

Final Report

Impact of COVID-19 and climate change on public sector primary and elementary school education in the province of Sindh



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Executive Summary

Pakistan's education service delivery system has been negatively impacted by multiple disasters. The frequency of disasters however has accelerated overtime due to increasingly changing climate and inadequately prepared education system, resulting in prolonged school closures and children's learning losses. In 2020, the COVID-19 pandemic resulted in school closures from mid-March 2020 to March 2022. Thereafter the floods in the year 2022 disrupted education activities and caused destruction of nearly 27,000 government schools. 2 million children across Pakistan could not access education during the time.

The International Rescue Committee (IRC) commissioned this report to assess the cumulative learning losses of primary and elementary school children post COVID-19 pandemic and climate change, specifically the floods 2020 in most flood affected districts: Dadu, Badin, Umerkot, and Sanghar of Sindh province. The report aimed to provide a detailed picture of learning losses disaggregated by gender, socio-economic status, disability, displacement, type of school, level of participation in education and districts; identify the current status of various outcomes in the post-COVID-19 period and assess variations among affected populations; identify strengths and gaps in institutional support for teachers and children to ensure educational continuity during crises; to analyze existing policies and propose actions to mitigate and manage the impact of climate change on education.

Methodology used by ASER was employed to draw a comparison of learning losses with the study conducted in year 2021. The mixed method data collection approach involved conducting assessments of sampled children aged 5 to 16, in literacy and numeracy skills (in English, Urdu, and Sindhi). Sample-based household surveys, school observations, in-depth interviews with school headteachers, government officials at the provincial and district levels, select donors, and civil society organizations were included to obtain holistic understanding of the impact.

Findings:

- **School closures due to Heatwaves:** Heat waves, when compared with floods, have a shorter-term impact on education service delivery as the school closures are clubbed with annual summer break. Almost all households were in opinion that heatwaves are common in sample areas. Close to 17% of households reported a 36% decline in household income during hot months. 31% of households reported heatwave induced school closures when compared with those imposed due to floods and COVID-19. Nearly 14% of households confirmed their children's education was disrupted due to heatwaves.
- **Continuity of education during Pandemic:** ASER 2021 showed considerable decline in children's learning attending government schools compared with their counterparts attending private schools. 83% of private schools implemented various strategies to tackle the challenges posed by school closures that contributed to learning continuity for students and better learning outcomes. However, 74% of the government school head teachers confirmed the absence of a plan to mitigate the impact on learning during the pandemic. The government education system was ill-prepared to mitigate the impact of the pandemic on student learning, especially in remote areas and failed to reach children from low-income quantile households.
- **Impact of Floods on Households:** The majority of households (63%) confirmed that their houses were adversely affected due to floods 2022 and 24% of the affected households

shared they opted for temporary migration for nearly 14 months. More than half of the households (53%) reported to have suffered from losses such as damaged houses and assets and an overwhelming majority (64%) confirmed school closure for an average of 70 days period. Nearly 49% of households confirmed decline in their income due to flood, while 54% reported unemployment due to flooding. Poverty emerged as a strong barrier to education in flood affected areas. 60% of dropouts and 41% of children who never enroll in a school was due to financial constraints during floods. 69% children confirmed they were not approached by their schools to facilitate their learning during school closures and over 77% relied on support from their literate family members (older siblings), neighbors and community members to help them continue their learning.

- **Household and Child Profiles** –The average family size was found to be 6.1 persons per household across the four districts. Approximately 14% of the children fell within the age group of 3 to 5 years, while the remaining 86% were between 6 and 16 years old. 72% of household income sources included daily wage and salaried work. Agriculture serves as the main source of income for nearly 18% of households. 92% of mothers and nearly 66% of fathers had no formal education, thereby incapable of supporting their children's learning at home on their own.
- **Access to Learning during Floods 22:** An overwhelming majority of children (82%) in the four districts were enrolled in schools of which nearly all (98%) attended government schools. The highest number of enrolled children were from Sanghar, and lowest enrollment figures were from Umerkot district. Interestingly, enrolment in rural areas starts at an older age as 23% of children aged 8 years were enrolled in grade 1- 3 years later than prescribed age and 50% of children aged 10 were enrolled in grade 2. The main reason for high enrollment in government schools was availability of more government schools than private owned entities in addition to poverty in rural Sindh that hampers parental ability to pay private school fee. Schools in the surveyed areas have suffered extensive damage to their infrastructure, including collapsing boundary walls, roofs, damaged furniture and in some instances complete washed out of the school building. As a result, student dropouts in government schools surged from 20% to 50% across surveyed districts. During the floods-22, use of computers and/or laptops and smartphones was negligible in the surveyed districts. Only 1.5% of children have access to computers and 25% children to any form of internet. 27% of households have access to smartphones. Lack of infrastructure in formal education system to support IT based solution was one of the main reasons the approach was not adopted during floods. Across the districts, headteachers confirmed that a formal strategy was not in place to uniformly assess learning losses in their respective schools however in some government schools, the self-initiated student assessments revealed a decline in overall students' learning levels in addition to student motivation levels.
- **Informal Support for Children's Learning during Floods:** During school closures, children (77%) received support from their older siblings who attended school, distant family members, friends, neighbors, and community members to continue education at home. The report confirms that negligible support was extended by government schools during school closures as over 67% of children claimed their schools did not contact them to ensure learning continuity. Parents, who can afford, arrange for their children paid tuition and on average pay a monthly fee of PKR 545 in case support of a family member, neighbor, or community member to aid their education is unavailable.
- **Learning Losses- A Comparison post Pandemic and Floods 22:** ASER 2021 showed considerable decline in children's learning post COVID-19. However, learning loss of children attending private schools was relatively less because the service providers used

IT based distance learning modalities. Similar assessment was not conducted after floods 2022 in the four districts of Sindh.

The assessment of all surveyed children aged 5 to 16 revealed that overall learning levels of girls' learning loss was higher than those of boys across the districts. A similar pattern was observed in scores received for English and Arithmetic assessments. A significant gap between learning loss levels of children enrolled in public and private schools was also observed. **Clearly neither children enrolled in government nor private schools show promising learning levels in rural areas of target districts**

Learning loss-literacy skills:

- **Urdu/ Sindhi:** Approximately **33% of boys and 38% of girls were at the beginner level of reading Urdu/Sindhi.**¹ 29% of boys and 29% of girls are at letter level. The study found that overall ~21% of boys and ~19% of girls were at word level while 14% of boys and 12% of the girls were at sentence level. The ability to read a story is higher in boys (~4%) than girls (~2%). When compared between different institutions, the study found that 23% more children enrolled in government schools were at beginner level than those enrolled in private schools (low-cost private schools, NGO's, madrassas). Household income showed a positive correlation with children's reading ability as the highest percentage of children who could not read hailed from poorest households. A comparison of results in Urdu/Sindhi language with ASER 21 with current data suggests a clear dip from 11% children to 20% falling in beginner level. On an average, the Urdu/Sindhi reading assessment, the learning losses across districts increased within a range of 11% to 17% for boys showing highest learning decline in Dadu district. Whereas 12% girls were at beginner level when compared with ASER report (4%) highest being reported from Badin.
- **English:** Children receiving private school education performed better than their counterparts in government schools. Disaggregated by gender showed, 43% of boys and a little less than half (49%) of girls were placed at the beginner level in English proficiency test. Approximately 9% of children attending government schools could read complete sentences in English while a higher percentage (29%) of their counterparts in private schools could do the same the percentage of children categorized as beginners in English was highest in the poorest households (approximately 59%) and decreased to around 38% in the richest households. Learning levels in English language have declined by 12 percent as only 13 percent children were at beginners level in year 2021 as opposed to 25 percent in year 23. Learning loss was more pronounced for girls and boys in Dadu district. In addition to gender differences and type of schools, the wealth index of the household also contributes to children's learning levels. Approximately 59% of children hailing from poorest households were at beginners' level ² in English Reading. On the contrary only 38% of their counterparts from richest households were at the same level of English reading.
- **Learning Loss- Numeracy Skills:** More than half of (58%) of children in the surveyed districts were categorized as 'Beginners/Nothing' in arithmetic skills. Gender disaggregation showed more girls (46%) were found at the beginner's level than boys (40%). Nearly double the percentage of children (4%) from private schools were categorized as 'Division Child'³ than their counterparts (2%) in government schools. However, the results were considerably higher in telling time and simple word problem as 26% of overall children could tell time and 24% could solve simple problem sums. A

¹ Beginner Level: the child is unable to identify even 4 out of 5 letters in Urdu/Sindhi/English and unable to identify numbers from 1-9 in arithmetic

² ibid

³ Advance numeracy skills were assessed by posing subtraction (Level 3) and division questions (Level 4).

clear deterioration in arithmetic skills was noticeable in children's assessment scores—where 9% of children were at beginner level reported by ASER 21, compared with 24% reported by this study. The learning losses in Arithmetic ranged from 4% to 8% for boys while for girls, the learning levels remained the same for Sanghar and Umerkot, however a decrease was observed in Badin (9%) and Dadu (7%).

Recommendations:

The recommendations derived from the study to address the impact of climate change on education include first and foremost steering towards a climate change resilient education system sufficiently prepared to ensure continuity of education during disasters. A key aspect of which is **Preemptive Planning for education in emergencies** to address the challenges caused by successive climate change induced disasters such as floods, heatwaves, droughts. These include:

Improved Preparedness:

- Integrating disaster management authorities to develop district wide Local Adaptation Plans of Actions (LAPA) to plan for disasters to ensure continuity of education. District, provincial, and federal governments must take greater ownership and act urgently in tackling climate change issues in the education sector. Different levels of ownership will ensure context specific disaster management plans with an inclusive approach reaching out to communities to build capacity and resilience. Government policies shift focus on building climate-resilient school buildings to minimize damage from natural disasters such as floods. Planning to include key stakeholders from civil society and private sector for cross share of learning and adopting best practices.
- Capacity building of key education personnel at provincial and district levels on Local Adaptation Plans of Actions (LAPA) and implementing and institutionalizing existing policies such as the School Safety Framework to prevent and counter effects of disasters on education service delivery coupled with monitoring mechanisms at district and school levels to understand extent to which policy implementation materialized.

Improved Responsiveness:

- Identify and engage communities to improve collaboration between education departments, schools, and communities including the school management parent teacher committees. Teachers and Headteachers receive training for managing continuity of learning during disasters. Ensure key stakeholders and post bearers take increased responsibility and ownership of providing education services on an urgent basis. Benefit from private public partnership modalities to improve responsiveness. Form special groups of climate change student volunteers at school levels, train those in life saving skills to support communities in times of need.

Learning Continuity:

- Customize workplans/Scheme of Studies and bridging courses for varied disasters to ensure learning continuity during disasters and include climate change as subject in syllabus as a topic. In addition, plan to conduct standardized diagnostic assessments across impacted districts to gauge the level of learning loss and initiating remedial classes to assist children in reaching their grade levels and plan remedial support accordingly.
- Where possible, alternative yet feasible and context specific education delivery modalities and learning methods to include the use of technology to conduct classes

during school closures. A more concentrated effort to include technological infrastructure in schools can prove to be beneficial during disasters with lower impact areas.

- The strategies employed by private schools and NGOs during school closures such as teaching in groups, diagnostic assessments and remedial classes can be used as a framework for future policy making. Collaboration at policy making level is required to use successful strategies from private sector schools and NGOs to adopt and scale up in formal government education system reflecting in policies and financial allocations.

By implementing these recommendations, educational authorities and policymakers can work towards a more climate-resilient and adaptive education system, ensuring the continuity of learning and the well-being of students and staff amidst climate-related challenges.

Acknowledgements

AASA Consulting is pleased to present the findings from the study on 'Assessing the impact of COVID-19 and Climate Change (Floods, Heatwaves and Droughts) on learning losses at the school level' in the districts of Sanghar, Dadu, Badin, and Umerkot districts in Sindh province, (Sindh) Pakistan. This study also aimed to examine the effectiveness of measures taken to ensure learning continuity, and to identify gaps in institutional support for teachers in the face of climate change. In March 2023, AASA Consulting was engaged by the International Rescue Committee (IRC) to undertake a mixed-methods nationwide study to gauge the impacts of COVID-19 and climate change on teachers and students in the targeted districts.

Across Pakistan, effects of the ongoing COVID-19 pandemic and climate change (particularly the Floods of 2022) have been devastating, with economic distress, disruptions in service delivery, rising inflation, and multiple deaths. Education, in particular, has been adversely affected by long periods of school closure, limited access of the poor to alternative learning opportunities, and their inadequacy where they are available. Even before the pandemic, Pakistan's education system faced substantial challenges in access, quality, and management, with high numbers of out-of-school children.

I am pleased to state that the report offers key insights and holistic findings on the impact of COVID-19 and Climate Change on the socioeconomic conditions of households in targeted districts and impacts pertaining to the education sector, with respect to accessibility, quality, access to digital services, mitigation measures and finally, the role of government stakeholders, civil society organizations and private sector. This study provides the way forward for practitioners to design and develop interventions to improve access to education and strengthen continuity of learning.

This study would not have been possible without the support of the School Education & Literacy Department (SELD), Government of Sindh (Go's), which formally acknowledged and supported the study, and facilitated the data collection phase by apprising District Education Offices. The insights received during in-depth interviews with representatives from Public Private Partnership (PPP) Node, SELD GoS, Directorate of Climate Change, The Citizens Foundation, and USAID have contributed to the quality and comprehensiveness of this report.

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Thank you,

Zohair Ashir
Chief Executive

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Acronyms

ASER	Annual Status of Education Report
DEO	District Education Officers
FJWU	Fatima Jinnah Women University
GoS	Government of Sindh
IDIs	In-depth interviews
IRC	International Rescue Committee
KII	Key Informant Interviews
KP	Khyber Pakhtunkhwa
NGO	Non-Governmental Organizations
OOSC	out-of-school children
PTV	Pakistan Television Corporation
PSUs	Primary Sampling Units
PPS	Probability Proportional Size
PPP	Public Private Partnership
SELD	School Education & Literacy Department
SSU	Secondary Sampling Units
SED	Sindh Education Department
SOPs	Standard Operating Procedures
TCF	The Citizen's Foundation
IOM	The International Organization of Migration
IPEMC	the Inter-Provincial Education Ministers Conference
MoFEPT	The Ministry of Federal Education and Professional Training
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme

1.0 Introduction

In March 2023, the International Rescue Committee (IRC) commissioned the study to gauge the Impact of COVID-19 and Climate Change (Floods, Heatwaves and Droughts) on the learning setbacks experienced by children of primary and elementary school going age, specifically in districts Dadu, Badin, Umerkot, and Sanghar in Sindh province. The document concludes by providing key takeaways and the way forward for future interventions to improve access to education, continuity and quality during such calamities. The study findings will inform stakeholders and aid planning and decision making to work towards creating a climate resilient education system. This report presents impact of climate change on children's learning in the backdrop of gender, socio-economic status, access to resources, and stakeholder support in shaping educational outcomes aims to explore and reveal the impact of these key determinants, highlighting their significance to students' educational journeys.

1.1 Background and Rationale

This study aimed to assess learning losses resulting from two major and consecutive disastrous events: the COVID-19 pandemic and the impacts of climate change (floods, heatwaves and droughts), specifically the floods in 2022 (Floods 2022), in Pakistan.

The COVID-19 pandemic led to the prolonged closure of schools, spanning from mid-March 2020 to March 2022, which disrupted learning for children nationwide for approximately 64 weeks. Simultaneously, climate change impacts, particularly floods, caused significant damage to infrastructure, resulting in the destruction of around 27,000 schools and schools' closures for approximately 2 months spanning from August 2022 to September 2022. This calamity further intensified the disruption of educational activities since August 2022, affecting approximately 2 million children across Pakistan.

In the aftermath of these catastrophic events, the IRC recognized the urgent need to measure the learning losses suffered by children. By quantifying the impact of school closures, damaged infrastructure, and the loss of educational resources, this study aims to provide valuable insights into the magnitude of the challenges faced by students, teachers, and school administrations.

Mixed method approach was employed for data collection that included household surveys, learning assessments, in-depth interviews, and consultative meetings with government officials, development partners, and donors. Through these comprehensive data collection efforts, the study presents a holistic understanding of the educational landscape, analyzed factors inhibiting improved education planning and implementation during disasters, and assess the needs of students, teachers, and school administrations in their effort to continue education while facing the impacts of floods and the pandemic. The study aims to contribute to the broader discourse on educational programming and policymaking. Ultimately, the insights gained from this research will assist in formulating strategies that minimize the negative impact of climate change on teaching and learning processes, ensure inclusive access to education, and provide effective support systems for students and teachers in times of crisis.

1.2 Study Objective

The overall objective of the assignment is to assess the impact on learning outcomes of children enrolled in schools due to COVID-19 and climate change-induced school closures. The study focuses on the supply and demand-side aspects of education and the effectiveness of measures taken to ensure learning continuity. It also aims to identify gaps in institutional support to teachers and proposes actions for government and other actors to reduce/mitigate the impact of such calamities.

Exhibit 1.2.1: Study Objectives

Objective 1

Measure cumulative learning losses to gauge the impact of COVID-19 and climate change disaggregated by girls and boys, by socio-economic status, by disability, by displacement and by district.

Objective 2

Identify the status of different outcomes post-COVID-19, and the degree to which those outcomes vary for populations that have been differently affected by crises such as COVID-19 and the floods/heatwaves/droughts.

Objective 3

Identify gaps in institutional support to teachers for continuity of education, either through alternate teaching and learning methods (including innovative and conventional), or any other temporary arrangements to address the disruptions that have happened due to climate change.

Objective 4

Identify gaps in policy by analyzing policies and proposing actions for government and other actors to mitigate the impact of climate change on education.

The services of AASA Consulting were engaged to undertake key activities in consultation with an Institutional Review Board and the project team from IRC, to meet the objectives of the study and address the scope of work. The stepwise approach towards the study is mentioned below:

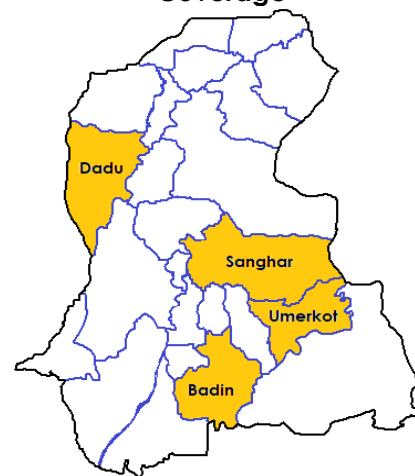
- a. Development of a research design that effectively addresses the study scope, and an implementation strategy for the successful completion of the assignment.
- b. Conducting a comprehensive review of the literature and gathering data from secondary sources from the past 3-5 years, reviewing publications, situational analysis, and needs assessment reports published.
- c. Determination of a sampling strategy and sample frame for selecting sample districts and administration of surveys and IDIs under the study.
- d. Reviewing and adapting published survey questionnaires for primary research.
- e. Hiring and training of field personnel responsible for primary data collection.
- f. Conducting field research and administrating data collection.
- g. Monitoring of field data collection and quality assurance (including simultaneous monitoring of progress and results).

h. Data analysis, submission of study report and recommendations.

1.3 Geographic Coverage

The study covered the following districts: Sanghar, Dadu, Badin being affected by recent floods and Umerkot experiencing severe drought since last many years. These districts are a geographically representative sample of the province of Sindh.

Exhibit 1.3.1: Geographic Coverage



1.4 Survey Approach and Methodology

The Annual Status of Education (ASER) Learning Losses Report 2021 research methodology and research instruments were adapted, in consultation with IRC team, to meet the requirements of the current study.

The primary research planned under the study aims to assess the students' numeracy and literacy skills (English, Urdu, Sindhi) and determine the extent to which these were impacted by school closures and disruption in education due to COVID-19 and climate change (droughts, heatwaves, and floods). Additionally, sample-based household surveys and in-depth interviews (IDIs) with public and private school head teachers, government officials at the provincial and district level), donors and civil society organizations.

Exhibit 1.4.1: Study Population and Survey Approach

Target Population	Survey Approach
Group 1: Primary and secondary school-going age students	Standardized Learning Tests at the Household Level
Group 2: Primary and secondary school-going age students' parents/caregivers	Face-to-Face Household Surveys
Group 3: Government and private (low-cost) primary and secondary school administration/school head teachers	In-Depth Interviews
Group 4: Government education department official (provincial and district levels), Civil Society Organizations and Donors	IDI's/ Consultative Meetings

1.5 Study Design & Sample Size

Village Profile & Household Survey

In line with the Learning Losses Study Methodology 2021 employed by ASER, a two-stage sample design is adopted. This sampling methodology entailed selection of Primary Selection Units (PSUs), in this case villages (First Stage) followed by the selection of households from each selected village (Second Stage). The two-stage random sampling design is further detailed below:

- First Stage (Primary Sampling Unit): 30 villages are selected using the 2017 census directory. (Annexure 1)
- Second Stage (Secondary Sampling Unit): 20 households form each of the 30 selected villages

The sampling frame for this study is developed using the village list from the Population Census 2017 based on the total number of households and the total population of each village. Sample primary sampling units (PSUs)⁴ are selected using the PPS (Probability Proportional Size) method. The PPS is a widely used standard sampling technique and is often employed when the sampling units are of different sizes. In this particular case, the sampling units are the villages. Within these selected PSUs, 20 households were selected by dividing the village in four parts and starting from a central location and selecting five households from each quadrant using the left-hand walk rule, which entails visiting every 5th dwelling from the left-hand side in the habitation (e.g. 5th house, 10th house, 15th house, etc.) as per the methodology in ASER's 2021 Report.

During the ASER 2021 survey, which was conducted following a similar methodology, including the same number of PSUs, it was found that the primary sampling units (PSUs) were considered sufficient to produce reliable estimates with a 5 percent margin of error at a 95 percent confidence level.

Exhibit 1.5.1: Proposed Numbers for Household Survey

Targeted Districts	Sample Locations Per District (Rural Blocks – PSUs)	Sample Households Per District
Badin	30	600
Dadu	30	600
Sanghar	30	600
Umer Kot	30	600
Sub-total	120	2400

School Survey & Head Teacher Interview

From each sample PSU, survey of any one (1) public / private school from class 1 till 8 is recommended, using a structured questionnaire. This school is selected using simple random sampling. Out of these 120 schools, 90 public and 30 private schools were targeted. Hence, for each district, 24 public schools and 6 low-cost private schools were to be surveyed.

Exhibit 1.5.2: Sample Size for School Surveys and IDIs with School Head Teachers

Province	Targeted Districts	No. of School Surveys	No. of IDIs with School Head Teachers
Sindh	Badin	30	30
	Dadu	30	30
	Sanghar	30	30
	Umer Kot	30	30
	Total	120	120

In-depth Interviews (IDIs)

Around 13 in-depth interviews are proposed for the study which are further distributed between, provincial education department, district education department, donors and civil society organizations.

⁴ <https://onlinelibrary.wiley.com/doi/10.1002/9781118445112.stat03346>

Exhibit 1.5.3: Sample Size Proposed for IDIs with Government and Policy Stakeholders

Province	Targeted Districts	No. of IDIs/Meetings with District Education Department Officers (DEOs)	No. of IDIs/Meetings with Provincial Department Officials/Sindh Education Foundation	No. of IDIs/Meetings with Donors	No. of IDIs/Meetings with NGOs
Sindh	Badin	01			
	Dadu	01			
	Sanghar	01	05	03	01
	Umer Kot	01			
	Total	04	05	03	01

1.6 Data Collection Phase

Village Profile

Village profiles included preparing a village map to understand the village structure and facilitate identification of four quadrants for household selection. The approved tool was used for data collection from 120 villages across four targeted districts (Annexure 2, Tool 1).

Household Survey and Standardized Learning Test

In each village, 20 households were selected, five from each quadrant, covering a total of 2400 households, spread across four districts. A face-to-face structured household questionnaire was administered with any knowledgeable elder or head of the household. Details of all children aged 3 to 16 years old, residing in the sample households were taken. However, children aged 5 to 16 years were engaged for the learning assessment portion of the survey. The assessments were carried out in the presence of an elder and a visible place inside the house. The assessments were carried out for children irrespective of the type of educational institution they attended (government or non-government). (Annexure 2, Tool 2)

School Surveys & Head Teacher Interviews

In each school, the head teacher/senior teacher was interviewed using a semi-structured questionnaire and school observation checklist to collect information about the damages that occurred after the floods, duration of school closures and resumption of classes, available facilities to children, student enrollment and attendance, student dropout and return to school, teachers' attendance problems faced during the recent floods, lessons learned and preparedness to face future calamities. (Annexure 2, Tool 3 and 4)

In-depth Interviews (IDIs)

Education department officials and representatives at the provincial and district level were interviewed to gain perspective on COVID-19-related disruptions and how they were exacerbated by climate change (droughts, heatwaves, and floods) in the education sector. They were asked about departmental limitations that hindered improved planning and implementation, as well as the response to the needs of students, teachers, and school administrations in facing the impacts of floods. Key Non-Governmental Organization (NGO) /Civil Society actors and representatives from the donor sector were also consulted as they played an important role in sustaining the education systems of the country at various levels. We have managed to reach out to representatives of the provincial education department, District Education Officers (DEO), Sindh Climate Change Department, USAID and The Citizens Foundation (TCF). (Annexure 2, Tool 5 to 11)

1.7 Institutional Review Boards Clearance and Ethical Standards Compliance

An independent review was also solicited from Fatima Jinnah Women University (FJWU) on the overall study design and tools, to ensure ethical compliance. The clearance certificate was received for the study and it was approved by the FJWU Ethics Committee after a detailed review. (Annexure 3)

During the execution of the study, careful consideration was given to adhering to ethical principles, such as integrity and respect for the dignity and privacy of all research participants. Informed verbal consent was taken from all participants before the start of data collection. Participation from respondents in the study was entirely voluntary and they were informed of this in advance. Research subjects were not obligated to participate if they did not wish to do so. The data collection teams made sure that study subjects were fully informed about the research objectives, information required, and usage. Due to the confidentiality of research participants, their names are not included in the report.

