

HEALTH AND ENVIRONMENT IN PAKISTAN

Gallup Pakistan Health Cyber Letter
8th Edition



EDITOR'S NOTE

In Pakistan, a nation marked by diverse communities and cultural fabric, we stand at a critical juncture where health and the environment converge. While Pakistan has a rich reserve of natural resources, from lush green forests to monstrous peaks, the climate crisis is looming. With the increase in human-made pollutants and the limited public awareness, the melting pot of environmental risks to health is a clear threat to Pakistan's population.

In the 8th edition of our Health Cyberletter, ***"Health and Environment in Pakistan,"*** we delve into the critical aspects of water sources, sanitation, and environmental consciousness by asking Pakistanis about their opinions related to the environment. From the source of water in the household to the quality of sanitation, we have gathered data on environment-related habits and preferences of Pakistanis in 2022 and compared statistics with our data from earlier research conducted over the years. Quite interestingly, our data represents a shift towards environment-friendly choices; for instance, we observed an increase in the installation of flush toilets and a preference of environment friendliness over economic development.

Much of our current research is centered towards the behavioral dimensions of sanitation practices and environmental choices of an average Pakistani. The country, in tandem, also suffers from alarming rates of sanitation-borne diseases. According to UNICEF, an estimated **70%** of households in Pakistan still drink bacterially contaminated water¹. Widespread poverty and limited resources have aggravated the effects of climate change within Pakistan. While steps have been taken by the government and international organizations to address the challenges over the years, there remains much work to be done if facilities across Pakistan are to meet international standards. Sustainable Development Goal 6 provides a platform for countries to work towards ensuring availability and sustainable management of water and sanitation for all².

Pakistan has a long hard road ahead in terms of achieving better WASH indicators but with concerted and collaborative efforts by health and environment stakeholders, we can devise efficient and effective strategies to address our sanitation challenges and work towards a cleaner and healthier Pakistan.

We hope this research can provide some support to researchers and practitioners as they attempt to understand Pakistanis' behaviors and solve complex health problems in the future.

Mishalle A. Kayani

¹ <https://www.unicef.org/pakistan/wash-water-sanitation-and-hygiene-0>

² <https://data.unicef.org/sdgs/goal-6-clean-water-sanitation/#:~:text=Water%20and%20sanitation%20are%20critical,sustainability%20of%20water%20resources%20worldwide.>

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Gallup Pakistan Health Cyber Letter | Edition 8



A significant majority of Pakistanis (92%) consider the water they use to be safe for health; this has increased more than 30% since 2006, when only (61%) considered the water in their households to be safe.



Government supply water tap **46%**

In 2022, almost half (46%) of Pakistanis reported having a government supply water tap inside the house, (14%) get water from a filtration plant, (13%) have a water filter in their homes while (12%) get water cans from mineral water companies.



Unsafe Water **34%**

More than a quarter Pakistanis would consider their water unsafe if it tastes bad (34%), or if it seemed to be dirty or polluted (25%); (13%) would consider it unsafe if it smelled bad, while (6%) would think so if it caused stomach problems.



Flush Toilet at Home **81%**

In 2022, a vast majority (81%) of Pakistanis say that they have a flush toilet in their houses, while a significant percentage (16%) have a hole in the ground for this purpose. Compared to 2011, 10% more households have installed flush toilets and the practice of digging holes in the ground had declined by 9%.



Cleanliness and Sewage **75%**

Compared to 2004, more people considered the state of cleanliness and sewage system in their area either very good or good, in 2022 (75% in 2022 versus 57% in 2004).



Protecting Enviroment **60%**

More than half Pakistanis (60%) chose protecting the environment over economic growth in 2022, compared to (48%) in 1999.

INTRODUCTION

The environment plays an important role in shaping the health of a nation. Infectious diseases which are still among the leading causes of death in the developing world have been linked closely with poor environmental conditions. This account is meant to give a brief analysis of the situation of water sources, sanitation and the overall environment experienced by a common person in Pakistan.

WATER

Our most recent data indicates that almost half (**46%**) have a government supply water tap inside the house. We observed that this has largely held true over the past decade (*Figure 1.1 and Trend Data 1.2*). The percentage of those who prefer to boil the supply water before drinking it in 2022 (**7%**) was almost one third the number recorded in 2017 (**24%**).

Interestingly, a significant majority of people (**92%**) consider the “water they use” to be safe for health; this has increased more than 30% since 2006, when only (**61%**) considered the water in their households to be safe (*Figure 1.3 and Trend Data 1.4*).

While public health experts have sophisticated tests of water quality to render water unsafe, more than a quarter Pakistanis considered their water unsafe if it tasted bad (**34%**), or if it seemed to be dirty or polluted (**25%**); water smelled bad (**13%**) and caused stomach problems (**6%**) were also reasons cited as to why people might consider water unsafe to consume (*Figure 1.5*).

Even though (**6%**) respondents considered their water to be unsafe, almost half (**57%**) do nothing to clean their water. For those who clean it, filter is the most popular method (**23%**), while (**17%**) boil it and a small number (**2%**) drain it through a sieve. It is encouraging to see that the percentage of those who do not do anything to clean their water continues to decline, indicating more mindfulness and awareness towards hygiene (*Figure 1.7 and Trend Data 1.8*).

SANITATION

Poor sanitation has remained a prevalent cause of disease in developing countries over the past decades. Looking at the most recent data obtained from Gallup Pakistan's Survey in 2022, a vast majority (**81%**) of the people say that they have a flush toilet in their homes, while a significant percentage (**16%**) have a hole in the ground for this purpose. Compared to 2011, 10% more households had installed flush toilets and the practice of digging holes in the ground had declined by 9% (*Figure 1.9 and Trend Data 1.10*).

Compared to 2004, more people considered the state of cleanliness and sewage system in their area either very good or good, in 2022 (*Figure 1.11*). Almost three quarters (**75%**) considered it either good or very good in 2022, compared to the (**57%**) who did so in 2004 (*Trend Data 1.12*).

ENVIRONMENT ISSUES

Among the environmental issues that posed a threat, depletion of clean water remained the most important issue (**74%**), followed by air pollution (**70%**) and water pollution (**69%**). The issue considered least by the most respondents (**16%**) was climate change due to global warming (*Figure 1.13*). However, even for climate change, more people considered it an important problem in 2022 than did in 2012, which possibly suggests increased levels of awareness on the topic.

On a similar note, **(37%)** of the respondents were of the opinion that countries of the world should help one another to ensure the availability of clean water for everyone, while **(19%)** considered saving natural resources a more important cause for the nations of the world to help each other in *(Figure 1.15)*.

