Ministry of Climate Change
Government of Pakistan

UNDP

Youth and Climate Change *Perception*

REPORT

Implementing Partner

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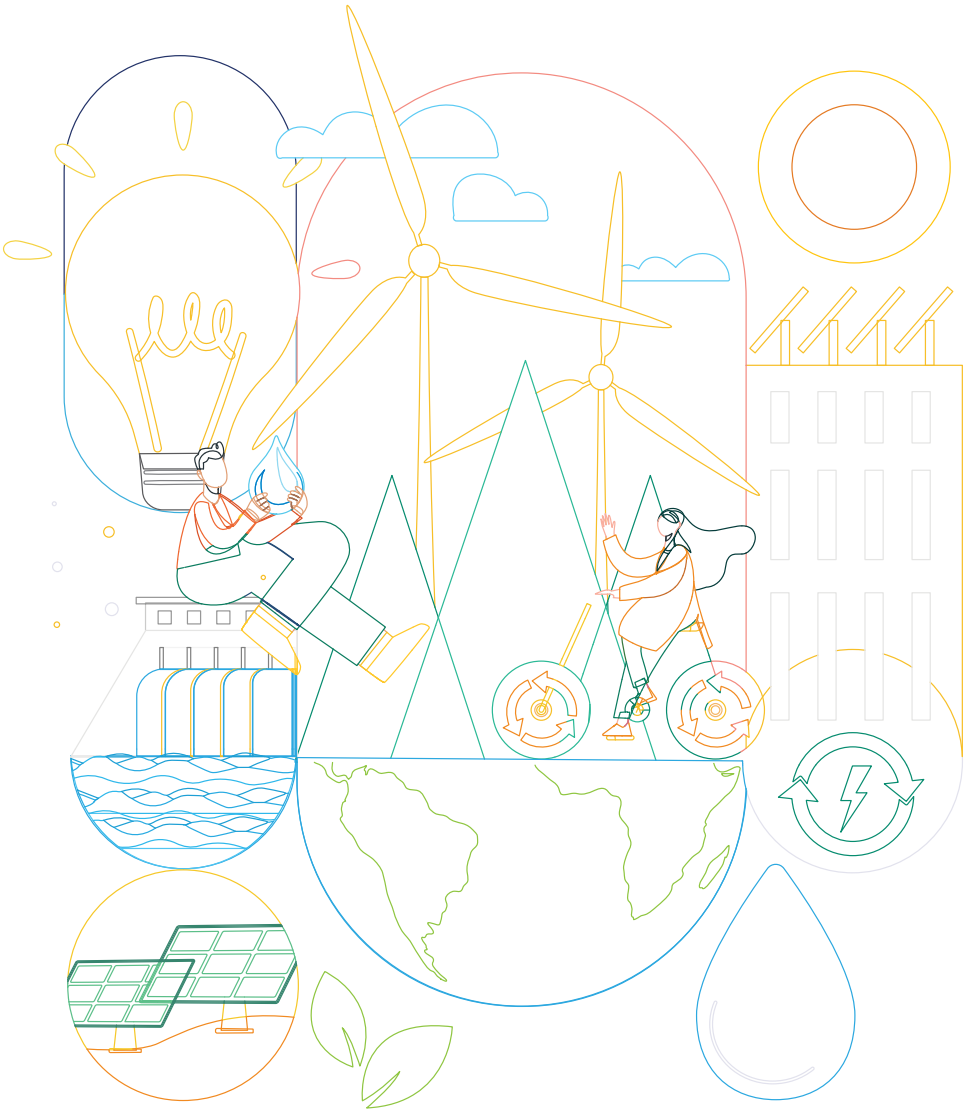
Youth and Climate Change *Perception* REPORT



CLIMATE PROMISE

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Youth And Climate Change Perception Report A Survey For The Ministry Of Climate Change, Government Of Pakistan

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Contents

Executive Summary

The main objective of the survey was to gauge the perception and knowledge regarding climate change among the youth of Pakistan. The survey aimed to collect information on a host of subject areas that were divided into five themes:

1. Climate Change knowledge
2. Climate Change vulnerability
3. Adaptation strategies
4. Regulatory knowledge
5. Climate advocacy

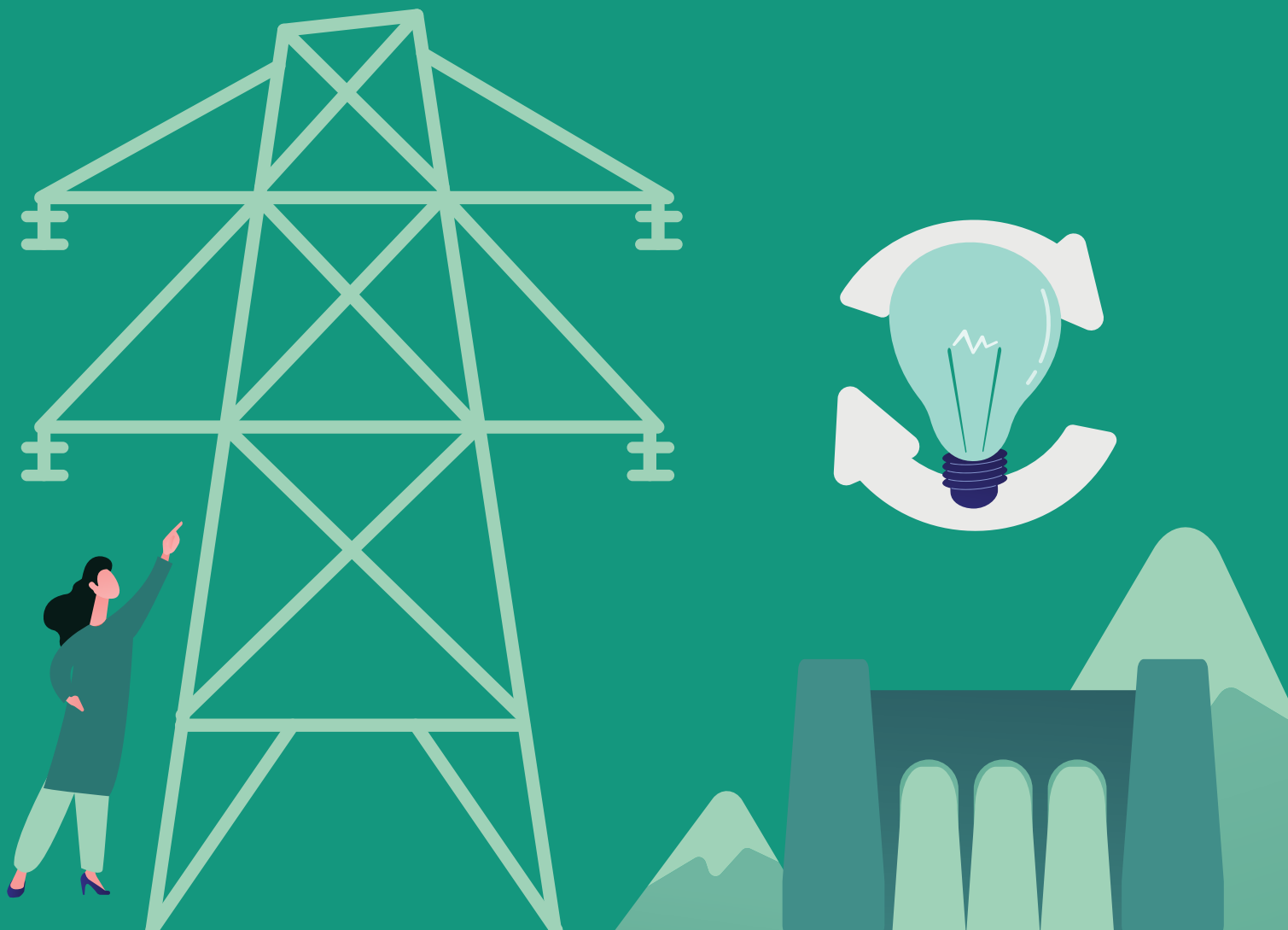
The results outlined show that there are marked differences in understanding of cohorts that belonged to rural or urban areas. Similarly, there exists differences in comprehension when results are disaggregated by gender. The survey also aimed to measure knowledge among the cohorts regarding the government regulatory framework currently in place and initiatives that the government had launched in order to promote the green economy or to provide financial support against those who had suffered due to climate change.

More so, the report also highlights key recommendations that might aid any government effort to improve the efficacy of targeting strategies employed. In addition to this, the report also provides recommendations to cover the other identified areas for improvement.

1. Introduction

According to the 2018 Intergovernmental Panel on Climate Change (IPCC) report "Global warming of 1.5°C", global warming is defined as an increase in combined surface air and sea surface temperatures averaged around the globe over a 30-year period. The IPCC includes more than 1,300 scientists from the United States and is the primary authority on the research conducted on climate change and its impact worldwide. The IPCC report states that the earth has warmed by 0.8°C to 1.2°C above the pre-industrial levels by the year 2017 and increasing at 0.2°C per decade[1]. Under a business-as-usual scenario, global average temperature increase would surpass the 1.5°C threshold that is deemed as the point of irreversible damage.

1 IPCC report 2018



As per the Global Climate Risk Index report of 2020, more than 12,000 extreme weather events occurred between 1999 and 2018. As a direct loss, 495,000 people died worldwide and losses of US $3.54 trillion in purchasing power parity were incurred. The UNEP Adaptation Gap Report 2016 predicts an increasing impact and thus an increasing global adaptation cost of up to three to four times by the year 2030, not inclusive of the unavoidable damages caused by climate change. Current estimates of climate finance need for residual loss are in the range of US $290 billion to US $580 billion in 2030.

The Global Climate Risk Index 2020 ranks Pakistan as the fifth most affected country due to the impacts of climate change observed from 1999 to 2018. Pakistan saw a rise from the eighth position in 2017 to fifth position in 2018. Only four other countries - Puerto Rico, Myanmar, Haiti and Philippines- have a higher Climate Risk Index (CRI) score than Pakistan[2].

Climate change is being increasingly observed in Pakistan. From 1900 to 2000, mean temperatures rose by 0.057°C per decade; although this is not statistically significant, the temperature variability has not been constant across the country. Balochistan's temperature has risen by 1.15°C, Punjab by 0.56°C and Sindh by 0.44°C. Northern areas have witnessed a higher temperature increase than the southern areas resulting in glacial meltdown, increasing the risk of flooding and siltation of dams. Heat waves have been an annual occurrence over the last decade[3].