1.8 Limitations and Challenges of the Study

- a. The study was conducted during the month of June, which coincided with the summer vacations, resulting in the closure of the majority of schools. Consequently, gathering present-day data and obtaining teaching-related information became challenging due to the absence of teaching staff and students in accessible schools.
- b. While government schools remained operational even without staff and students present, accessing private schools proved to be more difficult. As a result, the survey conducted in this study had a limited number of private schools included. Out of the 24 sample private schools, 18 were included in the survey.
- c. Gathering information regarding school attendance proved to be a challenge because not every teacher had their attendance records updated.
- d. Obtaining information regarding funds from Head teachers posed a significant challenge. Many of them displayed hesitancy, and a majority refused to provide the requested information, thereby limiting the availability of comprehensive data.
- e. Even if the Head Teacher being surveyed was contacted a day prior to the survey, they would not show up to the school, or they would make the enumerators wait for long periods of time, which in turn impacted their plan for the day.
- f. Scheduling interviews with the District Education Officers proved to be a demanding task, as their permission was crucial prior to initiating field work. Delays in obtaining their approval subsequently led to delays in the overall progress of the field work.

2.0 Review of the Literature

The AASA Consulting project team reviewed existing literature to build an in-depth understanding of the studies undertaken to gauge the impact of the COVID-19 pandemic and climate change on the education sector and stakeholders, particularly in Pakistan. The exercise also aimed to map the gender profile in regard to education at the primary and elementary school level and gaps in educational accessibility and attainment (via assessments) before and during the COVID-19 crisis in the education sector. The findings of this exercise are presented below.

Two major calamities have struck Pakistan over the past two years. First, the COVID-19 pandemic that caused global lockdowns and brought the global economy to a virtual standstill. Second, the devastating floods that destroyed infrastructure and displaced over 30 million people⁵, causing losses that will continue to have effects on every aspect of Pakistan's development and economy over the coming months and years. In regard to COVID-19, there were over 1.5 million confirmed cases and over 30,000 deaths recorded in Pakistan as of August 2023⁶. During this time periodic school closures were carried out to prevent further spread of infection and were enforced by the government. The closures began with the province of Sindh on February 27, 2020, and thereafter the rest of the country from March 14, 2020.⁷ Over 42 million school-going children from pre-primary and primary to higher secondary levels nationwide were affected, primarily negatively, by these closures⁸, with over 14 million school-going children being in Sindh⁹. After some delay, schools were opened officially in January 2022.

Access to Education and Challenges Faced During the Pandemic

Even before the COVID-19 pandemic struck Pakistan, the country faced severe challenges in ensuring access to education for school-age children despite the promulgation of Article 25-A. Right to Education. The country had the second highest number (22.8 million) of out-of-school children (OOSC) in the world pre-pandemic, out of which 53% were girls and 47% were boys¹⁰.

Student enrollment, particularly at the post-primary level, was concerning. According to the Pakistan Education Statistics Report 2020-2021, completion rates for students in primary schools have improved, with students in Sindh successfully transitioning from Middle School to Secondary School at a rate of 100 percent for male students and 99 percent for female students. However, the rate is lower for Primary to Middle School students, with a rate of 66 percent for female students and a higher but still not ideal rate of 72 percent for male students¹¹. Lower enrollment levels were recorded for girls than boys in Sindh, up to high school – Sindh enrollment levels are illustrated in Exhibit 1¹². The above statistics suggest a concerning pattern owing to systemic, capacity and quality issues, that affect students more as they progress further in their education. These are found at the administrative, curriculum and infrastructural level¹³. Girls are also more likely to be affected by the barriers

⁵ Saavedra, J. (2022). Pakistan's Floods are Deepening its Learning Crisis. The World Bank. Archive available online at: <https://blogs.worldbank.org/endpovertyinsouthasia/pakistans-floods-are-deepening-its-learning-crisis>

⁶ World Health Organization Emergency Dashboard, available at: <https://covid19.who.int/region/emro/country/pk>

⁷ Government of Pakistan, Finance Division (2021). Pakistan Economic Survey 2020-2021. Archive available online at: https://www.finance.gov.pk/survey_2021.html

⁸ Ibid

⁹ Pak Alliance for Maths and Science. (2021). The missing third: an out of school study of Pakistani 5-16 year olds Islamabad: Pak Alliance for Maths and Science. Archive available online at: https://mathsandscience.pk/wp-content/uploads/2021/09/TheMissingThird_OOSCSStudy_PAMS-2.pdf

¹⁰ Academy of Educational Planning and Management (2021). Pakistan Educational Statistics: 2016-2017. National Education Management Information System. Archive available online at: <http://library.aepam.edu.pk/Books/Pakistan%20Education%20Statistics%202016-17.pdf>

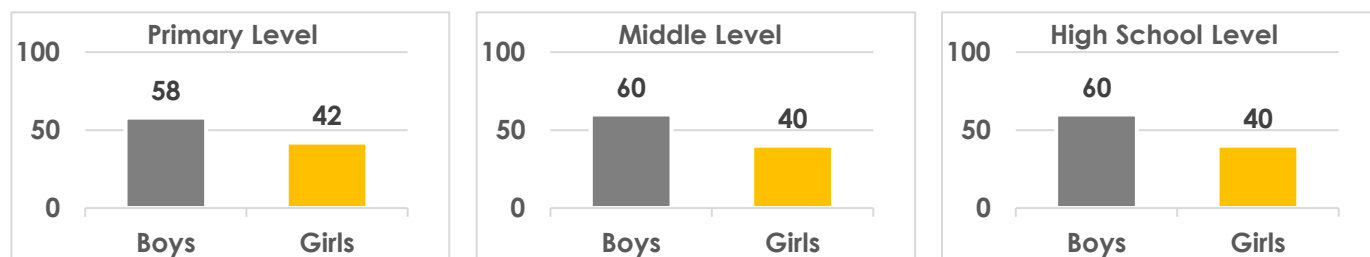
¹¹ Academy of Educational Planning and Management (2023). Pakistan Educational Statistics: 2020-2021. National Education Management Information System. Archive available online at: <http://library.aepam.edu.pk/Books/Pakistan%20Education%20Statistics%202020-21.pdf>

¹² Ibid

¹³ Khoso, Z. A (2019). An Evaluation of Sindh Schools Education System: Problems and Possibilities.

created by this system, due to a variety of factors that need to be addressed if Sindh is to reach the goal of gender equality and universal education for its citizens¹⁴.

Exhibit 2.1: Enrollment Level of Children by Gender and School Levels in Sindh



Source: Pakistan Education Statistics 2020 – 2021

Due to the onset of the COVID-19 pandemic, studies showed that many of the students affected by school closures did not return to school after the reopening of educational institutions, with a rate of 15% drop outs in Sindh per the ASER 2020-21 report¹⁵. It was initially estimated that the percentage of out-of-school children would increase by 4.2%, indicating an additional dropout of 930,000 children from both primary and secondary education¹⁶. However, there was an increase in the dropout ratio of children, particularly in the adolescent age group than initially suggested, with about 10% of adolescent students not returning to school by June 2021¹⁷. The Government of Sindh reported learning losses and lower enrollment post-pandemic as well, citing it as a serious problem in need of addressing through government intervention¹⁸. Gender disparities were evident. In this case, more adolescent boys dropped out of school than adolescent girls¹⁹.

In 2015-2016, 24.3% of Pakistan's population lived below the poverty line. Keeping the spread of the pandemic in perspective, almost 44% of the population is still potentially vulnerable (including 24.3% already living below the poverty line) due to loss of employment and business closures.²⁰ High poverty levels led families to push their children, particularly boys, into labor, who have more opportunities to generate income for families²¹. Girls were restricted to indoor activities primarily occupied with household responsibilities due to societal constraints and parental attitudes²². Geographically, rural areas and urban slums were potentially at the highest risk, with more than 70% of current enrollment and large pockets of already out-of-school children²³. Hence, the COVID-19 crisis widened the already existing socioeconomic gap in the educational system and impacted the overall literacy rate of the country²⁴, particularly, if parents were unable to send the children back to school because of financial needs.

Advances in Social Sciences Research Journal, 6(3) 207-214.

¹⁴ Sindh Education Foundation, Government of Sindh. (2020). Issues of Girls' Education in Sindh. Sindh Education Foundation, Government of Sindh. Archive available online at: https://www.sef.edu.pk/wp-content/uploads/2022/06/Issues-of-Girls-Education-in-Sindh-26-10-2021_compressed.pdf

¹⁵ Annual Status of Education Report (ASER) Pakistan. ASER Pakistan 2021. Idara-e-Taleem-o-Aagahi. Archive available online at: https://aserpakistan.org/document/aser/2021/reports/national/ASER_report_National_2021.pdf

¹⁶ Geven, K (2020). Learning Losses in Pakistan due to COVID-19 School Closures. World Bank. Archive available online at: <https://openknowledge.worldbank.org/bitstream/handle/10986/34659/Learning-Losses-in-Pakistan-Due-to-COVID-19-School-Closures-A-Technical-Note-on-Simulation-Results.pdf?sequence=1&isAllowed=y>

¹⁷ The World Bank. (2022). Impact of COVID-19 on adolescents' learning and enrollment in Punjab, Pakistan: Insights from SMS Girl Data. The World Bank. Archive available online at: <https://www.worldbank.org/en/news/feature/2022/02/09/impact-of-covid-19-on-adolescents-learning-and-enrollment-in-punjab-pakistan-insights-from-sms-girl-data>

¹⁸ The Government of Sindh (2021). COVID-19: MACROECONOMIC AND SOCIAL IMPACT AND FRAMEWORK FOR DEVELOPMENT RESPONSE IN SINDH. The Government of Sindh. Archive available online at: <https://rtw.sindh.gov.pk/storage/resourcePage/Zzt4fUux6Tt3s9qsgV0Po4LZcSzlFwVC2CqjAt.pdf>

¹⁹ ibid

²⁰ Government of Pakistan, Finance Division (2021). Pakistan Economic Survey 2020-2021. Archive available online at: https://www.finance.gov.pk/survey_2021.html

²¹ ibid

²² United Nations International Children's Emergency Fund (UNICEF) (2021). Pakistan Case Study Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Asia. UNICEF, UNESCO. Archive available online at:

<https://www.unicef.org/pakistan/media/4011/file/UNESCO%20and%20UNICEF%20Education%20Case%20Study.pdf>

²³ Government of Pakistan, Finance Division (2021). Pakistan Economic Survey 2020-2021. Archive available online at: https://www.finance.gov.pk/survey_2021.html

²⁴ ibid

Disruption in Education Delivery and Access to Alternative Education & Learning

Face to face classroom teaching was substituted by digital/remote learning pedagogies and sources, especially by private schools in city centers. The sudden lockdowns and school closures brought the lack of accountability and other systemic issues of public sector schools to light, particularly in terms of distance learning methods²⁵. For instance, in contrast to private schools, there was no database or mechanism to communicate with parents and students. In some cases, teachers and schools had not contact with students during the lockdown period, with 4 percent youth (14-17 years old) and 9 percent of children (6-13 years old) reporting this issue²⁶.

School-level readiness and responsiveness were not evident. However, the relevant federal and provincial government departments mobilized their resources to tackle these issues. To this end, they developed an inter-provincial strategy for alternative education and then instituted a variety of programs. These programs were also multi-faceted, for continuation of learning. The federal response was the Tele School initiative, in collaboration with EdTech providers to create a Television-based initiative for grades 1-12. There was also a Radio School initiative started the following December to expand coverage²⁷. Punjab had its own program for TV-based learning, called Taleem Ghar. This program also had a website and a mobile app for students with digital access²⁸. Similarly, WhatsApp groups were created through which audio lectures and homework were sent. In Sindh and Punjab, Departments of Education partnered with education technology providers like Microsoft, for using their Learning Environments as well as creating web-based lesson portals with content available in English, Urdu and the local languages.

These platforms required access to technology (TV, phone, computer, radio), which proved to be a burden for many learners. As per a report by the International Rescue Committee, "Access to internet for school children is 18% in Baluchistan, 9% in Punjab, 6% in Sindh, and none in KP. Access to TV is 52% in KP, 64% in Punjab, 39% in Sindh and 25% in Baluchistan." As per information from the Pakistan Telecommunications Authority, only one million school-age children are able to access digital devices and bandwidth on a consistent basis²⁹. These numbers are extremely low given that much of the education delivery strategies adopted by schools and the government were technology-based, i.e., TV and digital³⁰. The quality of the Tele School content varied according to education experts, which suggests a variety of outcomes for children who used it³¹. Added to this, the uptake of the TV programs was inconsistent, per a study in Punjab and declined over time. Overall, the adoption of TV and online methods also declined³². The lack of students who could avail these options means there was a lack of continuity in learning if the majority of resources went to tech-driven solutions. Those living in rural areas or struggling with poverty were and still are the most underrepresented in the groups capable of accessing and affording digital

²⁵ United Nations International Children's Emergency Fund (UNICEF) (2021). Brief on Learning Continuity Amidst COVID-19 School Closures in Pakistan. UNICEF Archive available online at:

<https://www.unicef.org/pakistan/media/3761/file/Pakistan%20Brief%20on%20learning%20continuity%20amidst%20COVID19.pdf>

²⁶ ibid

²⁷ Ejaz, N. (2021). COVID-19 spurs big changes in Pakistan's education. The World Bank. Archive available online at:

<https://blogs.worldbank.org/endpovertyinsouthasia/covid-19-spurs-big-changes-pakistans-education>

²⁸ The World Bank (2021). Thinking Inside the 'Box': Pakistan Turns to Education TV During COVID-19. The World Bank. Archive available online at:

<https://www.worldbank.org/en/news/feature/2021/05/19/pakistan-turns-to-education-tv>

²⁹ United Nations International Children's Emergency Fund (UNICEF) (2021). Pakistan Case Study Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Asia. UNICEF, UNESCO. Archive available online at:

<https://www.unicef.org/pakistan/media/4011/file/UNESCO%20and%20UNICEF%20Education%20Case%20Study.pdf>

³⁰ International Rescue Committee, Pakistan (2020). COVID-19 Rapid Need Assessment. International Rescue Committee. Archive available online at:

<http://resourcecenter.nhnpakistan.org/humanitarianUpdates/2020/ingos/irc/COVID-19-Rapid-Need-Assessment-Report-by-IRC-Pakistan.pdf>

³¹ George, S (2020). In the world's fifth most-populous country, distance learning is a single television channel. The Washington Post. Archive available online at: https://www.washingtonpost.com/world/asia_pacific/pakistan-coronavirus-education-teleschool/2020/05/18/9ee159a8-8eee-11ea-9322-a29e75effc93_story.html

³² The World Bank (2021). Thinking Inside the 'Box': Pakistan Turns to Education TV During COVID-19. The World Bank. Archive available online at:

<https://www.worldbank.org/en/news/feature/2021/05/19/pakistan-turns-to-education-tv>

services, making them the most vulnerable³³. A further report by UNICEF showed that 31 percent of children (6-13 years old) and 32 percent of youth (14-17 years old) had no access to technology³⁴. There were programs aimed at helping children access distance learning content, but as shown by the preceding information, several children were still unable to gain access during the COVID-19 pandemic³⁵.

Due to what is known as the 'gender digital divide', there was a difference in the number of girls versus the number of boys in terms of access to digital educational content. Girls and women were less likely to have access to internet-enabled devices. There are restrictions placed on girls by their families, often their parents³⁶, due to harmful cultural norms, which made it difficult for women to access digital services. Girls were monitored and their digital time was reduced in a way that it was not for boys (who were able to access smartphones more often and for longer periods of time, with no supervision from their parents), out of various concerns (such as fear of girls talking to boys on the phone without their parents' knowledge or permission)³⁷.

There was also a clear divide between rural and urban students in terms of technological access³⁸. In urban areas, 26% of youth and 25% of children cite a lack of access to technology as a barrier to learning. In contrast, 34% of youth in rural areas and 34% of children in rural areas considered lack of access to technology a barrier³⁹. This did not consider the type and quality of technology and services they were accessing, which may also differ from place to place. Added to this, the numbers for girls are lower, making them even more vulnerable in these areas. Female teachers also had increased stress due to lack of confidence in their digital skills⁴⁰. Students who could access online learning faced issues with managing the workload, feeling strained (particularly their eyes) due to the difference in using technology and general dissatisfaction with digital learning methods⁴¹.

An additional challenge created by the shift to online and TV learning was the reduction of the curriculum. English, mathematics, and sciences were given primary importance for Tele School, as these subjects were the ones that appear in the examination's students have to take to show proficiency⁴². This cut down on a variety of subjects, leading to further learning loss.

After four months of COVID affecting Pakistan, the World Bank stated that they, "expect that the four months of school closures during the pandemic could reduce Learning Adjusted Years of Schooling for Pakistan back to 4.8 years. It is also estimated that 79% of children will not learn to read by age 10, up from 75 percent last year. Remote learning has not been able to make up for this long-standing deficit." Which could cause a reversal of

³³ Rodriguez, M. (2020) Remote learning during the global school lockdown: multi-country lessons. The World Bank. Archive available online at: <https://documents1.worldbank.org/curated/en/668741627975171644/pdf/Remote-Learning-During-the-Global-School-Lockdown-Multi-Country-Lessons.pdf>

³⁴ United Nations International Children's Emergency Fund (UNICEF) (2021). Brief on Learning Continuity Amidst COVID-19 School Closures in Pakistan. UNICEF Archive available online at: <https://www.unicef.org/pakistan/media/3761/file/Pakistan%20Brief%20on%20learning%20continuity%20amidst%20COVID19.pdf>

³⁵ Sindh Education Non-State Actors Programme (2021). Lessons learned: COVID-19 education response for non-formal education in Sindh, Pakistan. Oxford Policy Management. Archive available online at: <https://www.opml.co.uk/files/Publications/a2758-supporting-primary-education-sindh-sensa/opm-sensa-lessons-learned-report-web.pdf?noredirect=1>

³⁶ UNESCO (2021). When schools shut: gendered impacts of COVID-19 school closures. UNESCO. Archive available online at: <https://unesdoc.unesco.org/ark:/48223/pf0000379270>

³⁷ ibid

³⁸ ibid

³⁹ ibid

⁴⁰ UNESCO (2021). When schools shut: gendered impacts of COVID-19 school closures. UNESCO. Archive available online at: <https://unesdoc.unesco.org/ark:/48223/pf0000379270>

⁴¹ Ullah, A. (2021). Challenges of online learning during the COVID-19 pandemic encountered by students in Pakistan. Journal of Pedagogical Sociology and Psychology. Archive available online at: <https://www.j-psp.com/article/challenges-of-online-learning-during-the-covid-19-pandemic-encountered-by-students-in-pakistan-9714>

⁴² Rodriguez, M. (2020) Remote learning during the global school lockdown: multi-country lessons. The World Bank. Archive available online at: <https://documents1.worldbank.org/curated/en/668741627975171644/pdf/Remote-Learning-During-the-Global-School-Lockdown-Multi-Country-Lessons.pdf>

gains made in the years before the pandemic⁴³. In another study, it was found that only 10% of 3rd Grade students could solve two-digit division in 2021, down from 17% in an earlier assessment⁴⁴. Within the ASER Report 2021, the levels of learning attainment were low in Sindh in 2019, before either the pandemic or floods, with Urdu/Sindhi Learning levels at 32%, Arithmetic at 31.1% and English at 22.71%, all of which are extremely low and were later seen to have declined in the case of local languages and Arithmetic, staying roughly the same for English⁴⁵.

School Closures and Distance Education During COVID-19 Impact on Teachers and Students

Studies that focused on COVID-19-induced workload on teachers and its mental toll were found, specifically in the context of their teaching duties and any associated work. The studies found were not segregated by gender but did survey teachers on the psychological toll of the pandemic and specific concerns and challenges they encountered due to its many effects^{46,47}.

The studies in Pakistan and internationally that have been conducted show that teachers found it difficult to adapt to the new realities created by school closures. Many found it difficult to adjust to the lack of online teaching infrastructure, adding stress and in some cases, loss of student motivation. Their workload also increased for this reason, which caused them added stress^{48,49}.

Regarding the effect of COVID-19, the 2019 Annual Status of Education Report (ASER) showed clear learning deficits. Only 57 percent of fifth grade students could solve a 2-digit division problem, and only 59 percent could read a story in Urdu/Sindhi/Pashto. The poorest and wealthiest quantiles had a gap, with wealthier quantiles having better outcomes. In terms of gender, boys had higher levels of attainment than girls, in literacy as well as numeracy⁵⁰. Per the ASER Report (2021), the levels of learning attainment were already low in Sindh in 2019, and losses were seen in local languages (Urdu/Sindhi) and Arithmetic by 2021, with 2% decrease in both⁵¹.

Added to this, many teachers also identified problems such as lack of administrative support from their institutions, breaks between online teaching sessions and digital facilities such as laptops, adequate internet connections and general infrastructure. This was a problem for both, teachers and students, along with added distractions from being at home instead of in a classroom⁵². Teachers were also found to be dealing with the existing demands of household work, which created added strain on them, that affected their outcomes in terms of effectiveness and satisfaction⁵³.

⁴³ United Nations International Children's Emergency Fund (UNICEF) (2021). Brief on Learning Continuity Amidst COVID-19 School Closures in Pakistan. UNICEF Archive available online at:

<https://www.unicef.org/pakistan/media/3761/file/Pakistan%20Brief%20on%20learning%20continuity%20amidst%20COVID19.pdf>

⁴⁴ Maken, Z. (2022) Diagnostics for Remediation: an assessment of learning losses due to COVID-19 in Pakistan. *Pak Alliance for Maths and Science*. Archive available online at: https://secureservercdn.net/160.153.137.218/q0f.da1.myftpupload.com/wp-content/uploads/2022/03/PB_Diagnostics-1.pdf

⁴⁵ Ibid.

⁴⁶ Abid, T (2021). Online Teaching Experience during the COVID-19 in Pakistan: Pedagogy–Technology Balance and Student Engagement. *Fudan Journal of the Humanities and Social Sciences*. Archive available online at: <https://link.springer.com/article/10.1007/s40647-021-00325-7>

⁴⁷ Iqbal, S (2022). Students' Perceptions and Experiences of Online Education in Pakaseristani Universities and Higher Education Institutes during COVID-19. *Journal of Education Sciences*. Archive available online at: <https://www.mdpi.com/2227-7102/12/3/166/htm>

⁴⁸ Abid, T (2021). Online Teaching Experience during the COVID-19 in Pakistan: Pedagogy–Technology Balance and Student Engagement. *Fudan Journal of the Humanities and Social Sciences*. Archive available online at: <https://link.springer.com/article/10.1007/s40647-021-00325-7>

⁴⁹ Iqbal, S (2022). Students' Perceptions and Experiences of Online Education in Pakaseristani Universities and Higher Education Institutes during COVID-19. *Journal of Education Sciences*. Archive available online at: <https://www.mdpi.com/2227-7102/12/3/166/htm>

⁵⁰ ASER (2021). MEASURING THE IMPACT OF COVID-19 ON EDUCATION IN PAKISTAN. Idara-e-Taleem-o-Agahi. Archive available online at: https://aserpakistan.org/document/aser/2021/ASER_2021_Measuring_the_Impact_of_COVID_19_on_Education_in_Pakistan_FINAL_REPORT.pdf

⁵¹ Ibid.

⁵² Choudhary, F. (2020). Teaching through Distance Learning Mode during Pandemic COVID-19: Obstacles and Opportunities. *Sir Syed Journal of Education & Social Research*. Archive available online at: <https://www.sjesr.org.pk/ojs/index.php/ojs/article/view/500/197>

⁵³ Choudhary, F. (2020). Teaching through Distance Learning Mode during Pandemic COVID-19: Obstacles and Opportunities. *Sir Syed Journal of Education & Social Research*. Archive available online at: <https://www.sjesr.org.pk/ojs/index.php/ojs/article/view/500/197>

Teachers also suffered negative psychological effects. Many teachers, particularly those in private schools, also lost their jobs, which caused financial and social concerns. Many were forced to cut back on their spending, including essential services like food and their children's education. Several had to seek other forms of employment⁵⁴. This showed a lack of support for teachers, that could have long-term effects if not rectified.

Further, students were found to have poorer mental health outcomes as a result of the pandemic, with increased rates of stress and depression caused by a variety of factors, including social isolation. A variety of studies showed that this effect was higher for girls across the world, not just in Pakistan. More concerningly, it was found that the stress and depression caused by the lockdowns also adversely affected students' ability to learn effectively and retain the material they were learning³⁸. This indicates that more robust and extensive policies are required to address the mental health issues faced by girls due to the COVID-19 pandemic.

It is our understanding that in the perspective of the pandemic, the needs and vulnerabilities of students and teachers in various dimensions of access to education, participation in distance learning, and capacity to engage with alternative modes of education delivery are complex. It is also critical to note that learners and teachers living in high-poverty areas of the country experience the severity of these disruptions differently based on their socioeconomic status. Further, the unprecedented disruption caused by the many school closures poses an immediate and long-term threat to gender equality and may have pernicious gender-specific effects. Up-to-date, gender-specific research will help provide recommendations in designing a province-based response toward developing a resilient education system that accounts for the complex needs of the students and teachers affected by the COVID-19 pandemic.

School Closures due to Floods 2022

As the threat of COVID-19 subsided, with the advent of vaccines, and schools started opening fully per pre-COVID protocols, another major setback affected Pakistan. Periodic school closures were carried out to prevent further spread of infection due to COVID-19 and were enforced by the government. The closures began with the province of Sindh on February 27, 2020, and thereafter the rest of the country from March 14, 2020.⁵⁵ There were phases of closures depending on the state of Sindh, but all schools were formally reopened by January 2022. Given the nature of the flooding and the destruction of infrastructure and migration that resulted, there is no specific timeline for the flooding crisis and student return to school. However, we do know that the flooding occurred during July and August 2022 and students faced disruptions depending on their vulnerability to the flooding. Several parts of the country were affected by historic flooding during the monsoon season of 2022. The areas affected suffered enormous amounts of damage. One source reported that at least 25,993 schools have been damaged or destroyed in Sindh, Baluchistan, Punjab and KP. Also, over 7,062 schools were converted into relief camps for the populations who lost their homes and shelters due to the floods. This has not only disrupted schooling but will also cause the loss of learning materials and infrastructure, requiring renovations and further investment. The current estimates put the number at over 3.5 million children who are facing interruptions in their education due to the flooding and its effects. Further, learning materials such as books, blackboards and other furniture have also been destroyed, resulting in

⁵⁴ EduFinance (n.d.). THE IMPACT OF COVID-19 ON THE AFFORDABLE NON-STATE SCHOOL SECTOR IN PAKISTAN. EduFinance. Archive available online at: <https://edufinance.org/content/edufinance/latest/Publications/Market%20Knowledge/COVID%20Pakistan%20Brief.pdf>

⁵⁵ Government of Pakistan, Finance Division (2021). Pakistan Economic Survey 2020-2021. Archive available online at: https://www.finance.gov.pk/survey_2021.html

further losses which will need to be addressed⁵⁶. This varied from district to district, more in-depth information on this can be extracted from the IDI's, which can be found in Section 4 of the report.

