



Sustainable Social Development Organization (SSDO)  
Impacts Of Climate Change On Gender And Health  
In Urban Slums

A Quantitative study in France Colony Islamabad

**Islamabad:** Impacts Of Climate Change On Gender And Health In Urban Slums

**Published by:** Sustainable Social Development Organization (SSDO),

Islamabad Sustainable Social Development Organization (SSDO)

Suite 14, 3<sup>rd</sup> floor, Al-Baber Center, F 8 Markaz, Islamabad, Pakistan

**Phone:** +92 51 2287298

**URL:** [www.ssdo.org.pk](http://www.ssdo.org.pk)

This publication is produced by SSDO with human resource support from International Islamic University, Pakistan.

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**Authored by:** Maryam Jawad

**Core Researcher:** Huma Binte Nayyer

**Research Field Team:** Faisal Abbas Awan, Rizwan Ghafoor, Haider Chattha, Asad ullah & Husna Tasser

**Available at:**

Website: [www.ssdo.org.pk](http://www.ssdo.org.pk)

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## Acknowledgement

SSDO acknowledges the efforts of International Islamic University students, who really worked hard to make this survey study possible, also special thanks to Dr. HazarUllah (Head of the department, Sociology, IIUI) and Dr. Farhan Naveed Yousaf (Assistant Professor, IIUI). We are also obliged with our gratitude to all the community men and women who took part in this study. We highly appreciate the efforts of Mr. Kausar Abbas (Director, SSDO) for encouraging students and providing resources to carry out this study and Mr. Wasaf Anwer (Operations officer) supported us in many ways technical and logistically. We duly acknowledge the valuable services of Ms. Lina gedeikyte who supported us in this report technically.

**The Research Team**

## 1. BACKGROUND

Climate change is going to make an enormous impact in global horizon, changing the dynamics of imminent health issues as well as its hard-core impacts on gender. When such scenario is building up globally, then every country is going to be effected by these changes. South Asian region is already a vulnerable one when it comes to unexpected rain falls and sudden heat waves. Pakistan is among those countries which are most affected by this ongoing climate change plot. The topic “Impacts of Climate Change on Gender and Health in urban slums” is selected to seek the brunt of climate change in the odd settlements of the Federal Capital of Pakistan. The reason behind selecting this topic is to measure the living standards of the lower working class of slums of Islamabad that are directly affected by the changing patterns of climate change. Thee slum at question is situated in the heart of the capital, due to poor infrastructure and economic condition the area is not capable to resist the issues arising from the climate change. Due to changing climate and bad infrastructure in the selected community, an uneasy living conditions are created for Women, especially for those with basic or no education.

The Non Communicable Diseases impose a large burden on human health worldwide. Currently 63%<sup>1</sup> of all deaths worldwide stem from Non Communicable Diseases like cardiovascular diseases, Cancers, Chronic Respiratory diseases and diabetes. Middle income countries accumulated about US\$ 7 trillion<sup>2</sup> by 2025 to tackle with these diseases. Therefore the sustainable development goals are playing a vital role in to eradicate the poor health and to provide the good health to human beings. SDGs are given the ambitious, comprehensive plan of action for people to give the good health. SDG 3 inspires to ensure health and wellbeing for all including non-communicable diseases and other catastrophic diseases by 2030.

This aims to provide safe and effective medicines and vaccines for all. More than five million children die before their fifth birthday each year<sup>3</sup>. In eastern Asia, southern Africa and southern Asia maternal mortality has declined by around two thirds. Only half of Women in developing regions receive the recommended health care they need. The need for family planning is slowly being met for more Women, but demand is increasing at a rapid pace. 36.7 million people globally were living with HIV in 2017, 21.7 million people were accessing antiretroviral therapy in 2017, 940000 people died from AIDS-

