



Jordan Imahori - Final Presentation

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Good afternoon everyone, my name is Jordan Imahori and the issue that I am trying, or working to address is the high fatality rate among construction workers in the Gulf right now, with a focus on Qatar. So driving much of this high fatality rate is the high temperatures during the summer months, reaching as high as 50°C, and this high heat puts a lot of stress on a worker's body and can lead to complications such as heart failure. This problem is complicated by the fact that the construction workforce is composed largely of migrant workers, whom the government and the industry are generally unwilling to protect.

So, how do we protect workers in the absence of a willing government and a disinterested industry? Our answer is to present firms with an innovative approach that makes the reforms that we want to see – so in this case protecting workers from this heat – the least costly option. So to do this we've partnered with a Dutch firm to design and produce a vest that uses evaporative cooling to reduce the impact of heat on the worker's body, and this vest incorporates the features of traditional high visibility safety vests and is certified to a number of international standards and this allows these vest to be used in the place of traditional safety vests.

The vests contain an absorptive gel that sits inside of a semi breathable membrane, and when this is soaked in water, it allows for the gradual evaporation of this water over a period of about six hours, depending on the temperature, and several other factors, and the water, as it evaporates, takes with it excess heat from the worker's body. We've completed preliminary testing in Qatar, just south of Doha, this past summer. Over the course of about eight weeks, we collected data on about fifty workers who were using the vest in the field. This study we conducted in cooperation with a large construction firm there and with funding from the University of Toronto, and the preliminary testing was positive, we saw a decrease in core temperature, as well as blood pressure. However we are looking to conduct a larger, more comprehensive study at a later date when we can afford to do so, but now that we're happy with the results we're moving forward with making these vests available to construction companies.

We're currently in talks with two companies to provide part of their workforce with these vests, as well as having concluded a deal with one other company. In trying to reach migrant workers, we are immediately struck by one very large problem. There are 1.4 million migrant workers in Qatar alone. The size of this industry is extraordinary, and distributing vests to every migrant worker would require a massive investment that donors would be unlikely to be willing to finance, so in order to see this mass distribution of vests, we need construction firms themselves to finance it. Right now, companies are willing to risk the safety of workers because the costs involved in protecting migrant workers exceed the cost of the status quo. Cooling vests lower the cost of protecting migrant workers.

We make the argument that protecting these workers is in a company's financial interest, there are costs to heat-related deaths, whether those are reflected as direct monetary costs, or indirect costs such as damage to reputation or negative impact on things like productivity. Cooling vests are a low-cost way for companies to mitigate these costs, so we provide these vests at close to the marginal costs, which, depending on the size of the order, is about \$24 plus freight charges from the manufacturing facility in China, and any profits would be used to provide vest donations, demonstrations to companies that are interested, and other activities to expand our reach.

Our model is to keep the cost as low as possible, while also retaining some cash to allow us to expand our operation. Ultimately, reforms based on self-interest will be far more durable than those based on temporary public pressure or bona fide good will. We think that providing a change that would be in a company's best interest to adopt, we can make lasting improvements to working conditions for migrant workers in the Gulf, and we can do this without the need for large amounts of donor funding. Our goal is to see evaporative cooling vests be as widely used in countries where they would be beneficial, as hard hats and safety vest are today, and we want to do this within ten years. Thank you.