Furthermore, of the total damage in Pakistan, Sindh suffered the most severe effects, sustaining 79 percent of the total damage to educational infrastructure⁵⁷. According to the World Bank, Sindh suffered extensive damage in terms of education, with 39 percent of all primary and secondary schools suffering damage from flooding in 2022⁵⁸. Sindh Education Minister Syed Sardar Ali Shah reported the damage as extending to roughly 20,602 schools and around 2 million children, who would require about 20,000 tents to continue the learning process during this time. Of these children, 46 percent were girls⁵⁹. Elsewhere, he stated that there were not enough resources to rebuild or repair roughly 20,000 schools, and extended time and assistance would be required to address the situation⁶⁰. In the Pakistan Floods 2022: Post-Disaster Needs Assessment Report, it was estimated that the costs related to education were around USD 918 million⁶¹, of which the largest share will be required in Sindh due to it suffering the brunt of the loss and damages during the floods of 2022. The Sindh government has also announced plans to rebuild 15,000 of these schools, of which over 2,000 have already been rehabilitated through various sources of funding⁶², while tent schools have also been opened by the government⁶³.

Added to this, it has been shown by recent findings from the World Bank, that families where the parents were educated had better outcomes after the flooding. There have been many further effects, as the displacement of people created several needs that will require extensive action to combat. For instance, lack of shelter, sanitation, access to water and a sharp increase in food insecurity. This has also had an impact on the financial ability of parents to send their children to school, as 63 percent of parents who said they may not send their children to school again, said it was due to the costs being prohibitive. Additionally, children's studies were also interrupted, as 72 percent of parents reported that their children were not studying during flood-related closures⁶⁴. As further research is done, more effects will be seen, and the extent of the various issues will be measured.

World Bank's initial calculations suggest that learning losses caused by the flooding could be even worse than those caused by the pandemic, if efficient action is not taken. In the most severe cases, it is projected that Learning Poverty may rise by 5 percentage points due to schooling deprivation caused by loss of infrastructure. In contrast, previous simulations had suggested that COVID-19 school closures may have increased Learning Poverty in Pakistan from 75 percent to 79 percent of children.

Pakistan's Vulnerability to Climate Change

Pakistan is regularly cited as one of the country's most vulnerable to the effects of climate change. In the Global Climate Risk Index Report, released in 2021, Pakistan ranked 8th place

⁵⁶Relief Web (2022). Pakistan Floods: Education Snapshot. Relief Web. Archive available online at: <https://reliefweb.int/report/pakistan/pakistan-floods-education-snapshot-30-september-2022>

⁵⁷Ibid.

⁵⁸Saavedra, J. (2022). Pakistan's Floods are Deepening its Learning Crisis. The World Bank. Archive available online at: <https://blogs.worldbank.org/endpovertyinsouthasia/pakistans-floods-are-deepening-its-learning-crisis>

⁵⁹The Friday Times (2022). 46% Of The 2 Million Flood-Affected Schoolchildren Are Girls: Sindh Education Minister. The Friday Times. Archive available online at: <https://www.thefridaytimes.com/2022/11/02/46-of-the-2-million-flood-affected-schoolchildren-are-girls-sindh-education-minister/>

⁶⁰Khan, N. (2022). After floods, future of education at risk for millions of students in Pakistan. Arab News. Archive available online at: <https://www.arabnews.pk/node/2156081/pakistan>

⁶¹Ministry of Planning, Development and Special Initiatives (2022). Pakistan Floods 2022: Post-Disaster Needs Assessment Report. The Government of Pakistan, Archive available online at: <https://www.pc.gov.pk/uploads/downloads/PDNA-2022.pdf>

⁶²Javaid, R. (2023). Sindh eyes establishing 20 new colleges, rehabilitating 15,000 flood-affected schools. Geo News. Archive available online at: <https://www.geo.tv/latest/473693-sindh-eyes-establishing-20-new-colleges-rehabilitating-15000-flood-affected-schools>

⁶³Ansari, A. (2022). Tent school opens in Umerkot relief camp. The Express Tribune. Archive available online at: <https://tribune.com.pk/story/2374969/tent-school-opens-in-umerkot-relief-camp>

⁶⁴Baron, J. (2022). Floods in Pakistan: Human Development at Risk. The World Bank. Archive available online at: <https://documents1.worldbank.org/curated/en/099523112072218789/pdf/IDU09bc63666052fe041af08d8d0cbd7862b0c65.pdf>

out of all countries in terms of Climate Risk. The ranking is periodically updated, which may result in a different position for Pakistan in the future, but it is still a matter of deep concern that it has ranked in the top ten countries most vulnerable to Climate Change⁶⁵. The key concerns for Pakistan are high temperatures and unreliable precipitation, with increasingly common extreme weather events, from heatwaves to severe flooding to droughts, as well as sea erosion and cyclones.

Heatwaves, which are considered 'silent killers' due to their lack of visible impact, are becoming increasingly common and fatal across the world, particularly in regions like South Asia. A study done on the future impacts of heatwaves in Pakistan showed that heatwaves were likely to increase in frequency over the coming decades, with a particular concern about cities due to the urban heat island effect which causes the temperature to be higher there than in surrounding rural areas⁶⁶. Since there is increased migration to cities from rural areas, in part due to climate change and its displacing effects⁶⁷, it is especially concerning, as a growing number of children will be affected by the effects of heatwaves in the future.

According to a UNICEF report, the effects of flooding on infrastructure, and extreme weather events (rain, heatwaves) were harmful to children's education, as it impeded their ability to access schooling. The main reasons for this were that several children had to travel long distances without transport, and schools did not have adequate facilities to combat severe heat, making it difficult for children to attend school during days where the temperature was too high or the routes had been affected by rain⁶⁸.

Another issue that has been overshadowed by the floods of 2022 is that prior to the floods, there was a drought in Sindh. This drought was reported to have made the flooding cause even more damage, particularly to agriculture, with fields that had already suffered damage due to the droughts suffering further damage due to flooding. Additionally, women were affected by these effects especially, as they make up the majority of agricultural workers and many suffered financial losses due to a reduction in agricultural productivity⁶⁹. A study in 2021 also found droughts to have intensified in Baluchistan, particularly during the period between 1995 to 2018, owing in part to changing temperatures (particularly increasing), and reduced or less reliable precipitation⁷⁰. This is an increasing concern due to climate change which has caused a change in weather patterns and an increase in extreme events.

As reported by Malala Fund, girls are disproportionately affected by these impacts, in terms of several variables, particularly education, which also has the added effect of increasing the gender gap⁷¹. Education in Pakistan, and particularly Sindh, faces a host of challenges, due to increased dropout rates, a decrease in teacher involvement linked to lack of support for alternate teaching methods, and children being unable to cope with the sudden and severe changes caused by the pandemic, which will only be exacerbated by climate change related impacts, most recently the flooding of 2022 and the damage it caused. As gender, socio-economic status, access to resources and support from various stakeholders is so crucial to the outcomes in this regard, they will also have to be scrutinized in order to explore the impact on learning losses for children in these areas.

⁶⁵ Eckstein, D. (2021). Global Climate Risk Index 2021. German Watch. Archive available online at: <https://www.germanwatch.org/en/19777>

⁶⁶ Soeed, F. (2015). Policy Brief # 46 Future Heatwaves in Pakistan under IPCC's AR5 climate change scenario. Sustainable Development Policy Institute. Archive available online at: <https://sdpi.org/sdpiweb/publications/files/PB-46.pdf>

⁶⁷ Alverio, G. (2023). Displaced to Cities: Conflict, Climate Change, and Rural-to-Urban Migration. The United States Institute of Peace. Archive available online at: <https://www.usip.org/publications/2023/06/displaced-cities-conflict-climate-change-and-rural-urban-migration>

⁶⁸ Kagawa, F. (2022). The Heat is On! Towards a Climate Resilient Education System in Pakistan. UNICEF. Archive available online at: <https://www.unicef.org/rosa/media/17611/file/The%20Heat%20is%20On%20-%20Pakistan.pdf>

⁶⁹ Kunbhar, Z. (2022). Floods after drought devastate Sindh's agriculture. United Nations Office for Disaster Risk Reduction, PreventionWeb. Archive available online at: <https://www.preventionweb.net/news/floods-after-drought-devastate-sindhs-agriculture>

⁷⁰ Ashraf, M. (2021). Quantifying climate-induced drought risk to livelihood and mitigation actions in Balochistan. Natural Hazards. Archive available online at: <https://link.springer.com/article/10.1007/s11069-021-04913-4#Sec32>

⁷¹ Malala Fund. (2021). A greener, fairer future: Why leaders need to invest in climate and girls' education. Malala Fund. Archive available online at: <https://malala.org/newsroom/malala-fund-publishes-report-on-climate-change-and-girls-education>

DONOR PROJECTS



1. MERIT AND NEEDS BASED SCHOLARSHIP PROGRAM
2. EDUCATION MANAGEMENT ORGANIZATION



Sindh Education Department

3. GIRLS STIPEND PROJECT
4. SCHOOL MANAGEMENT COMMUNITIES



5. FLOOD RECOVERY PROGRAM



6. PROGRAM TO ENHANCE SECONDARY EDUCATION IN SINDH
7. PROGRAM TO IMPROVE SKILLS TRAINING



8. SINDH EARLY LEARNING ENHANCEMENT THROUGH CLASSROOM TRANSFORMATION
9. COVID-19 RESPONSE, RECOVERY AND RESILIENCE IN EDUCATION PROJECT

10. SINDH RESILIENCE PROJECT (IN COLLABORATION WITH SID)



11. SINDH TECHNICAL ASSISTANCE DEVELOPMENT ENHANCED EDUCATION PROGRAMME

12. PROJECT FOR GENDER RESPONSIVE ACTIONS TO ENSURE RETENTION THROUGH COMMUNITY ENGAGEMENT AND SCHOOL PRACTICES (GRACE, SINDH)



13. THE PROJECT FOR UPGRADING PRIMARY GIRLS' SCHOOLS INTO ELEMENTARY SCHOOLS IN RURAL AREAS OF SINDH

14. THE ADVANCING QUALITY ALTERNATIVE LEARNING (AQUAL) NATIONAL PROJECT

15. THE STRATEGIC STRENGTHENING OF FLOOD WARNING AND MANAGEMENT CAPACITY OF PAKISTAN



16. IMPROVING CLIMATE ADAPTATION AND RESILIENCE IN PAKISTAN- FEDERAL GERMAN MINISTRY FOR ECONOMIC COOPERATION AND DEVELOPMENT (BMZ)

Note: See Annexure 4 for details

3.0 Major Survey Findings

The major findings of the study are elaborated upon in the sections below. This section mainly consists of Household and Child Profiles, including average family size, occupation, parent's education level and access to technology.

3.1 Household and Child Profiles

A household survey was conducted in four districts of the Sindh province, namely Dadu, Badin, Umerkot, and Sanghar. The survey followed the methodology employed by ASER (Pakistan) for its surveys. Using the village directory from the most recent available Census (2017), 30 villages (Primary Sampling Units) were randomly selected. The sampling utilized the Probability Proportional to Size (PPS) technique. In the subsequent stage of sampling, 20 households (Secondary Sampling Units) were selected using a systematic random sampling procedure. As a result, this study is based on survey data collected from approximately 600 households in each targeted district. The specific sample details can be seen in Exhibit 3.1.1.

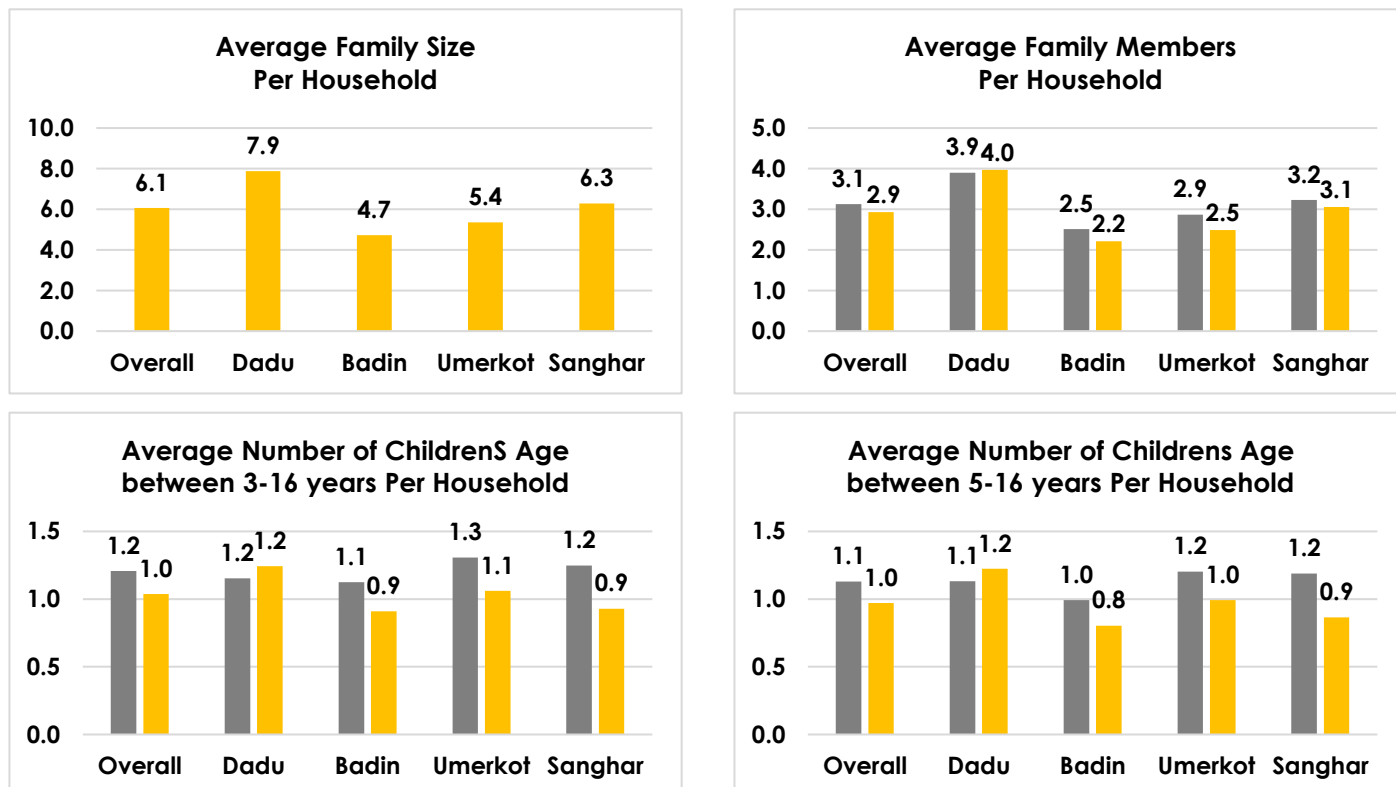
Exhibit 3.1.1: Sample Households Across Districts

	Numbers	Percentage
Sample Households	2,400	100.0
Dadu	601	25.0
Badin	601	25.0
Umerkot	600	25.0
Sanghar	598	24.9

Average Family Size

Household demographics as furnished in Exhibit 3.1.2 reveal sharp inter-district variations. For instance, average family size in Badin district is 4.7 persons, while close to 8 persons per households are reported in the Dadu district.

Exhibit 3.1.2: Demography of Sample Households

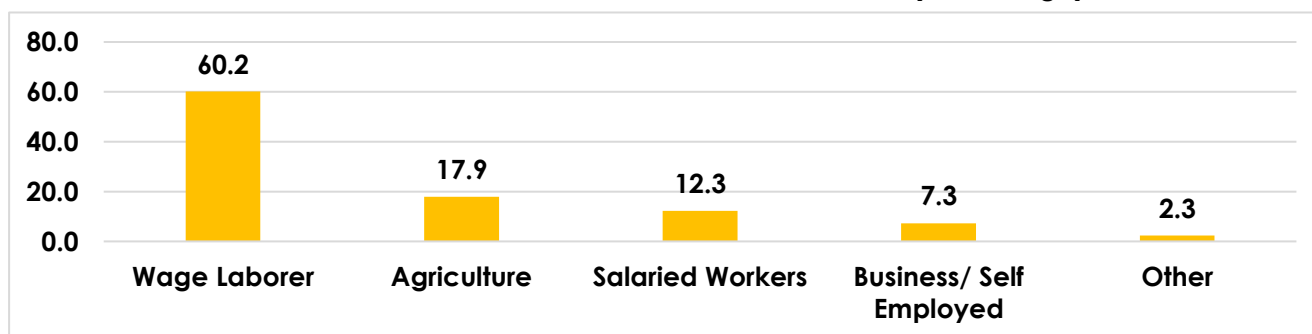


Source: IRC Household Survey, 2023

Occupation and Social Safety Net

Exhibit 3.1.3 displays the various sources of household income for the sampled households. The primary sources identified are **Wage Laborers which consist of 60% of the surveyed population followed by Agriculture (18%) and Salaried workers (12%)**. The high percentage of wage labor can be attributed to the high rate of poverty and lack of access to education in rural areas. Additionally, rural Sindh experiences seasonal economic activities, such as cotton picking, which require a temporary workforce. These seasonal jobs provide wage labor opportunities during specific periods. Similarly, given that Sindh is primarily an agriculture-based economy, income via agricultural activities also contribute significantly to the livelihoods of rural communities

Exhibit 3.1.3: Sources of Household Income Overall (Percentage)

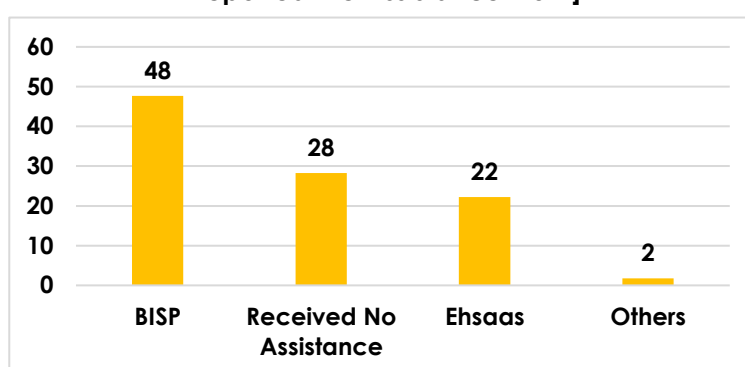


See Annexure 6: Exhibit 3.1.3a for district wise graph
Source: IRC Household Survey, 2023

With a population of 50.4 million people, Sindh accounts for approximately 23 percent of Pakistan's total population. It also contributes significantly to the country's economy, generating around 27 percent of Pakistan's GDP. Nearly half of Sindh's population resides in rural areas and, unfortunately, approximately 37 percent of the rural population falls below the poverty line, surpassing the national average. The incidence of poverty is particularly pronounced in certain districts that have been affected by floods, where poverty rates are significantly higher.⁷²

Hence, the provision of public and private social assistance plays a crucial role in sustaining households in these regions. According to Exhibit 3.1.4, which provides insights into social assistance in the sample areas, approximately 70 percent of households reported receiving support from programs like BISP and Ehsaas, which offer unconditional cash transfers. Notably, the highest incidence of social assistance (87.1 percent) was reported in Umerkot, while the lowest (38.4 percent) was observed in Badin district. It is noteworthy that there has been a significant increase in the prevalence of social assistance following the 2022 floods. In 2019, the ASER study reported that 10 percent of surveyed households received support from social safety nets such as the Benazir Income Support Programme, Ehsaas, Pakistan Poverty Alleviation Fund, Akhuwat, or other similar programs. However, in 2021, the percentage of households benefiting from these forms of support has risen to 16 percent.

Exhibit 3.1.4: Social Assistance [Percentage of Households Reported the Assistance From]



Source: IRC Household Survey, 2023

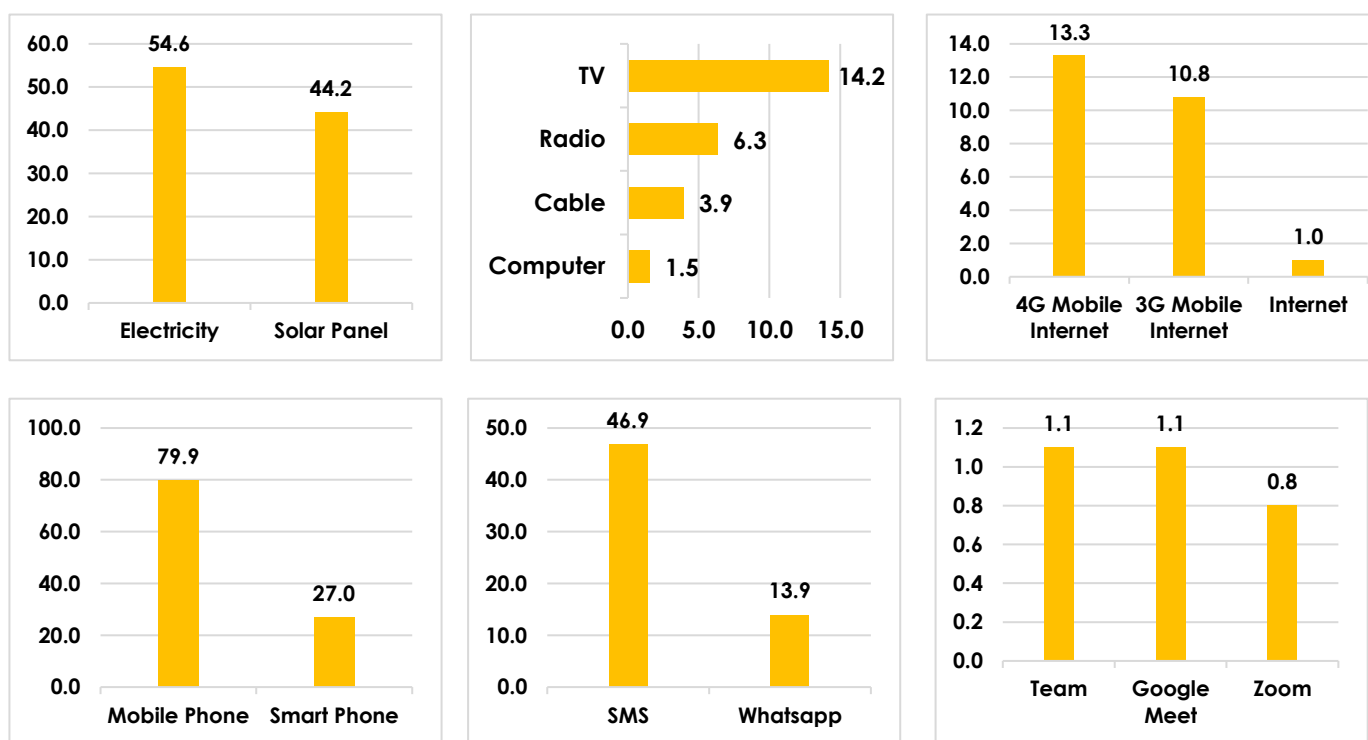
⁷² <https://www.worldbank.org/en/news/factsheet/2022/12/19/factsheet-strengthening-social-protection-delivery-system-in-sindh>

Access to Technology

The survey results in terms of household access to technology are collated in the Exhibit 3.1.5. Technology plays a vital role in enabling distance learning, particularly during challenging times such as the floods in 2022 or the COVID-19 pandemic. It becomes crucial for facilitating educational continuity when physical classrooms are inaccessible. However, the survey findings, as highlighted in Exhibit 2.1.6, reveal a limited availability of technology for learning purposes. The majority of households reported owning smartphones or basic cell phones for communication. **However, a concerning finding is that only a small proportion (1.5%) of children in the surveyed districts have access to computers.**

The access to any form of internet (Wi-fi, 3G or 4G), was found to be 25%. Similarly, only 27% of the households reported access to smartphones with even fewer (~14%) having access to WhatsApp. Ensuring broader access to technology for learning can significantly support remote education during emergencies like floods-22 or COVID-19.

Exhibit 3.1.5: Alternate Energy, Information & Communication Technology in Household (Percentage)



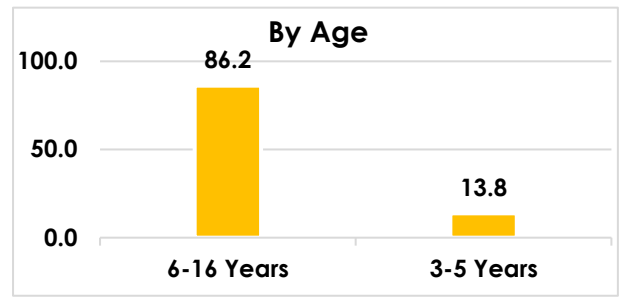
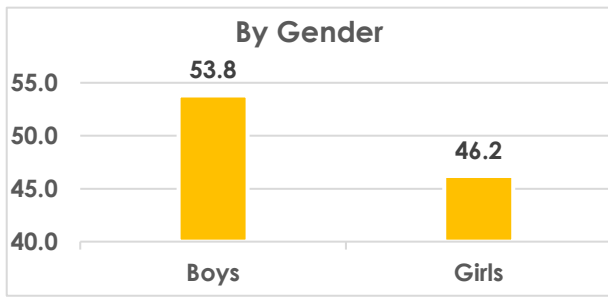
Source: IRC Household Survey, 2023

Child Profile

The profile of the surveyed children includes their age and gender distribution, as shown in Exhibit 3.1.6, as well as the prevalence of disabilities among them, indicated in Exhibit 3.1.7.

