

## ELECTIVE REPORT

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GENERAL  
MEDICINE

LOCATION: Andavadoaka, Madagascar

DATES: 15/04/2011 – 24/05/2011

WITH: Blue Ventures (NGO) – [www.blueventures.org](http://www.blueventures.org)

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### Objectives:

1. Describe the pattern of healthcare provision in relation to the country in which you will be working and contrast this with other countries, or with the UK
2. Describe the pattern of disease/illness of interest in the population with which you will be working and discuss this in the context of global health
3. Describe the Water, Sanitation and Hygiene (WASH) practices in the local community, and any barriers to improving these practices
4. Learn about collecting both quantitative and qualitative data in a community with little existing health infrastructure, and the obstacles faced in creating an effective and sustainable WASH programme

### Introduction:

I spent my elective in Andavadoaka, Madagascar, as a medical elective volunteer with Blue Ventures. Blue Ventures is an award-winning conservation and development organisation dedicated to working with local communities in the southwest of Madagascar to conserve threatened environments and local livelihoods. It has worked in southwest Madagascar for the past nine years, and is responsible for the creation of *Velondriake*, the largest locally-managed marine area in the Indian Ocean, and the integration of a successful, self-funded sexual and reproductive health (SRH) service, to form a truly integrated Population, Health and Environment (PHE) project.

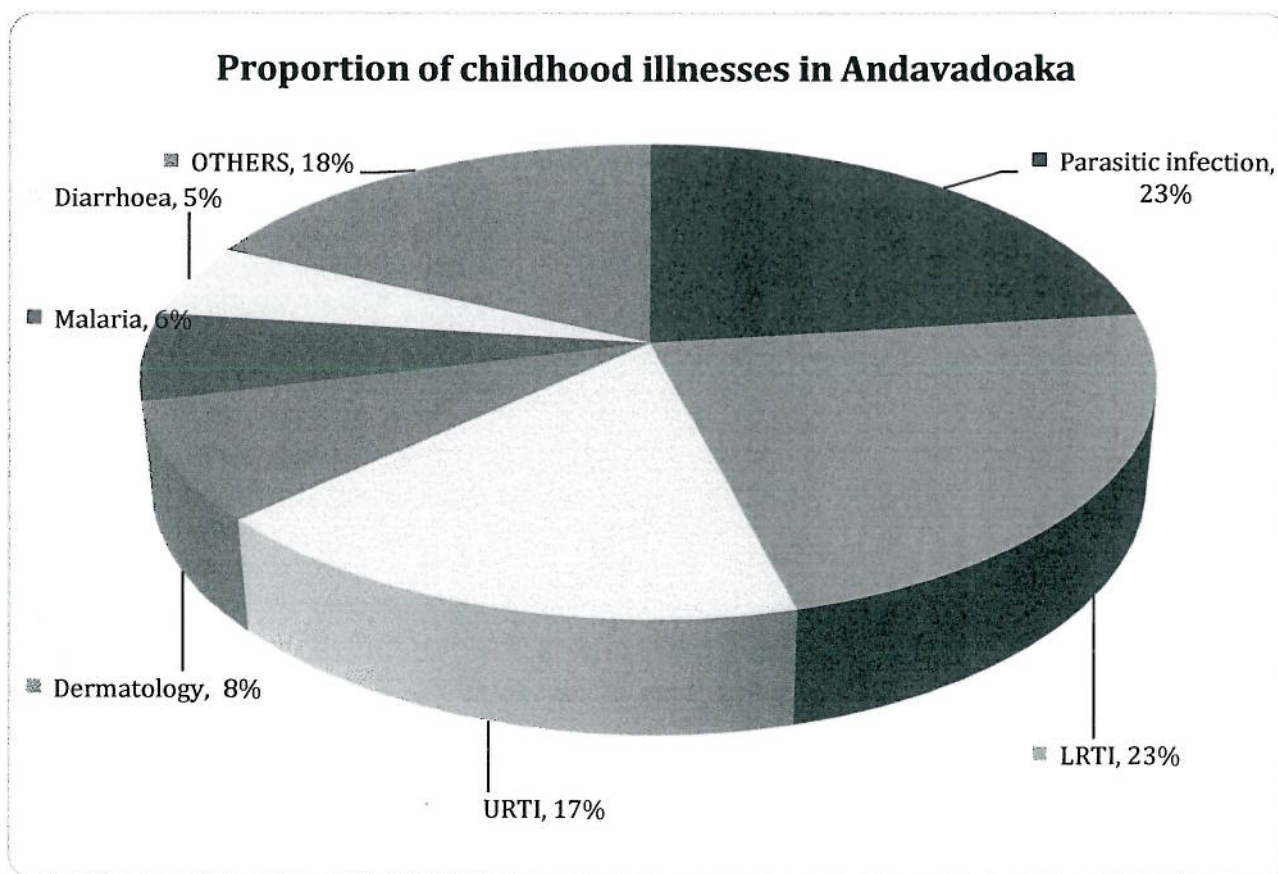
The south western region of Madagascar faces heavy anthropogenic pressures from the local inhabitants who rely on marine and forest resources for food, trade, firewood, charcoal, medicine, housing materials and boat construction. To help protect these resources, and the livelihoods of those who depend on them, Blue Ventures has sought to expand its existing family planning (FP) program to cover 43 coastal villages and 10 villages within the nearby Mikea National Park, empowering couples throughout the region to plan their families. Additionally, since receiving a considerable grant from the United States Agency for International Development (USAID) in March 2011, Blue Ventures has started work on a water, sanitation and hygiene (WASH) program in this same area, to encourage healthier habits and a reduction in child mortality, further decreasing the need for large families. This expansion will allow Blue Ventures to adopt a more integrated coastal zone management approach and enable communities living within and around the park to improve public health and utilise their resources in a more sustainable way.

