LIVING WAGE, LIVING PLANET

Microfinance Opportunities
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Photo courtesy of a garment worker in Bangladesh

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GARMENT
WORKER DIARIES

SUMMARY

Women in the RMG sector in Bangladesh also find themselves right in the middle of the rapidly evolving causes and consequences of climate change. As employees of factories producing for international "fast fashion" retailers, their labor is contributing to climate change directly—the environmental impact of fast fashion has been documented extensively. The fashion industry produces between 2 to 8% of global carbon emissions and is on track to use up a quarter of the world's carbon budget by 2050[1]; the "fast-fashion" operating model exacerbates this problem by increasing the pace of design, production, and replacement of clothing inventories[2]. Furthermore, due to their low base pay, workers in the RMG sector embrace the high-volume production demands of fast fashion because those demands give them more work hours and higher earnings. At the same time, these women live and work in many low-lying industrial areas of Bangladesh that are already flood-prone and will only get worse over time. In the **Living Wage, Living Planet** report we calculate the living wage of workers in Dhaka, the surrounding industrial areas, and Chittagong using detailed data from the Diaries with the Anker methodology as a guide. And we also place the discussion of this living wage in the context of what is good for the planet. The keys findings in this report are:

There is a large gap between what workers currently earn each month and what constitutes a living wage in the industrial areas of Bangladesh.

- Based on these estimates, including the range of housing costs, we estimate the living wage range to be:

  – Dhaka: Tk. 17,870 to Tk. 22,394

  – Satellite areas: Tk. 19,536 to Tk. 23,191

  – Chittagong: Tk. 20,579 to Tk. 24,939

- Workers' standardized income, which reflects what they would have earned in a 48-hour workweek was between Tk. 8,840 and Tk. 10,157 for women and between Tk. 9,691 and Tk. 11,168 for men, depending on the area in the first quarter of 2022. Depending on the area and the living wage benchmark used, the wage gap at the start of 2022 was anywhere from Tk. 9,030 to Tk. 14,782 per month for women and Tk. 8,179 to Tk. 13,771 for men.

- The only way for workers to close this gap is to work overtime and excess hours.

  – When asked what message workers would like to send to the rest of the world, the most prominent answer was "buy more clothes."

- There is a growing consensus that fast fashion, with its focus on increased production volumes and "throw away" garments, has detrimental environmental effects, even as workers benefit from the increased production volumes.

- Bangladesh's RMG sector faces potentially catastrophic losses from climate change within the next 10 to 20 years due to a confluence of factors:

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[1] https://www.unep.org/news-and-stories/story/putting-brakes-fast-fashion
[2] https://www.worldbank.org/en/news/feature/2019/09/23/costo-moda-medio-ambiente

- Low-lying land

- Melting glaciers swelling the flow of water into the country

- Sea level rise

- A "Living Wage, Living Planet" framework for living wage discussions shows how increasing wages for workers is good for the planet by shifting the RMG sector away from high-volume production to durable clothes and closed loop recirculation of garments.

INTRODUCTION

Jobs and the environment are often pitted against each other in political debates. The concept of "green jobs" seeks to end that conflict by identifying ways in which production processes that are good for the environment create new jobs, and often in greater number than the "dirty" jobs that are destroyed. In this report we look at whether there is an alignment between paying workers a living wage and promoting a living planet through less-intense use of resources in the global apparel supply-chain.

LIVING WAGE

Introduction

In this section we present the results of our estimates of the living wages for three zones in Bangladesh – Dhaka, Chittagong, and satellite areas around Dhaka (Gazipur, Savar, and Narayanganj). For the purposes of this report we use the definition of the Global Living Wage Coalition (GLWC), which built on the work of Professor Richard Anker and his review of living wage definitions for the ILO:

> The remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, health care, transportation, clothing, and other essential needs including provision for unexpected events.