When asked to choose between economic development at the cost of the environment or protecting the environment, more than half preferred the latter **(60%)** in 2022. It is interesting to note how the public opinion changed over the decades, from almost half **(49%)** prioritizing economic growth in 1999 to the percentage decreasing to a quarter of the sample **(24%)** in 2022 *(Figure 1.17 and Trend Data 1.18)*.

TAKING CARE OF THE ENVIRONMENT

The preservation of the environment is a collective effort where every individual's contribution is valuable. A large percentage **(62%)** claim that they are ready to pay a bit more for a product which has been manufactured in an environment friendly manner *(Figure 1.19)*.

A significant percentage reported taking some personal measures to conserve the environment. More than half **(58%)** said they try to conserve electricity and gas in domestic use, while almost half **(48%)** claimed they limited their use of water. **(30%)** tried to reduce junk and practice recycling *(Figure 1.21)*. These percentages are higher than those from 2009, which is a positive indication of environmental awareness *(Trend Data 1.22)*.

The use of plastic bags is quite high in the country as three quarters **(76%)** of the households use them to bring grocery from the market, while fabric bags are used by **(17%)**, paper bags by **(3%)**, and **(2%)** use a basket *(Figure 1.23)*.

DISCUSSION

WASH (or Water, sanitation and hygiene) continues to remain a challenge for Pakistan, especially in impoverished or rural communities where access to facilities is limited by lack of physical and financial resources. Polluted sources of water, inadequate sanitation infrastructure and lack of general awareness leave Pakistan susceptible to health risks from diseases that could otherwise be curtailed. According to UNICEF, 53,000 Pakistani children under five die annually from diarrhea due to poor water and sanitation.³ Individuals' assessment of the cleanliness levels of their water sources or the safety of their sanitation methods might not be enough; it is important to facilitate those who are at higher risk of being exposed to worsening conditions.

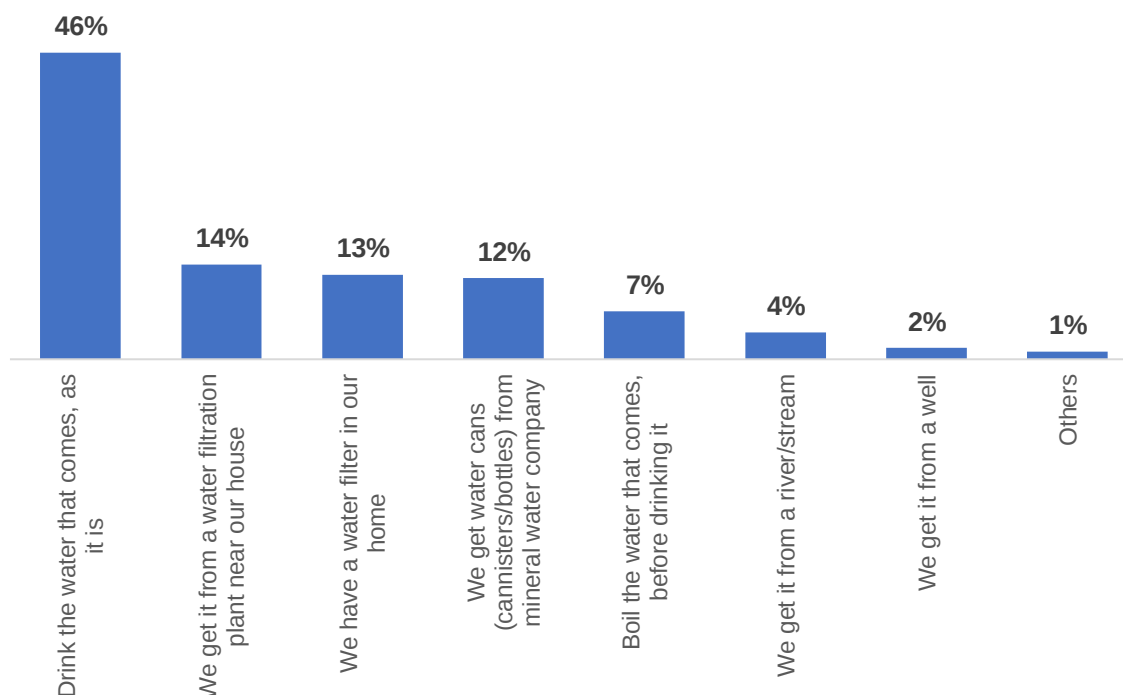
While many express willingness to pay extra for eco-friendly products or prefer preservation of the environment over economic growth, these wishes seldom materialize into action. The high use of polythene and plastic bags despite a ban imposed on them in 2019 is one example of how the public's opinions and behavior about matters of the environment do not often align.

Even though time trends show a shifting perception in favor of environmental preservation and improved sanitation practices over the years, increased effort is still required to ensure as much of the population benefits from these shifts as possible. Stakeholders like legislators, the media and local influencers such as religious and community leaders would have a significant part to play in this cause. **Note: Data representation below.**

³<https://www.unicef.org/pakistan/wash-water-sanitation-and-hygiene-0>

WATER

1.1. Question: What is the main source of Drinking water for your household?

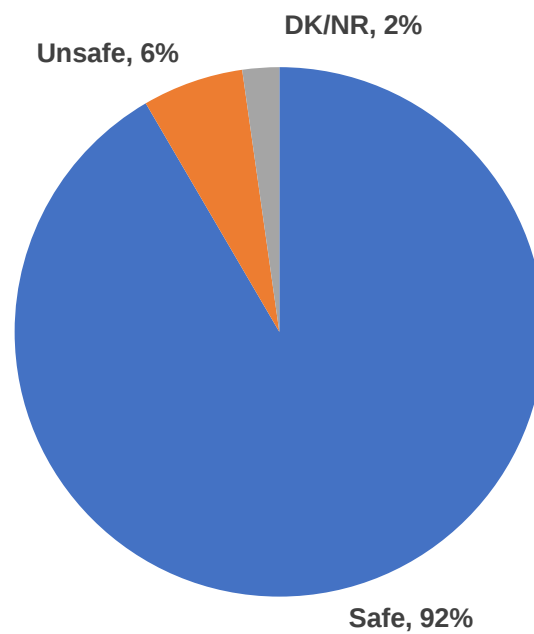


Source: Gallup Pakistan Survey, 2022

1.2. Trend Data

	2017	2022
Drink the water that comes, as it is	46%	46%
Boil the water that comes, before drinking it	24%	7%
We have a water filter in our home	13%	13%
We get water cans (cannisters/bottles) from mineral water company	8%	12%
We get it from a water filtration plant near our house	8%	14%
We get it from a river/stream	0%	4%
We get it from a well	0%	2%
Others	-	1%
Don't Know / No Response	1%	-