<sup>1</sup> <https://www.un.org/sustainabledevelopment/health>

<sup>2</sup> <https://www.un.org/sustainabledevelopment/health>

<sup>3</sup> <https://www.un.org/sustainabledevelopment/health>

### 1. DEFINITIONS

**Climate:** Climate is the weather conditions prevailing in an area in general or over a long period.

**Change:** Process through which something become different.

**Gender:** Gender is defined as socially assigned roles to both sexes.

**Health:** Health is the state of one's physical as well as mental condition.

related illness in 2017. Over 6.2 million malaria deaths have been averted between 2000 and 2015, primarily of children under five years of age in sub-Saharan Africa. The global malaria incidence rate has fallen by an estimated 37 % and the mortality rates by 58 %. The Purpose of SDG 3 to reduce the global maternal mortality ratio to less than 70 per 100000 live births. To end the epidemics of malaria, tuberculosis, AIDS and neglected tropical diseases to 2030. By 2030 reduce the number of deaths and illness from hazardous chemicals and air, water and soil pollution and contamination.<sup>4</sup>

Floods, windstorms, droughts and heat waves have various impacts on people's health. A review on consequences of climate change on Women in south Asian slum<sup>5</sup> identified that climate change creates difficulties for everyone, but on average it causes death to more Women than men, especially Women at younger age. Climate impacts are directly related to socioeconomic status of the country, thus under developed countries suffer more than developed .Men and Women are dealing with many difficulties in society such as physical and health challenges, socio-economic disparities, climate change, gender inequalities. In many situations, Women suffer more than men.

In South Asian slums, Women are affected by climate change, in particular floods, droughts and increase of diseases. In this study many Women indicated that floods and heat waves made it impossible for them to work, leaving their families financially unsupported. Many husbands were temporarily unemployed, because of the same reasons. Furthermore, interviewed Women emphasised additional stress created by caring for sick children in addition to their jobs and other domestic responsibilities. In Dhaka climate change have worse impacts as compare to Islamabad. Bangladesh and Pakistan are in the top 10 countries most affected by climate change.<sup>6</sup>

## 1.1 Study Objectives

- ✓ To measure the level of vulnerability of slums to climate change and result of the global warming as a risk factor in odd settlements;
- ✓ To observe and understand the relation of infrastructure and its impact to serious health issues in the slum community;
- ✓ To find out why Women are more vulnerable to change of climate then men.
- ✓ To understand and evaluate the Government's stance on climate change and its impact on slum communities

## 1.2 Area Profile

A slum situated in the heart of Islamabad sector F7, known as France Colony, was selected for the purpose of this study. The France Colony possess legal status, approved and recognized by the Capital Development Authority (CDA).

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<sup>4</sup> <https://www.un.org/sustainabledevelopment/health>

<sup>5</sup> <https://www.urban.org/urban-wire/south-asian-slums-Women-face-consequences-climate-change>

<sup>6</sup> <https://www.urban.org/urban-wire/south-asian-slums-Women-face-consequences-climate-change>

## **2. METHODOLOGY**

The survey design was based on quantitative tools, in which survey questionnaire was developed to gather the information. The survey analysis was carried out using Statistical Package for Social Sciences (SPSS) software.

### **2.1 Sample Design**

The total numbers of 550 families are living in France Colony<sup>7</sup> inclusive of approximately 7000 individual residents. For this survey study, a sample of 337 individuals was selected on basis of randomization. The sampling framework was based on 95% confidence level and 5% confidence interval.

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<sup>7</sup> Research Conduction on Aug, 2019

### 3. RESULTS

The following section depicts the results based on the information collected from the study area.

#### 3.1 Socio-Demographic Profile

The proportion of 57% men and 43% Women were taken to carry out this survey. Both men and Women were between 15 - 46 years. The purpose of taking this age slab was to ensure the understanding of both young and adults on change in climate.

##### 3.1.1 Age Wise gender criteria

The data shows three age groups of both men and Women i.e. 36% men and 20% Women belongs to 15- 25 years whereas 13% men and 13% Women are to age group 36 and above.

**Table 1: Age-Wise gender distribution of respondents**

Age Group	Gender of Respondents		Total
	Men	Women	
15-25	36%	20%	56%
26-35	8%	10%	18%
36 Above	13%	13%	26%
<b>Total</b>	<b>57%</b>	<b>43%</b>	<b>100%</b>

##### 3.1.2 Gender wise Education Status

The data depicts that from the 57% of men 28% had attained primary education and 15 % are middle whereas among 43% Women respondents 18% were primary educated, 12% middle and 6% were intermediate.