The Anker Methodology has been used to estimate living wages for over 30 locations globally, with strong uptake and interest among both local and international stakeholders. The methodology involves calculating the cost of a basic but decent life (factors include food expenses, housing, other essential needs, and a small margin for unforeseen events) for an average household in the target country—a household of four in Bangladesh. This estimated cost of a decent life is then defrayed over the average number of adult earners in a household in the target country to get the living wage estimate. The average number of adult earners in Bangladesh is 1.58. To ensure consistency with the Anker Methodology, we used the GLWC's Living Wage Benchmark Report for Urban Bangladesh.

But unlike other living wage estimates, we provide a range of values for the living wage based on different levels of housing quality that might be deemed "livable" by different stakeholders. This forces a discussion of what constitutes "livable" housing in a context where the current norm is for a household to eat, socialize, and sleep in one small room with one window and door, and have access to a kitchen and bathroom shared with nine other households.

Cost of a basic decent life for a worker

Food Costs

The Anker Methodology begins with identifying a model diet for people in Bangladesh. The model diet, shown in Table 2, comprises 2,188 calories. Edible grams of different nutrients are based on the Dhaka Living Wage Benchmark Report which also includes 18% of miscellaneous costs (5% for miscellaneous foods not listed, 10% to allow for some variety, 3% for minimal waste and spoilage). Some foods contain inedible parts such as fruits with inedible skin or fish with bones, and we used grams purchased including both edible and inedible parts.

Table 1: Model Diet and Food Cost per person per day

Food Items	Grams Purchased	Cost per kg for satellite areas	Cost per kg for Dhaka	Cost per kg for Chittagong	Cost for satellite areas	Cost for Dhaka	Cost for Chittagong
Rice	370.00	54.29	50.00	58.00	20.09	18.50	21.46
Wheat	37.00	35.00	40.00	40.00	1.30	1.48	1.48
Potato	87.35	20.00	20.00	17.00	1.75	1.75	1.48
Pulses	28.00	120.00	100.00	120.00	3.36	2.80	3.36
Milk	90.00	70.00	80.00	80.00	6.30	7.20	7.20
Fish	71.39	150.00	150.00	150.00	10.71	10.71	10.71
Meat	35.68	200.00	200.00	170.00	7.14	7.14	6.07
Vegetable 1 (least expensive Green Leafy Vegetables - GLV)	45.93	30.00	26.67	30.00	1.38	1.22	1.38
Vegetable 2 (2nd least expensive GLV)	56.65	40.00	30.00	40.00	2.27	1.70	2.27
Vegetable 3 (least expensive non-GLV)	46.02	50.00	40.00	40.00	2.30	1.84	1.84
Vegetable 4 (2nd least expensive non-GLV)	42.94	66.67	50.00	56.00	2.86	2.15	2.40
Onion (considered as a spice in Bangladesh)	35.16				2.25	2.00	2.40
Fruit 1 (least expensive fruit available)	54.27	120.00	100.00	120.00	6.51	5.43	6.51
Fruit 2 (least expensive seasonal fruit)	47.37	160.00	130.00	150.00	7.58	6.16	7.11
Cooking oil	34.00	160.00	160.00	160.00	5.44	5.10	2.21
Tea	1.00				0.67	0.60	0.73
Sugar	12.00	90.00	80.00	90.00	1.08	0.96	1.08
Total					84.52	78.36	81.33
Total (including miscellaneous costs)					99.73	92.47	95.96

For each food item grams purchased were calculated based on edible parts of each food item from the Living Wage Benchmark Report.

Note: The Dhaka Living Wage Benchmark Report estimated one 6-edible gram egg per person per week and we instead used our estimated price of one egg regardless of its weight. Based on the data collected from the workers, an egg costs about Tk. 10 in all areas.