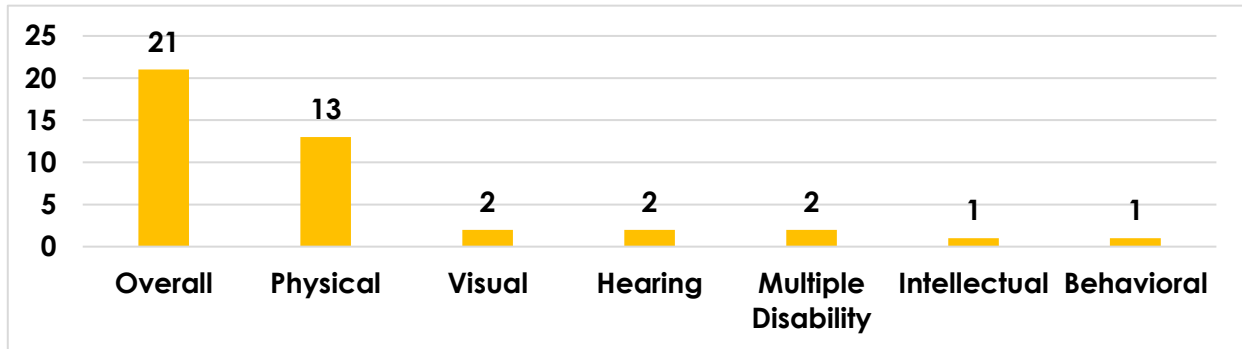
Approximately 14 percent of the children fell within the age group of 3 to 5 years, while the remaining 86 percent were between 6 and 16 years old. Regarding gender, boys accounted for ~54 percent of the sample population. Additionally, a minimal incidence of disabilities (0.5 percent) was reported among the surveyed children in the sample areas. The district-wise numbers for disabilities are shown in Exhibit 2.1.8

Exhibit 3.1.6: Age and Gender Distribution of Sample Children (Percentage)



Source: IRC Household Survey, 2023

Exhibit 3.1.7: Number of Disabled Children (Type of Disability)



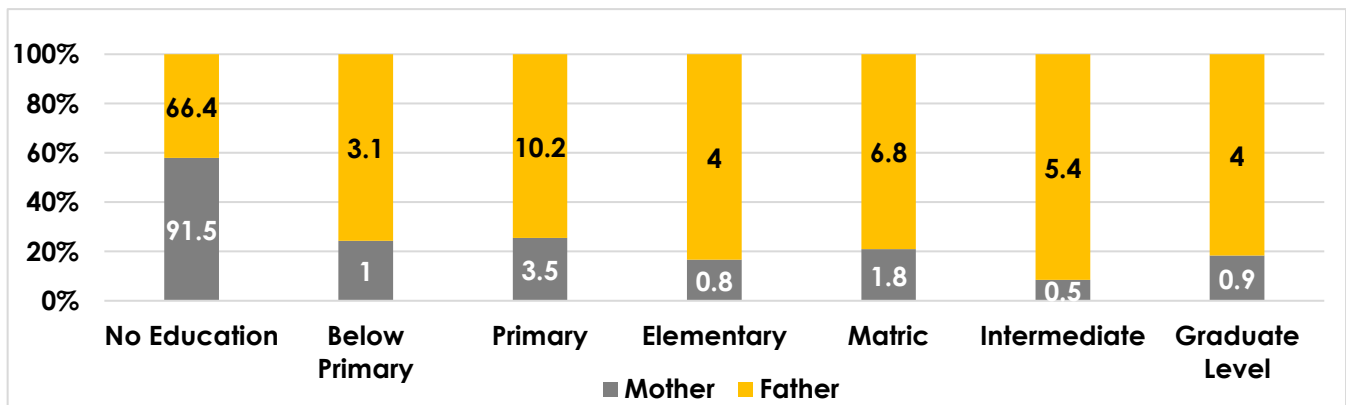
See Annexure 6: Exhibit 3.1.7a for district wise graph

Source: IRC Household Survey, 2023

Parents' Profiles

Information regarding the educational background of the parents of the surveyed children is presented in Exhibits 3.1.8, separately showcasing the data for mothers and fathers. These exhibits highlight the prevalence of illiteracy among parents in the sample areas. It is observed that a significant proportion of mothers (around 92 percent) and fathers (approximately 66 percent) have no formal education.

Exhibit 3.1.8: Education Level of Parents (Percentage)



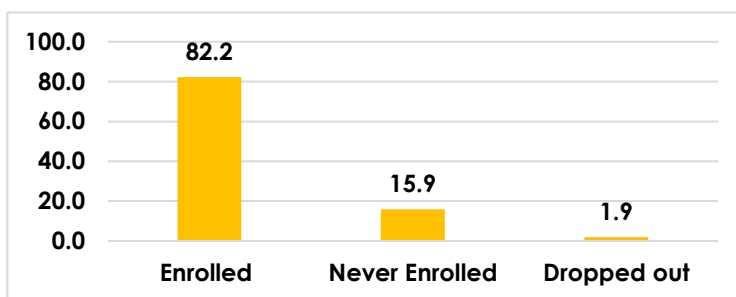
Source: IRC Household Survey, 2023

3.2 Access to Learning

Enrollment and Accessibility of Quality Education

In rural Sindh, significant challenges that need to be addressed to ensure equitable and inclusive education opportunities. In rural areas of Sindh, numerous factors, including poverty, distance to schools, cultural norms, and gender disparities impact enrollment rates and hinder access to quality education. Despite the high overall enrolment - survey results reveal an overall **enrollment rate of approximately 82%**, with Sanghar district exhibiting the highest percentage of enrolled children and Umerkot district reporting the lowest enrollment rate, almost all of these students are enrolled in public schools (Exhibit 3.2.2). This mainly because of the number of public schools in any given district is larger than that of private schools and in addition to that, due to high poverty rates in rural Sindh affordability also plays a major role in the high enrollments numbers in public schools.

Exhibit 3.2.1: Enrollment Status of Sampled Children (Percentage)

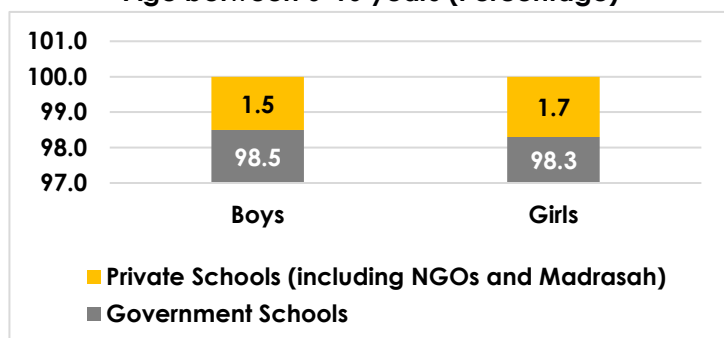


See Annexure 6: Exhibit 3.2.1a for district wise graph
Source: IRC Household Survey, 2023

This public private divide is important to highlight because learning levels and overall quality learning seems to fare higher in private schools than public schools. This is not only evident from ASER survey but also highlighted in the section 3.3 of this report which indicates higher learning levels in private schools across in both reading and arithmetic.

Among the enrolled children, their school category was assessed, distinguishing between government (public) schools and private schools, including NGO schools and Madrassahs. The findings revealed that an overwhelming majority of boys (98.5%) and girls (98.3%) were enrolled in government schools.

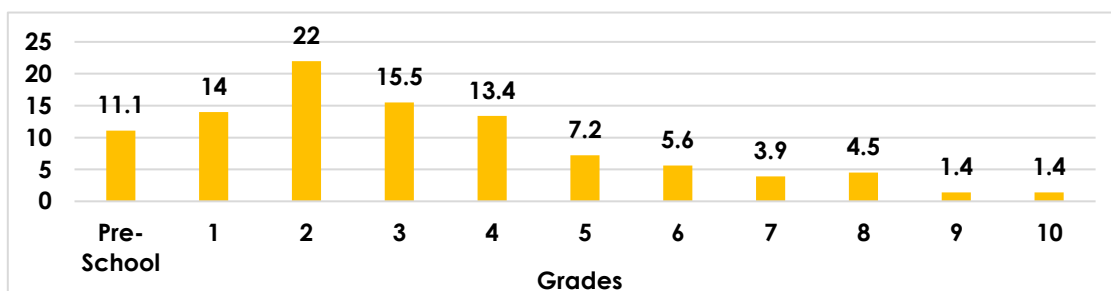
Exhibit 3.2.2: Enrollment by Gender and Type of School Age between 6-16 years (Percentage)



Source: IRC Household Survey, 2023

The class-wise enrollment and age class composition of the sample children (5-16) is displayed below:

Exhibit 3.2.3: Class-Wise Enrollment Age between 5-16 years (Percentage)



Source: IRC Household Survey, 2023

The distribution of age classes varies between rural and urban areas, particularly in terms of school enrollment. As depicted in exhibit 3.2.4, it is observed that 23% of children aged 8 years are enrolled in grade 1 and approximately 50% of children aged 10 are enrolled in

class 2, reflecting a similar trend. This indicates that enrolment in rural areas starts at an older age as compared to urban areas

Exhibit 3.2.4: Class Composition by Age between 5-16 years (Percentage)

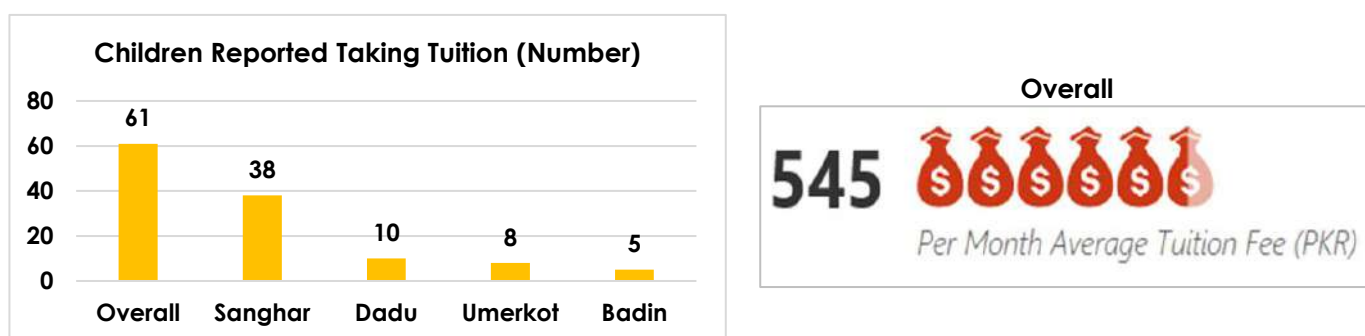
	Age of Child											
	5	6	7	8	9	10	11	12	13	14	15	16
1	100.0	75.8	44.5	23.0	-	-	-	-	-	-	-	-
2	-	24.2	49.8	60.0	13.1	49.9	6.9	5.2	4.6	2.2	0.6	1.4
3	-	-	5.7	17.0	54.4	11.6	48.1	8.2	5.8	2.6	0.6	1.4
4	-	-	-	-	32.5	27.4	15.1	45.6	7.9	5.2	2.5	2.8
5	-	-	-	-	-	11.2	21.6	12.4	40.8	8.2	12.1	2.8
6	-	-	-	-	-	-	8.2	19.6	9.6	37.9	7.0	2.1
7	-	-	-	-	-	-	-	9.0	16.7	11.2	37.6	2.8
8	-	-	-	-	-	-	-	-	14.6	25.7	12.1	49.7
9	-	-	-	-	-	-	-	-	-	7.1	18.5	6.9
10	-	-	-	-	-	-	-	-	-	-	8.9	30.3

Source: IRC Household Survey, 2023

The study also investigated whether the children received any external educational assistance for which they paid, such as private tuition. The incidence of children receiving paid tuition was found to be significantly low across all four districts. According to Exhibit 3.2.5, **the total number of children taking paid tuitions was 61.**

Among these 61 respondents, we further inquired about the **average amount they paid per month for these tuitions, which was reported to be PKR. 545.**

Exhibit 3.2.5: Paid Tuition



Out-of-School Children

The study also investigated the status of children who were not currently attending school. Out of school children were categorized as: "Never Enrolled" for children who had never started school and "Dropped out" for those who had discontinued their education. **It was observed that Umerkot had the highest number of never enrolled children (approximately 25%), while Sanghar had the lowest (around 8%).**

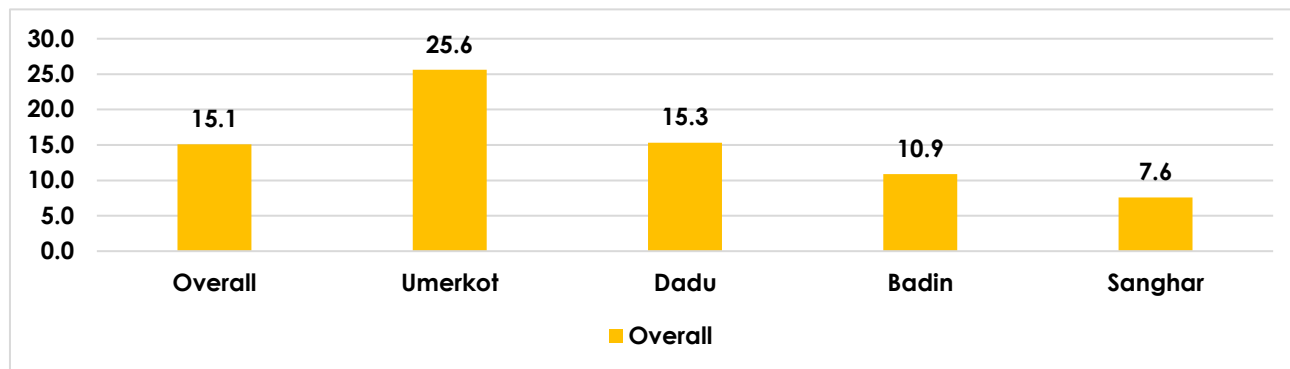
The dropout rate, overall, was found to be 1.9%, with Sanghar district displaying the highest dropout rate at 3.5%. It is important to consider these findings in the context of the impact of the floods in 2022, as Sanghar district witnessed a significant number of displaced individuals.⁷³

Overall the percentage out of school children was found to be 15.1% with the highest percentage of out of school children observed in Umerkot (~26%).

⁷³ https://www.pbs.gov.pk/sites/default/files/pslm/publications/pslm_prov2008-09/Education_0.pdf

The gender-wise distribution of out-of-school children between the ages of 5 to 16 shows a higher percentage of out-of-school girls (~50%) in comparison to the number of out-of-school boys (~%).

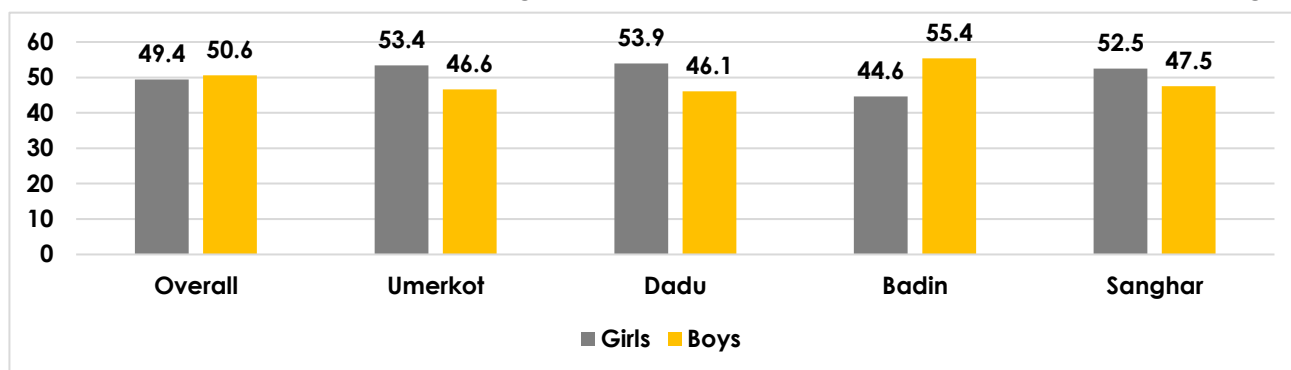
Exhibit 3.2.6: Out-of-School Children Age between 6-16 Years Overall by District (Percentage)



Source: IRC Household Survey, 2023

Exhibit 3.2.6a displays the gender-wise distribution of out-of-school children between the ages of 5 to 16. With the exception of Badin, the percentage of girls who were out of school is consistently higher than that of boys.

Exhibit 3.2.6a: Out-of-School Children Age between 6-16 Years by Gender and District (Percentage)



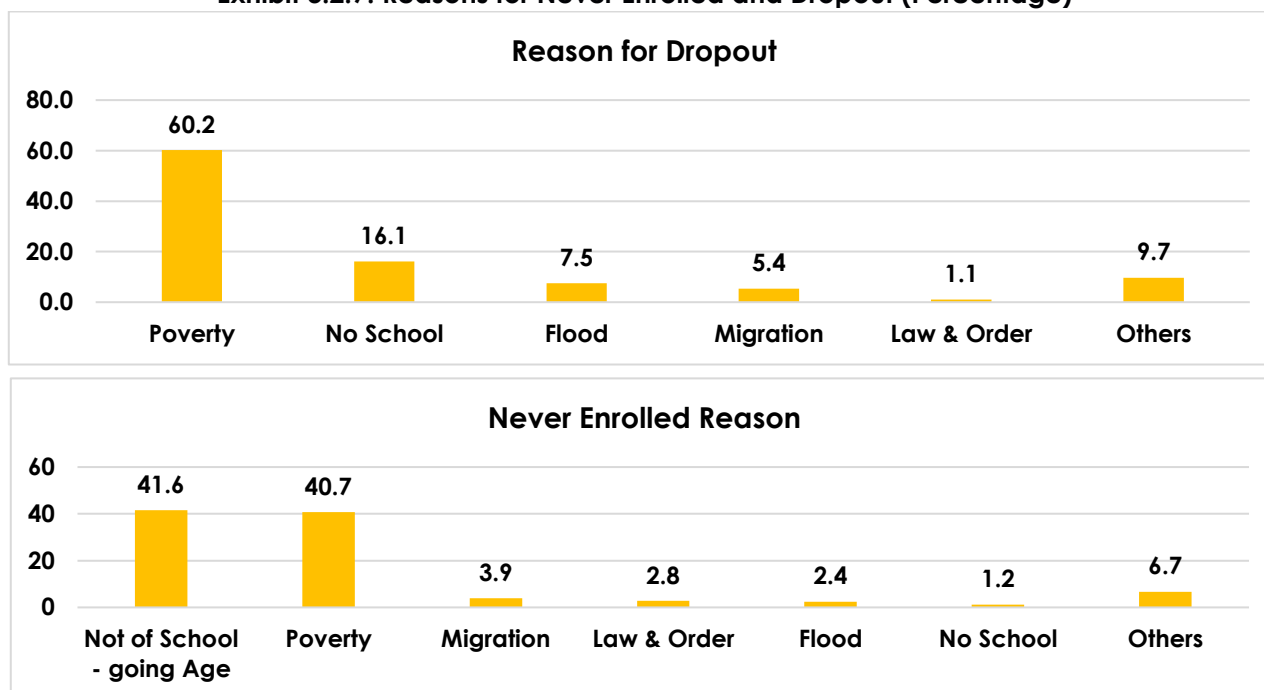
Source: IRC Household Survey, 2023

For children who were either never enrolled or had dropped out, reasons for their respective statuses were collected. **As expected, poverty emerged as the primary cause, with approximately 60% of dropouts and 42% of never-enrolled children attributing their circumstances to financial constraints.**

Among the dropouts, the second highest percentage (~16%) reported "no school" as the reason, indicating the absence of a school in their locality or nearby. Other reasons for dropping out included being affected by floods (7.5%) and migration (5.4%).

For children who are not enrolled, the second highest percentage is that of "not of school-going age" which generally includes children from ages 3 to 5 who their parents feel are not yet of school-going age.

Exhibit 3.2.7: Reasons for Never Enrolled and Dropout (Percentage)



Source: IRC Household Survey, 2023

3.3 Learning Outcomes

To gauge the learning losses, the study employed preexisting tools developed by ASER. The ASER has created user-friendly tools and tests that assess children's competencies in native languages (Urdu/Sindhi), English, and arithmetic. These assessments are based on the curriculum of Classes 1 and 2, as it is widely recognized that after two years of schooling, children should have acquired essential reading fluency, comprehension, and basic numeracy skills. The ASER survey assesses children in the age group of 5-16. These tests have been collaboratively developed by experts including practicing teachers, curriculum authors, and the ASER Pakistan team.⁷⁴ A basic assessment guideline is provided as Annexure 5.

3.3.1 Urdu/Sindhi Learning Outcomes

Assessing Framework

The ASER Pakistan 2011 tools were piloted in 10 districts across all the provinces. The piloting was conducted by each district team in one village. The framework for tool development was then revised after receiving feedback from the district teams

ASER's reading assessment tools are developed in three basic languages i.e. Urdu, Pashto and Sindhi used as a language of pedagogy in schools across Pakistan. As per their methodology, children can choose to be assessed in a language of their own choice. Since this survey was carried out in Sindh, the children were given a choice between answering in Sindhi or Urdu.

The child was also asked to solve a bonus question which is derived from the Grade 2 Curriculum. The purpose of the bonus question is to assess comprehension skills of the child with respect to the particular subject.⁷⁵

⁷⁴ <http://aserpakistan.org/tools>

⁷⁵ This framework is adopted from ASER's standard manual : <http://aserpakistan.org/document/asere/ASER%20STANDARD%20MANUAL.pdf>

Beginner Level	The child is unable to answer any of the questions from the tool
Letter Level (Level 1)	Basic recognition of language through alphabets
Word Level (Level 2)	Basic recognition of language through words
Sentence Level (Level 3)	Reading Skills – can read sentences
Story Level (Level 4)	Reading Skills – can read a story
Bonus Question	The child is able to answer the comprehension questions

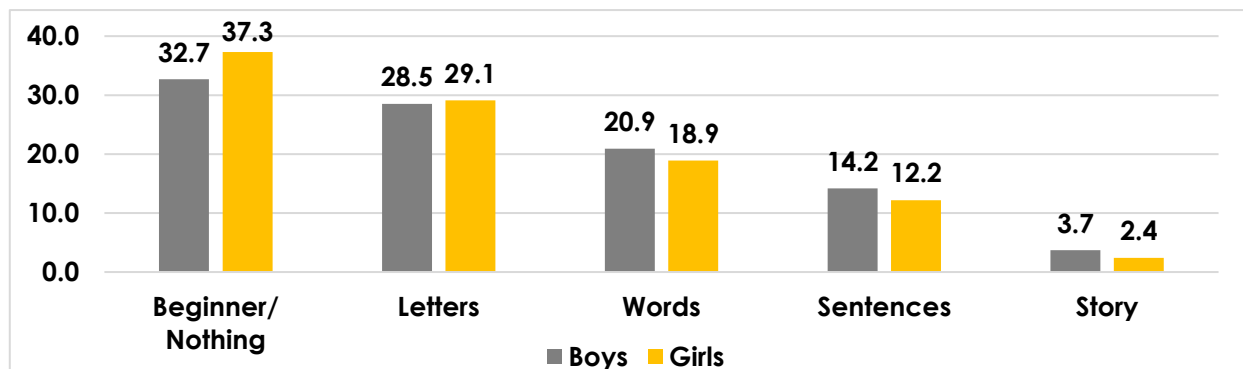
Urdu/Sindhi Assessment Framework (ASER)

Gender Wise Learning Levels

The children were given the choice between two languages: Urdu and Sindhi and were assessed according to the aforementioned guideline. The table below represents the gender wise learning levels children between 5 to 16 years of age. Across the four districts more girls are found to be at beginner level than boys. **The study found that overall ~33% of boys and ~38% of girls were at beginner level-** this indicates that they could neither read the words shown to them nor could they recognize letters in either language.

A similar trend is observed when assessing the highest level of reading (Story). **The ability to read a story is higher in boys (~4%) than girls (~2%).** We must review this analysis keeping in mind the lack of accessibility girls has to school, lack of amenities (Boundary wall, washroom, drinking water, lack of availability of female teachers and poverty prove to major hurdles for girls in Sindh.⁷⁶

Exhibit 3.3.1.1: Learning Levels (Urdu/Sindhi) Children Age between 5-16 years Who Can Read by Gender (Percentage)



See Annexure 6: Exhibit 3.3.1.1a for district wise graph
Source: IRC Household Survey, 2023

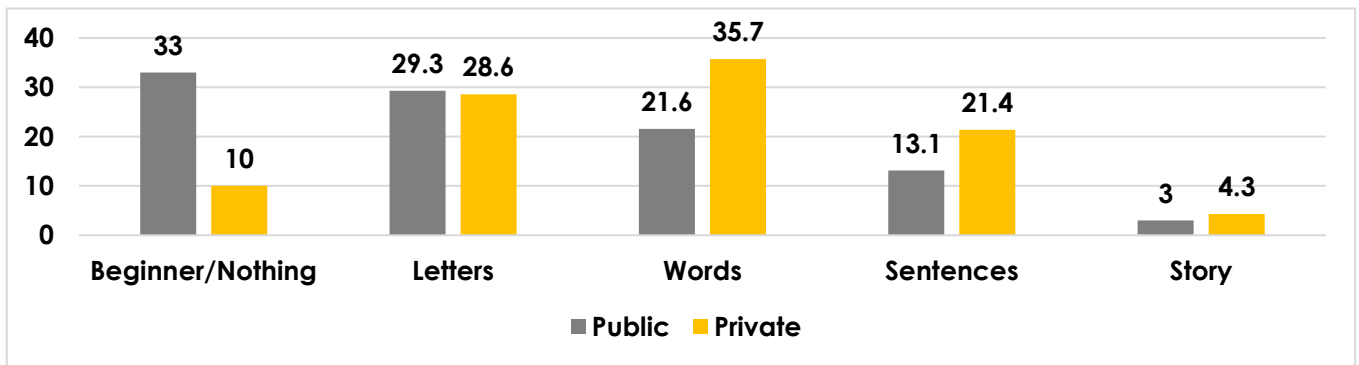
Public Schools vs Private School

A noticeable difference is also observed between minimum learning levels in public and private schools. As exhibited in table 3.3.1.2, students who were enrolled in public schools were more likely to be at beginner level than students in private schools. Out of the total children enrolled in public schools, ~33% were found to be at beginner level as compared to the 10% of private school enrolled children.

This finding is supported by our KII findings which highlighted that while private school remained in some form of contact with the children during school closures and had assessment to gauge learning impact after children returned. A higher frequency of remedial classes was also observed in the private sector via the Head teacher KIIs.