1.3. Question: In your view, is the water used in your household safe or unsafe?

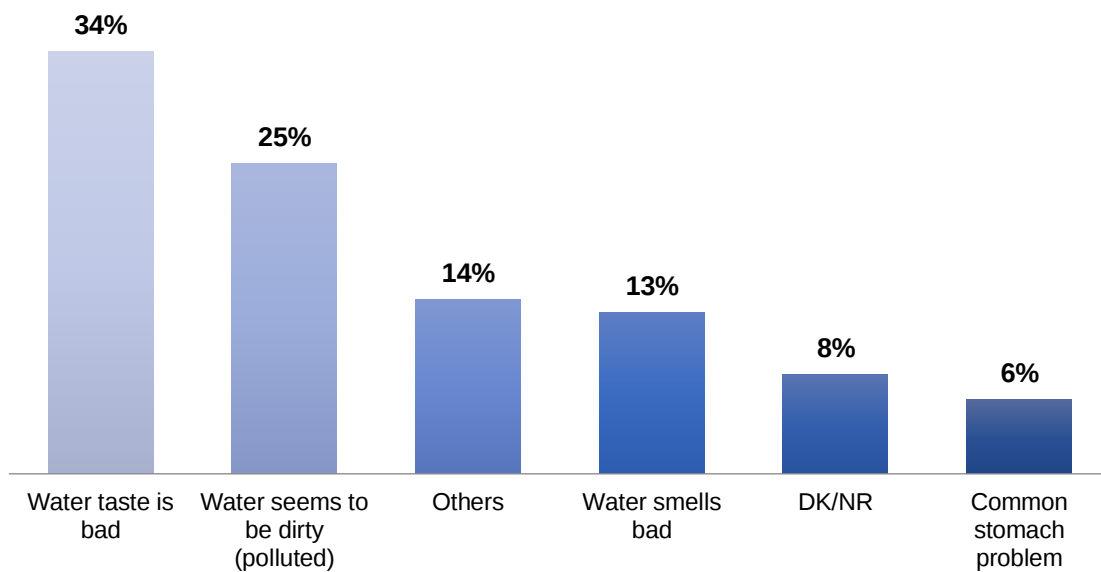


Source: Gallup Pakistan Survey, 2022

1.4. Trend Data

	2006	2007	2009	2011	2012	2014	2022
Safe	61%	55%	65%	44%	53%	75%	92%
Unsafe	28%	31%	25%	43%	38%	24%	6%
Don't Know / No Response	11%	14%	10%	13%	9%	1%	2%

1.5. Question: If you think your water is unsafe, what is the reason?

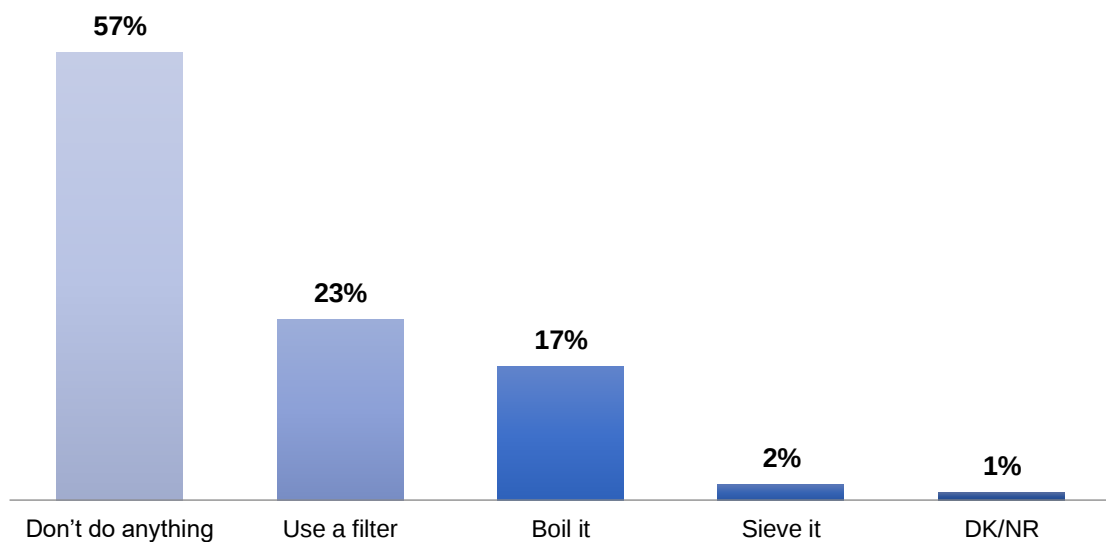


Source: Gallup Pakistan Survey, 2022

1.6. Trend Data

	2006	2007	2009	2011	2012	2014	2022
Water seems to be dirty (polluted)	44%	29%	29%	24%	22%	21%	25%
Water taste is bad	19%	26%	18%	22%	41%	44%	34%
Water smells bad	17%	12%	24%	20%	13%	15%	13%
Common stomach problem	19%	30%	26%	34%	23%	20%	6%
Others	0%	0%	3%	-	1%	0%	14%
Don't Know / No Response	1%	3%	0%	0%	0%	0%	8%

