



Perceptions of Environmental Policy Regulation on Malaria Prevalence in Larteh, Ghana

Presented by: Mallory Wilson

Research conducted by: Mallory Wilson, Kenneth Massey-BS, EMT – B, Rachel Hume-BS, Connie Currier- DrPH, MPH, Linda Gordon- MS, MA



Program in Public Health, Michigan State University

Abstract

- This study examines the reasonably made link between the prevalence of malaria in the community of Larteh, Ghana and the enforcement of environmental policies and population growth
- The study also examines the perceived effectiveness of public health (specifically malaria focused) interventions by local community members
- Methods included interviews and group discussions as well as analytic coding and discerning responses for trends
- Results profiled a correlation between the lack of funding for and focus on enforcing various environmental policies and the rise in local malaria cases



Introduction

- Malaria is a mosquito-borne disease that is entirely preventable and treatable
- 50% of the world's population is at risk of malaria⁴
- Malaria causes more than 300 million acute illnesses
- In 2010, 90% of all malaria deaths occurred in the WHO African Region, mostly among children under five years of age³
- Ghanaian, and West African communities use various environmental cleaning regiments such as communal labor where all local citizens come together to work on a cleaning project town-wide or local governments hire companies to clean gutter systems regularly⁵



Methods

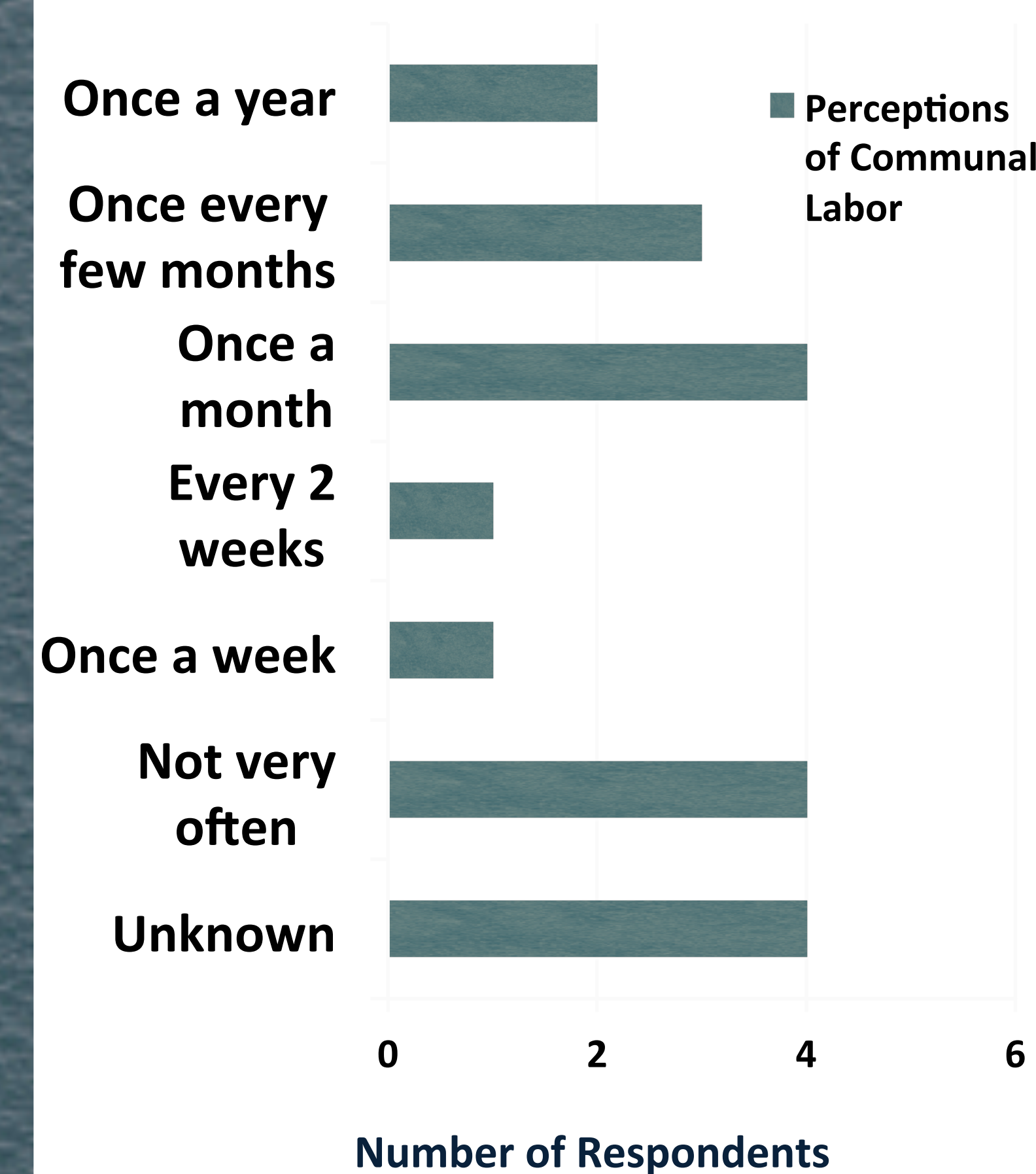
- Guest professor lectures.
- Participant observation
- Focus group (20 people total)
- Identified broader themes
- Gathered data on each theme from individuals through interviews (26 people total)
- Data coding and analysis