Climate change is also evident with the change in the annual precipitation levels. Between 1901 and 2000, there has been an increase in the duration of the monsoon season. However, the Pakistan Meteorological Department has concluded that the increase in the summer monsoons and winter rainfall are also due to the variability of 20-30-year decadal cycles. The coastal areas, however, have seen a decrease of 10-15% in annual precipitation. Sea levels have been rising by 1.2mm per year in the recent decades; although lower than the global average of 1.7mm per year, it still leads to delta flooding and loss of agrarian area along the delta[4]. Climate change has caused Pakistan a direct financial loss of US$3.8 billion by the year 2018. While quantifying the indirect monetary impact of climate change may not be very accurate, it will be significantly more, and it will worsen every year if climate resilient efforts are not streamlined and implemented.

The most significant climate change threats to Pakistan are:

- Considerable increase in the frequency and intensity of extreme weather events, coupled with erratic monsoon rains causing frequent and intense floods and droughts.
- Projected recession of the Hindu Kush-Karakoram-Himalayan (HKH) glaciers due to global warming and carbon soot deposits from trans-boundary pollution sources, threatening water inflows into the Indus River System (IRS).
- Increased siltation of major dams caused by more frequent and intense floods.
- Rising temperatures resulting in enhanced heat and water-stressed conditions, particularly in arid and semi-arid regions, leading to reduced agricultural productivity.
- Further decrease in the already scanty forest cover, from rapid changes in climatic conditions to allow natural migration of adversely affected plant species.

2 Global Climate Risk Index 2020, Who Suffers Most from Extreme Weather Events? Weather Related Loss Events in 2018 and 1999 to 2018, David Eckstein, Vera Kunzel, Laura Schafer, Maik Winges, German watch, 2020

3 Global Change Impact Studies Centre. 2005. Final Technical Report for APN Capable Project. Islamabad

4 G.Rasul et al. 2012b. Climate Change in Pakistan Focused on Sindh Province. Technical Report No.25. Islamabad. Pakistan Meteorological Department

- Increased intrusion of saline water in the Indus delta, adversely affecting coastal agriculture, mangroves and the breeding grounds for fish.
- Threat to coastal areas due to projected sea level rise and increased cyclonic activity due to higher sea surface temperatures.
- Increased stress between upper riparian and lower riparian regions in relation to sharing of water resources.
- Increased health risks and climate change induced migrations.

Considering the importance of climate change in reference to the country's future, it is imperative to ascertain the level of understanding that the youth, which represent close to 68% of the population, have about climate change, its ensuing consequences and the steps taken by the government as part of its mitigation and adaptation strategies.

To gauge the extent and access of knowledge, the Ministry of Climate Change (MoCC) of Pakistan requested the United Nations Development Program (UNDP) to conduct a rapid study to better understand the perceptions and opinions of Pakistani youth, with relation to climate change. To facilitate this activity, the UNDP sought the services of Viamo to help conduct this data collection exercise.

2. Methodology & Approach

Viamo conducted a rapid learning and needs assessment with both the digitally enabled youth as well as the simple phone users. This perception study will support the MoCC with their current, as well as future program design and intervention strategy.

The following table summarizes the sample strategy together with the medium of data collection for the surveys:

Beneficiary	Engagement method	Numbers of beneficiaries targeted	Examples of engagement tools proposed
Digitally enabled (youth)	Online Survey	7,000	Typeform, SMS, Targeted Mass Messaging.
Simple phone users (youth)	Two-way, automated survey	6,000	Targeted Mass Messaging

Table 1 Survey methodology summary

In order to ensure a high-rate of engagement, Viamo augmented its SMS campaign with hyper local digital outreach. As part of this strategy, it leveraged its digital marketing expertise to reach out to those youth that were interested and passionate about climate change by promoting participation in the online survey on:

- Facebook groups & relevant pages dedicated to topics around climate change and action
- WhatsApp groups with climate conscious Pakistanis

The surveys were designed with respect to access to different kinds of device ownership. The phone survey had an uncomplicated design and was primarily designed for users with access to basic phones and predominantly targeted towards populace in the rural areas. It collected basic information together with questions relating to rudimentary understanding of climate change knowledge and climate change vulnerabilities. Whereas, the digital survey was designed to collect more in-depth knowledge and was targeted towards users with access to smart phones and hence digital platforms such as WhatsApp and Facebook. To ensure a 25% women participation rate, specific women groups were targeted. This is in lieu of ensuring significant gender representation in the data collected.

The questions from the surveys were categorized into five different themes depending on the information that questions were trying to elicit. These themes are identified as:

- Climate Change knowledge
- Climate Change vulnerability
- Adaptation strategies
- Regulatory knowledge
- Climate advocacy

2.1 Climate Change knowledge

This covers all questions that relate to ascertaining the level of climate change knowledge the participants have at the time of the survey. These cover a spectrum of understanding, ranging from basic understanding of what is referred to as climate change to a much deeper knowledge of climate change being anthropogenic in nature. The latter is termed as 'origin knowledge' while the former is referred to as 'causal knowledge'. Climate change is an intergenerational problem and hence will disproportionally impact the category that is termed as youth in the survey, as natural systems are damaged beyond repair.

2.2 Climate Change vulnerability

According to the IPCC (2018) definition, vulnerability in the context of climate change is 'the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes'. This theme thus encloses all questions that relate to understanding the consequences that the cohorts believe they have experienced due to climate change. These range from drastic changes such as increased occurrence of heat waves and droughts to more subtle changes that might not be easily visible such as changing precipitation patterns or changes in river flow. In addition, the survey inquires if the cohort has personally suffered from climate disasters and as such pertains to the nature of disaster that they might have suffered from.

2.3 Adaptation strategies

Adaptation strategies refer to interventions undertaken to minimize the impact or recover from climate change induced disasters. This theme encompasses questions that relate to different methods that might have already been employed by the cohorts as part of their adaptation efforts. These range from migrating due to natural disasters to planting trees to prevent soil erosion. The theme also covers questions relating to difficulties that the participants might have faced in formulating or implementing their respective interventions.

2.4 Regulatory Knowledge

The theme encompasses questions that reflect the regulatory knowledge relating to the Government of Pakistan and its efforts in combating climate change. This is in direct reference to knowledge relating to Ministry of Climate Change and any other ministries that the cohorts might affiliate with climate change. In addition, the survey questions also ascertain knowledge of other regulations such as environmental standards and government initiatives that the government initiatives that have been undertaken.

2.5 Climate Advocacy

The theme covers all aspects of climate advocacy and avenues for localized action in relation to climate change. The questions under this inquire aspects of individual action that participants might take, and the problems associated with designing and carrying out movements. In addition to this, the questions aim to ask for avenues that signal the greatest potential for personal contribution towards the climate change movement through political and professional affiliations specifically for youth.

3. Survey Summary Results:

The total views for the digital surveys numbered 55,049 with 8,795 completing the survey: a completion rate of 16%. The drop was attributed to the fact that the survey specifically was targeted towards youth. The average time to complete a survey was clocked at 5 minutes and 57 seconds.

Figure **1** *Breakdown of respondents by age for the digital survey*

For this survey, the youth is classified as the category of population between the ages of 19 and 34 years old. This data is further split into two categories with one classifying cohorts between the age of 19 to 24 while the second accommodating those between 24 to 35 years old. According to the National Youth Policy (2009), Pakistan classifies youth as those between the ages of 15 and 29. For the purpose of including young professionals in the survey, cohorts between the ages of 29 and 34 are also included. According to figure 1, a total of 4,200 individuals belonging to the former category responded to the survey accounting for 48% while the latter category had 4,775 respondents which made up for the rest of the 52%. The data among these categories is further disaggregated by:

- Educational outcomes
- Gender
- Area
- Field of education
- Employment status
- Length of employment

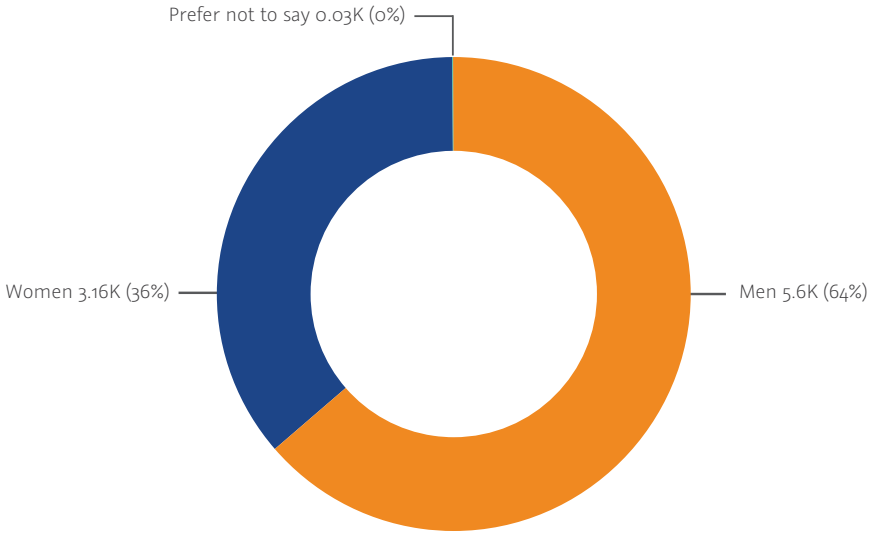


Figure **2** *Breakdown of respondents by gender for the digital survey*

As shown in figure 2, 36% women completed the survey with men accounting for 63% while the rest preferred to not reveal their gender or classified themselves as non-binary genders.

The percentage of respondents of the digital survey from the urban areas was 73% while the percentage

for rural areas was 27%. This was in line with the designed methodology, with the online survey predominantly targeting urban areas that on average have a higher number of users with access to smart phones. Phone surveys were primarily targeted towards the rural areas keeping in mind the lack of access to smart phones.

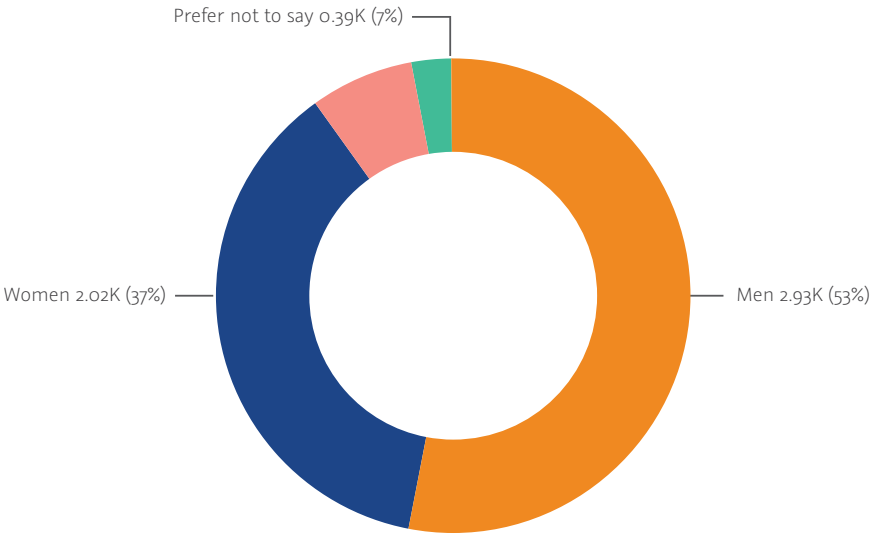


Figure 3 Gender breakdown of phone survey respondents

As shown in figure 3, for the phone survey, men respondents made up 53% of the sample with women representing 37%. The remaining 10% preferred not to reveal their gender or characterized themselves as non-binary.