1.7. Question: How do you clean your drinking water?



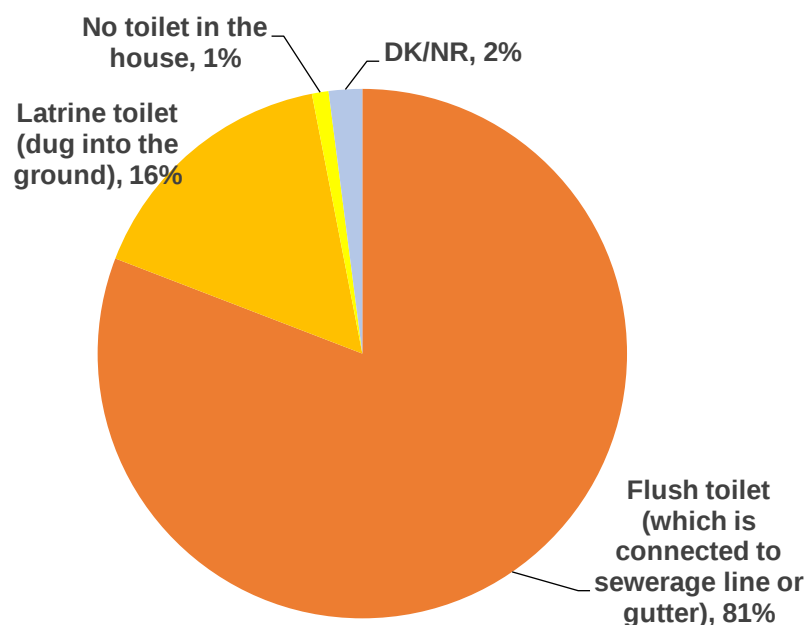
Source: Gallup Pakistan Survey, 2022

1.8. Trend Data

	2006	2007	2009	2011	2012	2014	2022
Boil it	18%	26%	19%	25%	27%	22%	17%
Sieve it	5%	7%	5%	10%	5%	7%	2%
Use a filter	15%	6%	8%	12%	10%	9%	23%
Don't do anything	62%	61%	67%	52%	57%	61%	57%
Don't Know / No Response	-	-	1%	1%	1%	1%	1%

SANITATION

1.9. Question: What kind of Latrine/measure for disposal of solid waste/excreta do you have in your household?

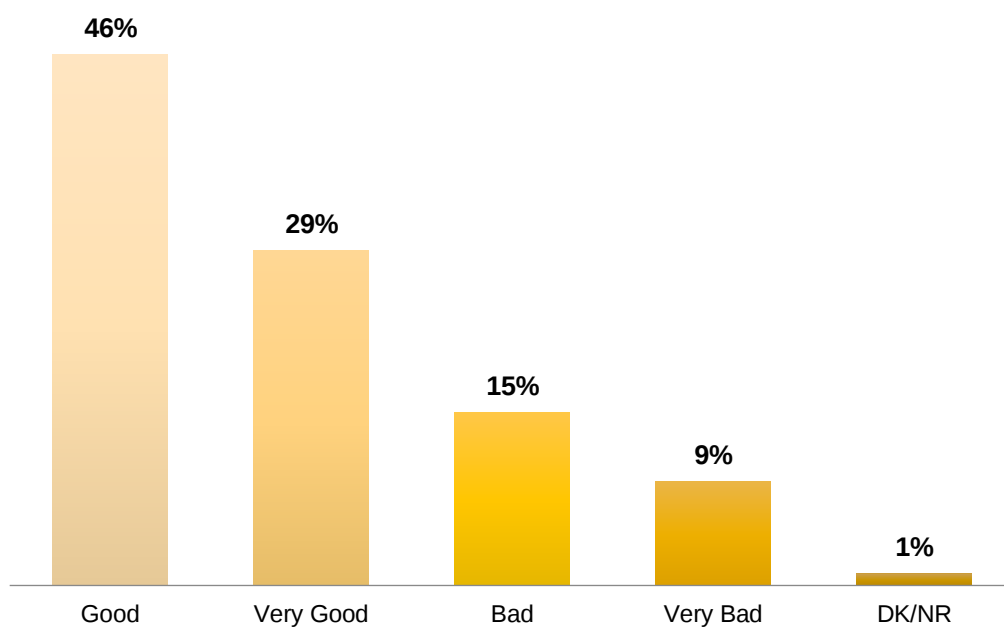


Source: Gallup Pakistan Survey, 2022

1.10. Trend Data

	2011	2012	2022
Flush toilet (which is connected to sewerage line or gutter)	71%	69%	81%
Latrine toilet (dug into the ground)	25%	29%	16%
No toilet in the house	1%	2%	1%
Don't Know / No Response	3%	0%	2%

1.11. Question: What is your opinion regarding the state of cleanliness and sewage system in your area?



Source: Gallup Pakistan Survey, 2022

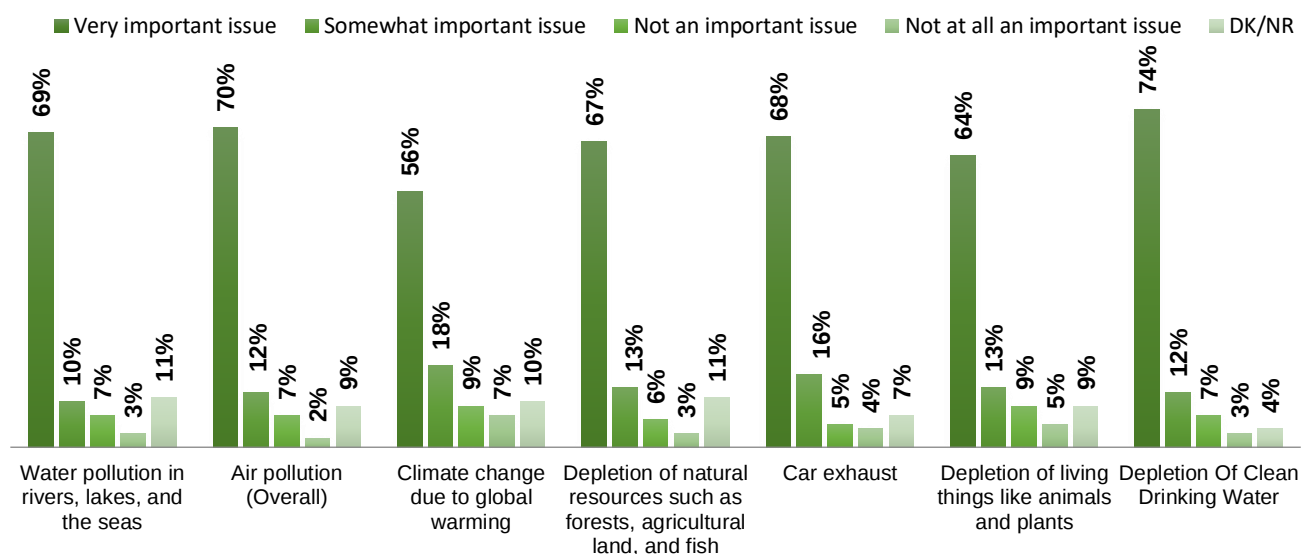
1.12. Trend Data

	2004	2022
Very Good	17%	29%
Good	40%	46%
Bad	25%	15%
Very Bad	17%	9%
Don't Know / No Response	1%	1%

ENVIRONMENT ISSUES

1.13. Question: How important or unimportant, in your view, are the following problems?

1.14.



