

Spring Improvement as a Tool for Prevention of Water-Related Illnesses in Four Villages of the Center Province of Cameroon

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Worldwide, diarrhea kills about 2.2 million people annually, most of whom are under the age of five. In Cameroon, as in much of the developing world, a major cause of diarrhea is the lack of improved water sources. Although water is plentiful in the southern regions of Cameroon, water quality is poor in rural areas, where water is rarely protected.

This paper covers four spring improvement projects serving a total of 1,306 residents in four villages, conducted during two years of Peace Corps service in the Center Province of Cameroon. Projects involved needs analysis, education in project design and management, hygiene education, construction of spring boxes, and continuing evaluation. By conducting a complete yearlong health survey in two villages, the link between water projects and public health in the community was also studied. The study showed that spring boxes are a cost effective way to bring a simple, durable technology for providing improved water quality to small villages.

The spring box construction projects were determined to have a positive impact on the health of the communities one year after construction, determined by the average number of days a person suffers from diarrhea. One year after construction, two communities saw a significant (within 90% and 99.5% confidence levels) decrease in the number of days a person spent with diarrhea per month. The number of days a person spent with diarrhea per month decreased by 31% in one village and by 62% in another.

Evaluation of the spring box projects also showed that families with better sanitation practices (i.e. latrines and water storage methods) saw a greater improvement in their health. The incidence of diarrhea decreased more if the family had a latrine however the state of the latrine (i.e. completely covered and not full vs. partially covered or full) was not important. One year after construction, families with latrines saw a 39% and 67% decrease in the average number of days a person suffers from diarrhea, whereas families without latrines in the same two studies saw a 129% increase and a 41% decrease, respectively. Likewise, families that kept all water in covered containers saw a greater change in health. One year after completion, families keeping all water in covered containers saw a 36% and 83% decrease in the average number of days a person suffered from diarrhea, whereas families in the same studies that kept only drinking and cooking water in covered containers saw only a 21% and 8% decrease, respectively.