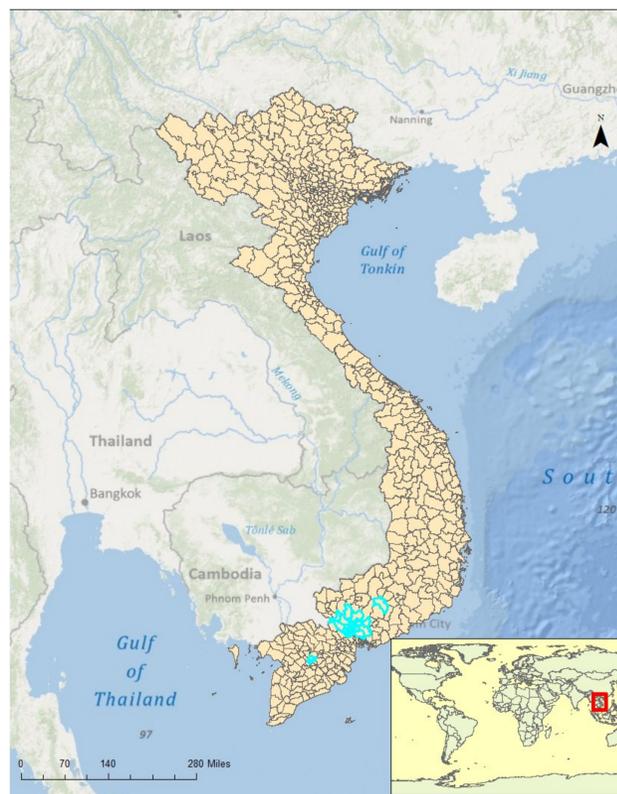


# Health Status and Health Care Access Among Vietnamese Workers in the Garment Industry

## Overview

Women in the garment industry work under challenging conditions which may include long hours of work, low pay and physical abuse. As a result, improvement of the working conditions in the apparel industry has been the central goal of various social programs. One such program, Better Work Program (BWP), monitors the extent to which apparel factories in developing countries comply with international labor standards. To this end, workers are surveyed on a broad range of topics including working conditions, compensation and benefits, training opportunities and health status.

In this project, the focus was on geocoding the survey data collected in Vietnam. Data collection took place between January 2009 and April 2011. During data collection, 2501 workers from 76 factories in Southern Vietnam were interviewed (see the map below for the districts where the factories are located). Preliminary analysis of the survey data indicated that poor health was a substantial problem among the Vietnamese workers and their family members. With this consideration, efforts were made to geocode the survey data pertaining to health care access and visualizing the relevant results.



## Methods

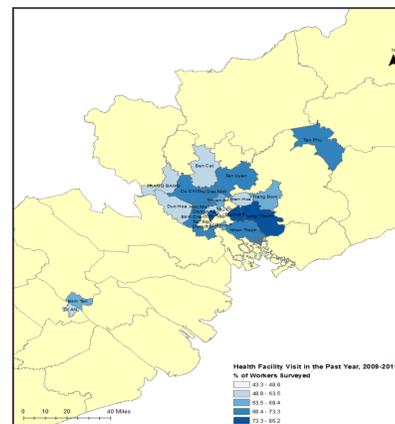
At the initial phase of the project, one of the principal investigators of the Tufts University Better Work Monitoring and Evaluation Project was contacted and permission was requested to use the survey data. After getting consent, a small dataset was created by extracting the relevant survey items from the main dataset.

The name of the district where each respondent's factory was located was essential for the geocoding process. In cases where the existing addresses did not include the district names, an online search was made to acquire that piece of information. The district names and the matching district IDs used in administrative boundary shape files were entered as additional columns into the excel sheet where the responses to the survey items were recorded.