**Table 2: Gender Wise Educational status**

Education	Gender of Respondents		Total
	Men	Women	
Primary	28%	18%	46%
Middle	15%	12%	28%
Secondary	10%	6%	15%
Intermediate	3%	6%	9%
Graduation and Above	1%	1%	2%
<b>Total</b>	<b>57%</b>	<b>43%</b>	<b>100%</b>



### 3.1.3 Household structure

The study revealed that 42% of the respondents lived in paved houses, 45% in un-paved houses and 13% in semi-paved houses. Apparently, the houses were unstructured and in a very bad condition which caused resulted in vulnerability and openness to any climate change related diseases and problems.

**Table 3: Household structure**

Household structure	Frequency %
Paved	42%
Un-paved	45%
Semi-paved	13%
Total	100%

### 3.1.4 Housing Structures and Sanitation

The data depicts that almost equal proportion of paved and unpaved structure of household shared the proper sanitary system.

**Table 4: Housing Structure and sanitation**

Sanitation System	Household Structure			Total
	Paved	Un-Paved	Semi-Paved	
Sanitary Dumps	1%	0%	1%	2%
Wastage tanks	1%	1%	0%	2%
Open Drainage	5%	9%	5%	18%
Proper Sanitary System	35%	35%	8%	78%
<b>Total</b>	42%	45%	13%	100%

### 3.1.5 Gender Wise Job Status

It was found from the data that 17% of respondents were holding a Government job, 34% were found to be engaged in private job and 21% were working on daily wages (i.e. labor and stall keepers). 26% of the men from the age group 15-25years were found unemployed however, 49% Women from all age groups were unemployed.

**Table 5: Gender wise Job status**

Gender	Age	Job Status				Total
		Govt. Job	Private Job	Daily wager	Unemployed	
Men	15-25	9%	18%	9%	26%	63%
	26-35	3%	5%	7%		15%
	36-45	5%	11%	5%	1%	22%
<b>Total</b>		17%	34%	21%	27%	100%
Women	16-25	3%	10%	2%	30%	46%
	26-35	2%	8%	3%	9%	22%
	36-45	4%	14%	3%	10%	32%
<b>Total</b>		9%	32%	8%	49%	100%

### 3.1.6 Gender Wise Income Distribution

From the data it was found that 47% of the respondents had earned the income between 6001-20000 PKR from which 31% were Men's and 16% were Women's, 30% of the respondents were earning between 20001-35000 PKR among which 18% Men's and 12% were Women's. 8% of respondents were earning below 6000 PKR per month, 12% were earning between 35001-50000 PKR and only 4% above 50000 PKR.

**Table 6: Gender wise Income**

Income PKR	Gender		Total
	Men	Women	
<b>Below 6,000</b>	3%	5%	8%
<b>6001-20000</b>	31%	16%	47%
<b>20001-35000</b>	18%	12%	30%
<b>35001-50000</b>	3%	8%	12%
<b>50000 Above</b>	2%	2%	4%
<b>Total</b>	57%	43%	100%

### 3.2 Climate Change

#### 3.2.1 Gender Perception On Climate Change

The data depicts that repondents felt change in climate, 50% men and 41% Women were in view of increase in change in temperature. 32% men and 25% Women also observed the increase change in rainfall and 44% men and 28%Women felt increase duration of hot days while 42% men and 35% Women decrease duration of cold days.

**Table 7: Gender Perception on Climate change**

Change in Climate	Reasoning	Gender		Total
		Men	Women	
Change in Temperature	Increase	50%	41%	92%
	No-change	4%	1%	4%
	Decrease	3%	1%	4%
<b>Total</b>		57%	43%	100%
Change in Rainfall	Increase	32%	25%	57%
	No-change	2%	1%	3%
	Decrease	23%	17%	40%
<b>Total</b>		57%	43%	100%
Duration of Hot days	Increase	44%	28%	73%
	No-change	5%	3%	8%
	Decrease	8%	11%	19%
<b>Total</b>		57%	43%	100%
Duration of Cold days	Increase	7%	5%	12%
	No-change	7%	3%	10%
	Decrease	42%	35%	77%
<b>Total</b>		57%	43%	100%

#### 3.2.2 Season Wise Availability of Safe Drinking Water

In the slum community 65% respondents have water pumping motor as a source of clean and safe drinking water, usually nearby houses combine to plant a motor for their use. 4% have a hand pump and 31% were using nearby filtration plant for safe water. It was found that in both summer and winter seasons the availability of water remains the same.