Key survey results

Climate change knowledge

- 35% of the respondents who completed post-secondary schooling indicated having high degree of understanding of the concept of climate change
- 47% of the women respondents from the urban areas and 43% from rural areas indicated having a high degree of understanding regarding the concept of climate change
- 69% of the respondents of the phone survey had poor understanding of the causes of climate change

Climate Change Vulnerability

- Over 50% of the respondents in rural areas selected 'changes in temperature' and 'changing weather patterns' as the most significant consequence of climate change
- 35% of the respondents with no schooling indicated having experienced no changes in the environment
- Almost 60% of the respondents from the urban areas chose 'changes in temperature' as the most significant change that they have experienced
- 44% women and 26% men attributed increase in health hazards to climate change
- 29% respondents of the phone survey indicated having lost a family member due to climate change while 38% chose destruction of property and cattle as a major personal loss.

Adaptation Strategies

- 56% of the rural respondents, while 62% of the urban respondents selected 'use of environmental friendly modes of transportation' as an effort they are employing in their daily lives to combat the impacts of climate change
- 42% of the urban respondents chose resource constraints as the most significant problem relating to adaptation
- 35% of the respondents of the phone survey indicated that they had risen the plinth of the house in order to adapt to climate changes
- 19% of the respondents selected migration and resettlement as an activity undertaken in order to adapt to the changes in the environment

Regulatory Knowledge

- 69% of the respondents of the digital survey knew about the Ministry of Climate Change
- 42% of the digital survey respondents were aware of the initiatives taken by the government to increase climate change knowledge, awareness, and action
- 68% of the cohorts with no schooling in rural areas indicated having knowledge about interventions as compared to 47% for the same group in urban areas
- 34% had the knowledge about the Clean Green Pakistan initiative while 26% knew about the 10 Billion Tree Tsunami project
- 76% of the respondents who had knowledge about the government initiatives reported increased knowledge about climate change due to the interventions
- 49% of the respondents of the phone survey indicated having knowledge or benefiting from the government programs

Climate Advocacy

- 53% of the respondents answered that climate education was a part of their formal schooling
- 45% indicated that green job creation represented the biggest opportunity area for climate change action
- 22% selected climate education as an avenue for improving climate action
- 27% regarded involvement in the policy formulation around climate change as the desired degree of involvement
- 30% respondents of the phone survey stressed upon the need to involve youth in design formation process in order to increase youth participation in policymaking

Main Survey Results

3.1 Climate Change Knowledge

This theme primarily aimed to explore the level of understanding that the cohorts possessed with respect to the idea of climate change and its causes. This data was disaggregated by educational outcomes, gender, age and locality. The questions rated the understanding of climate change on a scale of 1 to 5 with 1 being uninformed and 5 representing well-informed.

How well do you understand the CONCEPT of climate change? (No schooling completed) (Digital)

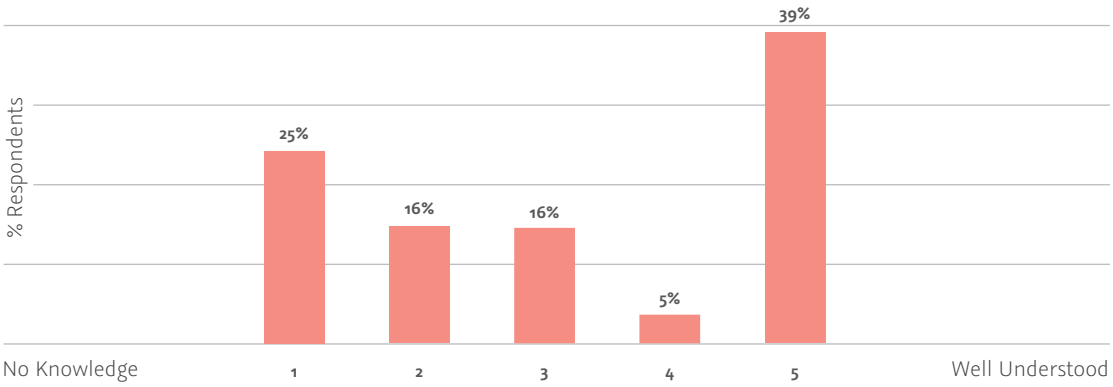
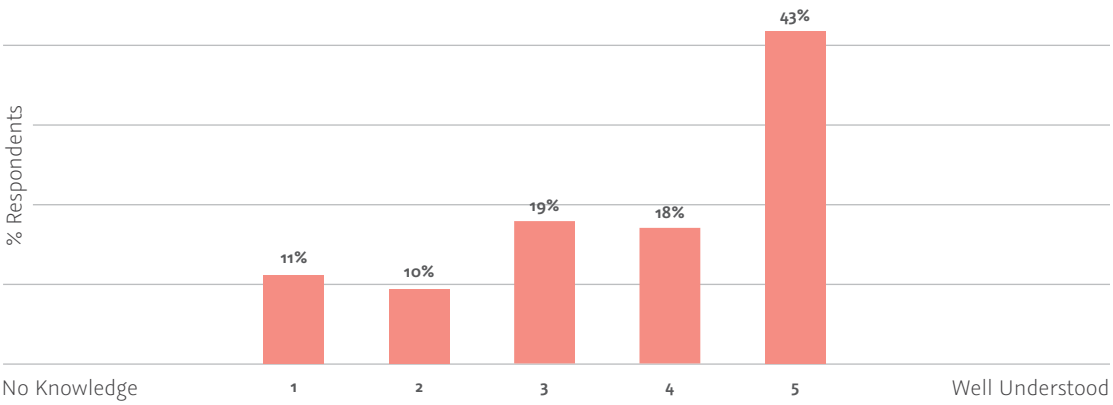


Figure 4 Climate change understanding for the digital survey with no level of schooling (1-5 from L-R)

According to figure 4, 39% of those with no schooling completed, indicated having a high degree of understanding. This drops to 13% for primary schooling while rising again to 31% for secondary schooling and further increasing to 35% for post-secondary schooling. However, the small sample size does raise questions regarding this finding. This might indicate that climate knowledge improves with educational levels. More so, it also indicates that people with no education have other sources of information not covered by formal education or over-estimate their knowledge. This trend exists for both urban and rural areas.

How well do you understand the CONCEPT of climate change? (Female, Rural) (Digital)



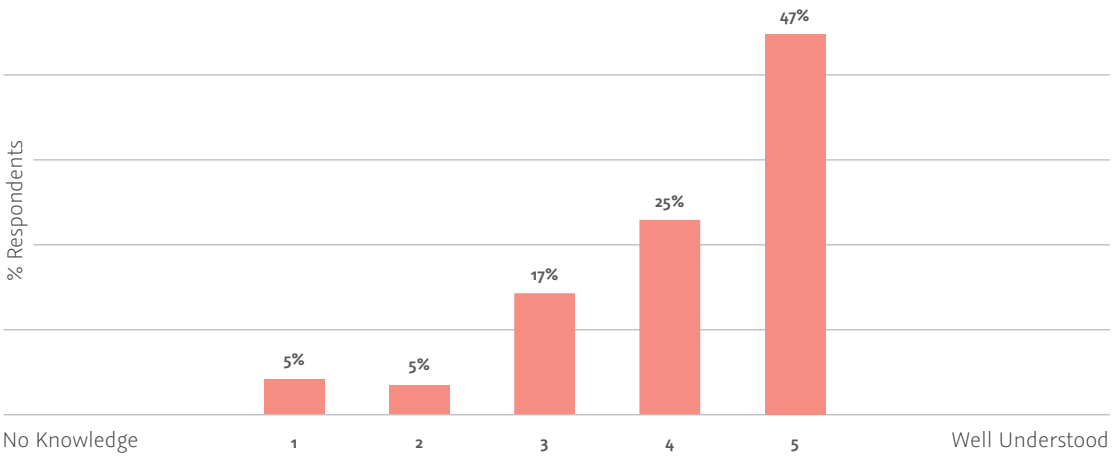


Figure 5 Climate change understanding for women in rural and urban areas. (1-5 from L to R) in the digital survey

According to figure 5, over 40% of the women respondents from both urban and rural areas indicate having a high degree of understanding relating to climate change, while only 11% from the rural areas and 5% from urban areas reported as being uninformed about it. From the sample, 63% reported climate change as being part of their formal education while 22% replied with it not being a part of the curriculum whereas 15% were not sure. Regarding locality, 43% of the respondents from urban areas indicated having a high degree of knowledge. Similar results were found for the digital survey conducted in rural areas.

In terms of gender, both men and women displayed identical results with more than 40% responding as having a high degree of understanding. This holds when data is disaggregated by locality. Similar levels for women in urban and rural areas maybe for a multitude of reasons. In urban areas women have access to numerous sources of information which might have enhanced their understanding while in rural areas women are often employed in occupations such as on the fields which provide them a proximal perspective of climate change.

Predictably the field of education is also related with the level of climate knowledge: those involved in Environmental Sciences and Agriculture Sciences indicate a higher level of knowledge as compared to other fields of education. Those who have studied business have the lowest percentage of cohorts that indicated having a high degree of climate knowledge. This holds for both men and women.

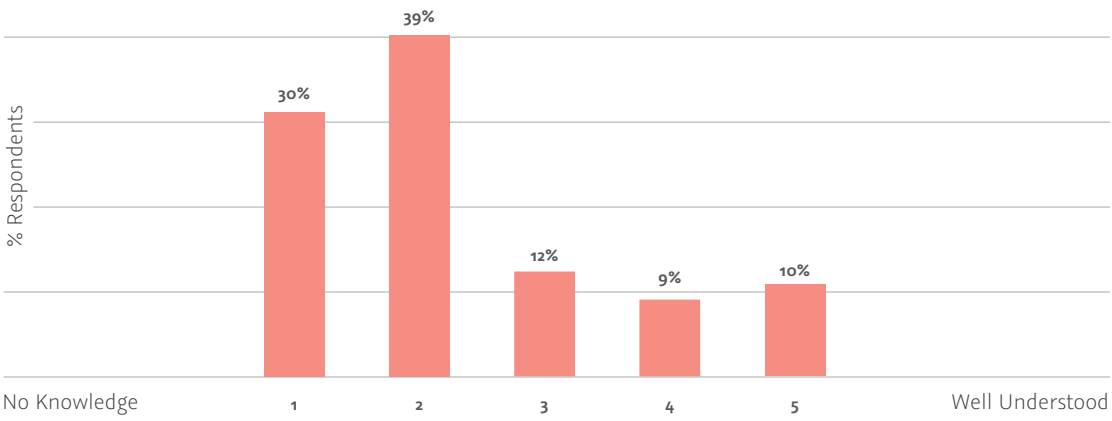


Figure 6: Climate change understanding for the phone survey

Figure 6 indicates that 69% of the respondents of the phone survey had a poor understanding of the causes of climate change. This might indicate that more than locality, access to information plays a consequential role in understanding climate change. Smart phones are a significant medium of information access. There was negligible difference with regards to gender in these results with both men and women displaying almost identical levels of knowledge as groups.

