part of a project on rural electrification and its impacts. The rationale behind the study was to find out the knowledge, attitude, behaviour and practice of rural people in Zimbabwe with regards to issues of indoor air pollution within the context of energy consumption. This was based upon the reasoning that the way people consume household energy has a bearing on indoor air pollution. Pollution levels were not monitored scientifically.

Indoor air pollution in Zimbabwe is an area that is largely ignored and understudied compared to other health risks. Consequently occupants of rural households in Zimbabwe are inhaling large amounts of polluted air in kitchens and bedrooms; far above the recommended WHO levels.

The participants of the study were drawn from rural children (aged above 10 years); rural women and men; rural health workers; community leaders, policy makers and workers in the energy; health, environment and development sector. It examined energy consumption patterns in rural

Zimbabwe, as part of a project on rural electrification and its impacts.

Research design

Various qualitative methods were used in this research:

- In depth interviews
- Life histories
- Participant observation
- Focus Group Discussions (FGDs)
- Photographs
- Case studies

Indoor air pollution in Zimbabwe

Whilst the debate on indoor air pollution has been mainly centred on the kitchen, this project work in Zimbabwe has looked also at effects of levels of pollution in the rest of the house.

Biomass use

Biomass (including agricultural residues) is the principal source of energy used in rural Zimbabwe. Biomass is used for cooking, space heating and lighting. According to the CSO (2002: 133), the percentage of rural people using biomass as an energy source is 94% although other energy sources such as paraffin, electricity, dung and solar are also used. It was noted that due to fuel wood shortages, the use of dung as an energy source is growing popular, however the use of electricity, paraffin and solar is insignificant because of prohibitive costs.

Paraffin use

Prior to paraffin (kerosene) shortages, lamps called *zvibani* were used for lighting using unadulterated paraffin. Whilst these lamps emitted smoke, they were better than the current survival strategies employed due to the current paraffin scarcity discussed in the following paragraphs.

Zimbabwe has serious problems with indoor air pollution because of the unavailability and lack of affordability of paraffin. Paraffin is currently pegged at \$Z 200 000.000 a litre

(approximately US\$1) which is unaffordable for most people.

Key factors associated with ill health

Some key factors for continued high levels of ill-health associated with indoor air pollution are highlighted below:

Households that cannot afford the list price of paraffin often buy it from unscrupulous dealers: in some instances households buy paraffin that is mixed with water. This further exacerbates the danger of indoor air pollution.

Rural households that can no longer afford to buy paraffin have improvised other energy sources for lighting in the evenings. Some now use diesel, oil, rubber tyres in place of paraffin. Worse still, households that cannot afford all the above use burning firewood sticks as a source of light. The options given above pose serious indoor air pollution for rural households in Zimbabwe.

House construction

The type of houses that are normally constructed in rural Zimbabwe worsen the indoor pollution problem. Both kitchens and bedrooms are not well ventilated. Some do not have windows and the small houses are such that smoke gets trapped in the kitchen. In buildings that have windows, the windows are small, V-shaped and less than 30cm in diameter. Sometimes, sacks are stuffed into the small windows further inhibiting the circulation of air. Figure 1 shows an external view of the type of unventilated kitchen normally seen in Zimbabwe.

Cooking in the kitchen is the norm in rural Zimbabwe. People do not cook out doors unless if it is for a very big function and they are using big pots when the heat in the kitchen would be too great. Cooking indoors is cultural; the kitchen is the point focus for all the household members and also for socialisation and relaxing. Other rea-

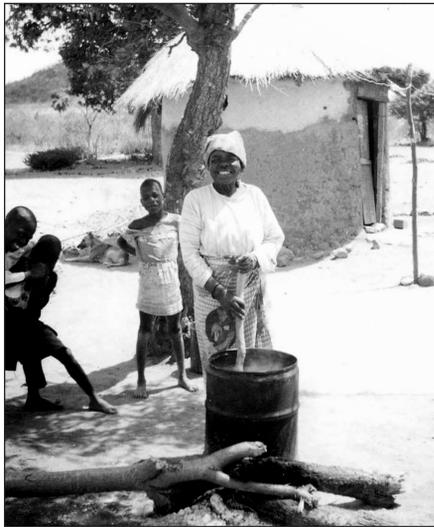


Figure 1 Woman standing in front of typical unventilated kitchen, Zimbabwe (photo: Muchawaya)

sons that are given for cooking in the kitchen include: the smoke protecting the thatch; smoke deters cockroaches, insects and rats; smoke preserves food; and cooking is a private affair and the kitchen provides such privacy.

HIV/AIDS confining people to the home

With the prevalence of HIV/AIDS in Zimbabwe, home based care activities are now very common in rural households, exposing the patients to indoor air pollution that exacerbates their medical conditions.

Lack of knowledge on the dangers of indoor air pollution

Are rural people aware of the effects of indoor air pollution and do they take them seriously? It is saddening to note that many of those people who suffer from symptoms of respiratory infections do not seek medical attention. This is because such symptoms are considered to be normal and are not taken seriously in the community. This study found the following:

- Rural dwellers are not aware of the effects of indoor air pollution other than the fact that it causes some mild headache and sore eyes
- They do not take indoor air pollution as a serious health threat so do not seek medical attention for respiratory problems caused by indoor air pollution.
- House ventilation is not considered important; hence households opt not to install means of ventilation.

Are messages reaching the grassroots?

It can be argued that years after the dangers associated with indoor air pollution emerged, the *language* of indoor air pollution is still circulating among researchers, professionals and academics. The message has not yet reached the intended beneficiaries; hence they continue to suffer from indoor air pollution without recognising its dangers. People cannot act unless they have knowledge. Hence if rural dwellers do not know about indoor air pollution and its dangers, they do not have an incentive to reduce or to come up with strategies that reduce it.

Indoor air pollution is not accorded in terms of danger, the same position as that given to malaria, cholera or tuberculosis just to mention a few. People do all they can to prevent and seek attention for the latter health conditions but not for those caused by indoor air pollution.

The failure to take indoor air pollution as a serious health threat is largely a problem of policy at national level rather than at household level. Indoor air pollution has not been taken seriously as a public health issue in Zimbabwe and as a result people in rural areas do not also consider it as such.

Campaigning at grassroots level

Raising awareness on indoor air pollution remains one of the most pragmatic ways that can work effectively in preventing and mitigating the effects of indoor air pollution in Zimbabwe. Effective methods include:

- Social mobilisation campaigns in rural areas by both the government and the NGOs. The government of Zimbabwe can use the already existing health systems (for example rural community health outreaches) run by health centres. These outreach programmes have proved very effective in preventing and combating other diseases.
- While rural health centres run health education meetings every morning, such meetings can be used as a platform for dissemination of information on indoor air pollution.
- The Government and NGOs can play their part using the methods

they use for raising awareness for other diseases; for example: using Radio Zimbabwe which has an audience of more than 80% in rural areas. The print media can also be used to raise awareness through pamphlets and flyers in local languages.

- It is important for the government of Zimbabwe to consider including indoor air pollution in the school curriculum.
- Churches in rural areas can be used to raise awareness on indoor air pollution in rural areas.
- Posters can be put on walls in shops where people normally go to buy basic commodities as such places are popular.

Recommendations

- There is need for widespread indoor air pollution campaigns to raise awareness among the grassroots about indoor air pollution and its effects.
- Rural households need to participate actively in defining local strategies for mitigating indoor air pollution.
- Indigenous knowledge systems need to be promoted in the fight against indoor air pollution.
- Rural households should be educated on the advantages of improving air quality.
- Governments and the international community should put more political commitment towards indoor air pollution.

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