Results

- Community was very educated as to how malaria was transmitted.
- **Cleaning gutters was cited as best intervention for decreasing malaria in the community.**
- People know there is a policy to keep the environment clean, but nobody can actually define the law.
- Lack of education about environmental policy in the community.
- **Due to the uncertainty of laws regarding waste disposal, systematic enforcement of environmental policy is nonexistent.**
- **Perception of accumulation of waste in the gutters, overflowing of dust bins, and infrastructure leading to stagnant water have contributed to malaria prevalence**
- **Degradation of the environment could be reasonably linked to the increase in population in Larteh.**
- **The overall perception was that lack of environmental upkeep leads to more malaria. I.e. stagnant water.**
- People of Larteh associated the larger population with creating more rubbish, leading to increasing cases of malaria.

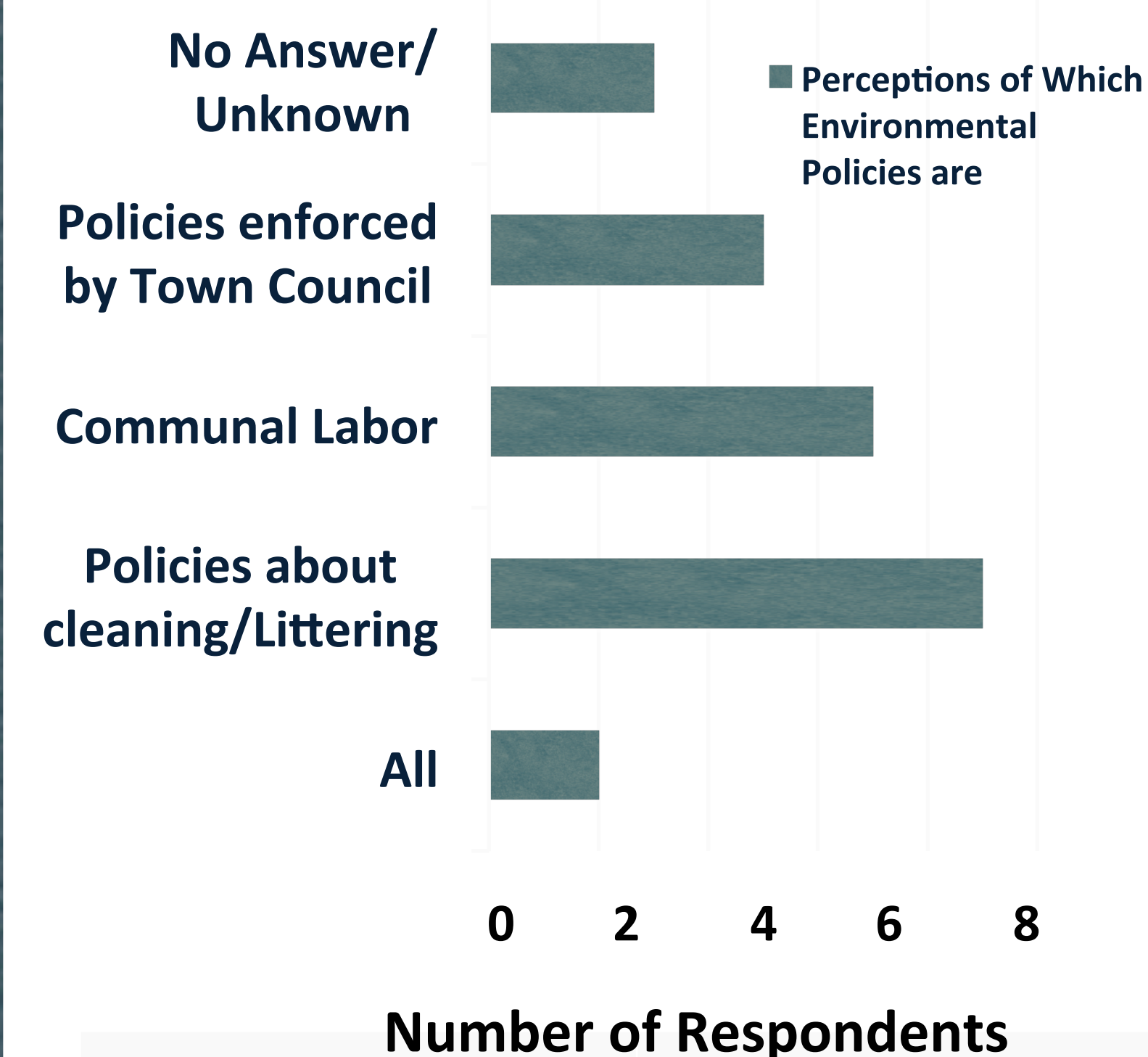
Graphs

Perceptions of Communal Labor in Larteh



(Figure 1.1) Graph shows the perception of how frequent the practice of communal labor (community wide cleaning) in Larteh is. Answers varied from not often at all to a consistent basis.

Perceptions of Which Environmental Policies are Ineffective in Larteh



(Figure 1.2) Graph shows the responses received when the question of "Which environmental policies are not being enforced effectively in Larteh" was asked. Most common response was those that dealt with community cleaning and littering in town gutter systems.

Discussion

- Research has shown a correlation between bad sanitation practices and increasing prevalence of malaria due to increased mosquito breeding grounds and attraction
- Research has also shown that malaria interventions on a grand scale can rarely be universally applied successfully¹
- Local factors influence effectiveness of the interventions
- **More often, interventions are more successful when they draw from the existing strengths of the community**
- **Larteh community identified environmental factors as being crucial to malaria transmission**