To estimate the cost of our model diet per kg for each area, we asked garment workers about the prices of different food items in their area. We then calculated the cost per person based on the grams purchased. However, we did not ask about the cost of tea and onions and hence estimated the cost using a 0.85 and 0.64 inflation rate from the Dhaka Living Wage Benchmark Report for Dhaka and Satellite areas, respectively. This inflation rate was calculated based on the changes in prices for all other food items from that report in comparison to the data we collected.

The model diet costs Tk. 12,076 per month for the reference size family for satellite areas, Tk. 11,188 for Dhaka, and Tk. 11,614 for Chittagong.

Housing costs

Housing standards for garment workers participating in the GWD initiative would be considered poor based on any developed nation's standard, with the conditions shown below:

- One room around 100 square feet

- One bed per room for all persons sleeping in the room

- Shared toilet and bathroom with nine other households

- Shared cooking area with nine other households

To identify more "upscale" housing we identified workers who were paying more than the typical rent of Tk. 3,500. When we asked them to describe their living conditions we got a variety of answers, but none included having a kitchen or bathroom of their own. Here is a sample of housing that is more expensive than typical:

- *1: "I live in a flat with 4 family members. There are 2 rooms, 2 beds, 2 wardrobes, and a TV. We share the common kitchen and bathroom with 5 other households."*

- *2: "I live in a one big room house with 5 members of my family including 3 children. I have a tv, a fan, light, a bed, and a wardrobe. We share the bathroom and kitchen with 4 other households."*

- *3: "I live in one tin-shed room with attached bathroom. It has a bed, a TV and a fridge. I share the common cooking place and 2 bathrooms with 7 other households."*

Rent for houses in satellite areas ranges between Tk. 2,500 to Tk. 4,175, with Tk. 3,500 being the typical rent; Tk. 3,000 to Tk. 4,350 with Tk. 3,650 being the typical rent in Dhaka; and Tk. 3,500 to Tk. 6,000 with Tk. 4,175 being the typical rent for Chittagong.

The following photos give some idea of the housing workers live in.
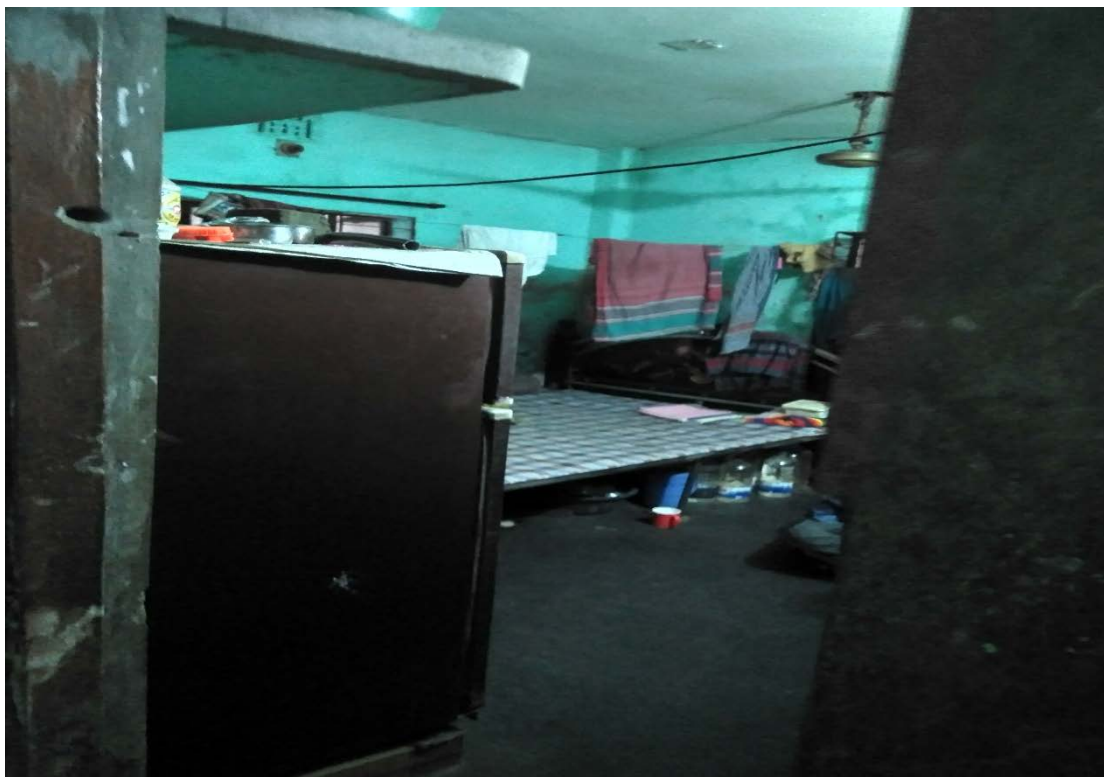
Figure 1: Cement house