Source: Gallup Pakistan Survey, 2022

1.15. Trend Data

Water pollution in rivers, lakes, and the seas				
	2012	2014	2015	2022
Very important issue	46%	39%	51%	69%
Somewhat important issue	33%	37%	24%	10%
Not an important issue	7%	15%	12%	7%
Not at all an important issue	2%	5%	12%	3%
Don't Know / No Response	12%	4%	2%	11%

Air pollution (Overall)							
	2009	2010	2011	2012	2014	2015	2022
Very important issue	59%	43%	54%	37%	36%	47%	70%
Somewhat important issue	15%	34%	23%	42%	38%	29%	12%
Not an important issue	11%	13%	6%	9%	18%	15%	7%
Not at all an important issue	3%	2%	2%	2%	4%	9%	2%
Don't Know / No Response	12%	8%	15%	10%	4%	1%	9%

Climate change due to global warming							
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	2012	2014	2015	2022
Very important issue	36%	27%	36%	56%
Somewhat important issue	30%	35%	32%	18%
Not an important issue	16%	23%	16%	9%
Not at all an important issue	5%	9%	3%	7%
Don't Know / No Response	13%	6%	13%	10%

Depletion of natural resources such as forests, agricultural land, and fish

	2012	2014	2015	2022
Very important issue	38%	39%	49%	67%
Somewhat important issue	30%	32%	35%	13%
Not an important issue	14%	13%	8%	6%
Not at all an important issue	7%	10%	7%	3%
Don't Know / No Response	11%	6%	1%	11%

Car exhaust

	2012	2014	2015	2022
Very important issue	55%	40%	58%	68%
Somewhat important issue	27%	33%	28%	16%
Not an important issue	5%	18%	10%	5%
Not at all an important issue	2%	5%	2%	4%
Don't Know / No Response	11%	4%	1%	7%

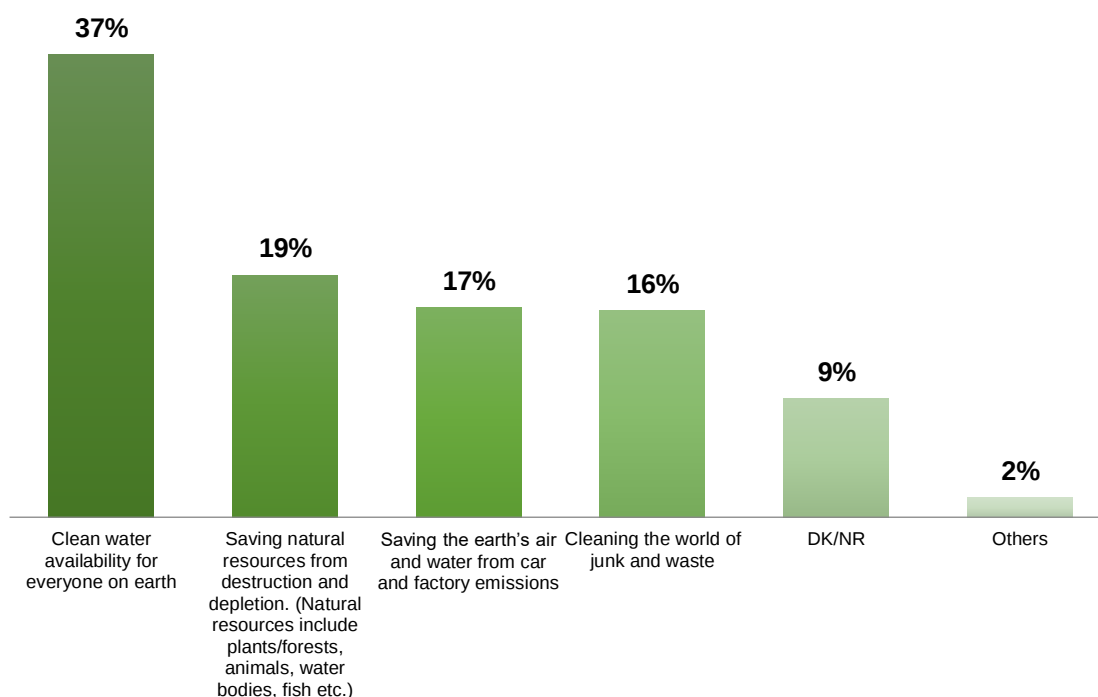
Depletion of living things like animals and plants

	2012	2014	2015	2022
Very important issue	40%	36%	49%	64%
Somewhat important issue	33%	32%	33%	13%
Not an important issue	9%	18%	9%	9%
Not at all an important issue	3%	9%	8%	5%
Don't Know / No Response	15%	5%	1%	9%

Depletion Of Clean Drinking Water

	2009	2010	2011	2012	2014	2015	2022
Very important issue	59%	68%	70%	68%	52%	76%	74%
Somewhat important issue	15%	18%	9%	17%	26%	19%	12%
Not an important issue	11%	7%	8%	5%	11%	3%	7%
Not at all an important issue	3%	1%	2%	2%	9%	2%	3%
Don't Know / No Response	12%	6%	11%	8%	2%	1%	4%

1.16. Question: The world is facing a number of environmental threats. Which one of these is the most important aspect of environment on which the Countries of the world should help one another?

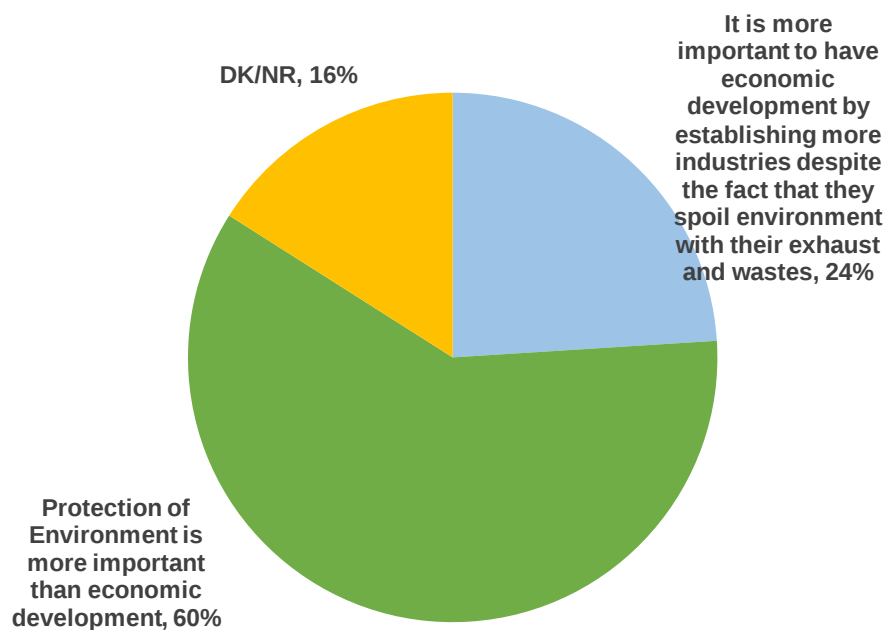


Source: Gallup Pakistan Survey, 2022

1.17. Trend Data

	2009	2022
Clean water availability for everyone on earth	40%	37%
Saving the earth's air and water from car and factory emissions	33%	17%
Cleaning the world of junk and waste	11%	16%
Saving natural resources from destruction and depletion. (Natural resources include plants/forests, animals, water bodies, fish etc.)	14%	19%
Others	-	2%
Don't Know / No Response	2%	9%