3.2 Climate Change Vulnerability

This theme aimed to explore the various aspects of climate vulnerability including knowledge of climate disasters such as floods and droughts and more subtle changes in climate such as increasing temperature or changing precipitation patterns. The data collected was disaggregated by gender, locality and educational outcomes to explore the different facets of climate risk and the factors that contribute to climate vulnerability.

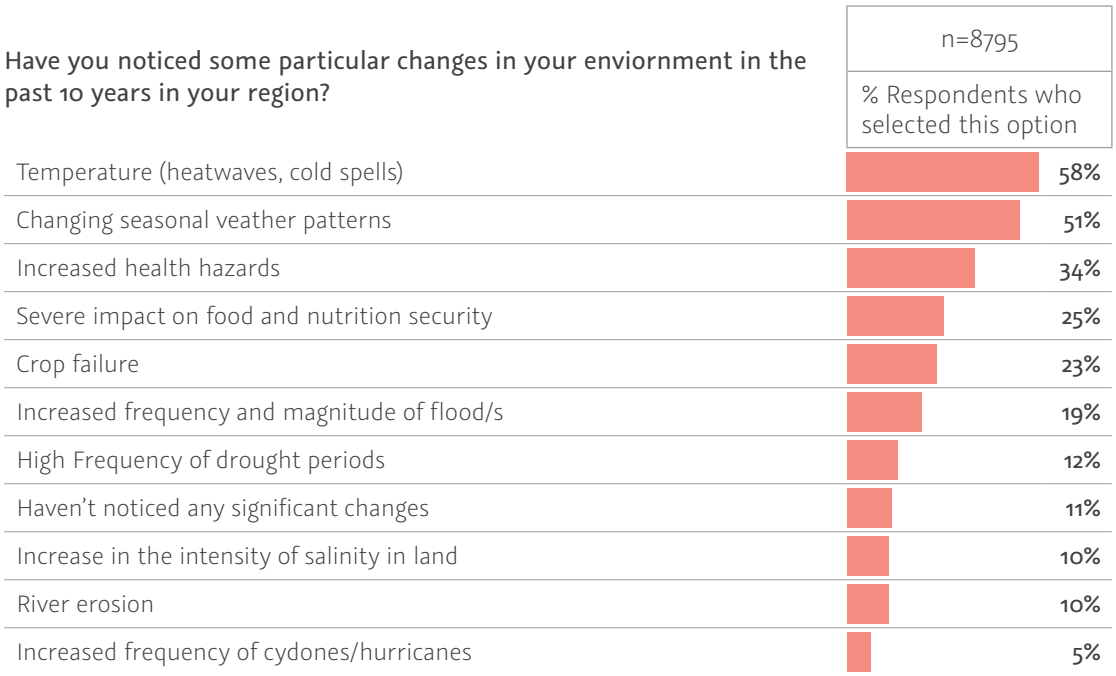


Figure 7 Most significant changes observed

As shown in figure 7, over 50% of the respondents in rural areas selected changes in the temperature and changing weather patterns as the most significant consequence of climate change. Crop failures, food security and increase in frequency and magnitude of floods were chosen as other major climate change impacts, while only 11% of the respondents indicated that there was no impact of climate change. This trend holds for both men and women. The most significant difference between the two genders is in respondents that claimed to have observed no changes in climatic conditions. Around 15% of the men responded with this option while only 10% of the women did so.

Have you noticed some particular changes in your enviornment in the past 10 years in your region?	n=64 (No schooling completed) % Respondents who selected this option
Haven't noticed any significant changes	35%
Temperature (heatwaves, cold spells)	33%
Changing seasonal weather patterns	23%
Severe impact on food and nutrition security	17%
Increased health hazards	15%
High Frequency of drought periods	13%
River erosion	13%
Increase in the intensity of salinity in land	10%
Crop failure	8%
Increased frequency and magnitude of flood/s	8%
Increased frequency of cyclones/hurricances	4%

Figure 8 Most significant changes observed by respondents with no schooling

As shown in figure 8, there seems to be a relationship between the level of education and understanding of climate vulnerability. Among those who have not completed any schooling, 35% of the respondents indicated having experienced no changes in the environment. This significantly reduces with higher levels of education. The only anomaly within this trend is for those who have completed secondary level of education, among such cohorts 30% responded with no changes in climatic conditions. This trend holds for both men and women. There might be multitudes of reason for this including an inability to inculcate climate change in the formal curriculum at that level or lack of access to updated information that highlights and links these problems.

In the urban areas, close to 60% of the respondents chose changes in temperature such as heat waves and cold spells as the most significant changes that they have experienced. Other significant impacts included changing weather patterns, increased health hazard and crop failure, while only 13% responded as having observed no changes in climatic conditions. This pattern holds for both men and women. The most striking difference in responses between the two genders relate to the option of health hazards as a climate consequence. Among women, 44% attributed increase in health hazards to climate change while only 26% of the men identified so. As with rural areas, there is a relationship between level of education and knowledge of climate vulnerability in urban areas. For respondents who had not completed any form of schooling, 36% responded with experiencing no changes in the climate. This decreases to 6% with primary schooling while increasing to 26% with secondary schooling. These findings mirror those of urban areas. This provides evidence to the claim that curriculum in secondary schooling has failed to incorporate climate change as an area that requires immediate attention.

In rural areas, people associated flooding, rainfall, and temperature changes as the most significant indicator of climate change. While in urban areas people associated water pollution, specifically air pollution as indicators of climate change. This is likely as a result of the different problems that people in urban and rural areas face, respectively.

In major cities of the country, scarcity of water and air pollution continue to impede normal life. More so, there is significant difference between urban and rural areas in terms of how problems are rated as per the question regarding perceived significance, in the digital survey.

What do you consider to be the most serious issue facing our society? (IVR)

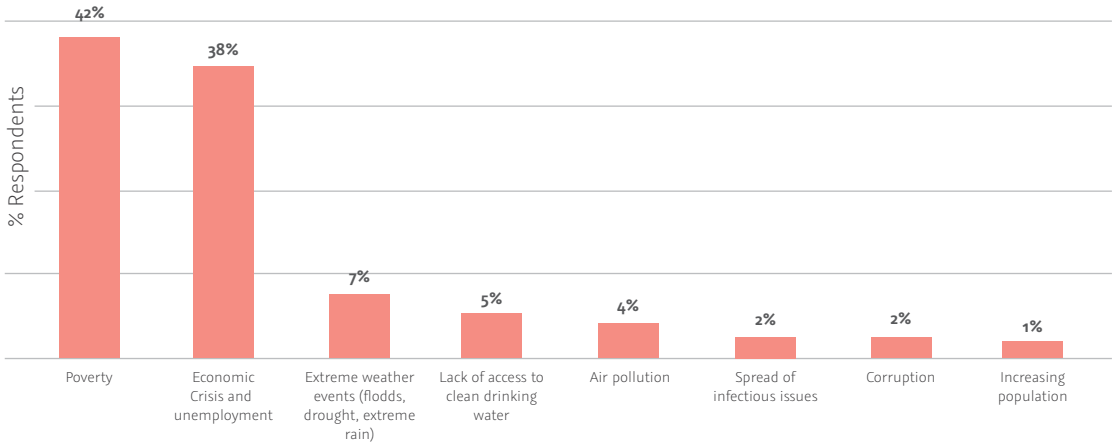


Figure 9 Problems faced by respondents of the phone survey

However, for phone surveys, poverty and economic crisis were regarded as the most significant problem with the third most populated category being extreme weather changes as shown in figure 9.

Have you noticed some particular changes in your environment in the past 10 years in your region? (IVR)

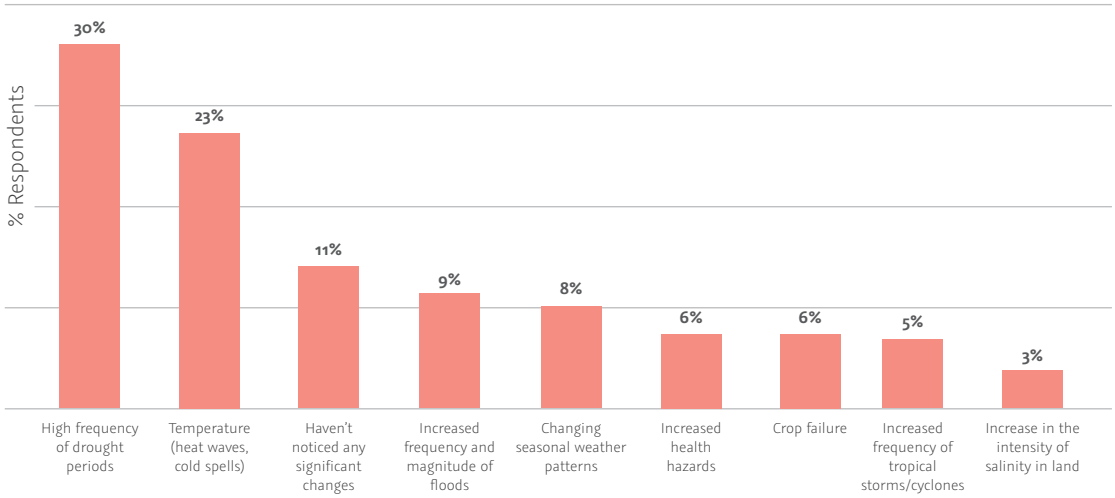


Figure 10 Climatic changes perceived as per the phone survey

The respondents of the phone survey were also asked about the most significant impact of climatic change. As shown by figure 10, 30% listed the incidence of droughts as the most impactful, followed by temperature changes while more than 11% also responded with observing no changes. This is less in proportion with those who filled out the digital survey from rural areas.