Figure 2: Tin house

Figure 3: Shared kitchen

Figure 4: Living space

Based on what we heard from workers living in more expensive housing we identified two alternative decent housing scenarios that are more livable:

- Most garment workers live with multiple household members and children in their houses, or, if they don't, would like to have their children live with them. With this in mind, the bare minimum decent house should at least include 3 rooms (one bedroom for kids, one for adults, and a shared family room). These 2 rooms would not necessarily be as large as the main room, so we estimated additional space equivalent to 1.5 times the original, base room. The rent for this basic 3-room housing unit is estimated at Tk. 8,750 for satellite areas, Tk. 9,125 for Dhaka, and Tk. 10,437 for Chittagong.

- Same 2-bedroom house above but with a private bathroom and kitchen. We estimate that this would necessitate a space that would be 1.5 times the original, base room. The rent for this basic 5-room housing unit, including a private bathroom and kitchen, is estimated at Tk. 14,000 for satellite areas, Tk. 14,600 for Dhaka, and Tk. 16,700 for Chittagong.

Non-food, non-housing costs (NFNH)

Using data from the 2010/11 Household Income and Expenditure Survey the Living Wage Benchmark Report estimates the NFNH to food expenditure ratio as 0.5. This report uses the Anker methodology to adjust this ratio to a final estimate of 0.57.

To estimate the cost of non-food, non-housing costs (NFNH), we asked garment workers to tell us the prices of different expenses that constitute the NFNH needs of families. Such expenses include: fuel, cosmetics, household hygiene products, mobile charges, transport expenses, clothing, medical treatment, educational expenses, cooking equipment, furniture, insurance expenditure, personal articles, gifts, leisure, interests, other expenses, and miscellaneous household purchases.

NFNH costs were estimated to be Tk. 7,235 for satellite areas, Tk. 5,355 for Dhaka, and Tk. 7,508 for Chittagong. Using the Dhaka Living Wage Benchmark report ratio of NFNH to food expense ratio of 0.57, NFNH costs were estimated to be Tk. 6,883 for satellite areas, Tk. 6,377 for Dhaka, and Tk. 6,620 for Chittagong. The two methodologies had very close results apart from the estimation for Dhaka.

Table 2 shows the estimated NFNH costs per month per household.

Table 2: NFNH costs per family per month

NFNH Items	Monthly cost per household satellite areas	Monthly cost per household Dhaka	Monthly cost per household Chittagong
Fuel	300.00	400.00	975.00
Cosmetic	300.00	300.00	200.00
Household hygiene products	200.00	100.00	200.00
Mobile charges	300.00	204.50	200.00
Transport	300.00	300.00	375.00
Other expenses	400.00	300.00	300.00
Clothing	666.67	500.00	583.33
Medical treatment	560.00	1200.00	570.00

NFNH Items	Monthly cost per household satellite areas	Monthly cost per household Dhaka	Monthly cost per household Chittagong
Educational expense	1000.00	500.00	1000.00
Gifts	666.67	375.00	416.67
Leisure	166.67	100.00	208.33
Interests	500.00	416.67	625.00
Cooking equipment	83.33	50.00	100.00
Furniture	416.67	175.00	583.33
Personal articles	166.67	125.00	125.00
Miscellaneous household purchases	208.33	208.33	520.83
Insurance expenditure	1000.00	100.00	525.00
Total	7235.00	5354.50	7507.50