1.18. Question: I will read two statements, which one do you favor?



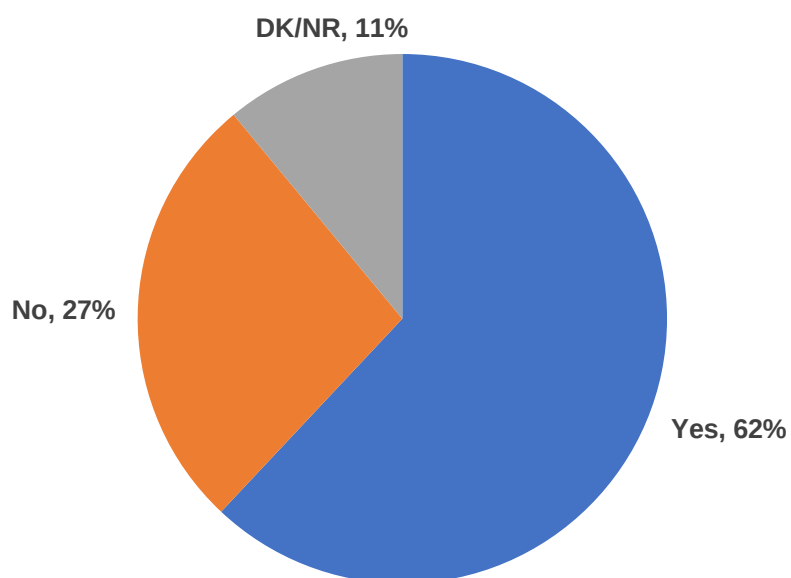
Source: Gallup Pakistan Survey, 2022

1.19. Trend Data

	1999	2022
It is more important to have economic development by establishing more industries despite the fact that they spoil environment with their exhaust and wastes	49%	24%
Protection of Environment is more important than economic development	48%	60%
Don't Know / No Response	3%	16%