- The growing population (3.6% in Larteh) will add to current environmental strains, perpetuating the malaria problem
- Funding is chronically hindering malaria elimination⁵
- The current available funding is far from what is required to reach universal intervention coverage
- **More extensive research should be conducted in order to determine the best local intervention for Larteh's malaria epidemic**

Conclusion

- **Research on economic burden of epidemics is uncertain and shows that epidemics like malaria may not get the funding they require to eliminate them**
- While this is an example of intervention funding, this concept also relates back to enforcing the law: there is no enforcement without the proper funding
- **Limitations of funding for malaria interventions further indicate that Larteh may benefit from redirection of resources away from education, and towards other relevant interventions**
- On a global scale, public health interventions and programs deserve to be tailored to each community's specific needs and criteria rather than applied uniformly

References

1. Adongo, P. B., Kirkwood, B., and Kendall, C. (2005). How local community knowledge about malaria affects insecticide-treated net use in northern Ghana. *Journal of Tropical Medicine and International Health*. P. 366-378. Retrieved from D2L.
2. Ammary, E. I., Bartlet, J., Firavich, L., and Praschan, N. *Decision-making and belief systems around malaria in Larteh, Ghana* [PowerPoint slides]. Retrieved from D2L.
3. UNICEF (2007). UNICEF Ghana Factsheet: Malaria. UNICEF. Retrieved from: http://www.unicef.org/wcaro/english/WCARO_Ghana_Factsheet_malaria.pdf
4. World Health Organization (2013). World Malaria Report: Ghana. WHO African Region Ghana. P. 136. Retrieved from: http://www.who.int/malaria/publications/country-profiles/profile_gha_en.pdf
5. Worrall, E., Rietveld, A., and Delacollette, C. (2004). The burden of malaria epidemics and cost-effectiveness of interventions in epidemic situations in Africa. *The American Journal of Tropical Medicine and Hygiene*. P. 136-140. Print.