Living Wage Range and Wage Gap

Based on these estimates, including the range of housing costs, we estimate the living wage range to be:

- Dhaka: Tk. 17,870 to Tk. 22,394
- Satellite areas: Tk. 19,536 to Tk. 23,191
- Chittagong: Tk. 20,579 to Tk. 24,939

To calculate the wage gap, we calculated the gap between the living wage estimates calculated here and what workers earned during a standard workweek during the period when we collected the living expenses data (the first quarter of 2022, Q1 2022). To estimate what workers currently earn in a standard workweek, we used monthly salary and overtime payment data and weekly work hours data (converted into monthly data) to calculate what workers would have earned if they had, in fact, worked a standard workweek, which is 48 hours (8 hours a day, 6 days a week) in Bangladesh.

The average monthly wage in Q1 2022 ranged from Tk. 10,920 to Tk. 12,673 for women and Tk. 12,039 to Tk. 14,400 for men depending on the area. These wage payments include all the overtime and excess hours they worked in these months.

Table 3: Actual and Standardized Monthly Income, Q1 2022

Industrial area	Actual Monthly Income Earned		Monthly Income from Standardized Workweek	
	Women	Men	Women	Men
Chittagong	11,737	13,547	10,157	11,168
Dhaka	10,920	12,039	8,840	9,691
Satellite Areas	12,673	14,400	9,568	10,680

As we have reported elsewhere, workers worked excess hours in Q1 2022, so their standardized income, which reflects what they would have earned in a 48-hour workweek was between Tk. 8,840 and Tk. 10,157 for women and between Tk. 9,691 and Tk. 11,168 for men, depending on the area. Depending on the area and the living wage benchmark used, the wage gap at the start of 2022 was anywhere from Tk. 9,030 to Tk. 14,782 per month for women and Tk. 8,179 to Tk. 13,771 for men.

Table 4: Wage gap by region

Industrial area	Average Monthly Wage (Q1 2022)		Living Wage Range		Wage Gap			
	Women	Men	Lower	Higher	Women, Lower	Women, Higher	Men, Lower	Men, Higher
Chittagong	10,157	11,168	20,579	24,939	10,422	14,782	9,411	13,771
Dhaka	8,840	9,691	17,870	22,394	9,030	13,554	8,179	12,703
Satellite areas	9,568	10,680	19,536	23,191	9,968	13,623	8,856	12,511

Below are the details of the calculations for the two different housing scenarios discussed above.

Living Wage for a 3-room unit with shared bathroom and kitchen

Our living wage estimate which includes food costs, housing costs (for a 3-room housing unit with shared bathroom and kitchen) and other non-food non-housing costs for the three zones is:

- Satellite areas: Tk. 19,536

- Dhaka:

  – Using GWD's calculated NFNH costs: Tk. 17,870

  – Using the Dhaka Living Wage Benchmark report 0.57 food to NFNH costs ratio: Tk. 18,582

- Chittagong: Tk. 20,579

Table 5: Living Wage for a 3-room unit with shared bathroom and kitchen

Part 1: FAMILY EXPENSES				
	Satellite Areas	Dhaka (GWD calculated NFNH)	Dhaka (0.57 Food to NFNH estimate)	Chittagong
Food cost per month (A)	12,076	11,188	11,188	11,614
Housing cost per month(B)	8,750	9,125	9,125	10,438
Non-food non-housing costs per month(C)	7,235	5,355	6,377	7,508
Additional 10% (D)	2,806	2,567	2,669	2,956
5% for sustainability and emergencies	1,403	1,283	1,335	1,478