TAKING CARE OF THE ENVIRONMENT

1.20. Question: Would you consent to pay a bit more for a product that has been made in an environment friendly way?

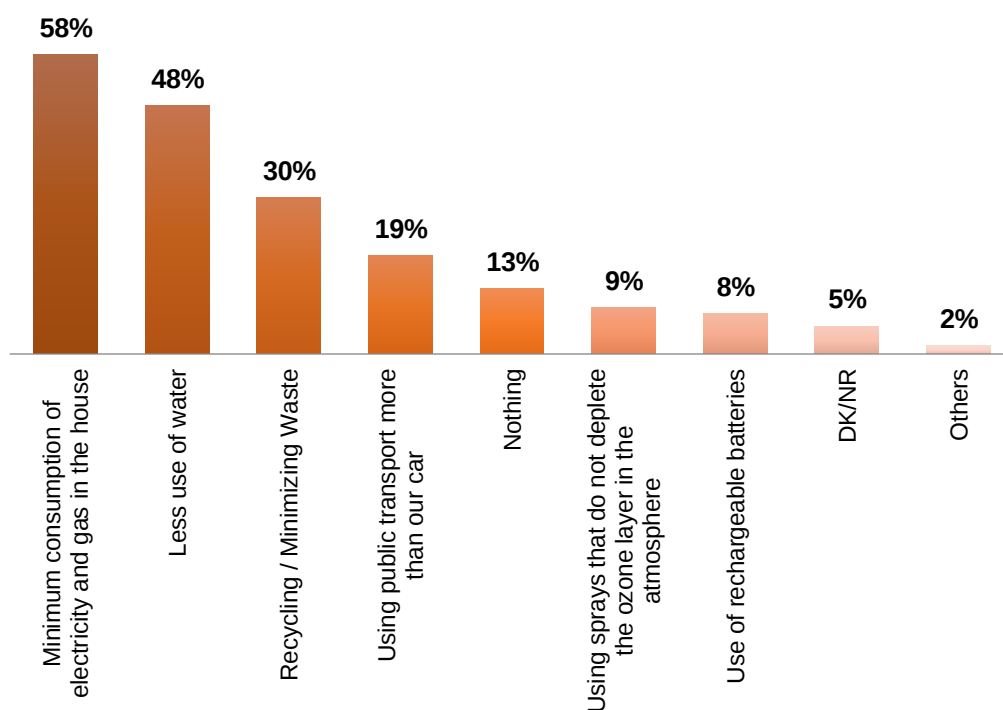


Source: Gallup Pakistan Survey, 2022

1.21. Trend Data

	2006	2022
Yes	59%	62%
No	28%	27%
Don't Know / No Response	13%	11%

1.22. Question: Which of the following steps are followed in your household in order to protect the environment?

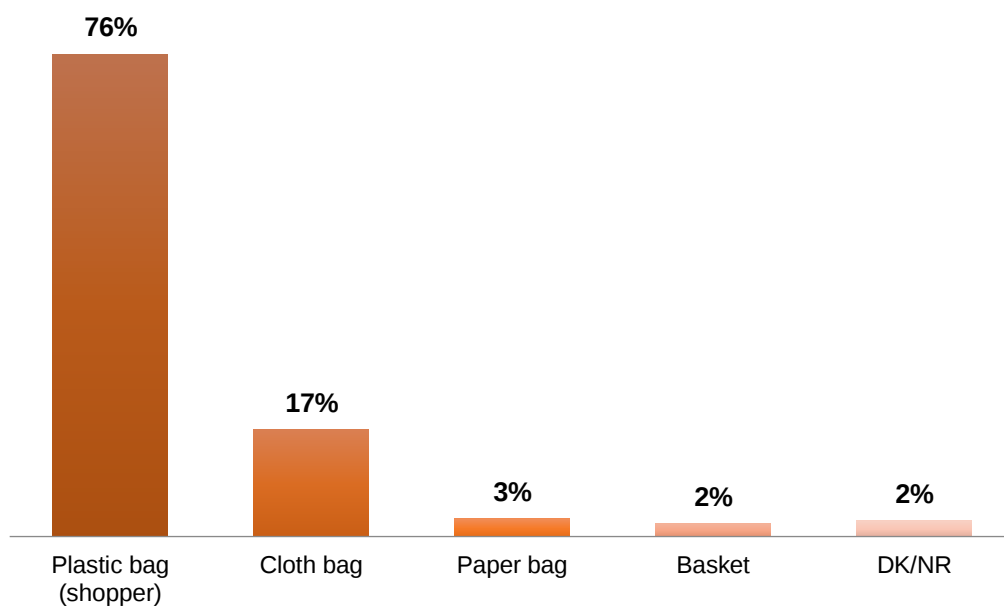


Source: Gallup Pakistan Survey, 2022

1.23. Trend Data

	2007	2009	2022
Recycling / Minimizing Waste	38%	27%	30%
Minimum consumption of electricity and gas in the house	46%	40%	58%
Less use of water	37%	20%	48%
Using public transport more than our car	17%	9%	19%
Using sprays that do not deplete the ozone layer in the atmosphere	14%	12%	9%
Use of rechargeable batteries	5%	3%	8%
Nothing	20%	12%	13%
Others	-	-	2%
Don't Know / No Response	11%	7%	5%

1.24. Question: What is used in your household to bring grocery from the market?



Source: Gallup Pakistan Survey, 2022

1.25. Trend Data

	2006	2007	2008	2011	2014	2016	2022
Plastic bag (shopper)	74%	76%	75%	80%	77%	73%	76%
Paper bag	5%	3%	6%	3%	4%	10%	3%
Cloth bag	17%	17%	14%	12%	17	13%	17%
Basket	4%	4%	4%	3%	3	4%	2%
Don't Know / No Response	0%	0%	1%	2%	0	-	2%

GALLUP PAKISTAN PUBLIC HEALTH PROGRAM

Gallup Pakistan formally introduced the Gallup Pakistan Public Health Program earlier this year. Through this dedicated space, we hope to act as catalysts of change in the public health landscape by using innovative and collaborative solutions to tackle complex problems in the country.

Under this program, the streams of work currently include:

1. Let's Talk Public Health
2. Gallup Pakistan and CDC Sponsored Projects: Recent developments include the Cause of Death (COD) Training and Enhancing Integrated Mortality Surveillance Workshop held in Islamabad from February 6 – February 10, 2023
3. Gallup Pakistan and Digital Vaccine Register Project
4. Gallup Big Data Analysis of Pakistan Statistical Yearbook – Healthcare in Pakistan (2010 – 2020)
5. Gallup Big Data Analysis of Pakistan Statistical Yearbook – Live Births (2018 – 2020) – Pakistan Demographic Survey 2020
6. Gallup Pakistan 40-year report on Health

One of our pioneering initiatives as part of the Public Health Program is the **“Let's Talk Public Health”** series which was launched in March 2022. Through this platform, we conduct insightful conversations with experts/researchers/practitioners in the field, on public health challenges that Pakistan is facing today and we hope we can find ways to reimagine the concept of health as well as make meaningful contributions to the public health discourse in both, Pakistan and globally.

Links to our previous episodes can be accessed below:

- *Episode 1: Lifestyle and Non-communicable diseases (NCDs) – Conceptual, Empirical and Practical Perspective* by Dr. Ijaz Gilani. <https://youtu.be/uJcYQlj3GH4>
- *Episode 2: Pakistan's Healthcare Market, Medical Devices and Digital Health* by Hammad Ijaz. <https://youtu.be/Wz8QWExlHGg>
- *Episode 3: Health Perception Survey - WiN International and Gallup Pakistan* by Mishalle Kayani and Laila Waqar. <https://youtu.be/IFQp6Qp6GrQ>
- *Episode 4: Value of Community Co-design for Vaccine Confidence Interventions - A Case from Karachi* by Rubina Qasim.: <https://youtu.be/7TqIL3cM17A>
- *Episode 5: Science Behind Artistic Processes (Conductive Tools for Health Sector)* by Dr. Habib Afsar. <https://www.youtube.com/watch?v=1ZWK0EhZyD8>
- *Episode 6: Family Planning in Pakistan: Issues, Progress and the Way Forward* by Dr. Adnan Khan. <https://youtu.be/LyQfFv0w8oA>
- *Episode 7: The Menace of Self-Citation: An Audit of Two Years from Journals of KPK* by Dr. Umemma Zafar. <https://youtu.be/UZrCBreD8No>
- *Episode 8: International Health Regulations (IHRs) and Pakistan* by Dr. Saeed Ahmad. <https://www.youtube.com/watch?v=t9sZOnzfiS8&t=64s>
- *Episode 9: Migration and Health* by Dr. Roomi Aziz. <https://www.youtube.com/watch?v=E89KBuiU52E>
- *Episode 10: Dispelling Development Myths: The Power of Community Engagement* by Dr. Ayesha Khan. <https://www.youtube.com/watch?v=WtFXmrnazzc>
- ***Episode 11: Nutrition and Health in Pakistan: A Conversation with Mishalle A. Kayani and Zainab Khan from Gallup Pakistan.*** <https://www.youtube.com/watch?v=4LuHd77IK-M>

In our 11th episode of our “Let's Talk Public Health” series, we discussed findings from Gallup Pakistan's 7th Health Cyberletter, which focused on health and nutrition in the country. The discussion included unpacking the cultural and regional influences on the perceptions of diet

and health for an average Pakistani. In addition to this, we discussed changes in nutritional preferences and how these have been shaped by socio-economic influences over the years. For the last section of our talk, we explored the possible social policy actions that could encourage adopting healthier nutritional habits to improve the overall health status of Pakistan.

In addition to our talk series, we've worked on several **research projects with the Centers for Disease Control (CDC).**⁴

Project: Survey of Social and Behavioral Determinants of COVID-19 Vaccination Uptake and Evaluation of On-going National and Subnational Programming to Increase Demand for COVID-19 Vaccines. 2021

Description: The project aimed to prepare for the rollout of COVID-19 vaccines by assessing social and behavioral determinants for under vaccination in the EMRO region. The multi-country assessment focused on understanding determinants of demand for COVID-19 and other vaccines among priority populations, particularly the role of rumors and misinformation on behavior, and a secondary focus on challenges in vaccine service delivery faced by healthcare workers and program administrators. This project also evaluated ongoing regional, country-level, and subnational planning efforts to introduce COVID-19 vaccines to high priority populations of healthcare workers, adults over 65, and high-risk adults. An important aspect of this project was data triangulation- collecting and reviewing diverse sources of data to compare, contrast, and develop a fuller picture of demand for COVID-19 vaccines in each selected country.