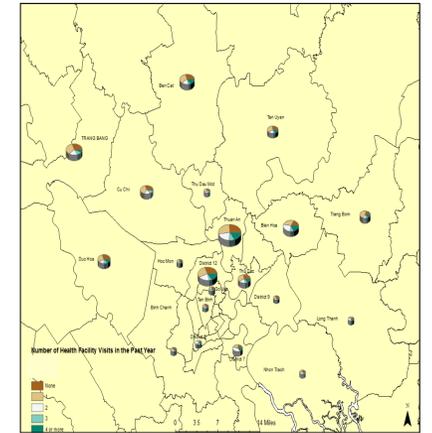
In the later phases of the data preparation, responses to the survey questions were aggregated to the district level. In other words, the responses of the participants working in the same district were grouped together and summed up. In the last step, aggregated data was transferred into the GIS software program by joining the tabular survey data with the point data for districts. Once the tabular data was imported, pie charts and graduated colors were used for mapping quantities.

DistrictName	DistrictID	Novus_0	Novus_1	Novus_2	Novus_3	Novus_4m	TOT_VIS
District 12	407	91	76	66	18	43	294
Bien Hoa	352	32	59	51	17	24	183
District 11	395	9	6	7	2	0	24
Binh Tan	118	24	23	6	3	4	60
Cu Chi	398	39	46	26	12	0	123
District 8	318	38	58	56	13	0	165
District 6	412	4	6	9	8	0	27
District 7	413	16	13	19	2	0	50
District 9	415	10	8	4	3	4	29
Duc Hoa	75	40	18	22	16	15	121
Duc Xuy	409	7	10	5	4	0	30
Hue Man	401	8	10	8	2	0	30
Long Thanh	155	4	6	8	3	0	21
Hon Trach	356	8	8	9	3	0	30
Fan Binh	416	9	6	5	3	0	29
Fan Thu	357	7	10	16	8	0	41
Fan Uyen	374	24	30	15	7	0	76
Thu Duc Mot	376	7	10	8	4	0	30
Thu Duc	418	34	37	24	11	15	121
Thuan An	378	100	110	88	43	66	415

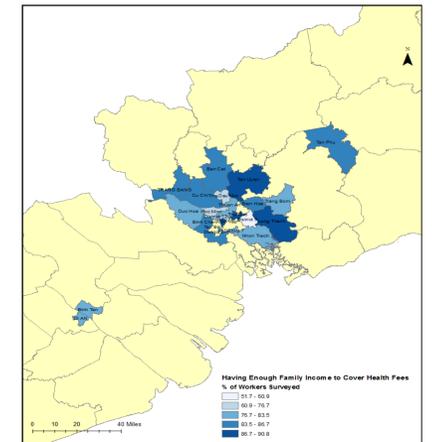
The Percentage of Workers Who Visited a Health Care Facility in the Past Year, 2009—2011



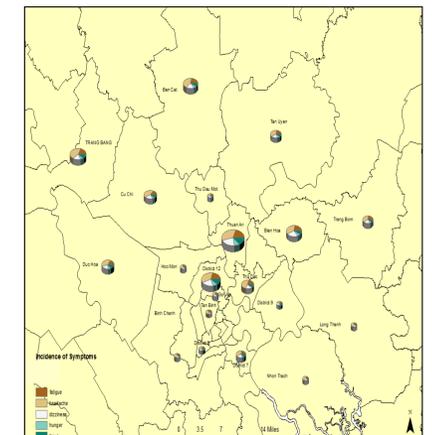
The Number of Visits to Health Care Facilities by the Workers or Their Families Over the Past Year, 2009 — 2011



The Financial Ability of Workers' Families to Cover the Health Care Fees Over the Past Year, 2009 — 2011



The Incidence of Several Symptoms Among the Workers, 2009 — 2011



## Conclusion

In this project, the health care section of the Better Work surveys administered to Vietnamese apparel industry workers were geocoded. Additionally, the survey results pertaining to worker health were visualized. The project was helpful in building the skills to import survey data into a geo-spatial mapping software. It is our hope that the present study would pave the way for more detailed analysis in the future that would shed light to the reasons as to why a significant portion of Vietnamese workers report health issues.