Part 1: FAMILY EXPENSES

	Satellite Areas	Dhaka (GWD calculated NFNH)	Dhaka (0.57 Food to NFNH estimate)	Chittagong
5% for some assistance to parents	1,403	1,283	1,335	1,478
Total household costs per month(E) [A+B+C+D1+D]	30,867	28,235	29,360	32,514

Part 2: LIVING WAGE PER MONTH

	Satellite Areas	Dhaka (GWD calculated NFNH)	Dhaka (0.57 Food to NFNH estimate)	Chittagong
Living wage per month (F) [E / # Workers]	19,536	17,870	18,582	20,579

Living Wage for a 5-room unit, including a private bathroom and kitchen

Our higher living wage estimate which includes food costs, housing costs (for a 5-room unit, including a private bathroom and kitchen) and other non-food non-housing costs for the three zones is:

- Satellite areas: Tk. 23,191

- Dhaka: Tk. 21,682

    - Using GWD's calculated NFNH costs: Tk. 21,682

    - Using the Dhaka Living Wage Benchmark report 0.57 food to NFNH costs ratio: Tk. 22,394

- Chittagong: Tk. 24,939

Table 6: Living Wage for a 5-room unit, including a private bathroom and kitchen

Part 1: FAMILY EXPENSES

	Satellite Areas	Dhaka (GWD calculated NFNH)	Dhaka (0.57 Food to NFNH estimate)	Chittagong
Food cost per month (A)	12,076	11,188	11,188	11,614
Housing cost per month(B)	14,000	14,600	14,600	16,700
Non-food non-housing costs per month(C)	7,235	5,355	6,377	7,508
Additional 10% (D)	3,331	3,114	3,217	3,582
5% for sustainability and emergencies	1,666	1,557	1,608	1,791
5% for some assistance to parents	1,666	1,557	1,608	1,791
Total household costs per month(E) [A+B+C+D1+D]	36,642	34,257	35,382	39,403

Part 2: LIVING WAGE PER MONTH				
Living wage per month (F) [E / # Workers]	23,191	21,682	22,394	24,939

LIVING PLANET

Introduction

As employees of factories producing for international "fast fashion" retailers, women's labor in the RMG sector is contributing to climate change directly—the environmental impact of fast fashion has been documented extensively. The fashion industry produces between 2% to 8% of global carbon emissions and is on track to use up a quarter of the world's carbon budget by 2050[3]; the "fast-fashion" operating model exacerbates this problem by increasing the pace of design, production, and replacement of clothing inventories[4]. This puts workers' current livelihoods and well-being in direct conflict with the need to reduce the RMG sector's impact on climate change—due to their low base pay, workers in the RMG embrace the high-volume production demands of fast fashion because those demands give them more work hours and higher earnings. And even with overtime and excess work hours, workers are falling short of earning a living wage, as demonstrated in the previous section.

Furthermore, women's immediate economic needs are in conflict with the short-and medium-term impacts of climate change on their homes and neighborhoods. Women in the RMG sector tend to live and work in the low-lying industrial areas of Bangladesh that are already flood-prone and will only get worse over time.

Figure 5: A worker's flooded home

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[3] https://www.unep.org/news-and-stories/story/putting-brakes-fast-fashion
[4] https://www.worldbank.org/en/news/feature/2019/09/23/costo-moda-medio-ambiente

Bangladesh faces three different flooding threats: rising sea levels, increased river flooding as glaciers melt in the Himalayas, and the increased frequency of intense rainfall (although not necessarily more rainfall). This has been apparent for many years:

> *Most of Bangladesh lies in the delta of three of the largest rivers in the world—the Brahmaputra, the Ganges, and the Meghna [MOEF]. The topography of the country is mostly low and flat. Two-thirds of the country is less than 5 meters above sea level and is susceptible to river and rainwater flooding. As a result, approximately one-quarter of the country is inundated in an "average" year.* (USAID, Climate Change Information Fact Sheet 2015)