Project: A Cross-Sectional Survey on COVID-19 Knowledge, Attitudes, Practices (KAP) and Resiliency in Pakistan. 2021-2022

Description: The goal of this study was to provide a nationally and regionally representative comprehensive understanding of knowledge, attitudes, and practices (KAPs) around COVID-19 as well as the mental health impacts and other personal effects of the pandemic by providing context specific evidence to help address COVID-19 more effectively. Measuring key cognitive and behavioral factors associated with COVID-19 will help inform recommendations for effective public health management of the disease, such as behavior change strategies, communication strategies to counteract misperceptions around COVID-19, address stigma, community and home-care strategies, and the deployment of food or cash assistance, to vulnerable households.

Project: Track and Trace of COVID-19 Suspected Cases – Pilot Program Working with Faith-Based Organizations. 2022

Description: Engaging faith communities to advance COVID-19 risk communication and mitigation represents a pivotal opportunity to accelerate pandemic control. The project goal was to pilot a program in which contact tracing and advocacy around non-pharmaceutical intervention (NPIs) is done by FBO's and lessons can be learned and shared with policy-makers dealing with COVID-19.

Project: Estimating Excess Deaths and Improving Mortality Surveillance and Civil Registration Systems in Pakistan during COVID-19. 2022-2023

Description: This project aims to estimate and improve the capacity for estimation of excess deaths and their causes in selected areas of Pakistan; understand and inform as to causes of increases in preventable deaths; and to attempt to integrate relevant partners and systems to build sustainable capacity in mortality surveillance and in National Public Health Institutes.

⁴ Funding for this conference was made possible (in part) by the Centers for Disease Control and Prevention. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services, nor does the mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Cause of Death (COD) Training (Monday, February 6 to Wednesday February 8, 2023)

Over the course of 3-days, health stakeholders such as doctors from public and private hospitals, the district health office (DHO), Ministry of Health (MoH) and the Civil Registration and Vital Statistics Unit (CRVS) in Islamabad, participated in a training module led by the Centers for Disease Control and Prevention (CDC-US) with Gallup Pakistan's support. The technical training focused on assigning cause of death, the use of ICD-10/11 coding for maternal mortality (MM) and perinatal mortality (PM), and birth and death record assessment and management. Participants also took part in practical exercises using digital platforms like DORIS and AnaCOD as well as group case studies to appropriately fill out death registration forms and discuss mortality management with respect to participants' institutions.

Enhancing Integrated Mortality Surveillance Workshop (Thursday, February 9 to Friday, February 10, 2023)

On February 9 and 10, 2023, Gallup Pakistan and the Ministry of National Health Services and Coordination held a workshop in Islamabad to discuss potential ways to strengthen mortality surveillance in Pakistan. Participants included doctors from public and private hospitals in Islamabad, development organizations and other key actors involved in health surveillance and management systems in Pakistan. Participants had the chance to learn from insightful presentations on existing health infrastructure which included detailed information on data collection processes. In addition to this, participants also actively engaged in group exercises which involved the identification of problems as well as solutions to problems in current surveillance systems at different levels of implementation ranging from the community level up to the facility and institutional levels.

Lastly, during this year we also worked on a ***Digital Vaccine Register Project***, the details of which, you can find below:

The ***Zindagi Mehfooz (ZM)*** application has been designed as a digital repository of enrolment and vaccination records of women and children on a web-based dashboard, currently being leveraged as a micro-data collection tool in the health centers of Sindh, Pakistan. The scope of the research study was to evaluate the impact of the application on immunization service delivery, registry coverage, uptake of immunization services, and data use patterns.

The qualitative aspect of the evaluation included a series of focus group discussions, key informant interviews, and observations across health facilities/offices in the districts of Jacobabad, Shikarpur, and Naushahro Feroz with the goal of understanding the perceptions of all the stakeholders involved (ZM staff, caregivers, vaccinators, supervisors/coordinators, district managers, and provincial managers) regarding the use and impacts of the ZM application.

Gallup Big Data Analysis of Pakistan Statistical Yearbook – Healthcare in Pakistan (2010 – 2020) <https://gallup.com.pk/wp/wp-content/uploads/2022/12/Health-pr.pdf>

As a developing country, Pakistan has been struggling with developments in the health sector. Even though there has been constant development happening, the country still has a long way to go. Undertaking an analysis of facts and figures available in The Pakistan Statistical Yearbook 2022 published by the Pakistan Bureau of Statistics, we provide an overview of the growth in the health sector over the last decade.

Key Findings:

- (1). The number of health institutions in Pakistan increased by 10% from 2011 to 2020.

- (2). Almost 37% increase in the number of beds was seen in health institutions from 2011 to 2020.
- (3). 61% increase in the number of doctors as compared to 135% increase the number of dentists in the country from 2011 to 2020.
- (4). 69% increase in lady health visitors, 50% increase in the number of nurses and 40% increase in the number of midwives was seen in the previous decade.

Gallup Big Data Analysis of Pakistan Statistical Yearbook – Live Births (2018 – 2020) – Pakistan Demographic Survey 2020

This series aims to present the important learnings from the Pakistan Demographic Survey 2020 for policy makers, the public, as well as for marketers in an easy and understandable way. In particular, this edition looks at number of Live Births from 2018 to 2020. The total number of live births over a period of time can have implications for state of healthcare across the urban-rural divide, and between provinces, and the age stratification can tell us what age group of women are having the greatest successful pregnancies. The series' main aim is to provide data. Implications of these data points for development sector as well as wider socio-political ramifications is something we would like to trigger in relevant circles.

Key Findings:

- (1). Number of live births by age of mother: During 2018-20, women in their late twenties delivered the highest number of live babies, at 31% of the total number of live births.
- (2). Number of live births by place of delivery and age of mother: Nearly 1 in 4 Pakistani children (24%) were born at home between 2018 and 2020. 65% of live births in Balochistan were homebirths (greatest proportion out of all provinces).
- (3). Number of live births by type of attendant at birth and age of mother: Between 2018-20, 60% of children born in Pakistan were delivered by doctors. 16% were delivered by traditional birth attendants (Dai) and 12% by nurses. Out of live births conducted under a doctor's overview, 60% took place in rural areas while 40% were in urban areas.

In addition to all the aforementioned initiatives, Gallup Pakistan is also working on producing a ***40-year report on Health in Pakistan*** which is a compilation of findings from health research conducted by the organization over the last 4 decades.

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