⁷⁶ https://www.sef.edu.pk/wp-content/uploads/2022/06/Issues-of-Girls-Education-in-Sindh-26-10-2021_compressed.pdf

Exhibit 3.3.1.2: Learning Levels (Urdu/Sindhi) Children Age between 5-16 years Who Can Read by Type of School (Percentage)



Source: IRC Household Survey, 2023

Primary Level Learning Assessment

Throughout the analysis of the learning assessment results, a correlation between the enrolled class of the child and their achieved learning status was identified. **Notably, in class one, approximately 50% of the students were classified as beginners.** This percentage decreased for students **in class 3 (~30%)** and further decreased for students **in class 5 (~15%)**. Furthermore, while no instances of children being able to read sentences were observed in class 1, **approximately 14% of children in grade 3 and around 25% in grade 5 were noted as being able to read sentences.**

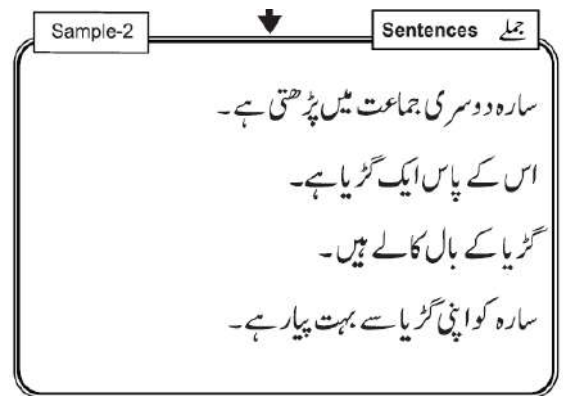
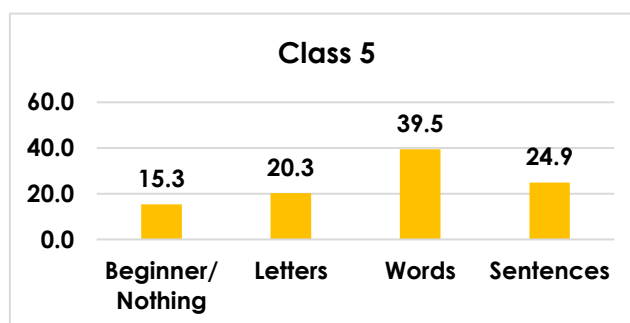
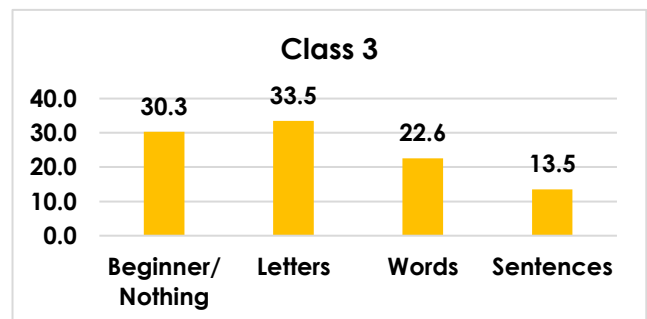
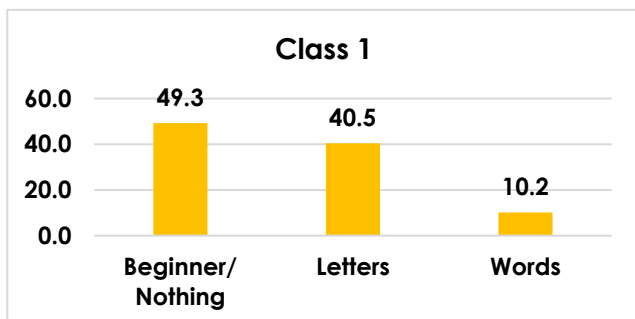


Exhibit 3.3.1.3: Learning Levels (Urdu/Sindhi) Class-wise Percentage Children Who Can Read by Class



See Annexure 6: Exhibit 3.3.1.3a for district wise graph

Source: IRC Household Survey, 2023

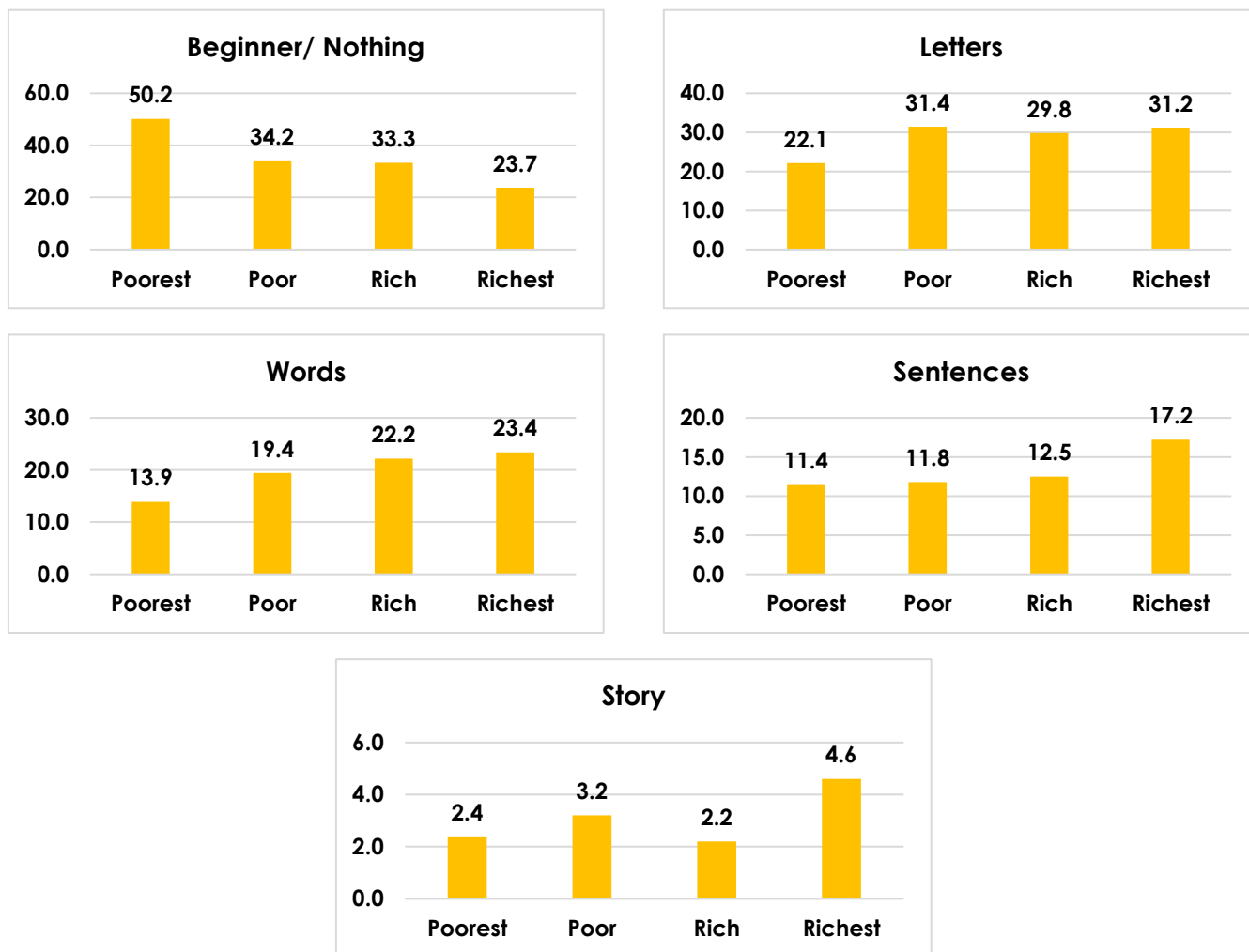
Wealth Index

The household wealth index is generated based on information pertaining to household assets, selected housing features, and facilities. The wealth Index has been created using the methodology used in BISP. The wealth score, representing the first factor, is subsequently divided into four quarters: poorest, poor, rich, and richest, after ranking the households.

Evidently, there exists a correlation between the learning levels of children and the wealth status of their households.

For instance, among the "Word level" children, the percentage distribution is as follows: **14 percent in the poorest households, 19 percent in the poor households, 22 percent in the rich households, and 23 percent in the richest households.** A similar pattern is observed for children categorized as "Beginners/Nothing," with approximately 50 percent, 34 percent, 33 percent, and 24 percent belonging to the poorest, poor, rich, and richest households, respectively.

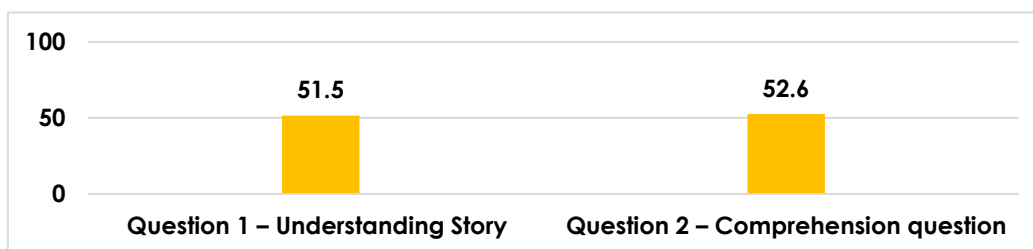
Exhibit 3.3.1.4: Learning Levels (Urdu/Sindhi) Children Age between 5-16 years Who Can Read by Household Wealth Quartiles (Percentage)



Source: IRC Household Survey, 2023

Bonus Questions

Exhibit 3.3.1.5: Additional Questions (Urdu/Sindhi) Understanding and Comprehension questions about story [Percentage of Children Responded Positively]



Source: IRC Household Survey, 2023

After assessing the students' ability to read sentences, those who demonstrated proficiency were further asked two additional questions related to the story they had read. Picture presents a sample of the story and the corresponding questions. Exhibit 3.3.1.5 displays the percentage of children who were able to answer question 1 and question 2. Notably, approximately 50% of the students were capable of answering the comprehension questions accurately.

Sample - 2

سلمه ۽ علي پيءُ پيش آهن. هو صاف سترا پار آهن.
 هو روز وهجندا آهن. هو روز برش ڪن ٿا. برش
 ڪرڻ سان انهن جان ڏند صاف رهن ٿا. هو کاڌو
 کائڻ کان پهرين هٿ ٽوڙن ٿا. هو پنهنجي
 ڪتابن ۽ ڪپڙن جو خيال رکن ٿا. ۽ شين کي
 صاف سترو رکن ٿا. صاف سترا رهڻ جي ڪري
 سڀ ماڻهون انهن کي پسند ڪن ٿا.

BONUS QUESTIONS بونس سوال

Q1 سلمه ۽ علي پنهنجا ڏند ڪيئن صاف رکن ٿا؟
 Q2 سڀ ماڻهون سلمه ۽ علي کي ڇو ٿا پسند ڪن؟

3.3.2 English Learning Outcomes

The assessment of English language skills followed a similar methodology to the Urdu/Sindhi reading assessment, as described in detail in Exhibit 3.3.1. This section includes Exhibits 3.3.2.1 to 3.3.2.6, which present the learning outcomes in reading English. The children were categorized into different levels, including "Beginner/Nothing," "Capital Letters," "Small Letters," "Words," and "Sentences," with the highest level achieved recorded for each child.

Beginner Level	The child is unable to answer any of the questions from the tool
Letter Level (Capital Alphabets) (Level 1)	Basic recognition of capital Letters
Letter Level (Small Alphabets) (Level 2)	Basic recognition of small alphabets
Word Level (Level 3)	Reading assessed through simple words
Sentence Level (Level 4)	Reading assessed through complete sentences
Bonus Question	The child is able to answer the comprehension questions

English Assessment Framework (ASER)

These exhibits also provide insights into the relationship between learning outcomes and factors such as child gender, institution type (government or private), current grade (class), and household wealth status. It is important to note that the age range of the assessed children spans from 5 to 16 years. Key highlights from these exhibits are summarized below.

Learning Levels by Gender

When examining the gender-disaggregated information regarding the assessment of English reading skills, it becomes apparent that boys generally exhibit higher levels of achievement. In the age group of 5 to 16 years, approximately 43 percent of boys are categorized as "Beginners/Nothing," while the corresponding percentage for girls is 49 percent. Moreover, close to 10 percent of boys achieve the highest level of "Sentence Level," compared to 7% of girls who fall into this category.

Exhibit 3.3.2.1: Learning Levels (English) Children Age between 5-16 years Who Can Read by Gender (Percentage)



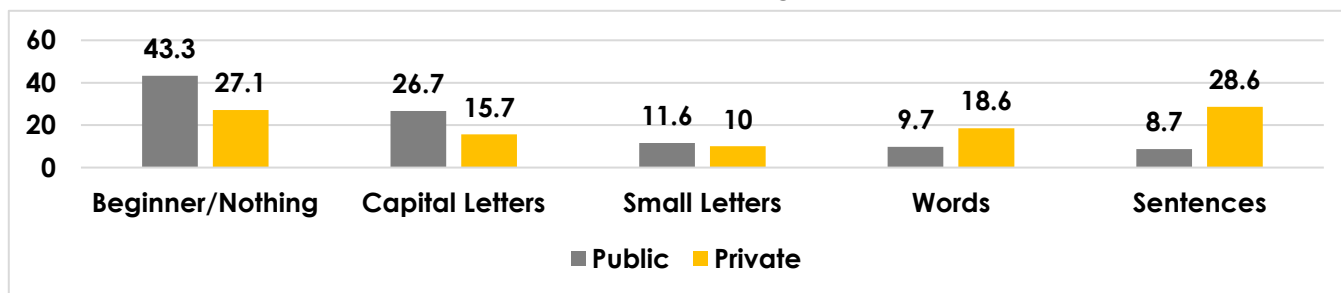
See Annexure 6: Exhibit 3.3.2.1a for district wise graph
 Source: IRC Household Survey, 2023

Public vs Private School

Significant disparities in assessment levels are evident when comparing public and private schooling. Approximately 9 percent of children attending government schools achieve the highest level of "Sentence Level," while a significantly higher percentage of 29 percent is observed among children in private schools.

This finding is further supported by the class-wise disaggregated information on public and private schooling. For instance, in the sample districts, all private school students in Class 5 were categorized as "Word Level" students, whereas only 36 percent of students in public schools achieved the same level of proficiency.

Exhibit 3.3.2.2: Learning Levels (English) Children Age between 5-16 years Who Can Read by Type of Schools (Percentage)



Source: IRC Household Survey, 2023

Primary Level Learning Assessment

During the assessment of learning levels among primary school children, particularly those in classes 1, 3, and 5, a positive correlation was identified between the class level and the achieved learning outcomes. For example, in class 1, none of the children demonstrated the ability to recognize small alphabets. However, in class 3, approximately 16% of the children exhibited this skill. Similarly, in class 3, none of the children were able to read words in English, whereas in class 5, approximately 37% of the children were capable of reading the English words presented to them by the enumerator.

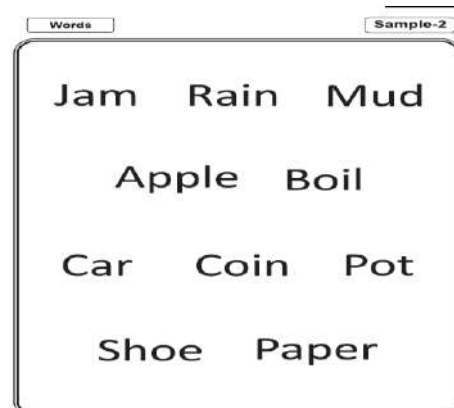
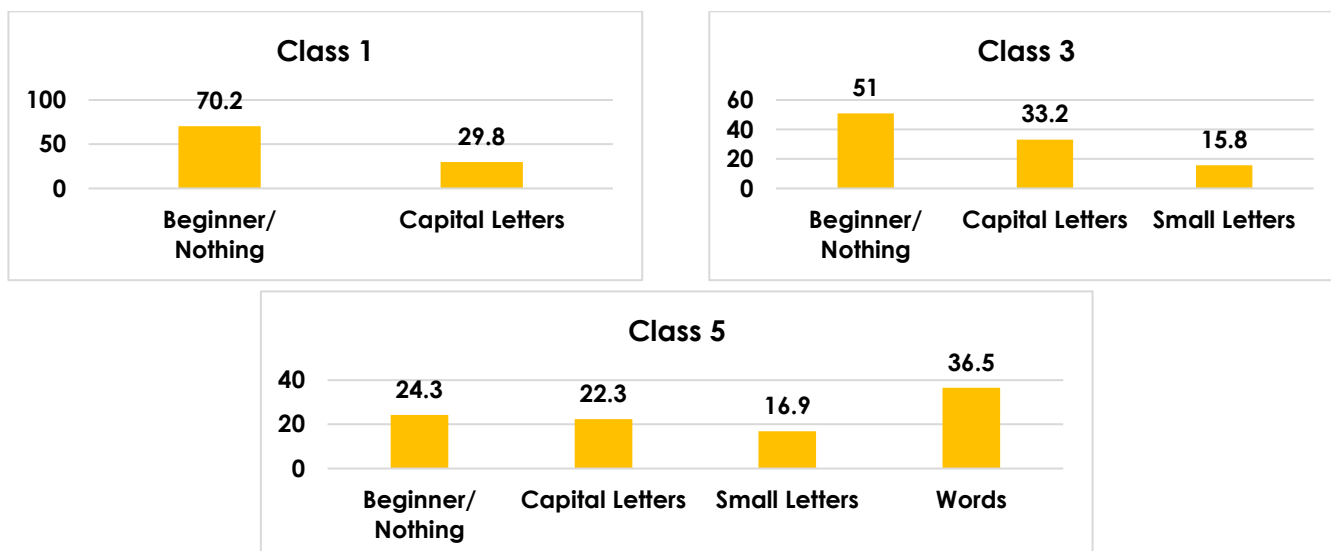


Exhibit 3.3.2.3: Learning Levels (English) Class-wise Percentage of Children Who Can Read Class



See Annexure 6: Exhibit 3.3.2.3a for district wise graph
Source: IRC Household Survey, 2023

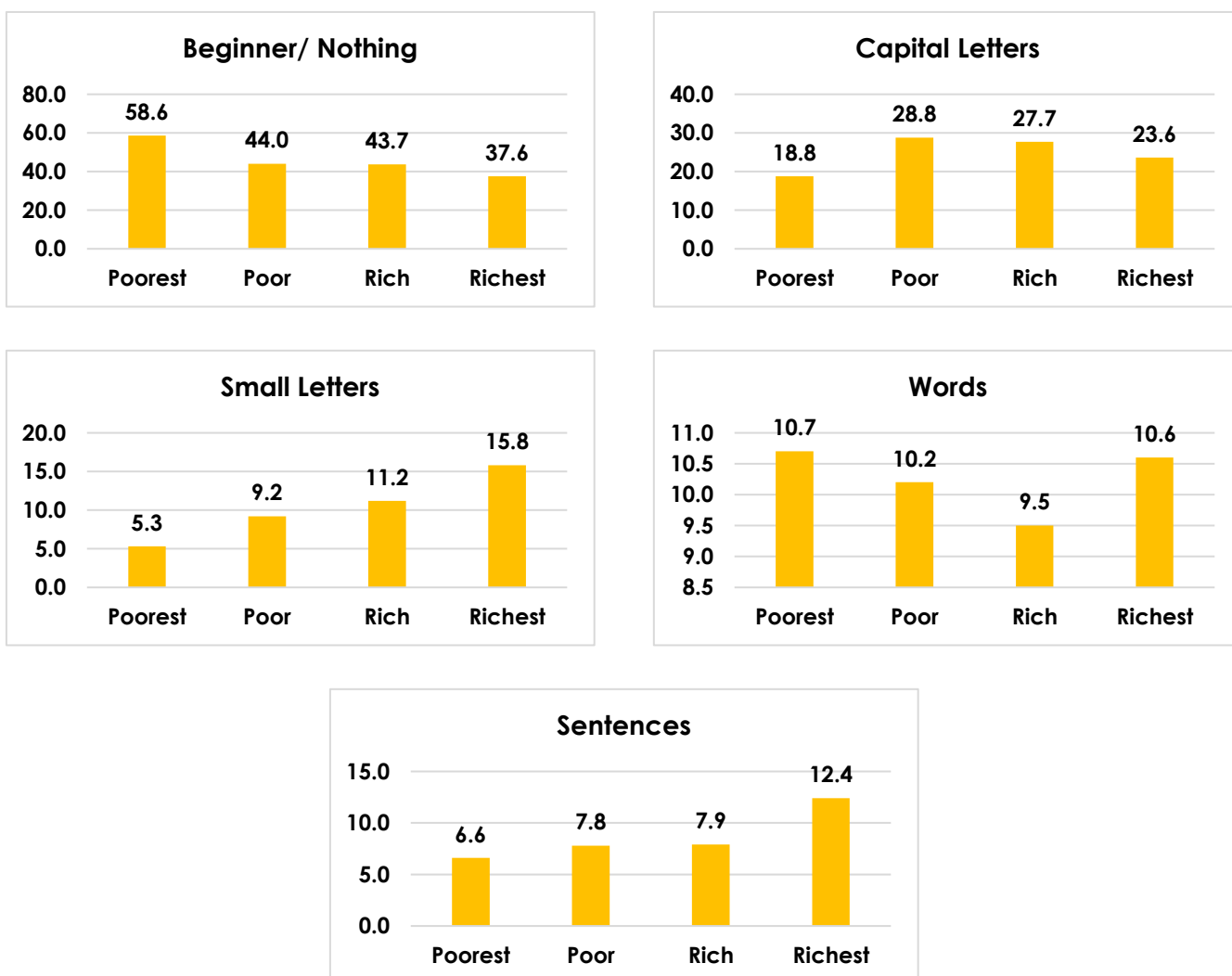
Wealth Index

A correlation was observed between the wealth index of households and the learning levels of children. As the wealth index increased, the percentage of children at the beginner level decreased. For example, in the poorest households, approximately 58.6% of children were categorized as beginners, while in the richest households, this percentage decreased to around 37.6%.

Furthermore, the percentage of children who were able to read sentences in English also increased with the wealth index. In the poorest households, only around 7% of children could read sentences, while in the poor households, this percentage increased to approximately 8%. In the rich households, it further increased to around 9%, and in the richest households, approximately 12% of children were capable of reading sentences.

These findings suggest that household wealth has an influence on the learning levels of children, with higher levels of wealth generally associated with higher learning outcomes.

Exhibit 3.3.2.4: Learning Levels (English) Children Age between 5-16 years Who Can Read by Household Wealth Quartiles (Percentage)



Source: IRC Household Survey, 2023

Bonus Questions

During the survey, children who were able to read words or sentences were asked additional questions to assess their understanding. Those at the word level were asked to provide the meaning of the written word, while those at the sentence level were asked to identify the meaning of the sentences (see Exhibit 3.3.2.5 and 3.3.2.6).

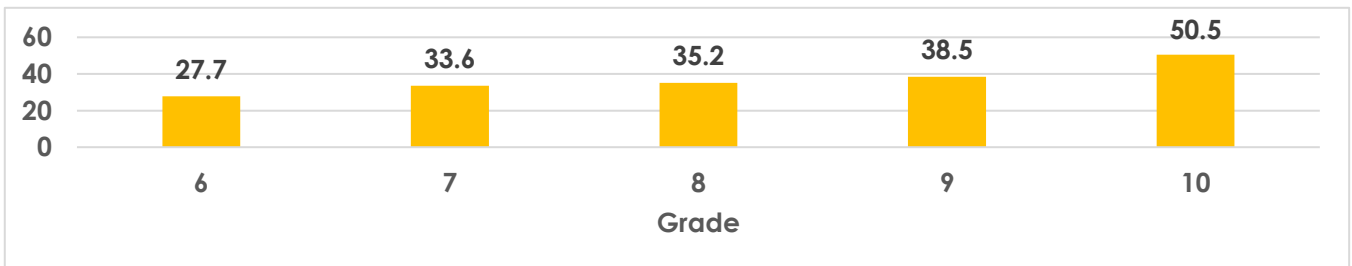
Around 35 percent of children from both levels confirmed that they knew the meaning of the word or sentence. However, a strong correlation was observed between the class level and the positive responses to these questions. For instance, approximately 27 percent of children in grade 6 responded positively, while 51 percent of children in grade 10 confirmed that they knew the meaning of the word or sentence.

Similarly, the percentage of children who could explain the meaning of sentences increased from around 27 percent in grade 6 to approximately 51 percent in grade 10. These findings indicate a positive relationship between grade level and the ability to comprehend and interpret written words and sentences.

Sentences

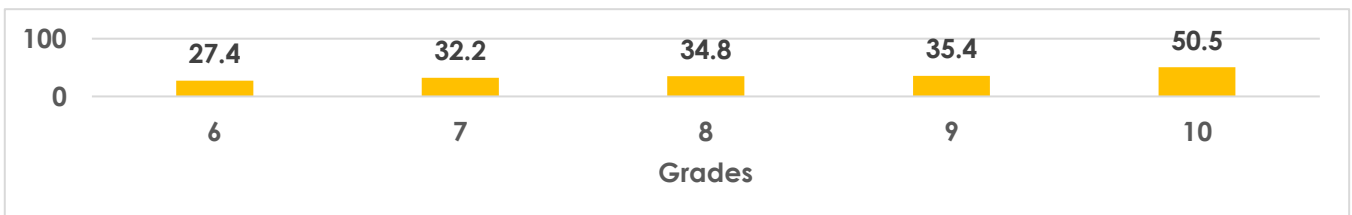
Bilal plays cricket.
He has a bat and a ball.
His friends like to play cricket too.
They are playing in the park.