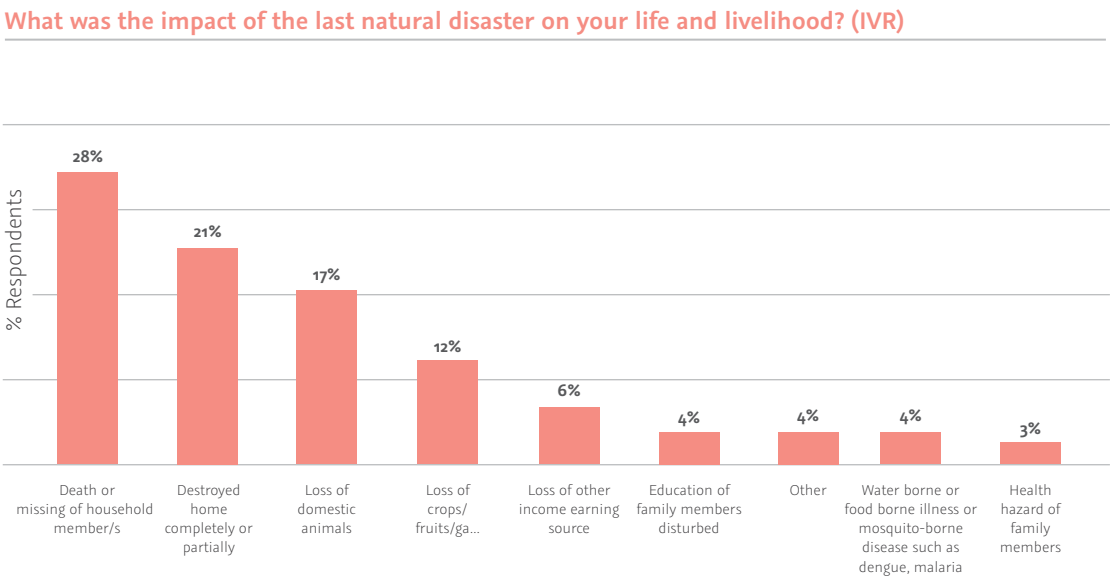


Figure 11 Climate change impact on personal life (phone survey)

As shown in figure 11, the phone survey respondents were inquired regarding how climate change had impacted their lives personally. Close to 29% responded having lost a family member due to it, while 38% chose destruction of property and cattle as a major personal loss. This produces interesting insights since a vast majority indicated having a low level of understanding regarding causes of climate change yet being able to link self-perceived changes in the environment with climate change consequences.

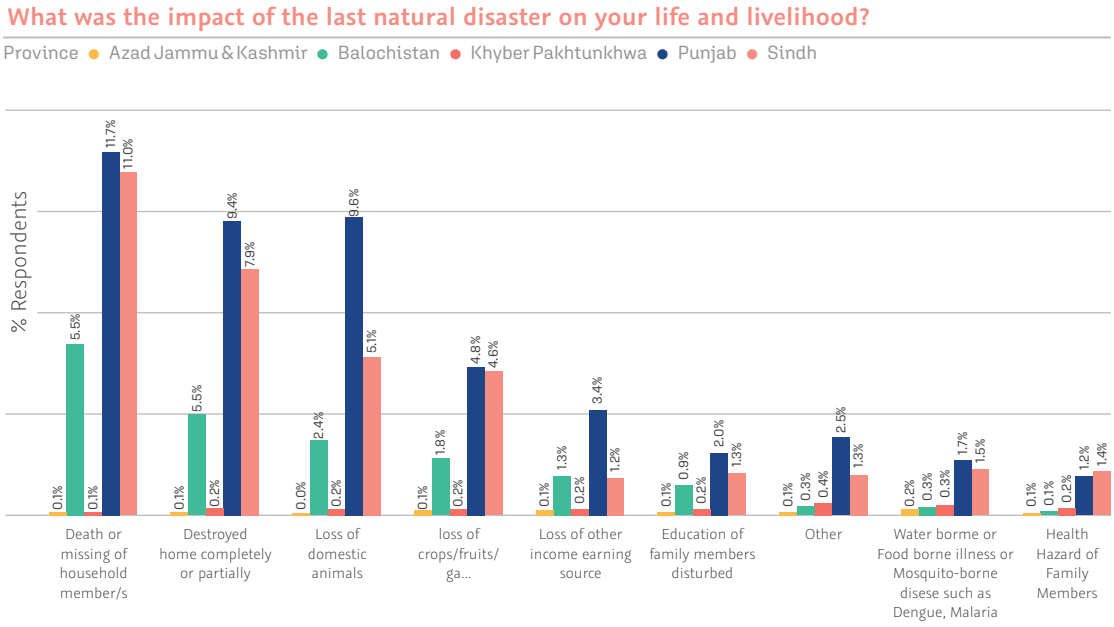


Figure 12 Provincial breakdown of impact of climate change for respondents of the phone survey

As figure 12 shows, there is varying impact of climate change on different provinces in the country. Death of a household member and destruction of property were prominent impacts.

3.3 Adaptation Strategies

This theme aimed to cover knowledge regarding adaptation strategies and the major problems associated with the implementation of said strategies. In rural areas, the biggest hurdle associated with adaptation strategies was the lack of resources for implementation programs. These include financial, logistical, and technological constraints. In addition to this, lack of knowledge about adaptation mechanisms was also a major factor.

Women mentioned lack of understanding repeatedly while men focused primarily on advertised strategies, such as plantation. With regards to education, there is a definite relationship with the willingness to take on challenges posed by climate change. Cohorts with no education had the highest percentage of those unwilling to take any steps. This proportion decreased with higher levels of education. Interestingly, those cohorts who had acquired the highest level of education regarded corruption as the biggest hurdle in effective implementation. Interestingly most of the cohorts indicated having significant involvement in decision-making regarding climate change.

				n=8795
Do you consider the environment and climate change in making any of the following daily decisions?	Female	Male	Other	Prefer not to say
Use environmental friendly modes of transportation	58%	61%	38%	69%
Waste recycling	49%	43%	13%	54%
Buying environmental friendly products	47%	36%	13%	65%
Reducing energy consumption including buying energy effcient appliances	41%	38%	13%	50%
Reducing water consumption	42%	36%	25%	58%
Buying cars which use less fuel or fuel which is less harmful	37%	33%	13%	38%
Installing equipment which use renewable sources of energy	34%	32%	13%	42%
Reducing the consumption of disposable items	39%	28%	13%	46%
Insulating homes to decrease the energy consumption	26%	24%	13%	42%
Buying local or seasonal products	31%	22%		31%

Figure 13 Adaptation intervention as per respondents of the digital survey disaggregated by gender

Do you consider the environment and climate change in making any of the following daily decisions?	Rural	Urban (n=8795)
Use environmental friendly modes of transportation	56%	62%
Waste recycling	38%	47%
Buying environmental friendly products	33%	42%
Reducing energy consumption including buying energy effcient appliances	33%	41%
Reducing water consumption	33%	40%
Buying cars which use less fuel or fuel which is less harmful	29%	37%
Installing equipment which use renewable sources of energy	27%	35%
Reducing the consumption of disposable items	25%	35%
Insulating homes to decrease the energy consumption	22%	26%
Buying local or seasonal products	21%	26%

Figure 14 Adaptation intervention as per respondents of the digital survey disaggregated by locality

As shown in figure 13 and 14, respondents of the digital survey were questioned regarding the steps that they had taken in a personal capacity to reduce their impact on the environment. For both men and women, in rural and urban area, using environmentally friendly modes of transport was the option most often chosen. This might be the fact that they were using hybrid or shared private transportation or had switched from private to public transportation. Using environmentally sustainable products and reducing energy consumption were other important steps that were popular in both urban and rural areas for both men and women, together with waste recycling.

What are the challenges you face in adapting to these changes? (Digital)

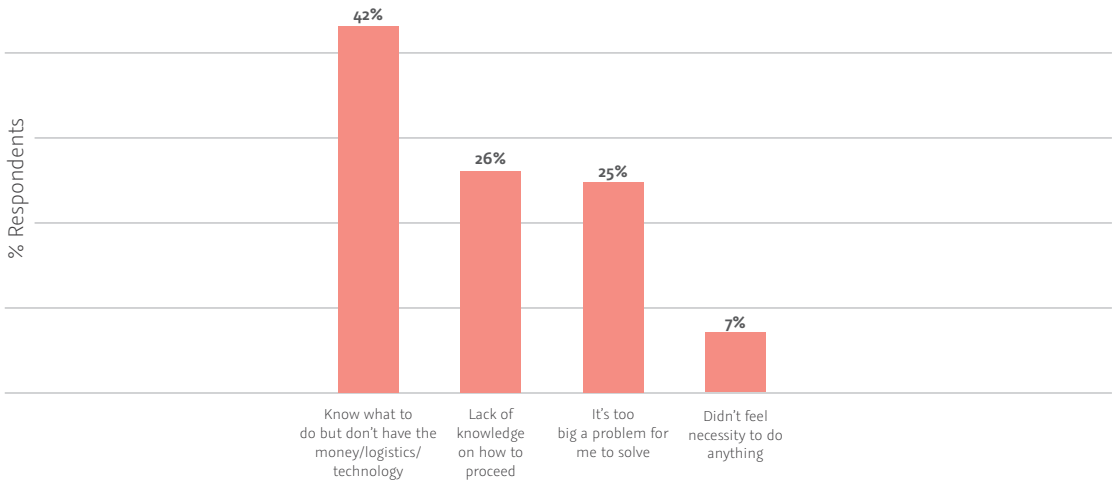


Figure 15 Adaptation challenges for respondents of the digital survey

Figure 15 shows that in urban areas, respondents chose resource constraints as the most significant problem relating to adaptation, as was the case with rural areas. The second highest proportion, picked lack of knowledge as a major problem. However, this was less than in urban areas and might indicate that the government's information dissemination strategy is more effective in urban areas. With regards to education, respondents with no schooling predictably listed lack of knowledge as the most significant hindrance while only a small proportion listed an unwillingness to do anything. The difference between those unwilling to do anything was significant between urban and rural areas. This might be because respondents in urban areas have access to more information, both in terms of mediums and volume. Higher levels of education led to better understanding of adaptation and the resources needed.

What is the most significant challenge that you face in adapting to these changes? (IVR)

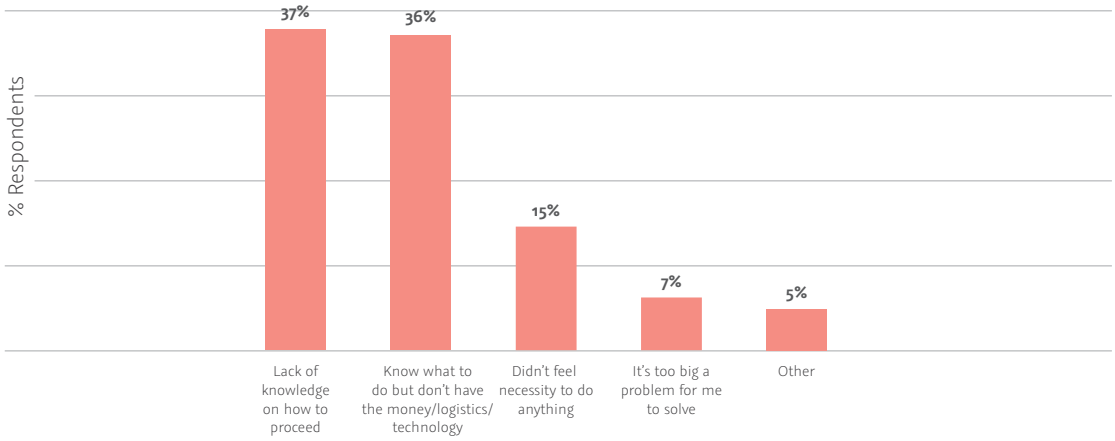


Figure 16 Adaptation challenge for the respondents of the phone survey

As was the case with the digital survey, respondents for the phone survey as shown by figure 16, also listed the lack of resources as the major hurdle in implementing adaptation strategies together with a lack of knowledge, while almost 15% listed that it necessitates doing nothing. This is considerably higher than for digital survey and again points to a lack of resources and access to knowledge regarding it.