The data suggest that things are only getting worse with respect to sea level rise, according to a recent study by a consortium of researchers from Bangladesh and Europe. In an interview with The Business Standard in Bangladesh, Prof AKM Saiful Islam, Professor of Institute of Water and Flood Management, Bangladesh University of Engineering and Technology (BUET), stated:

> *According to the global prediction of Intergovernmental Panel on Climate Change (IPCC), the sea level rise would be 1m within 2100 century for climate change. But it's the average prediction… Bangladesh and parts of India could be hit by sea-level rise almost twice as high as previously thought due to land subsiding.*

To assess the vulnerability of the RMG sector to climate change, we used two data sets. One is a list of factories extracted from lists compiled by Mapped in Bangladesh and Open Apparel Registry. The second is a data set provided by Climate Central, which uses an innovative technique to accurately measure land elevations above sea-level. Their analysis shows that many measurement systems used in the past have over-estimated land elevations and they provide evidence that their model has much greater accuracy when tested against highly accurate satellite data for the U.S. and Australia.

Results

What we found is that 80% of exporting factories in the RMG sector are located on land 5 metres or more above sea level—land under factories is less prone to flooding than land in Bangladesh in general. But it also means that 20% of factories are below that 5 metre mark, putting them in danger of regular flooding by 2030 and beyond.

Table 7: Count of factories by elevation above sea level

Elevation	Number of Factories	Share of Factories
At sea level or below	5	0.1%
Up to 3 metres above sea level	56	1.0%
3 to 5 metres above sea level	1,094	19.7%
5 to 10 metres above sea level	3,341	60.1%
More than 10 metres above sea level	1,063	19.1%
Total	**5,559**	**100.0%**

Flooding of factories does not just put considerable capital investments at risk, it also puts the livelihoods and lives of workers employed in the factories at risk. If factories flood, then workers cannot work, and our weekly interviews with workers suggest that they do not have a large financial cushion to fall back on—they do save but those savings do not last very long. Furthermore, if factories flood it is likely that workers' homes will flood as well because workers live close to where they work—so the data on factory elevations is indicative of how vulnerable garment workers are to floods. In fact, it is likely that workers' homes are more vulnerable. As one worker we spoke to about this said: "As our houses are near the river, there is always the fear that someday the storm will end it all."

The map below visualizes the threat factories and workers are facing, not in the usual manner of showing locations against potential flooding scenarios, but simply by color-coding the factories according to their elevations. Factories are represented by dots, and each factory is color-coded to notate its elevation range: green factories are located more than ten meters above sea level; orange factories are between five and ten meters; purple at three to five; red up to three meters; and yellow factories are at or below sea level.