Exhibit 3.3.2.5: Additional Questions - English Word Meaning Class-wise Percentage Children Who Responded Positively



Source: IRC Household Survey, 2023

Exhibit 3.3.2.6: Additional Questions - English Sentence Meaning Class-wise Percentage Children Who Responded Positively



Source: IRC Household Survey, 2023

3.3.3 Arithmetic Learning Outcomes

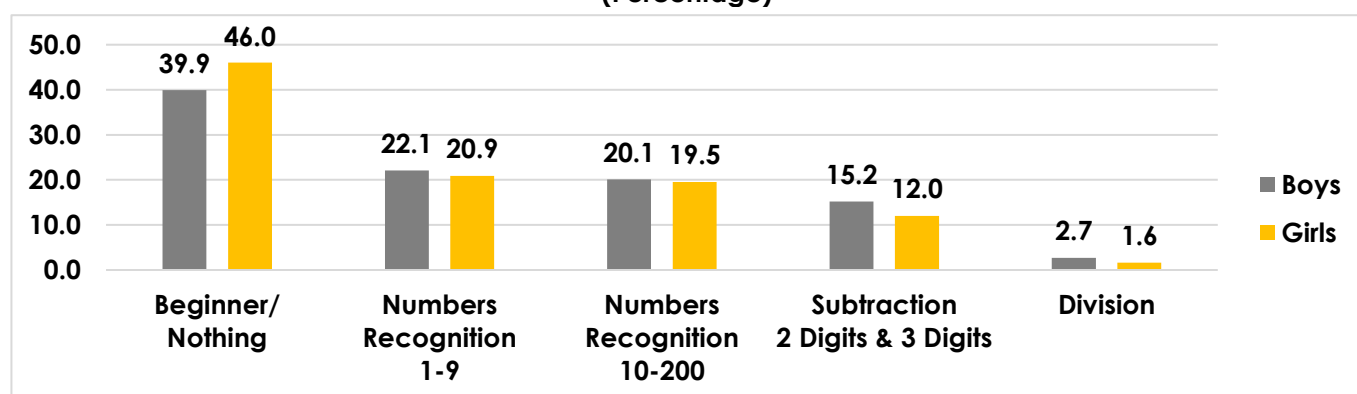
Children were also evaluated on their basic arithmetic skills as part of the survey. The assessment tool used different categories to assess the children's abilities, including number recognition from 1 to 9, 10 to 99, and 100 to 200. Additionally, subtraction involving 2 and 3 digits, as well as 2-digit division, were included in the assessment. Similar to the reading assessments, the results are bifurcated by child gender, institution type (government or private), current grade (class), and household wealth status.

Beginner Level	The child is unable to answer any of the questions from the tool
Number Recognition (Level 1)	Number recognition from 1-9
Number Recognition (Level 2)	Number recognition from 10-99
Subtraction Level (Level 3)	Advance numeracy skills – able to solve subtraction questions
Division (Level 4)	Advance numeracy skills – able to solve division
Bonus Question	Able to solve applied mathematics questions.

Learning Outcomes by Gender

In terms of arithmetic skills, boys have shown better performance compared to girls. In the age group of 5-16 years, **~40% of boys were categorized as 'Beginners/Nothing', while the percentage for girls was slightly higher at around 46%**. The percentage of children who could perform division was generally found to be quite low. **The results showed that only ~3% of the boys were at division level with an even lower percentage of 1.8% found in girls.**

Exhibit 3.3.3.1: Learning Levels (Arithmetic) Children Age between 5-16 years Who Can Read by Gender (Percentage)



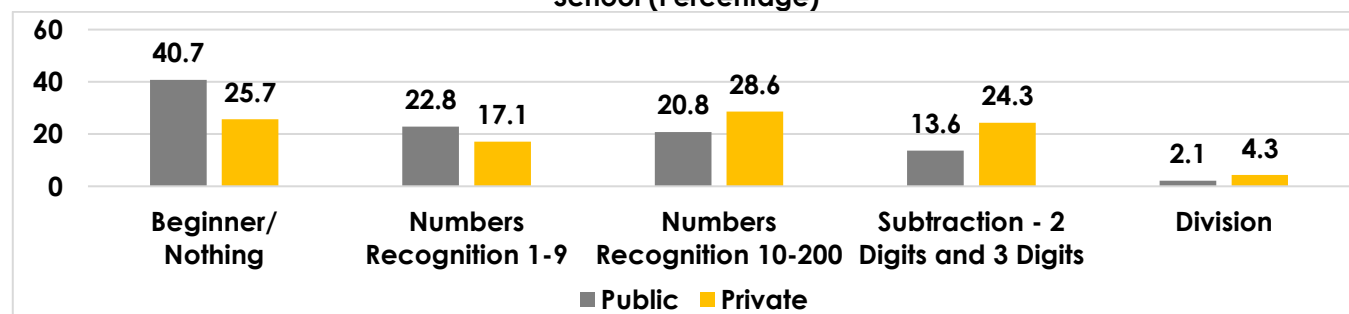
See Annexure 6: Exhibit 3.3.3.1a for district wise graph

Source: IRC Household Survey, 2023

Public vs Private School

Similar patterns observed in the reading assessment between public and private schooling are also evident in the assessment of arithmetic skills – private schools fared much better than public schools in terms of highest level achieved. Approximately 4% of children studying in private schools were categorized as 'Division Child', while the percentage for children in government schools was 2%. Class-wise analysis revealed that 11% of class five children in public schools were able to perform 2-digit division, whereas the percentage was 22% in privately managed schools.

Exhibit 3.3.3.2: Learning Levels (Arithmetic) Children Age between 5-16 years Who Can Read by Type of School (Percentage)



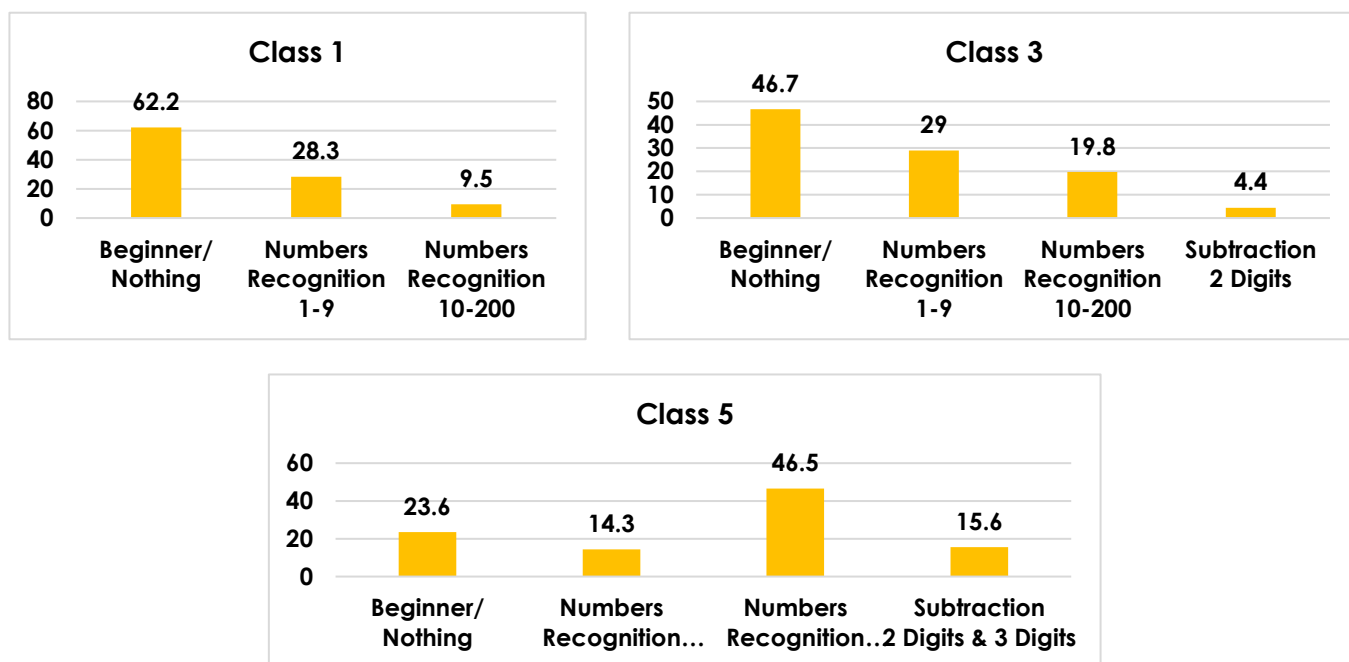
Source: IRC Household Survey, 2023

Primary Level Learning Assessment

The percentage of children at beginner level were found to be at 62%. This percentage decreased as the grade increased with ~47% of children in class 3 and ~27% from class 5 at beginner level.

The highest level in class 1 was noted at **Numbers Recognition 100-200**, which increased to **Subtraction - 2 Digits in class 3** and to **Subtraction - 3 Digits in class 5**. However surprisingly, no children in class 5 were found to be at division level which as per the tool is the highest level.

Exhibit 3.3.3.3: Learning Levels (Arithmetic) Class-wise Percentage Children Who Can Read by Class

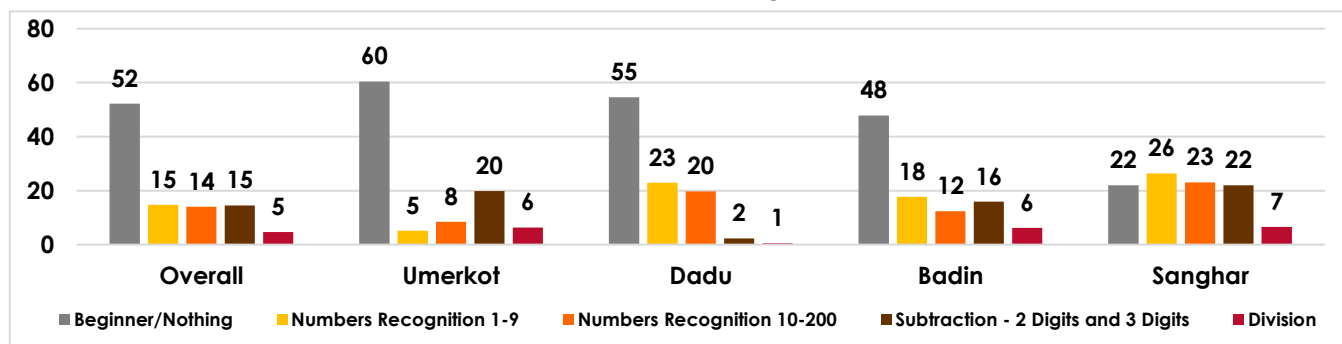


See Annexure 6: Exhibit 3.3.3.3a for district wise graph
Source: IRC Household Survey, 2023

Out-of-School Children

Since children tend to pick up on basic arithmetic skills even if they are not enrolled in school for example children working at shops, or assisting in various forms of labor, we assessed these children using the same tool. Among the out-of-school children, **~52% were categorized as 'Beginners/Nothing', indicating a lack of basic arithmetic skills while ~15% could recognize numbers from 1-9, ~14% could attempt subtraction** and interestingly 5% of these out-of-school children were able to perform division.

Exhibit 3.3.3.4: Learning Levels (Arithmetic) of Out-of-School Children Age between 5-16 years Who Can Read (Percentage)



Source: IRC Household Survey, 2023

Wealth Index

The exhibit highlighting the correlation between arithmetic outcomes and household wealth status clearly demonstrates that a similar pattern as that observed in reading assessments is also found here. **Approximately 58% of children in the sample districts were categorized as 'Beginners/Nothing', while the percentage significantly decreased to ~33% in the richest households.** Similarly, the percentage of children classified as 'Division Level' was approximately 4% in the richest households, whereas it was around 2% in the poorest households.

Exhibit 3.3.3.5: Learning Levels (Arithmetic) Children Age between 5-16 years Who Can Read by Household Wealth Quartiles (Percentage)




Source: IRC Household Survey, 2023

Bonus Questions

Unlike the previous two assessments (Urdu/Sindhi and English), children, regardless of their highest level in arithmetic were asked to solve bonus questions.

These bonus section consisted of three aspects: time recognition, word problems, and shape recognition (shown in exhibit 3.3.3.6 – 3.3.3.8). **Overall, ~26% of the children were able to tell the time on the clock correctly.** This percentage gradually increased with the class children are currently enrolled in. for example, 6.5% of then children in class 1 could tell time, while in class this percentage increased to ~43% and in class 9 it was found to be 51%.


Q1: What is the time on this clock?




Q2: There are 39 students in Ahmed's class. 5 students are absent. How many students are present?

a) 44 b) 34
c) 24 d) 14

Q3: Look at these shapes. Which of these is a triangle?




س: 1: اس گھڑی کی کیا وقت ہے؟



س: 2: احمد کی کلاس میں 39 طلبہ ہیں۔ 5 طلبہ غیر حاضر ہیں۔ کتنے طلبہ حاضر ہیں؟

34 (b) 44 (a)
14 (d) 24 (c)

س: 3: دیکھیں ان شکلوں میں سے کون سی مثلث ہے؟

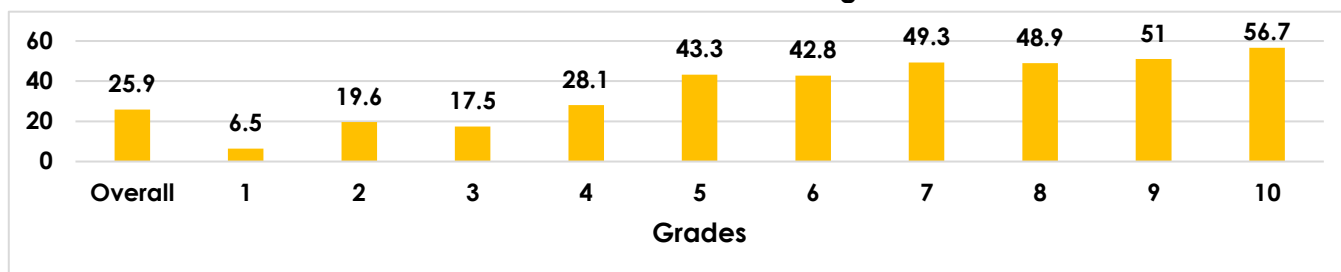


Ask all the children (5-16 years). If a child answers the questions correctly, mark her/him as a "can do" child, otherwise mark as "cannot do"
سب بچوں (5-16 سال) کو اس سیکشن کے تمام سوالات پوچھیں۔ اگر بچہ کسی سوال کا صحیح جواب دے گا تو اسے "can do" بچہ قرار دیا جائے، ورنہ اسے "cannot do" بچہ قرار دیا جائے۔

Overall, 24% of the children couple solved a simple word problem; this percentage however is high in Sanghar district. When investigated further, the enumerators informed that us basic level education in Sanghar is found to be higher in some households due to the number of SEF school in the districts.

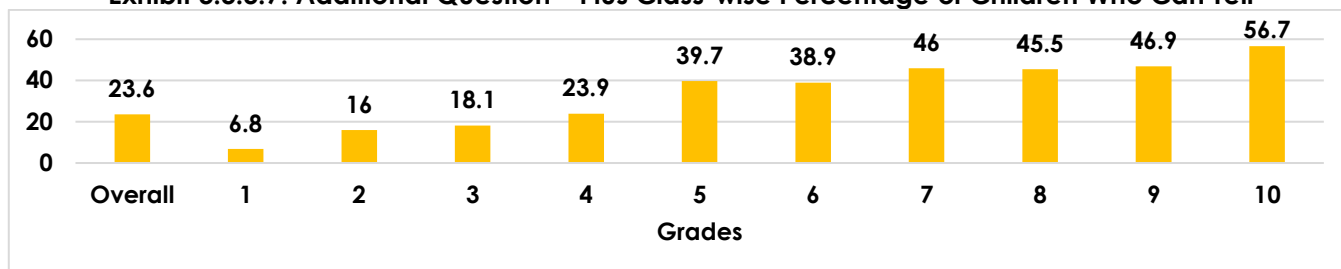
In shape recognition, overall, 29% children answered correctly which the percentage in class 1 standing at 8% and rising to 58% in class 10.

Exhibit 3.3.3.6: Additional Questions – Class-wise Percentage of Children Who Can Tell Time



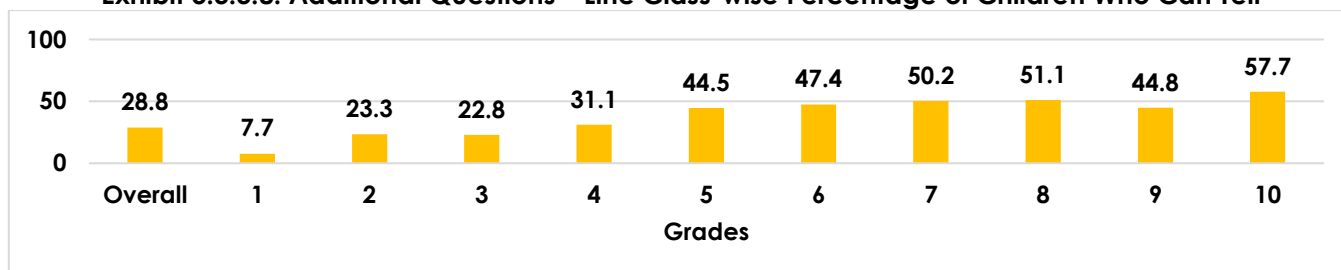
Source: IRC Household Survey, 2023

Exhibit 3.3.3.7: Additional Question – Plus Class-wise Percentage of Children Who Can Tell



Source: IRC Household Survey, 2023

Exhibit 3.3.3.8: Additional Questions – Line Class-wise Percentage of Children Who Can Tell



Source: IRC Household Survey, 2023

3.3.4 General Knowledge Assessment

In addition to the subject wise assessment, children were also asked to answer three general knowledge questions. These questions entailed identifying the actions provided in the pictures and choosing the correct answer from the options. The second question followed a similar pattern while the third ask the student to identify the picture provided without any options available. Overall, almost 50 percent children correctly mentioned these Questions. Significant inter-district variations however exist. Percentages are relatively higher in Sanghar districts.

Sample 1

General Knowledge

English

Sample 1

This test is for children who are at word level in English

Q1: Look at the picture and answer accordingly.

(I) What is the boy doing in the picture?

(a) Washing Hands
(b) Playing
(c) Combing

(II) What is the girl doing in the picture?

(a) Cleaning
(b) Drinking Water
(c) Brushing

Q2: Complete the sentence by replacing pictures with words.

This is a _____

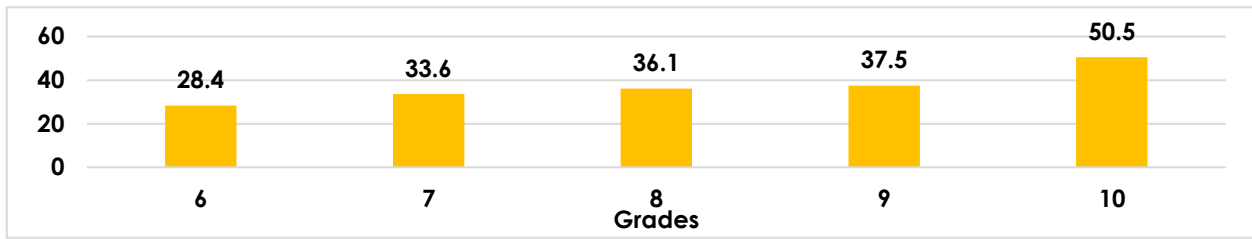
This is a _____

This is a _____

Ask the child to look at the picture and then ask 2 questions from the child.
Mark "Yes" if the child answers correctly, otherwise mark as "No".
پہلے بچے کو تصویر دکھائی جائے اور پھر بچے سے دو سوالات پوچھے جائیں۔
بچے کا صحیح جواب دینے پر "ہاں" لکھیں، ورنہ "نہیں" لکھیں۔

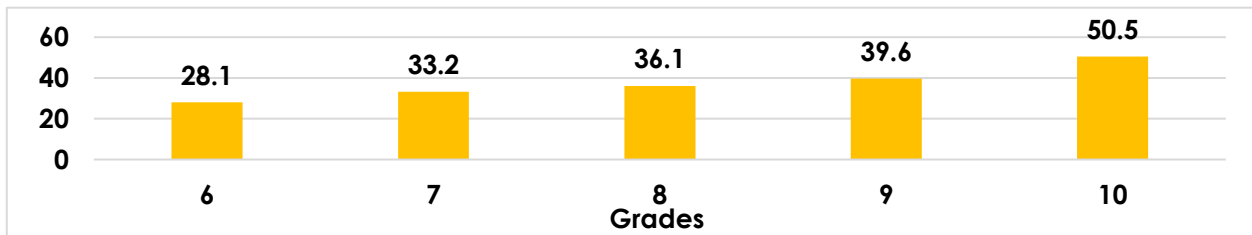
Ask the child to complete the sentences by identifying the pictures of the items shown in the sample file.
English: If a child answers any 2 correctly, mark his/her "Yes", otherwise "No".
انگریزی: اگر بچے کو کسی بھی دو سوالات کا صحیح جواب دینے پر اسے "ہاں" لکھنا ہے، ورنہ "نہیں" لکھنا ہے۔

Exhibit 3.3.4.1: General Knowledge - Question - 1 [I] Class-wise Percentage of Children Who answered correctly



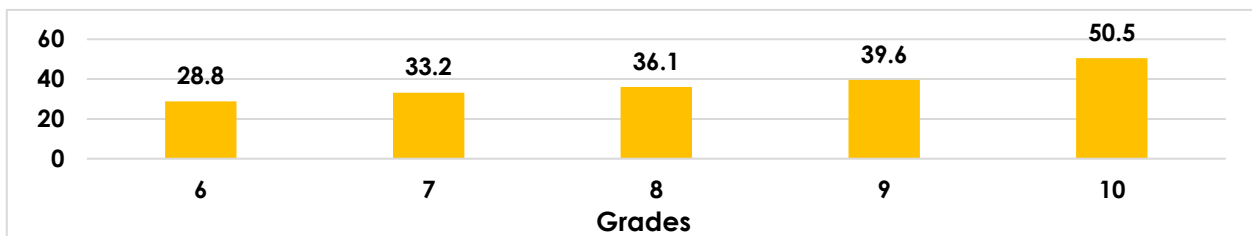
Source: IRC Household Survey, 2023

Exhibit 3.3.4.2: General Knowledge - Question - 1 [II] Class-wise Percentage of Children Who Can Do



Source: IRC Household Survey, 2023

Exhibit 3.3.4.3: General Knowledge - Question - 2 Class-wise Percentage of Children Who Can Do



Source: IRC Household Survey, 2023

3.4 Learning Losses

A key objective of this study is to gauge the learning losses caused to children due to Covid-19 and various impacts of Climate Change such as Floods, Heatwaves and Droughts.

Majority of the responses received were regarding the impact of covid-19 and floods-22 due to their massive impact and the subsequent school closures.

ASER releases annual district-wise learning level results for rural areas in 2021. However, our survey was conducted in May to June 2023, allowing us to assess initial learning losses caused by the 2022 floods. This report also provides detailed information on the flood's impact on household income, assets, and child education. We found that ~62% (Exhibit-3.5.1.1) of households in the sample districts were affected by the floods.

To determine children's learning losses, we compared the gender-disaggregated data with ASER's district-wise data. As detailed in the section above, using ASER's methodology, we assessed learning losses in Urdu, English, and arithmetic using specific parameters:

- Urdu: Percentage of children capable of reading at least a sentence.
- English: Percentage of children capable of reading at least words.
- Arithmetic: Percentage of children capable of performing at least subtraction.

Our study revealed that 11-20 percent of children in Urdu, 13-25 percent in English, and 9-24 percent in arithmetic showed the current level of learning according to the parameters used to determine losses.

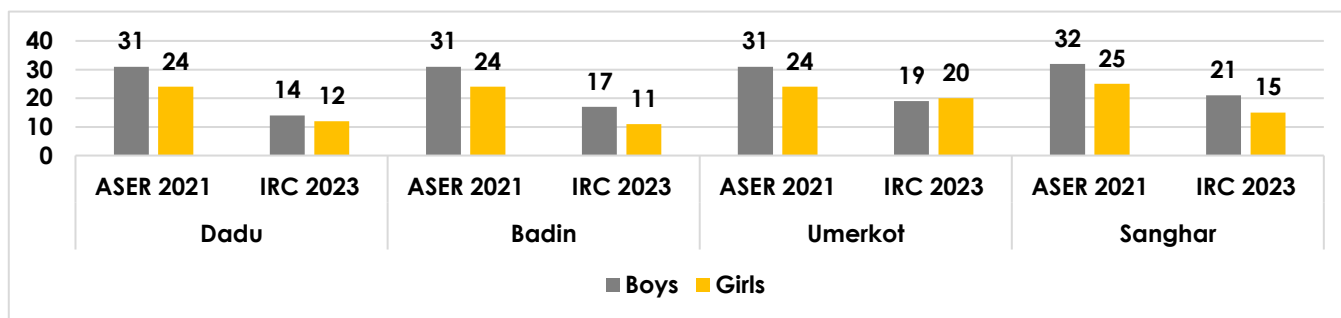
However, comparing this study with ASER 2021 data presented challenges due to some discrepancies. For example, the same figures (21 percent boys and 18 percent girls) were reported by ASER for the arithmetic level of learning in the sample districts. Similarly, the same figures (31 percent for boys and 24 percent for girls) were evident in the exhibits for Urdu level of learning in three sample districts.

Although when the students returned to schools after Floods, there were various strategies employed at school level to assess the learning levels of their students, with some opting for oral assessments, others taking subject-wise tests and some continuing as they were. **In conversations with the HMs of these districts, we found that in the schools in which tests were conducted, the results indicated declining learning levels.** This finding from the KII was further supported by the results of the assessments conducted at household level as provided below.

3.4.1 Urdu

In comparison with ASER's 2021 district-wise data, significant learning losses were witnessed across the four districts and in both girls and boys. As shown in exhibit 3.4.1, the most impacted districts in terms of learning levels for boys was Dadu, where percentage of boys who can at least read sentences dropped from 31% in 2021 to 14% in 2023. The drop-in percentage of girls who can read at least sentences remained similar throughout the districts, with the lowest being Badin where there was an 13% decrease.