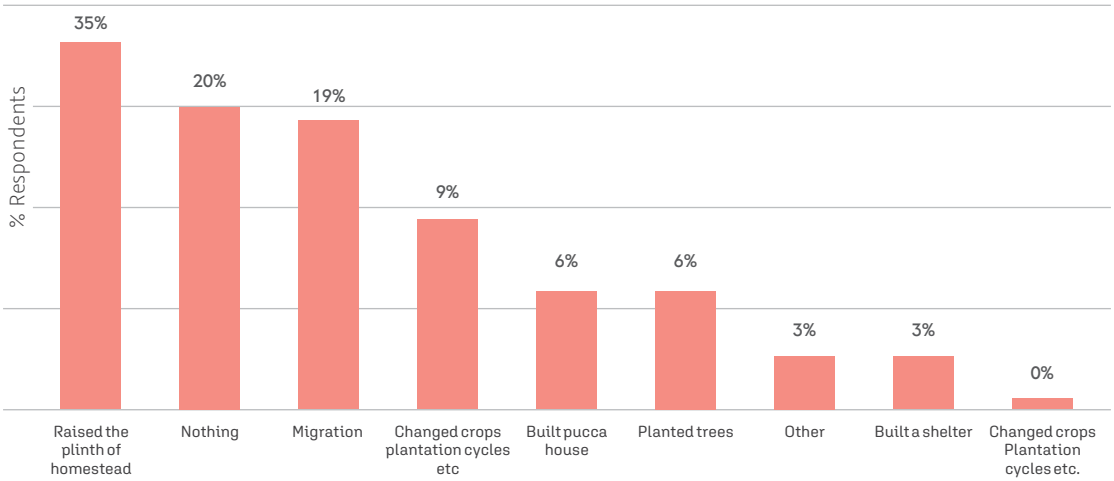


Figure 17 Adaptation intervention for the respondents of the phone survey

Figure 17 shows the results when survey respondents were questioned about some of the steps that they had taken as adaptation interventions on a personal level. Raising the plinth of the house was the most chosen answer with 35% of the respondents choosing that option, while 20% chose that they had done nothing. Another significant impact was that migration was selected by 19% of the respondents meaning that drastic changes such as migration and resettlement is already occurring because of climate change with the situation projected to get worse over the coming years.

3.4 Regulatory Knowledge

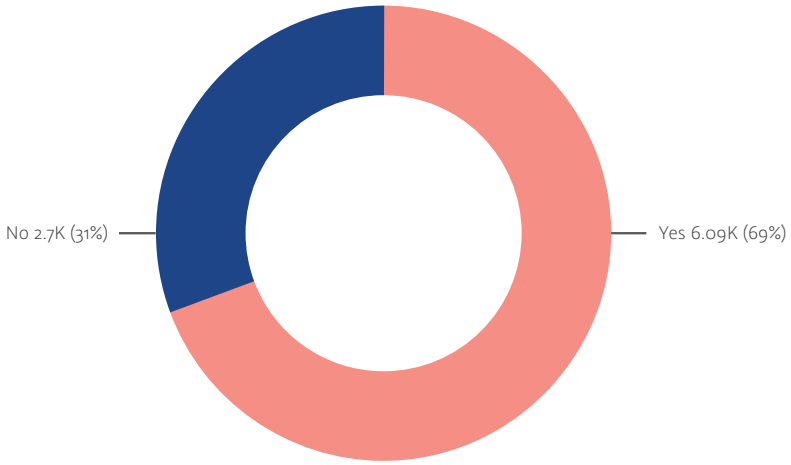


Figure 18 Proportion with knowledge of existence of MoCC (digital survey)

The respondents of the digital survey were questioned regarding their knowledge about the existence of the Ministry of Climate Change. As shown in figure 18, 69% of the respondents answered yes while the rest of the 31% denied having knowledge of the ministry's existence. Since climate change involves a host of economic sectors, it is important to

realize the synergies that exists between the Ministry of Climate Change and other relevant ministries. The survey aimed to gauge this association. Unsurprisingly, 81% of the respondents associated the Ministry of Climate Change with other notable ministries such as the Ministry of Energy, Ministry of Water and the Ministry of Industries and Production. These rankings remain constant for both men and women in both rural and urban areas. An interesting outcome was that women in rural areas also mentioned the Ministry of Human Rights as an associated ministry. This might be due to the incidence of different programs run by the ministry in rural areas and specifically targeted towards women. A significant result from the collected data is that there seems to be no relationship with levels of education. This might be an indication that respondents might have used word association as a strategy to answer this question.

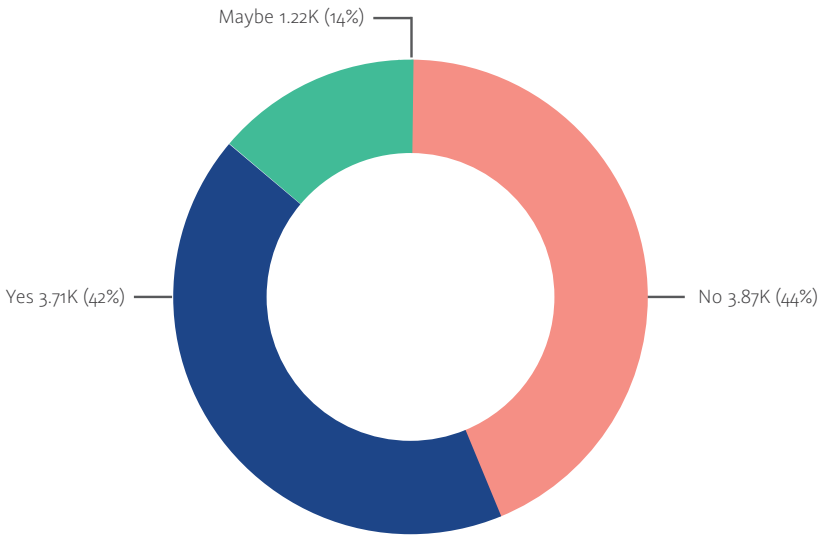


Figure 19 Knowledge of the government initiatives (digital survey)

The theme also covered knowledge regarding initiatives taken by the government with regards to information dissemination and mitigation and adaptation plans. As shown in figure 19, 44% responded as not being aware of any initiatives taken by the government while 42% responded as being aware. This changed insignificantly for both rural and urban areas where 46% of the sample responded as being unaware of any initiative. Women indicated having more knowledge regarding said initiatives in both urban and rural areas with 55%.

With regards to education, 68% of the cohorts with no schooling in rural areas indicated having knowledge about interventions as compared to 47% for the same group in urban areas. For primary schooling, the difference between urban and rural areas seem insignificant. There is a drop in this proportion for both rural and urban areas regarding government initiatives for cohorts having completed higher levels of education.

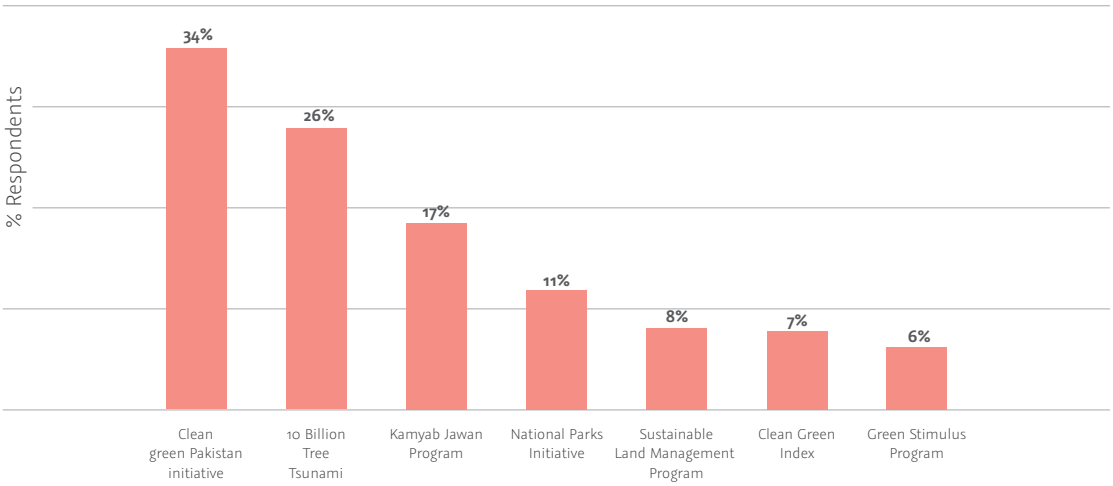


Figure 20 Initiative awareness

The survey also covered the respondent's knowledge regarding certain government initiatives. Figure 20 accordingly shows the results regarding the extent of knowledge of said programs. The government's much advertised plantation drive, the 10 billion tree tsunami came in at second with the Clean Green Pakistan Initiative being the most widely known government intervention. If we analyze only those that had responded with having knowledge about government interventions, 34% selected the Clean Green Pakistan initiative while 26% picked the 10 Billion Tree Tsunami project. Interestingly a weakly associated program, the Kamyab Jawan Program was also internalized as a government initiative related to climate change.

Educational outcomes or locality did not have a significant impact since these rankings remained constant for all iterations of educational outcomes in both rural and urban areas. The rankings remained the same for both men and women too, however, a higher proportion of women in both urban and rural areas identified the Clean Green Pakistan Initiative and the 10 Billion Tree Tsunami Program. Consequently, of those who had knowledge about government interventions, 76% reported increased knowledge about climate change due to intervention. This might be an indication of the success of information diffusion policies and interventions on part of the government. The effectiveness of such interventions might be amplified through education, with higher levels of education leading to higher levels of improved understanding.

Lastly, the survey also asked to assign a score to relevant government and non-government agencies for their work on climate change. There were significant differences for scores assigned to corporations, citizens and local administration between rural and urban areas. Rural areas attached the most importance to government institutions while for urban areas INGOs were rated with the highest score while in totality INGOs were rated as the highest and regarded as having been most effective.

