

# Moderating the Impacts of Extreme Weather Like Heat Waves Through Public Awareness Campaign

Saudamini Das



Credit: Saudamini Das

Does Awareness help save one's life during heat waves? Based on my independent evaluation study, I suggest it does.

Heat waves are one of the biggest killers among extreme weather events. Although poor communities are disproportionately affected by such waves, developed countries are not immune from them: recall the horror of 2003 heat waves in Europe and 2010 heat waves in Russia, each killing more than 50,000 people. Since the mid 1990s, India is witnessing large number of deaths due to heat waves: most recently 2,500 in the year 2015. I find that interventions that raise awareness enhancing interventions can reduce the impact of such extreme weather events. Thus, to address climate change, in addition to “hard” instruments that require creation of physical infrastructure, countries should pay careful attention to “soft” instruments that seek behavioral changes for climate adaptation by raising awareness of the problem and outlining simple, culturally appropriate solutions.

## How Should Public Health Departments Respond

Heat waves are becoming more frequent and deadly in recent years. Take the case of the state of Odisha in eastern India having 60% of its population below poverty line and a per capita annual income of less than \$100. Odisha experienced severe heat waves in summer of 1998 that killed 2,041 people within 30 days. Though people had never heard of heat waves prior to 1998, these have become almost regular there after (Table 1).

It seems that simple life style changes at the individual level can help protect against heat waves. In a state-wide program, the Odisha public health department in collaboration with the disaster management department, has sought to increase public awareness about the dos and don'ts during peak heat periods: eat yogurt rice, wear light colored cotton clothes, never go out on an empty stomach, drink enough water and carry water bottle if going out, take special care of elderly (Odisha has joint family system) and sick, avoid alcoholic drinks, etc. These messages were conveyed in the local language. Importantly, they were direct and straight forward telling people what to eat, what to wear, what to avoid, how to move around etc. during extremely hot time.

Separately, during this period, the United Nations Development Programme and Government of India sponsored Disaster Risk Management (DRM) project was implemented in some part of the state (16 of the 30 districts) and this facilitated the heat wave management programs. The information was distributed in various forms like pamphlets, advertisements in television, newspapers and radio, jingles in radio, hoardings at public places. The idea was to convey these messages through pictures, bright colors, eye catching images, so that even illiterate people could understand it. Additionally, the grass root health workers in DRM districts were trained and advised to explain and give this information in each village personally. This campaign started in 2003 and was intensified each subsequent year by involvement of more electronic media, especially visual media replacing print media over years (Figure 1).

## Did this Work?

Though the number of heat wave days every year have remained high (Table 1), the average death counts have declined after 2005 (Figure 2). I conducted an independent evaluation of this intervention (Das and Smith 2012; Policy Brief 2013; Das 2015; Das 2016) and find clear indications that public awareness interventions contributed to this declining mortality. Specifically, I found that.

- Districts where DRM program was implemented suffered significantly lower deaths compared to non-DRM districts in spite of witnessing more heat wave days.
- More than 95% of the vulnerable population (low income workers doing manual job in open environment) were found aware of the dos and don'ts and were more or less adapting these advices in their daily lives.

- Information dissemination via television was more consistently and significantly associated with decline in deaths. Newspapers came next. Surprisingly, radio dissemination did not show a significant effect. This suggests that visual media is more effective in bringing behavioral change in public. Another interesting finding was that the cumulative use of these media (television and newspaper) over the period, not the same day use, was associated with decline in deaths.

In conclusion, public health department's use of public awareness campaigns has successfully brought about behavioral changes among people in one of the poorest regions of India. The messages were in local vernacular, clearly mentioned what to do, emphasized traditional life style, required no extra skill to put the advices into practice, involved no extra expenditure (just relocation), etc. and probably that explains the success of the awareness campaign in reducing mortality occurrences in the state. The broad lesson is that public awareness campaigns must be sensitive to the local context, and convey actionable information in simple terms. Not all challenges created by climate change need complicated, resource -intensive solutions. Some issues can be tackled by simple but imaginative interventions as well.

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*Saudimini Das holds the National Bank for Agriculture and Rural Development sponsored Professorship Chair at the Institute of Economic Growth, Delhi, India.*