Exhibit 3.4.1: Percentage of Children Capable of Reading at Least A Sentence Urdu Learning

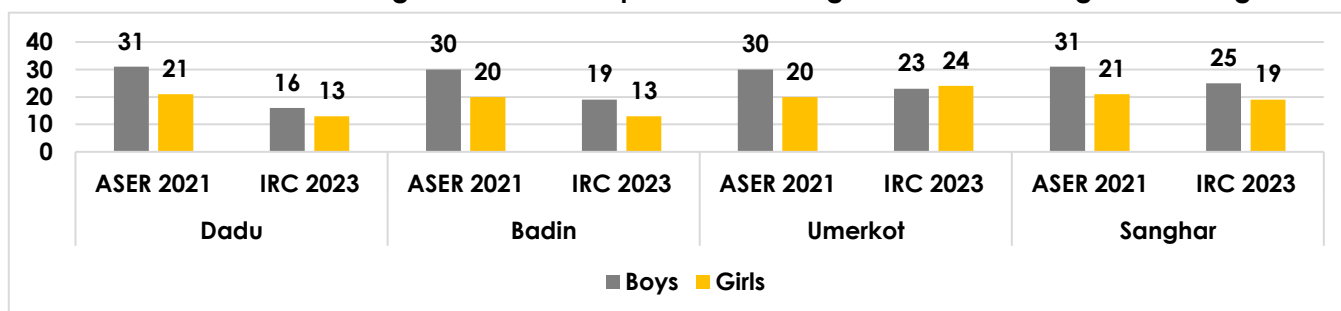


Source: IRC Household Survey, 2023 and ASER, 2021

3.4.2 English

Learning losses across districts ranged from a 6% (Sanghar) to a 15% (Dadu) decrease for boys. With the exception of Umerkot, where a slight increase of 4% was witnessed in learning level of girls, the overall trend remained the same with 8% decrease seen in Dadu and Badin and a 2% decrease seen in Sanghar.

Exhibit 3.4.2: Percentage of Children Capable of Reading at Least Words English Learning

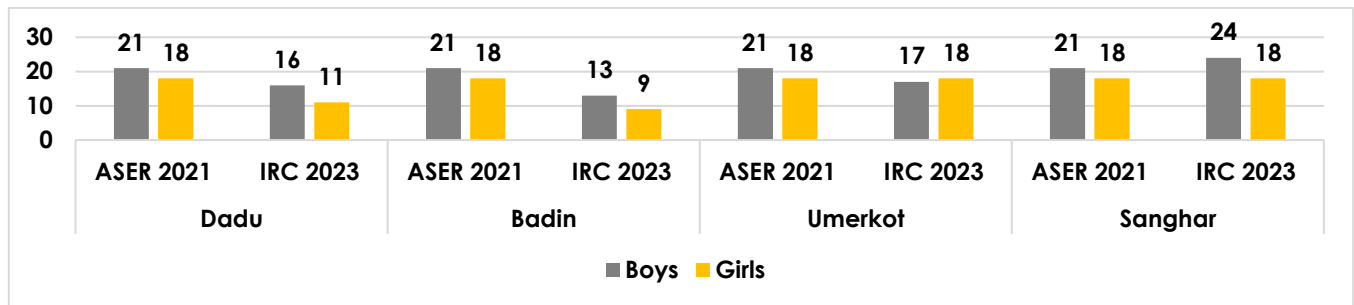


Source: IRC Household Survey, 2023 and ASER, 2021

3.4.3 Arithmetic

Surprisingly, a 3% increase in boys learning levels was witnessed in Sanghar but the remaining districts witnessed a 4% to 8% decrease in learning levels. For girls, the learning levels remained the same for Sanghar and Umerkot, however a significant drop was observed in Badin where percentage of girls who could at least do subtraction, dropped from 18% in 2021 to 9% in 2023

Exhibit 3.4.3: Percentage of Children Capable of Performing at Least Subtraction Arithmetic Learning



Source: IRC Household Survey, 2023 and ASER, 2021

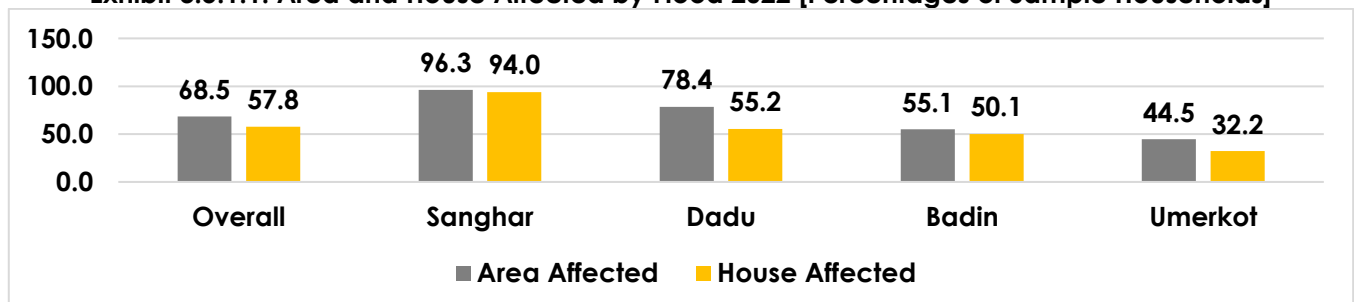
3.5 Impacts of Climate Change on Household Livelihood

3.5.1 Floods

Assessing the impact of Climate Change and more specifically Floods 22 was a major component of this study, hence a separate module was included in the household questionnaire to assess the impact of flood 2022 on various aspects of household livelihood and the impact on their children's education. This section summarizes the findings with respect the issues related with flood.

The perception of households regarding the effects of the flood indicates that ~80% of the area in the sample districts is affected. Among these districts, Badin reported the lowest impact, with around 55 percent of the area being flooded. However, in contrast, ~63% of households confirmed that their houses were affected. The highest percentage (94 percent) of affected houses was reported in Sanghar district. It should be noted that even prior to floods, Sanghar is already impacted due to water logging and this impact has been aggravated by the floods-22. The conversion of the Chotiari wetlands in southern Sanghar "into a reservoir has ultimately turned into a disaster due to the resultant water logging, soil salinity and negative vegetation in the adjacent areas of the structure."⁷⁷

Exhibit 3.5.1.1: Area and House Affected by Flood 2022 [Percentages of Sample Households]

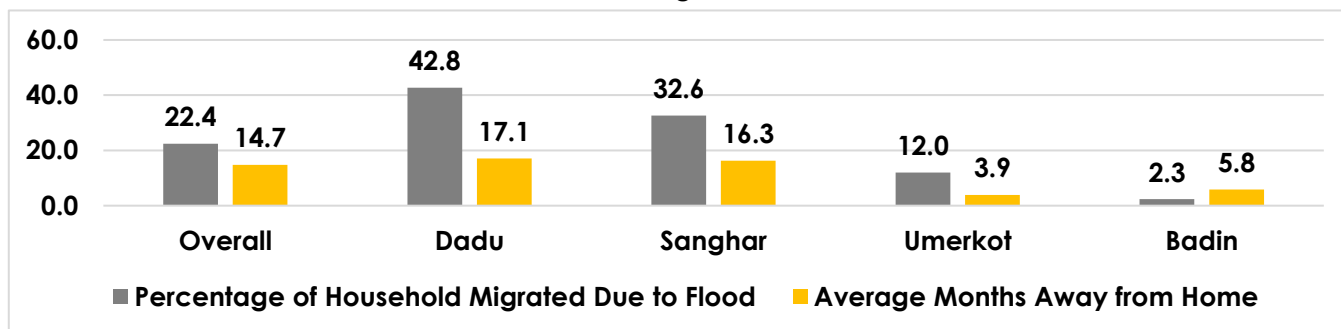


Source: IRC Household Survey, 2023

⁷⁷ <https://www.thethirdpole.net/en/nature/sindhs-man-made-chotiari-reservoir-turns-into-environmental-disaster/>

Through the household survey questionnaire, forced migration was also investigated. The Exhibit 3.5.1.2 confirms that overall ~24% households temporarily migrated for on an average period of 14 months due to flood 2022 with higher percentages of migrated households are evident in Sanghar and Dadu districts. The importance of accounting for migration is that it has a direct impact on children's education. In the case that a family migrates for any period of time, the child's education is, in majority cases, discontinued during that time.

Exhibit 3.5.1.2: Forced Migration Due to Flood 2022

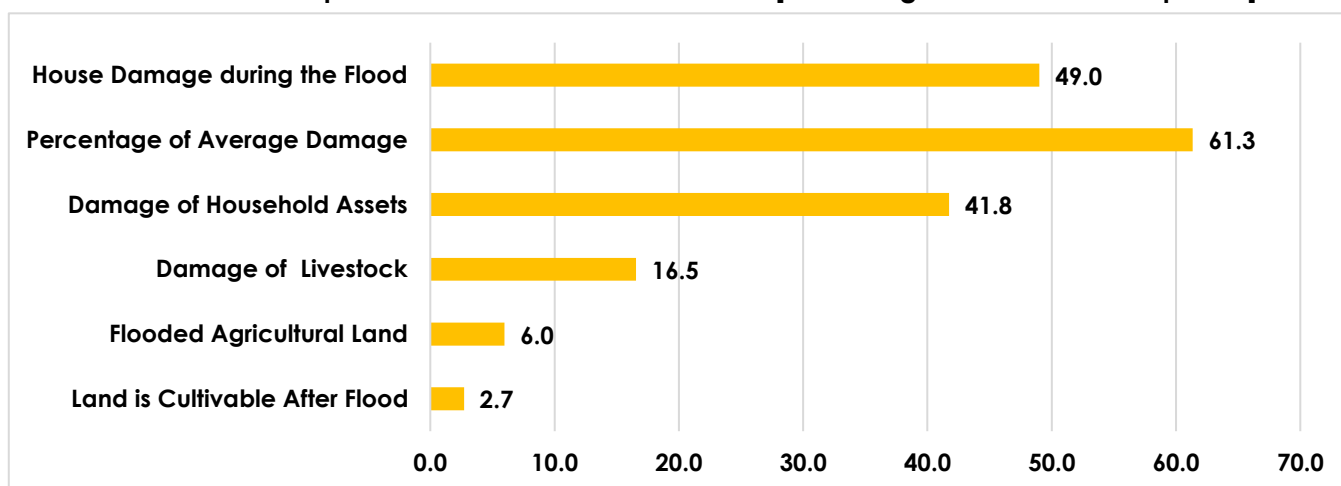


Source: IRC Household Survey, 2023

The details of the impact of flood 2022 on household assets are tabulated in the Exhibit 3.5.1.3. **In general, ~53% households reported that they incurred some form of damage to their household or assets.**

The respondents were also asked to provide an estimated percentage of damage caused to their housing structure, the average percentage was calculated to be ~63%. Additionally, questions regarding damage included whether any assets, livestock or agricultural land was impacted due to floods. The response for each category was noted as ~45%, ~19% and ~ 6% respectively. In terms of agricultural land reclamation, only close to 3 percentage of households reported that 'Land is cultivable after Flood'.

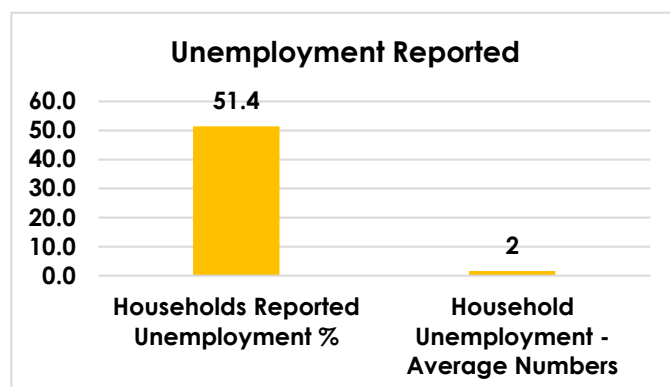
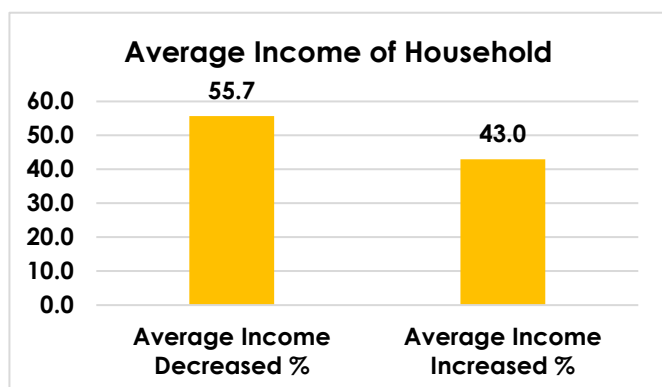
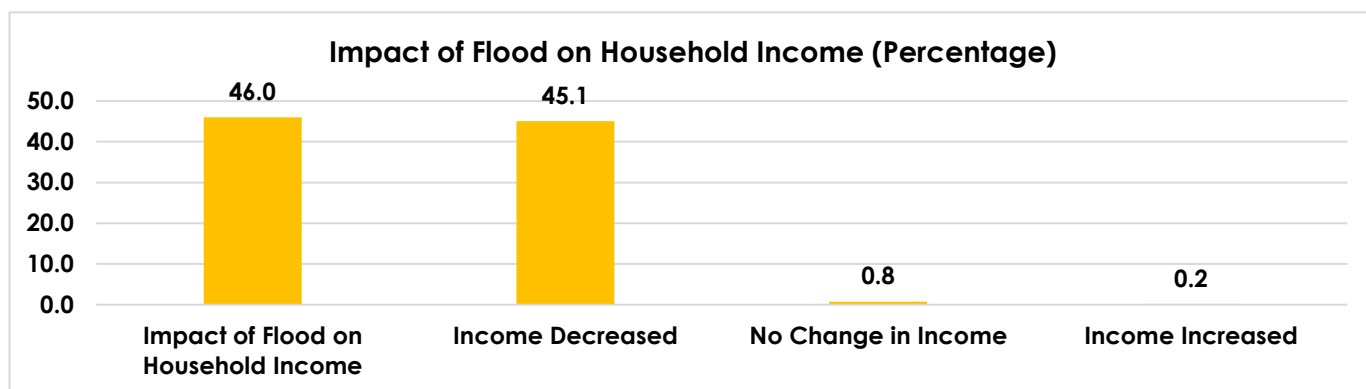
Exhibit 3.5.1.3: Impact of Flood on Household Assets [Percentage of Households Reported]



Source: IRC Household Survey, 2023

Information on Impact of flood-22 on household income and employment are summarized in the Exhibit 3.5.1.4. The Exhibit shows that overall close to 49% households confirmed the decline in household income due to flood, while 54% reported unemployment due to floods. In terms of decline in household income, 56% decrease in income was claimed by the households.

Exhibit 3.5.1.4: Impact of Flood on Income and Employment in Sample Households



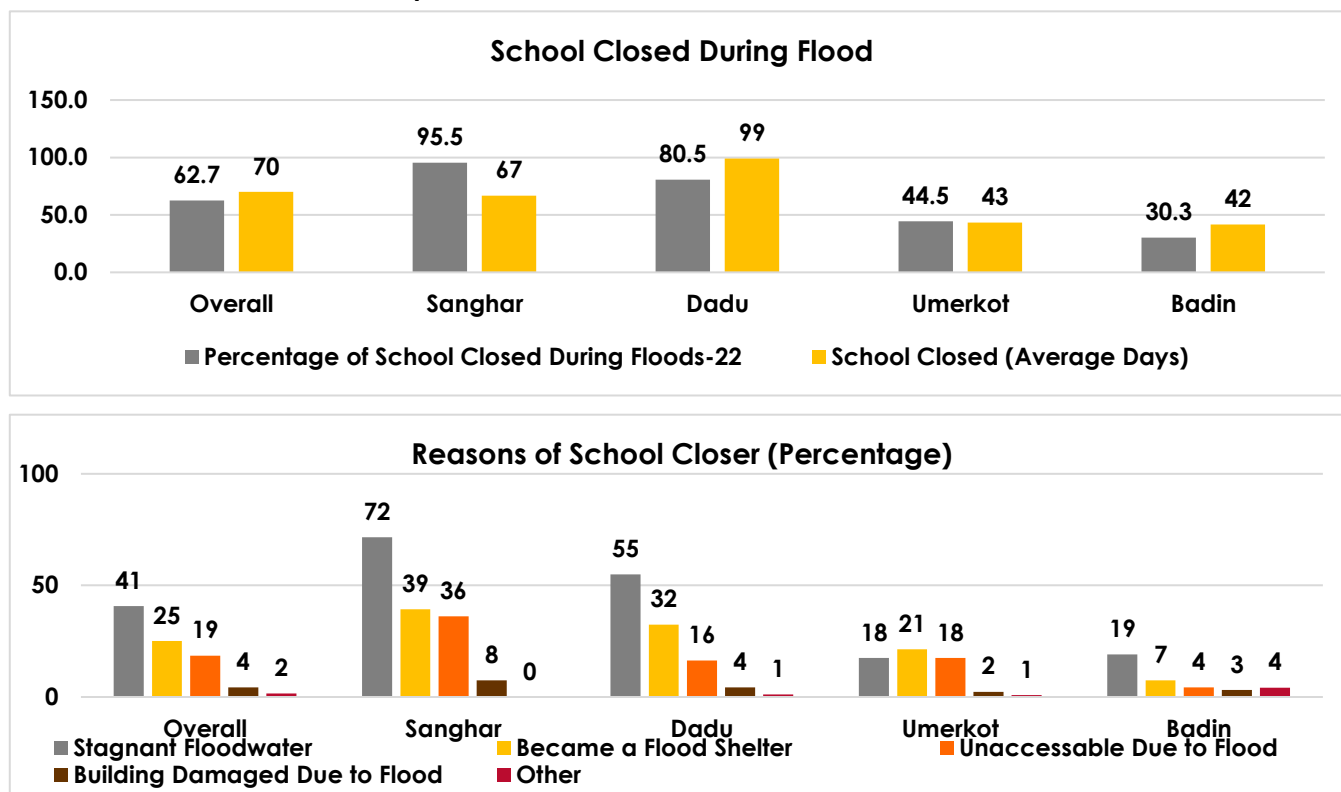
Source: IRC Household Survey, 2023

The impact of flood on child education was investigated through the household questionnaire in terms of the school closure status and child learning during the school closure. The Exhibit 3.5.1.5 displays information on the status and reasons of school closure. In general, close to 64 percent (96 percent in Sanghar district) households confirmed that the schools were remained closed on an average period of 70 days. Main reasons which were referred include; 'Flood water in school' (42 percent), 'School became a flood shelter' (25 percent) and 'Access to school was blocked due to flood water' (19 percent). Moreover, close to 4 percent (8 percent in Sanghar district) households told that 'School building was damaged due to flood'.

The impact of flood on child education was investigated through the household questionnaire in terms of the school closer status and child learning during the school closer. The Exhibit 3.5.1.5 displays information on the status and reasons of school closer.

In general, close to 64% (~96% percent in Sanghar district) households confirmed that the schools were remained closed on an average period of 70 days. Main reasons which were referred include; 'Flood water in school' (42 %), 'School became a flood shelter' (25%) and 'Access to school was blocked due to flood water' (19 %). Moreover, close to 4 %† (8 % in Sanghar district) households told that 'School building was damaged due to flood'.

Exhibit 3.5.1.5: Impact of Flood on Child Education - Status of School Closure



Source: IRC Household Survey, 2023

Children learning during school closure are disseminated in the Exhibit 3.5.1.6. Not surprisingly, the majority (close to 43%) of households categorically responded 'Education did not continue'. Nonetheless, close to 49 percent households in Sanghar district described that 'Family members taught children at home', while private home tutoring was reported by 1.5% households. Other means of continuing information was relatively low and are therefore not reported in the exhibit below. These responses included "teachers provided homework via phone," "watched tele school," "listened to the radio station," and "continued education via ten schools." This finding is further supported by the insights gained from the KIIs, where in majority of the cases, education could not continue.

Children were also questioned regarding use of technology specifically for the purpose of education continuity, very low incidence of using computer/laptop and tablet for learning is observed, while in only one percent households' children were reported using smartphone for the purpose of online learning.

Exhibit 3.5.1.6: Impact of Flood on Child Education - Learning During School Closure (Percentage)

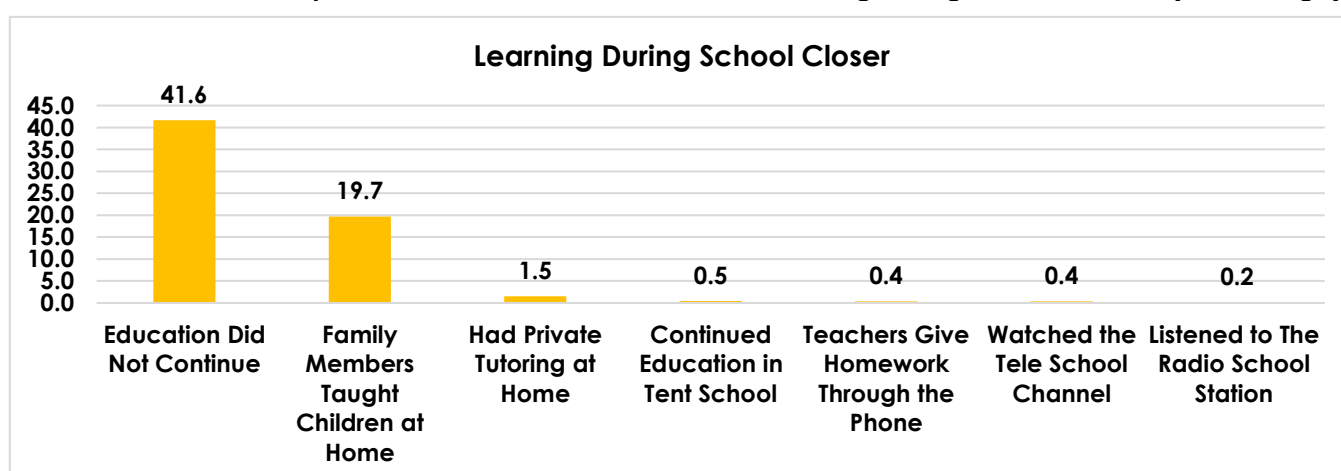
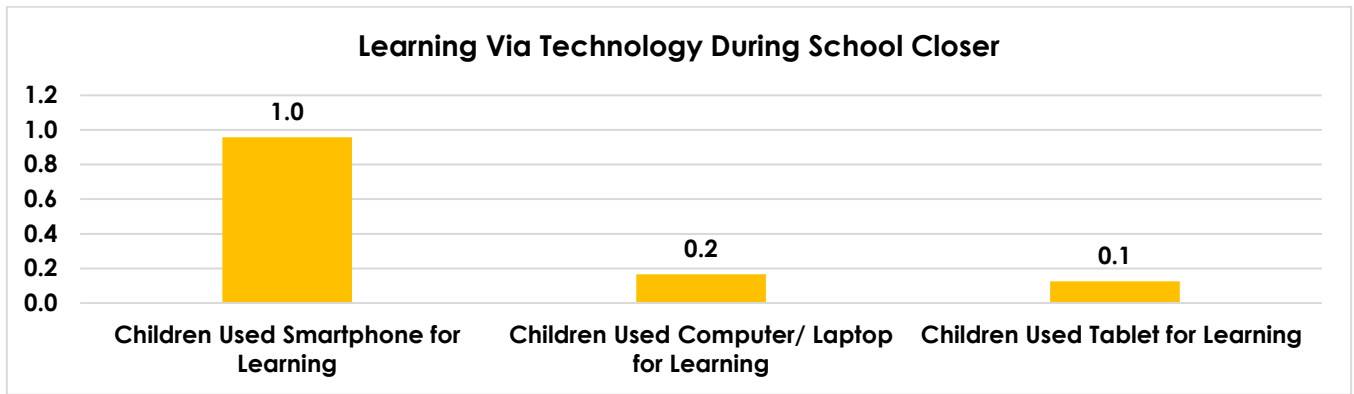


Exhibit 3.5.1.6: Impact of Flood on Child Education - Learning During School Closure (Percentage)



Source: IRC Household Survey, 2023

3.5.2 Heatwave

The experience of households in terms of various aspects of heatwave are furnished in the Exhibit 3.5.2.1. Almost all households were in opinion that heatwaves are common in sample areas. In general, the temperature remains at 43 degrees Celsius in months from April to September with June and July recorded as the hottest months.

Household perception regarding the impact of high temperature on income is furnished in the Exhibit 3.5.2.2. Close to 17 percent households reported 36 percent decline in the household income during hot months.

Few aspects of the impact of heatwave on child education are furnished in Exhibits 3.5.2.3 and 3.5.2.4. Close to 31 percent households reported school shut down during the heatwave period, while close to 14 percent households confirmed that child education was discontinued during the school closure. Very low incidence of using computer or smart phones is also evident in the Exhibit 3.5.2.4.