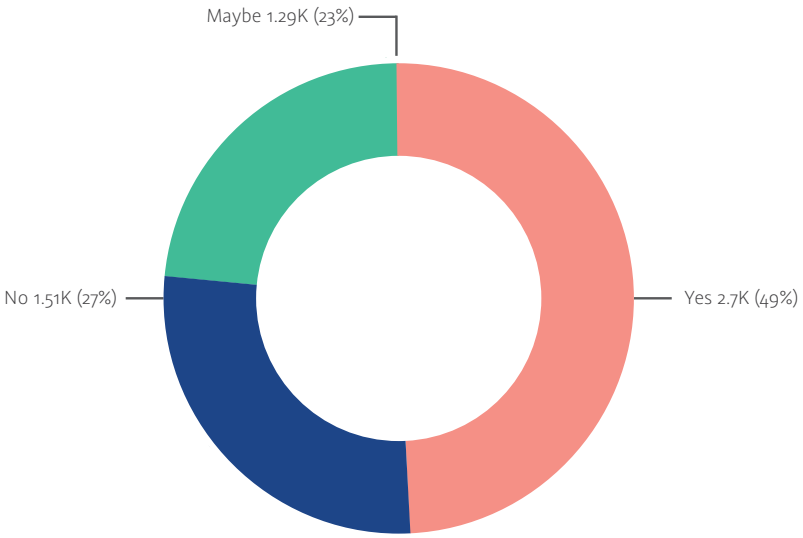


Figure 21 Respondents who had benefited from a scheme (phone survey)

The phone survey respondents were questioned regarding awareness and benefits derived from any government scheme. As shown in figure 21, 49% of the respondents of the phone survey indicated having knowledge or benefiting from government programs while 27% indicated having no knowledge. This was same for both men and women.

In addition to this, the respondents were also asked about the programs they were most familiar with. Among those who had indicated having knowledge about such programs, 37% selected cash transfers followed by provision of housing material and food distribution programs. These are surprising results since the most advertised government programs regarding climate change seemed to be the 10 Billion Tree Tsunami. This points to the work being done in local communities and its association with climate change, amongst rural youth in particular.

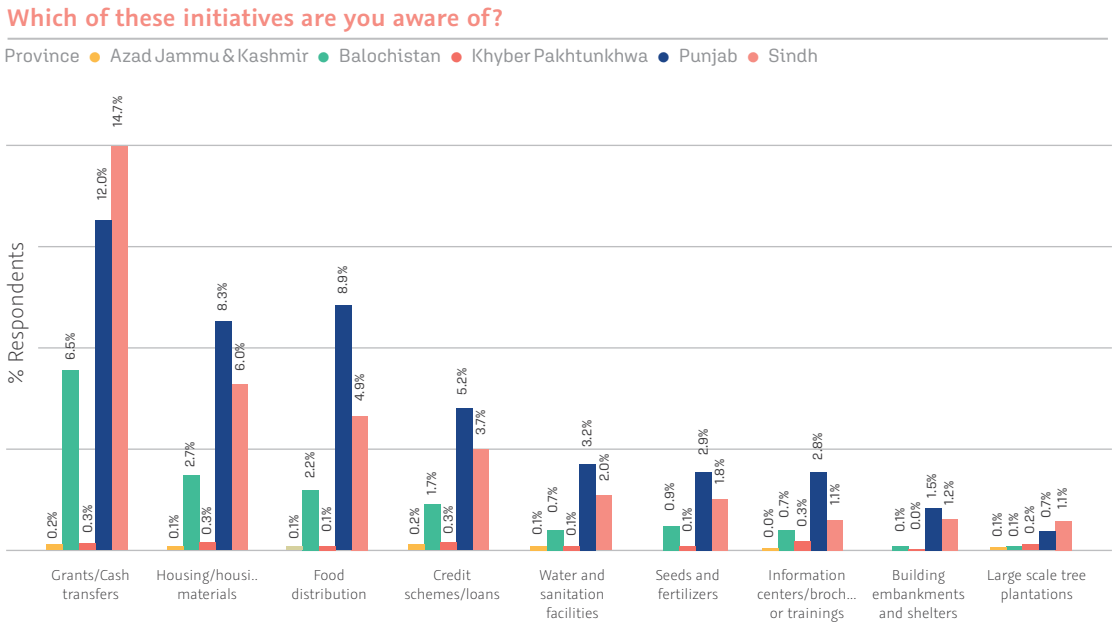


Figure 22 Provincial breakdown of most familiar government initiative by respondents of the phone survey

There is perhaps a need for a better targeted strategy to ensure that the message regarding the efficacy of government initiatives and drives are aptly delivered to the intended audience.

For respondents who had indicated having no knowledge regarding such programs, 100% indicate knowledge about grants and cash transfer programs. This might hint to the fact that other cash transfer programs not specifically operated under the paradigm of climate change might also have been internalized as a government initiative centered on climate change.

3.5 Climate Advocacy

The questions related to climate advocacy aimed to cover concepts such as areas of participation, barriers to organizing and avenues for involvement in policy making. The respondents were asked whether climate change was a part of the formal curriculum. In totality 53% of the respondents answered that it was a part of their formal education.

A more germane analysis took educational levels into question. For respondents who had not completed any form of schooling, 65% in urban areas and 63% in rural areas answered with climate change being a part of the curriculum. This might be an indication of spurious responses or might indicate that respondents might have gained knowledge of the curriculum through other sources such as their children or siblings. Interestingly in the same group in rural areas, 60% of the women responded with climate change not being a part of the curriculum while 73% of the men answered yes. For urban areas, 68% of the men answered as yes while 50% of the women answered in the affirmative. For those who had completed primary schooling, 64% in urban areas and 62% in rural areas answered as yes indicating that for primary schooling, climate change is a part of the curriculum irrespective of locality. For respondents who had completed high school, 63% of the men in urban areas answered yes while 52% of the women did so.

For rural areas, 73% of the women and 68% of the men answered in agreement. For higher levels of education this reduces on proportion for both men and women in urban and rural areas. This might be because higher levels of education are more specialized and hence there is little room to inculcate climate change in the formal curriculum.

The questions also covered the extent and avenues for involvement in policy formulation around climate change. From the respondents, 27% regarded their involvement in climate decision making as highest degree of involvement rated as 5 on a scale of 1-5 while 11% indicated minimal involvement. The former category increase to 29% for rural areas while reduces to 26% for urban areas. A higher proportion of women from rural areas indicated higher level of involvement in policy development than as compared to urban areas. This is reversed for urban areas where a higher proportion of men indicated a high level of involvement in climate change policy conception. From those with no completed schooling, 48% responded with high degree of involvement which subsequently decreased with increasing level of education indicating a realization with higher levels of education regarding the degree of involvement in decision making.

In your opinion, which of the following areas present the best opportunity for youth engagement in climate change policymaking and action? (Digital)

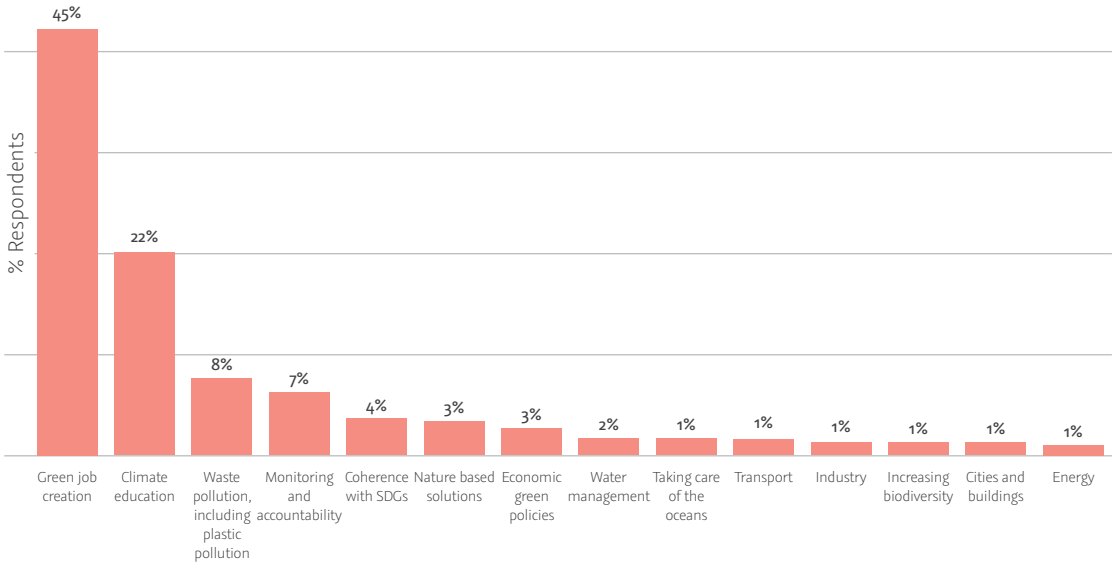


Figure 23 Avenues to increase youth involvement for digital survey

Figure 23 shows avenues for further involvement and the respondents picked job creation as the most promising area for increased youth involvement with 45% choosing that option. Climate education was chosen as the second most important avenue to increase youth involvement. Reforming major sectors such as transport and energy were chosen by only 1% of the respondents. This might be due to a lack of awareness regarding the impact of these sectors on climate change.

Calls for support from the government were more pronounced in rural areas while in urban areas educating others regarding the impact of climate change was significantly higher than in rural areas. Men and women from rural areas placed greater significance on government support while a higher proportion of women in urban areas chose education. Social media activism continued to remain low on the agenda for all sub-groups while the lowest rated action was climate advocacy through position letter or through formal communication.

Barriers relating to youth involvement in policy making were also inquired about with a majority of the respondents highlighting the lack of opportunities as a major reason together with lack of awareness. Both genders followed this ranking, however, women in both urban and rural areas placed greater emphasis on the lack of resources and the lack of education. Higher levels of education led to a further realization of a dearth of knowledge and hence emphasis on a lack of education increased with increasing educational levels.