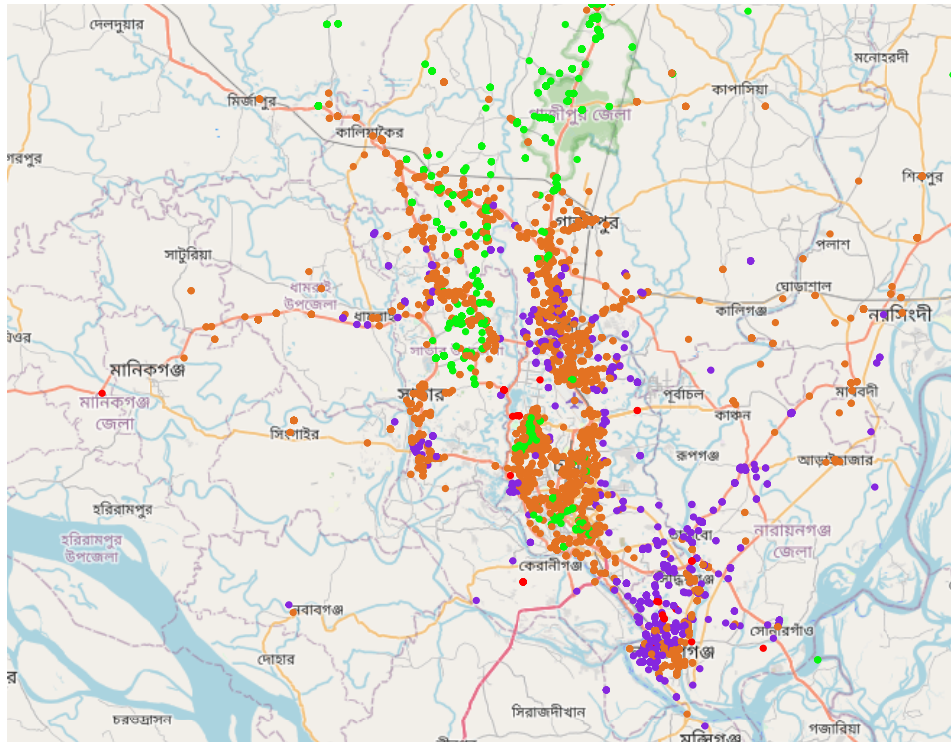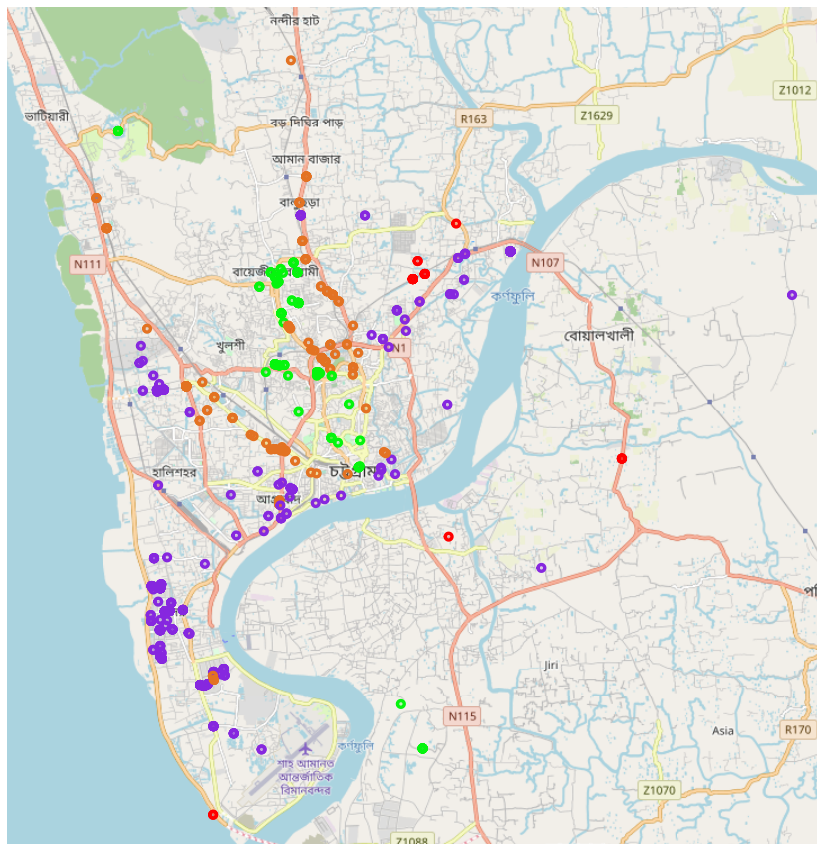*Figure 6: Factories and elevation above sea level, Dhaka region*

Figure 7: Factories and elevation above sea level, Chittagong

TOWARDS A LIVING WAGE AND A LIVING PLANET

The living wage data analysis in this report shows that, currently, the only way workers can get even close to a decent standard of living is to work overtime and excess hours. This incentive to work aligns with fast fashion's focus on volume production, but is antithetical to a sustainable apparel global supply-chain. The simple solution is to pay workers more, so they can work less. This would be good for workers and the planet.