### Healthcare Provision in South Western Madagascar and Local Burden of Disease

Madagascar's turbulent political history, including a coup as recently as 2009, has meant that government-funded healthcare is minimal throughout the country. This is especially true in the

remote South West. There are 2 government-run clinics in the entire Velondriake area. Immunisation cover is as low as 20% in the area, and very sick patients often have to travel for over 2 days to the nearest city to reach a hospital. An Italian voluntary organisation opened up a medical practice in Andavadoaka three years ago and has started running a daily clinic there since. The clinic is able to provide emergency care and some primary care (including treatment of hypertension, diabetes and infections) throughout the year. However, both the Italian and the government-run clinics focus exclusively on the treatment of acute disease; little effort has gone into disease prevention and health promotion.

Globally, faecally-transmitted diseases such as hookworm, bilharzia and Guinea worm kill more children under the age of 5 than HIV, malaria and tuberculosis together – a staggering 1.5 million children a year. Many more are irreversibly stunted and debilitated by these diseases during their early years (Humphries, 2009). Respiratory tract infections are the leading cause of death worldwide in children, with over 1.6 million annual deaths attributed to them (WHO, 2010). The following pie chart shows the proportion of presenting complaints/diagnoses in children 5 years and under presenting to the Andavadoaka clinic between November 2009 and October 2010. Mortality data was not available, but the local burden of disease seems to mirror global data (especially that from resource-poor countries).



### My Project with Blue Ventures

During my time as a volunteer with Blue Ventures, I helped to design and launch their Water, Sanitation and Hygiene (WASH) programme. This involved designing and testing both a quantitative household survey, and a qualitative focus group tool to allow Blue Ventures to collect baseline data and to monitor and evaluate their programme. Both the quantitative and qualitative tools focused on the following key areas:



- 1) Well improvement and Water Source selection
- 2) Water use, purification and storage
- 3) Handwashing and hygiene practices
- 4) Sanitation and use of latrines
- 5) Prevention and treatment of diarrhoea and cough
- 6) Waste disposal
- 7) Felt needs and priorities
- 8) Barriers

I conducted a literature search to find validated tools for objective measurement of WASH practices, and liaised with the donor (USAID) offices to make sure our tools provided sufficiently valid outcome measures. Over the six weeks, I refined both tools by testing them repeatedly through 'mock' focus groups and 'mock' household data collection initiatives, and helped to train the four local Malagasy staff whose job in would be over the coming months to travel to 53 villages in the region to collect the data with the tools. The qualitative tool consisted of 50 key questions under the above headings, and would be used to guide the Behaviour Change Education intervention. The quantitative tool consisted of 74 questions and direct observation items, also under the above headings.

From the initial data collected in Andavadoaka, it became apparent that there was much work to be done. The drinking water wells were not covered or protected, and were open to contamination at over 15 points from collection to consumption. Few people treated their water, as SurEau (water purification tablets) was deemed too expensive. Furthermore, drinking water at home was rarely covered and dirty bowls were used to extract water from the main bucket. People generally used the sea to wash their hands, and few households contained dedicated handwashing stations; even fewer regularly used soap. There were only 6 latrines in the village for 1800 inhabitants, and 4 of these were locked up "to keep them clean". Villagers used the woods and the local beach instead. This type of open defecation is thought to be one of the major risk factors for under-five mortality from diarrhoeal disease.

## **Reflection**

I would strongly recommend a medical elective with Blue Ventures in Andavadoaka. I was keen to have an experience in development, specifically in the realm of public health, and had a unique opportunity to be part of a dedicated team out in the field. I was also keen to learn about the interface between health and climate change, and working on such an integrated conservation and health-promotion project afforded me just that experience. I learnt a huge amount about designing surveys and collecting essential data to guide intervention programmes, as well as the difficulties of operating effectively in such remote environments.

Aside from my project, I also spent some time at the local Italian-run clinic, which kept me on my "clinical toes" throughout the 6 weeks. I also went on several outreach trips by pirogue (little sailing boat) and zebu (ox) cart with the Family Planning team across the region, meaning that I was able to travel a bit through the region and see the what it was like to really work in the field. I had never been to such a beautiful part of the world – miles of deserted sandy beaches, spiny forests filled with Baobabs and octopus trees etc. Being a volunteer with a marine conservation society also meant that I was able to scuba dive on 8 occasions, and see just how incredible the fourth largest reef system in the world really is.