In your opinion, what needs to be done to increase your participation in local level planning of climate change or disaster management plans? (IVR)

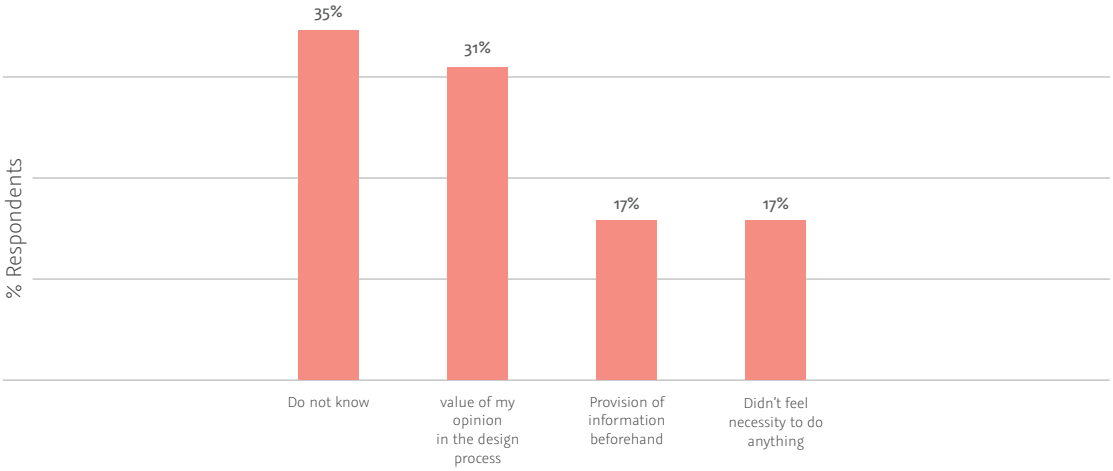
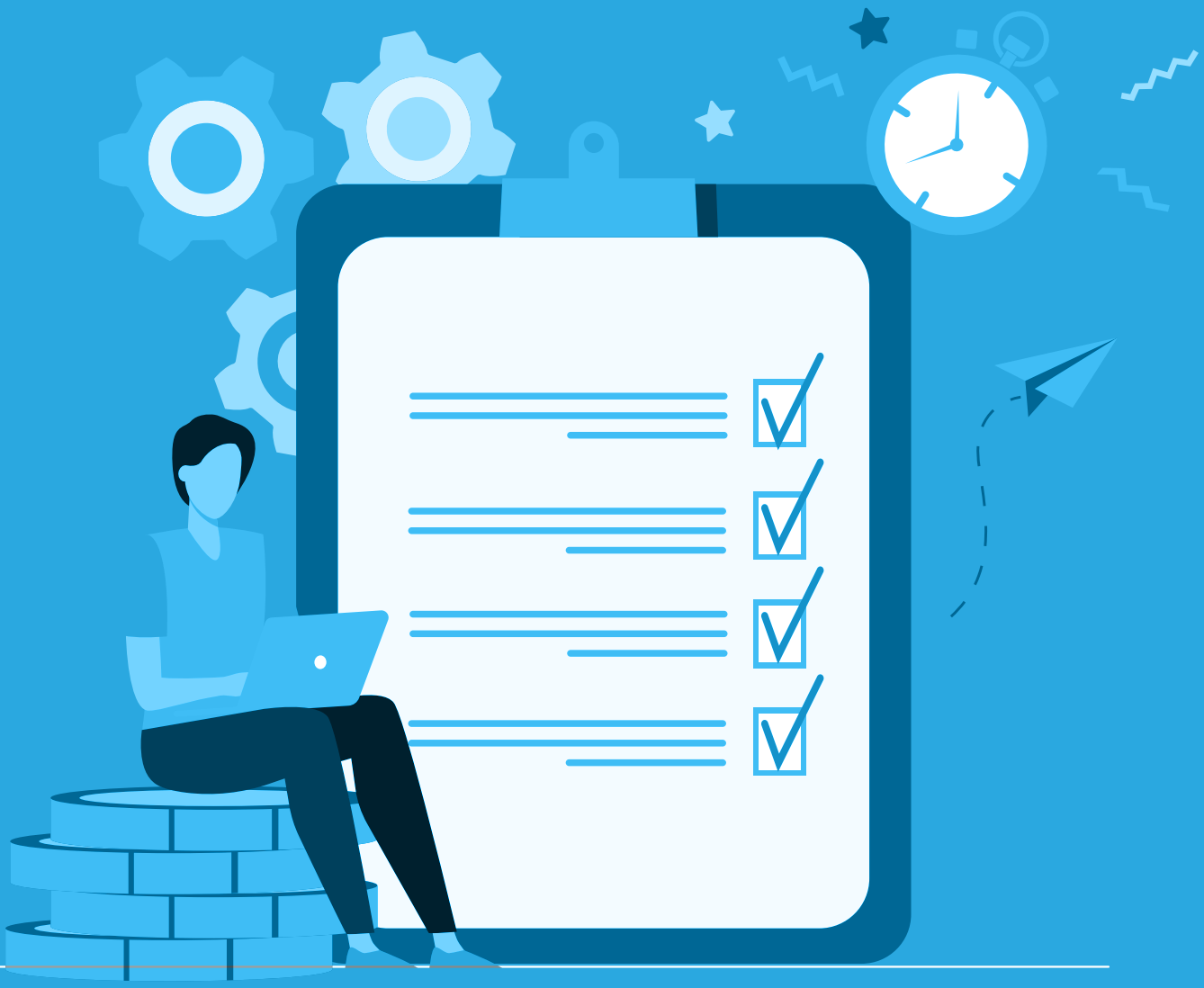


Figure 24 Avenues to increase climate advocacy as per respondents of the phone survey

In the phone survey, respondents were asked regarding steps that needed to be taken to increase youth participation in policy decisions. As figure 24 shows, 35% responded with no ideas to improve it while 30% stressed upon input in design formation process. This was followed by the provision of information and inclusion in follow-ups. This remained the same for both men and women and for various levels of education.

4. Recommendations

The surveys conducted aimed to explore youth perception regarding climate change knowledge of its causes, consequences and extent of participation in policymaking. Since the surveys were conducted to form an essential baseline, it is imperative that they are followed by more rigorous research that produces better quantifiable results based on a sound research methodology that can eventually feed into policymaking.



Young people regularly face great hurdles to get their voices heard. Research and practice in the disaster and climate change community commonly represent young people as passive victims requiring protection. Consequently, their capacities to inform decision-making processes, communicate risks to their communities and take direct action to reduce risks have been neglected. **Dialogue and knowledge sharing** are often constrained between those who face risks and those who control policy. Young people, who are frequently the most marginalized group, face significant hurdles to get their voices heard and valued. In these circumstances, **Participatory Video (PV) is an effective way to include and reach powerless people and produce more equitable outcomes** (Kindon 2003). Youth-centered PV approaches put one of the most marginalized groups at the **center of the advocacy process** (Plush, 2009). Firstly, it enables young people to be in control of the process. Secondly, it created an interactive research environment between young people, their community and researchers. This allows issues and their causes, consequences and solutions to be grounded in how the youth and community see them.

Climate change is identified as a cause of rising hazard burden, for example, more intense rainfall leading to greater floods. However, young people's investigation and action can demonstrate how risks are a result of exposure (such as coastal and riverbank village location) and sensitivity (e.g. through climate-sensitive livelihood activities, poor infrastructure or malnutrition levels) and hence feed into political discourse and policy formulation. **Through this vulnerability emphasis, participants can develop their capacities to reduce risk; based not only on physical aspects of the hazard, but also on the human causes of risk that require behavioral and policy change.**

Climate change inculcation in the formal education curriculum remains an important avenue for increasing climate knowledge and advocacy efforts among youth. It is imperative to design appropriate methods to transfer knowledge that not only explain the science behind the climatic changes but also instills the importance of interaction between geography and climate change. In addition to it there should be **concerted efforts to increase knowledge regarding the possible careers that can be explored with regards to the green economy.** An interesting facet that can be explored in any subsequent research is knowledge regarding the evolution of the green economy that continues to evolve in terms of the opportunities available.

An interesting interaction included the **gendered understanding of climate knowledge.** It is thus important to **target specific policies that are attributed to women in Pakistan.** Women are the primary child care centers in a family unit in the country and hence ideally placed to supplement the official curriculum in this subject. Research has shown that mother involvement has led to improved educational outcomes especially at the primary school level. Such a **policy can be curated to augment school learnings through in person interaction seminars, after school programming and evolution of a more holistic parent-school curriculum model.**

In **rural areas** where women are often associated with working with nature such as in cotton picking or in fetching water for the household, **young women should be at the center of any government sponsored interventions.** The gendered impact of climate change is discriminatory with women set to suffer considerably more than men. Inclusive policies and programs initiated by both the government and non-government agencies can provide multi-faceted improvements such as

in health outcomes which can have multiplier effects. In addition to it, any **cash transfer program** that is directed through women produces significantly better results in terms of health and education. There is evidence of the efficacy of such programs from Indonesia where the program, 'Progressa' produced significant results in terms of children development.

As per survey findings, the most promising avenue for promulgating the green movement is through **increased investment in green job creation.** Promoting investment through **entrepreneurial schemes** can further accelerate the move towards a more sustainable economy. More so, avenues of employment through the 10 billion tree tsunami program can be a welcome addition to the labor market. In addition to it, the government's policies for promoting green energy; regulatory easing and financial support will also generate jobs as the country moves towards more cleaner and sustainable energy sources.

Climate change awareness programs together with televised shows on television, radio and the internet have immense potential for impact. **Informative telethons** can reach a wide array of audiences. **Information propagation schemes operated through phones** can reach historically impenetrable audiences. More so in rural areas, village elders can be included in **community events organized around spreading awareness about climate change.** As first-hand observers of the changing environment, such personnel are well placed to impart their knowledge to the next generation. A more radical idea would be to **devise programs that combine innovative technology and historical knowledge whilst including local youth to concoct solutions that are holistic, sustainable while also having local ownership.**

Conclusion

The developing countries of Asia like Pakistan, where impacts of climate change are likely to be felt most severely because of resource and infrastructure constraints, need to develop and implement incremental adaptation strategies and policies to exploit measures that stress the importance of climate change in planning, designing and implementing development activities. The survey results presented in this report point to a dearth of knowledge in understanding the true causes of climate change and also point to the impact that some of the most vulnerable groups have already borne. In addition to this, development and investment in the green economy can bear real sustainable results with immense potential for job creation. This provides an ideal opportunity to invest in rural infrastructure and education that can deliver results whilst also catering to an extremely vulnerable portion of the population. Furthermore, it is imperative to adopt a gendered approach to climate change mitigation and adaptation strategies since women are disproportionately impacted by climate change. Policies and strategies thus have to be curated to inculcate this, in order to ensure that youth and women from both urban and rural areas do not suffer disproportionately. Inclusion of women in decision making bodies will be a vital step in this regard.

Climate education and awareness remains a major front lacking within Pakistan. All results point towards the need of greater dissemination of climate-based information and knowledge by utilizing the education sector of Pakistan. Youth needs to be at the table from policy formulation to its execution, thus providing long-term sustainability in decision making and meaningful opportunities for engagement. Local and national mechanisms and networks need to be developed for youth engagement and organization. The success of CGPI and Ten Billion Tree Tsunami Program highlight that such networks and programs can help ensure youth participation, education and connection to up and coming challenges. Follow up mechanisms also need to be established to ensure action is taken based on youth opinions and input. Effective support needs to be provided to youth ideas and initiatives by providing access to funding, technical support and opportunities. Youth should be the key driving force in implementation of plans including mitigations and adaptations required for effective climate action.

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