**Table 8: Season wise availability of drinking water**

Source of Drinking water	Availability of Drinking water in summer (Past 5 Years)			Total	Availability of Drinking water in Winter (Past 5 Years)			Total
	Increase	No-change	Decrease		Increase	No-change	Decrease	
Water Motor	20%	17%	28%	65%	32%	17%	17%	65%
Hand Pump	0%	4%	0%	4%	1%	3%	0%	4%
Filtration Plant	12%	13%	6%	31%	11%	14%	7%	31%
<b>Total</b>	<b>33%</b>	<b>33%</b>	<b>34%</b>	<b>100%</b>	<b>44%</b>	<b>33%</b>	<b>23%</b>	<b>100%</b>

### 3.2.2 Effects Of Seasonal Change On Daily Routine

When the respondents were asked about effects of seasonal change on their daily routine, 44% men and 34% Women said that sunny day effect their work, however; rainy day also effects their work and 38% men and 18% Women shared that rainy day have negative impacts on daily earnings too.

**Table 9: Gender wise Effects of seasonal change on daily routine**

Seasonal Changes	Response	Gender		Total
		Men	Women	
Sunny day Effect your work	Yes	44%	34%	78%
	No	13%	9%	22%
Total		57%	43%	100%
Rainy day have negative impacts on daily earnings	Yes	38%	18%	55%
	No	19%	25%	45%
Total		57%	43%	100%
Rainy-day effects your work	Yes	41%	34%	76%
	No	16%	9%	24%
Total		57%	43%	100%
Sunny day have positive impacts on daily earnings	Yes	26%	13%	39%
	No	31%	30%	61%
Total		57%	43%	100%

### 3.3 Family Health Infrastructure

#### 3.3.1 Family Seasonal Health Threats

The respondents also mentioned that they faced family seasonal health threats during seasonal change, 96% said that there is augmentation in diseases during rainy days, however; 90% mentioned that sanitation system have impact on their health as well.

**Table 10: Seasonal Health Threats**

Seasonal Health threats	Yes	No	Total %
Does water logging lead's to severe diseases	92%	8%	100%
Is there augmentation in diseases during rainy days	96%	4%	100%
Sanitation system have impact on your health	90%	10%	100%
Is water cleanliness system effective to health	86%	14%	100%
Is drainage system satisfactory	40%	60%	100%
Hanging cables are threat to health	71%	30%	100%
Do you have access to clean drinking water	48%	52%	100%
Do you have government healthcare facilities	24%	76%	100%
NGO's & CBO's are available for healthcare	26%	74%	100%

#### 3.3.1 Seasonal Prone Diseases

The slum dwellers also mentioned that they challenged regarding seasonal prone diseases as well. 45% men and 32% Women mentioned that they usually get Malaria in summers and 40% men and 28% Women talked about skin burning cases in summers, however; in winter, 44% men and 3% women counts coughing as winterish diseases and 35% men and 29% women mentioned Pneumonia.

**Table 11: Gender wise summer & winter prone diseases**

Summer Diseases	Men	Wome n
Diarrhea	34%	28%
Malaria	45%	32%
Dengue	32%	26%
Skin burning	40%	28%
Allergies/Itching	34%	27%
Winter Diseases	Men	Wome n
Pneumonia	35%	29%
Fever	37%	32%
Influenza	41%	31%
Coughing	44%	3%
Body pain	30%	25%

### 3.3.2 Gender Perception upon Safety Measurements-Reasons

The data also shows gender perception upon safety measurements, 56% men said that they have a desire to live in healthy environment and 40% women are much concerned about future generation. Also those respondents who didn't take safety measures as their responsibility, 53% men mentioned that its government duty to take care about safety measures and 53% women said that they don't know about climate change.

**Table 12: If yes, Gender wise perceptions upon safety measures**

Perceptions	Men	Women
Desire to live in healthy environment	56%	43%
Need to keep household cost low	39%	31%
Duty as a citizen	53%	35%
Change collective behavior	41%	28%
Concerned about future generation	49%	40%

**Table 13: if no, Gender wise perceptions upon safety measures**

Perceptions	Men	Women
It is Government duty	53%	21%
Do not know what to do	37%	37%
Do not know about climate change	21%	53%
It is too late to take action	16%	58%
Changing my behavior will not have impact	37%	37%

### 3.3.3 Men Attitude towards Seasonal Change and Its Impact

35% men were agreed upon their attitude towards seasonal change and its positive impacts on domestic life, however; 59% men disagree upon asking the provision of health facilities for men towards seasonal change

**Table 14: Men attitude towards seasonal change and its impact**

Men Attitude	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Negative impacts on domestic life	5%	38%	37%	20%	0%	100%
Positive impacts on domestic life	29%	35%	16%	20%	0%	100%
Negative impacts on professional life	33%	29%	22%	16%	0%	100%
Positive impacts on professional life	8%	28%	42%	22%	0%	100%
Provision of health facilities for Men	6%	22%	10%	59%	3%	100%
Water logging impacts	30%	43%	13%	13%	1%	100%
Mostly Infrastructure incidents are related to Men	37%	40%	12%	11%	0%	100%
Impact on Men empowerment	30%	24%	34%	12%	0%	100%

### 3.3.4 Women Attitude towards Seasonal Change and Its Impact

Women of the slum community also talks about seasonal change and its impact, 54% women agreed upon the positive impacts on domestic life due to seasonal change, however; 65% women also mentioned the water loggings impact as in seasonal change as well.

**Table 15: Women attitude towards seasonal change and its impact**

Women Attitude	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Negative impacts on domestic life	6%	50%	22%	21%	1%	100%
Positive impacts on domestic life	17%	54%	11%	18%	0%	100%
Negative impacts on professional life	15%	41%	14%	30%	0%	100%
Positive impacts on professional life	4%	35%	21%	39%	1%	100%
Provision of health facilities for Women	3%	41%	7%	47%	2%	100%
Women are more prone to seasonal diseases	21%	61%	6%	12%	0%	100%
Water logging impacts	17%	65%	6%	12%	0%	100%
Mostly Infrastructure incidents are related to Women	17%	33%	11%	39%	0%	100%
Impact on Women empowerment	14%	29%	17%	40%	0%	100%

### 3.5 Respondents Opinion upon Provision of Given Facilities

91% respondents mentioned that they don't have any health facilities in community and 95% said that there is no infrastructure development in community. 96% said that they didn't get any awareness campaigns on climate change and contribution in disaster management.

**Table 16: Respondents opinion upon provision of given facilities**

Provision of facilities	Respondents Perception		Total
	Yes	No	
Health services in community	9%	91%	100%
Infrastructure development in community	5%	95%	100%
Awareness campaigns on Climate change	4%	96%	100%
Contribution in disaster management	4%	96%	100%
Pre-disaster measures	15%	85%	100%
Legalizing the settlement	12%	88%	100%
Providing development funds	13%	87%	100%
Utilization of resources by community	9%	91%	100%
Participation in political and development activities	31%	69%	100%
Sustainability of community resilience	50%	50%	100%



## RECOMMENDATIONS

General and the most important task for Government are to upgrade living conditions of the Slum residents. Other recommendations for the Government and the CDA are summarized as follows:

- ✓ Infrastructure problems should be a priority in order to protect the slum dwellers from diseases related to water logging as appropriate system of drainage and sanitary are lacking.
- ✓ Safety measures and awareness regarding the diseases and floods arising from the Canal should be provided.
- ✓ Earning opportunities enabling people to afford hygienic food and healthy life style should be provided or strengthened, for example, low interest loans or other financing support should be given for the start of any kind of small businesses for unemployed.
- ✓ The electricity wires should be undergrounded like in the other areas of Islamabad as these are causing mortal problems in France colony.
- ✓ A on-duty doctor or nurse should be assigned mini hospital to this slum for in case of an emergency they can have an easy access to a medical help because other hospitals like polyclinic and PIMS are to far from this area which causing the serious health issues for slum dwellers especially to the Women.

A lot of attention should be paid to the settlement itself. In-situ approach should be chosen rather than forced evictions: it either should be converted into vertical settlement or be suggested to shift to other suitable and well developed area for living This is a very difficult issue and the Government and CDA should take serious initiatives, as recommended above, to address it as soon as possible otherwise the results of this increasing odd settlement will be catastrophic.

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**Office # 14, 3rd Floor, Al-Babar Centre, F-8 Markaz, Islamabad**

**<http://www.ssdo.org/>**