Exhibit 3.5.2.1: Occurrence of Heatwave in Sample Areas

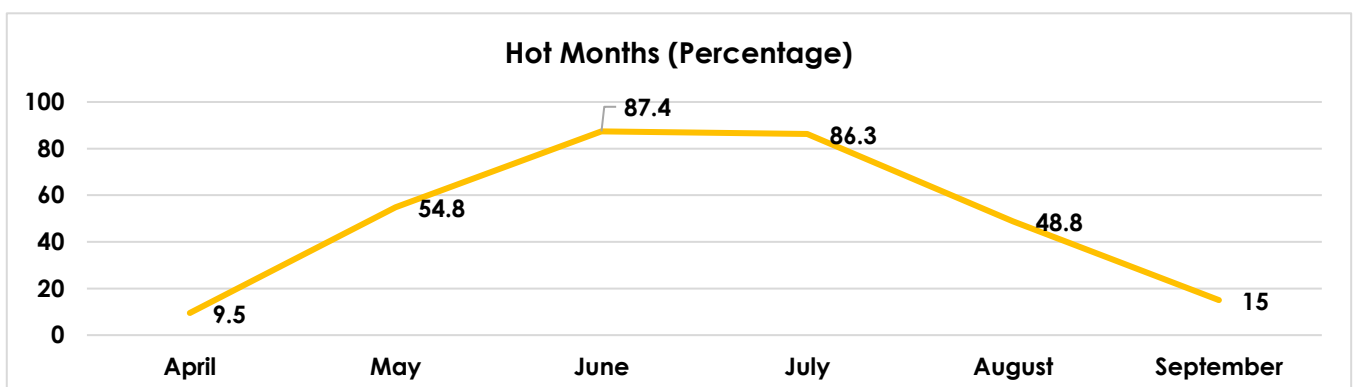
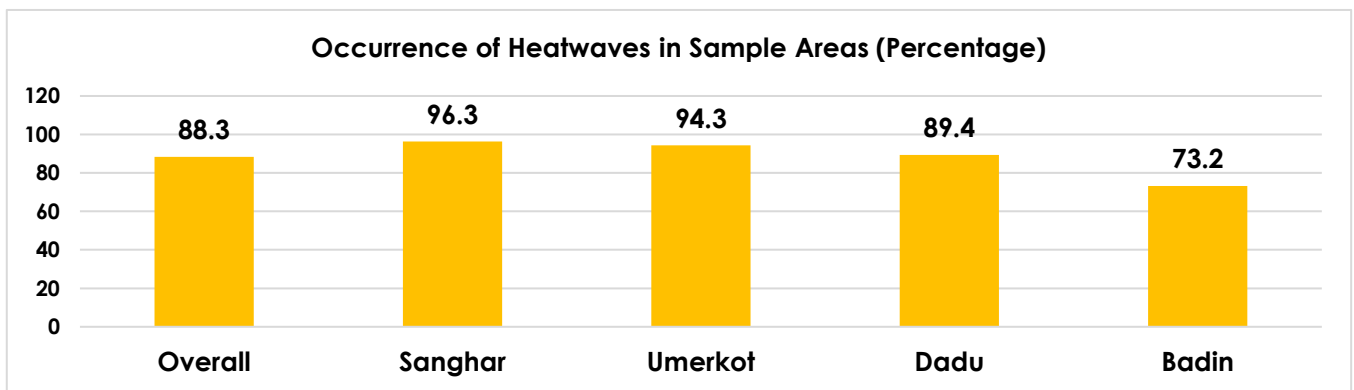
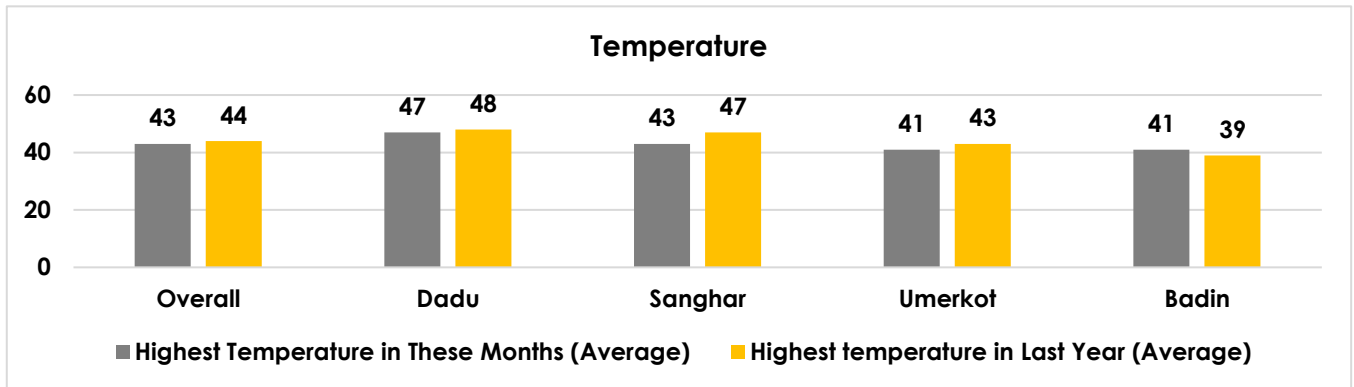
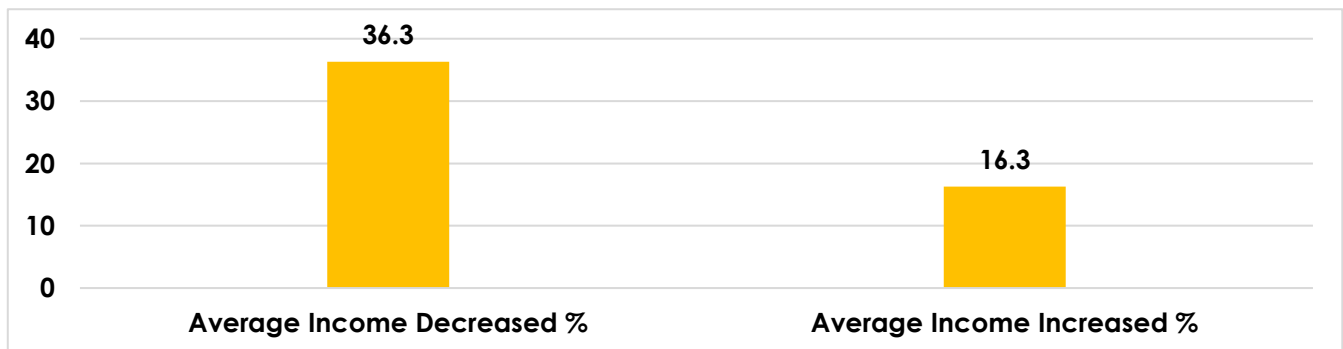


Exhibit 3.5.2.1: Occurrence of Heatwave in Sample Areas



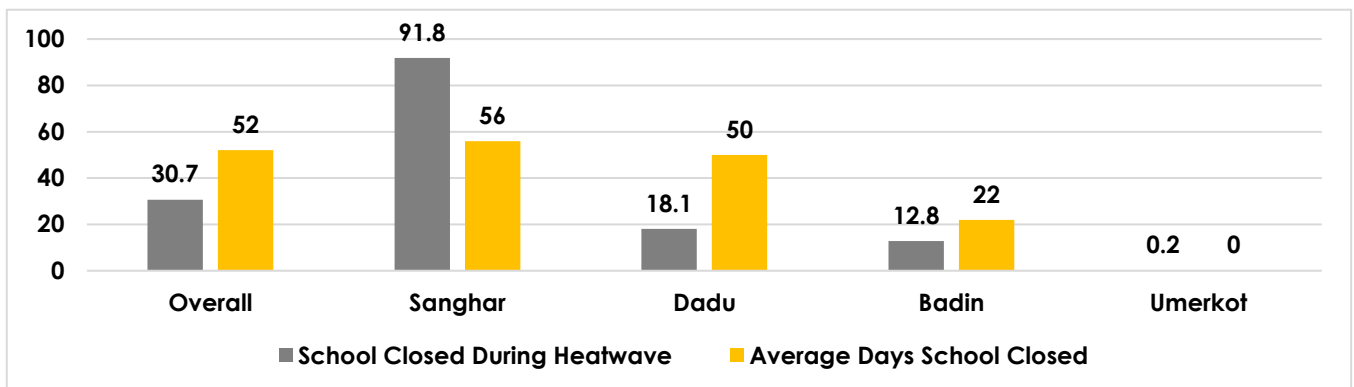
Source: IRC Household Survey, 2023

Exhibit 3.5.2.2: Impact of Heatwave on Household Income



Source: IRC Household Survey, 2023

Exhibit 3.5.2.3: Impact of Heatwave on Child Education - Status of School Closure



Source: IRC Household Survey, 2023

Exhibit 3.5.2.4: Impact of Heatwave on Child Education - Learning During School Closure (Percentage)

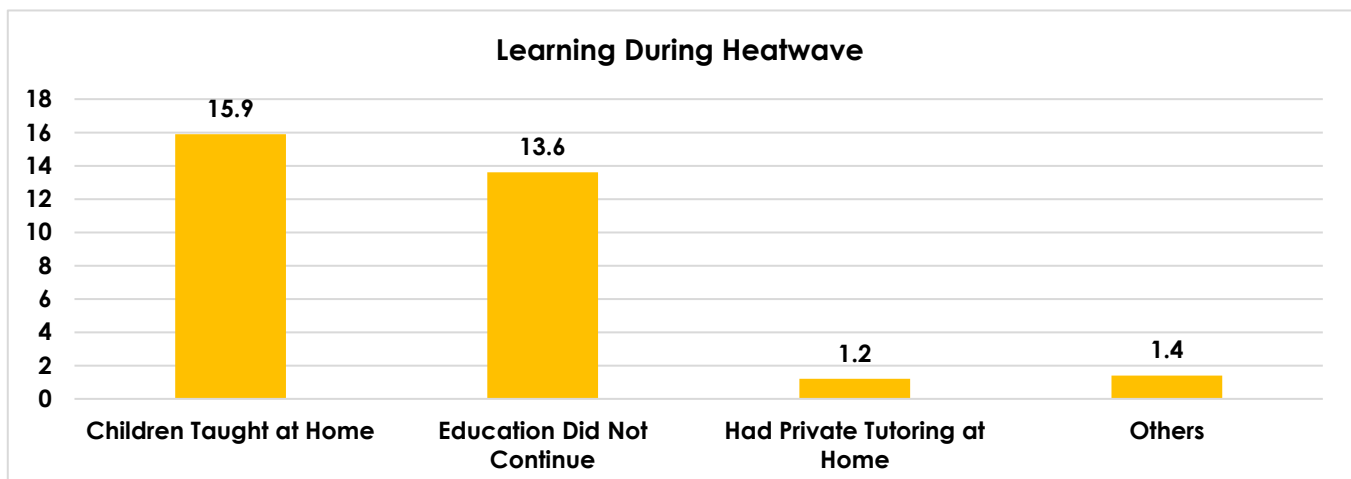
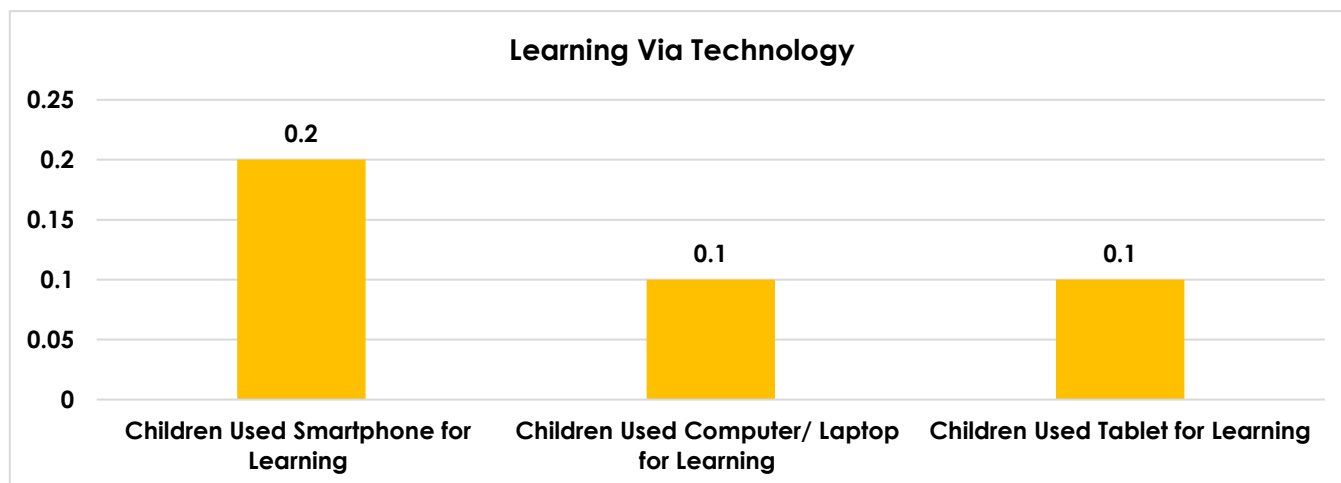


Exhibit 3.5.2.4: Impact of Heatwave on Child Education - Learning During School Closure (Percentage)

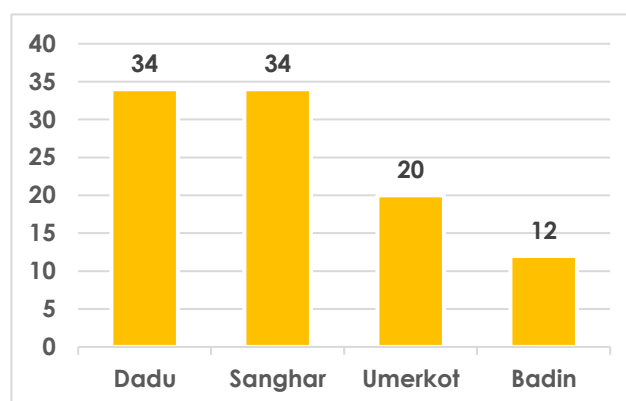


Source: IRC Household Survey, 2023

3.6 Child Learning During Floods 2022

As part of the questionnaire, one of the sections was dedicated to asking the children about their experience regarding education during and post floods-22. On average 25% children reported that their learning was impacted by the recent floods. Exhibit 3.6.1 displays the district-wise percentage of this finding. Dadu and Sanghar, both had 34% of children whose education was directly impacted while the percentage in Umerkot (20%) and Badin (12%) was relatively lower

Exhibit 3.6.1: Percentage of Children Impacted by Floods-22



Source: IRC Household Survey, 2023

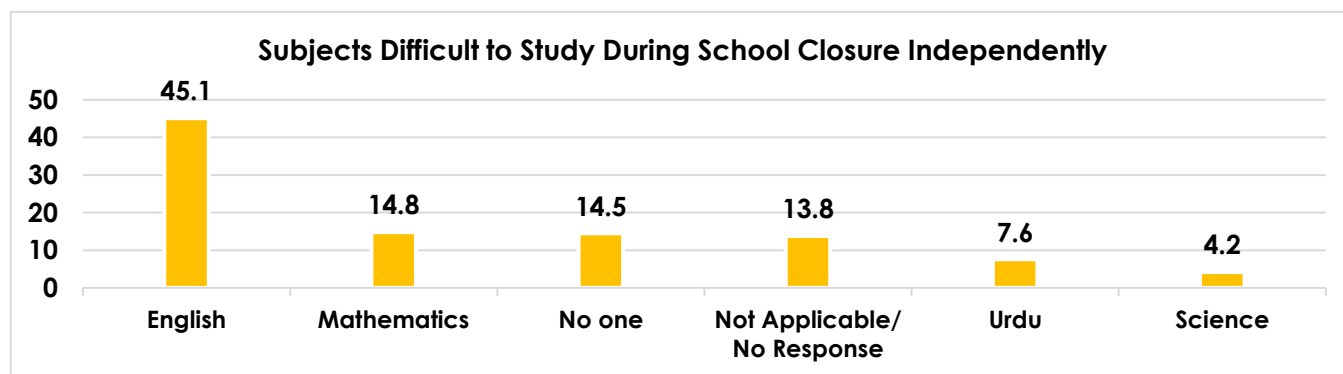
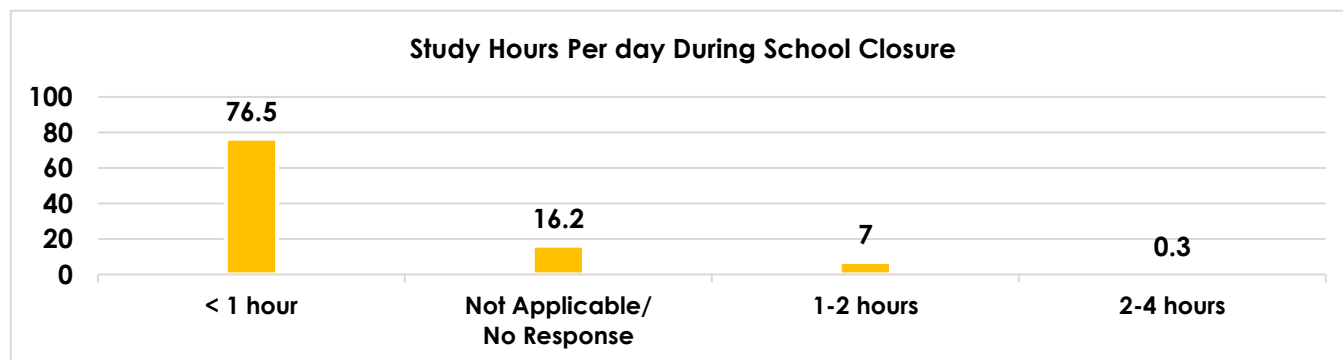
3.6.1 Learning Independently

During the survey, two specific questions were asked to assess the level of learning independently during school closure; 'How many hours per day did you give to your studies during school closure period' and 'Subjects did you find difficult to study on you own during the school shut down period?' Exhibit 3.6.1.1 summarizes answers of these questions.

More than 70% of currently enrolled children aged 5–16 years report that they cannot give even a single hour of the day to their studies, while about 5% to 7% of children say they are able to allocate 1-2 hours to their studies. Certainly, not being able to give proper time to their studies has direct impacts on children's level of outcomes.

The Exhibit also reveals that children may not feel comfortable studying every subject on their own. When questioned about the subjects they find difficult to study on their own, 45% identified English and 14% Arithmetic.

Exhibit 3.6.1.1: Learning Independently (Percentage)



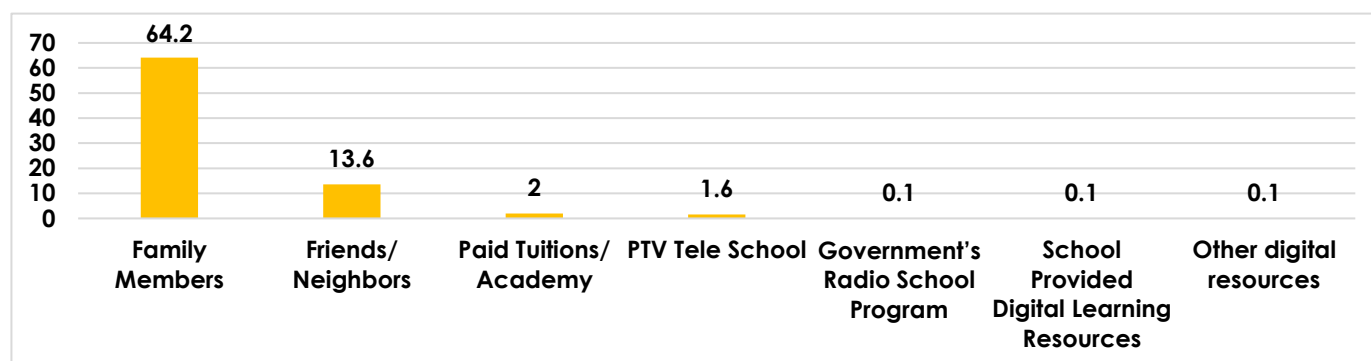
Source: IRC Household Survey, 2023

3.6.2 Support for Learning

Answering the question 'Did you take help from any of the following to continue learning during school closure?', **more than 77 percent described either family support or support from friends or neighbors (Exhibit 3.6.2.1. The incidence of support from paid tuition is low (close to 2 percent).** ASER 2021 report argues that family support in learning is a valuable resource, as children who reported relying on it for continuing learning during school closures had better learning outcomes than children who did not rely on family support.

To see the impact of household wealth on use of PTV's Tele-School, households where children took learning support from PTV Tele-School are arranged according the wealth status. No clear patterns are evident in the Exhibit 3.6.2.1 which shows the distribution of households according to wealth score. In Dadu district however, all household either belong to the 'Rich' or 'Richest' status in terms of Wealth Index.

Exhibit 3.6.2.1: Type of Learning Support Used During School Closures (Percentage)

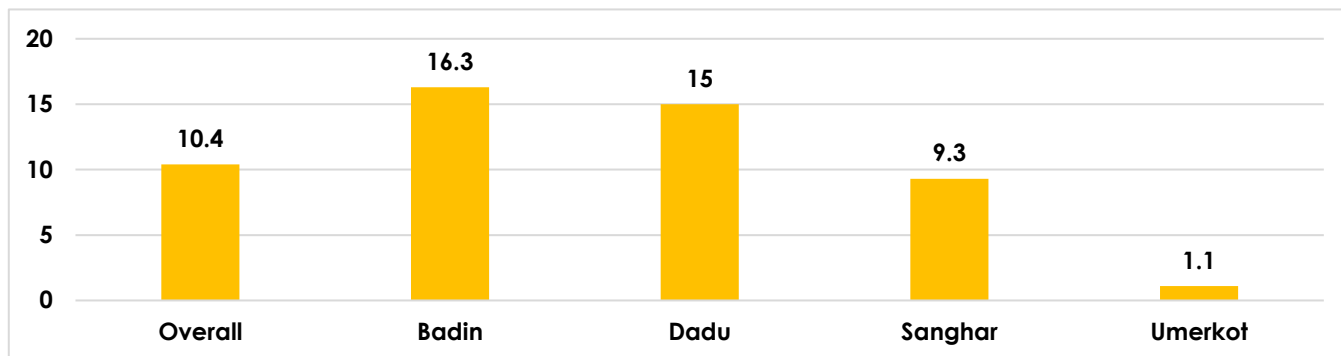


Source: IRC Household Survey, 2023

3.6.3 Learning Support from School

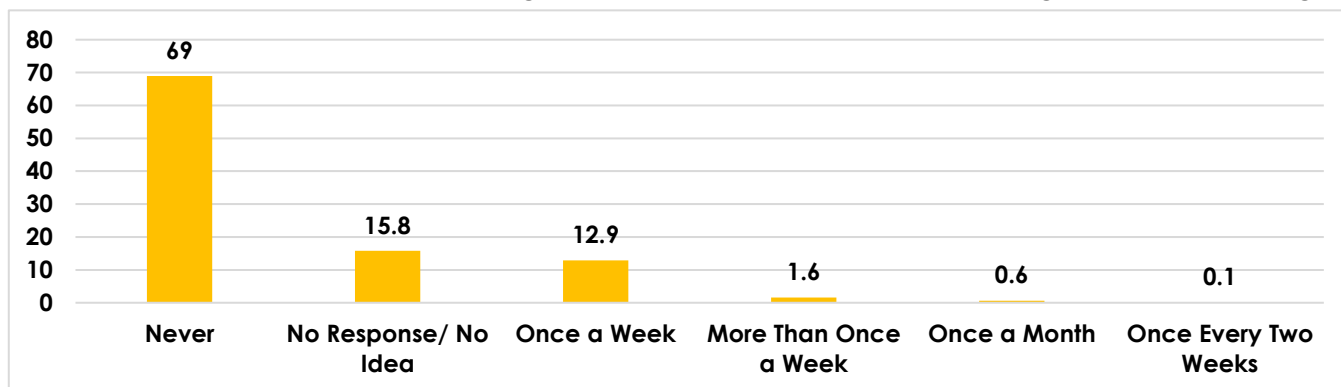
Information regarding the learning support from school are summarized in Exhibits 3.6.3.1 and 3.6.3.2. Schools are expected to continue to provide learning support to children during the closure. Unfortunately, only 10 per cent of children agree that school provides them with learning material to make it easy for them to continue learning during closures. Similarly, besides inter-district difference, 69 percent say that the school made no contact with them to ensure continuity of learning during the school closure period.

Exhibit 3.6.3.1: Children Who Received Learning Materials from Schools (Percentage)



Source: IRC Household Survey, 2023

Exhibit 3.6.3.2: How Often School Management Reached Out to Provide Learning Support (Percentage)



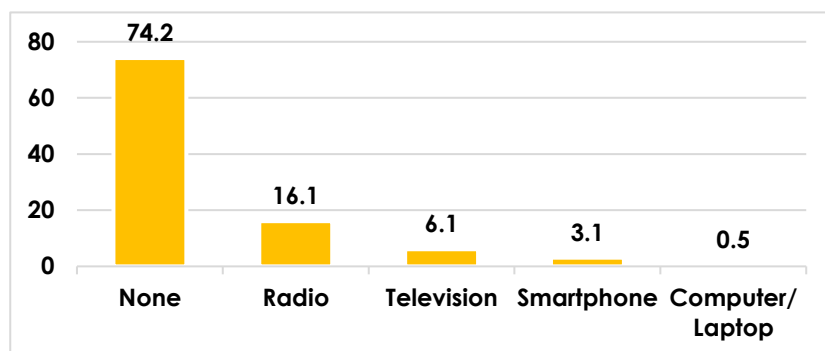
Source: IRC Household Survey, 2023

3.6.4 Use of Technology for Learning

Children were also asked whether they have access to computers or smartphone for learning during school closures, whether to attend online classes or to access online learning resources.

According to the Exhibit 3.6.4.1 which furnishes information on access and use of technology for online learning, children access to technology was found to be nonexistent in ~74% households. The Exhibit also reveals very insignificant ownership of computer (0.5%) or smartphones (3.1%).

Exhibit 3.6.4.1: Technology Used for Study During School Closure (Percentage)

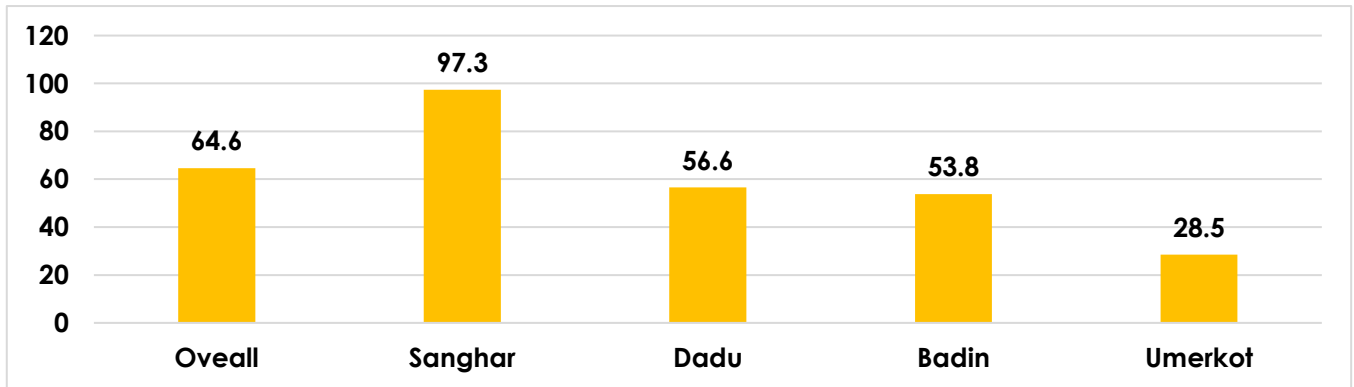


Source: IRC Household Survey, 2023

3.6.5 Children Confidence in Studying on their Own

The pertinent module also explores children's confidence in studying on their own if schools shut down again. Answering the question 'Are you ready to study on your own if schools close again?', overall 65 percent children were confident and responded positively. Nonetheless, the comparable percentage is very low (28.5%) in district Umerkot.

Exhibit 3.6.5.1: Children's Confidence in Studying on Their Own If Schools Shut Down Again (Percentage)



Source: IRC Household Survey, 2023

In light of the above-mentioned findings, it is evident that in case of school closures in the future, the children, at household level, do not yet have the means to continue learning. A major reason for this is the lack of access to technology which translates into a lack of access to online classes or any means of digital learning that may be initiated by the schools. In addition to that, the percentage of children who reported that their schools reached out to them or provided them with learning materials also seems to be relatively low. Although overall, ~65% of the children claimed to be confident that they can study on their own in case of school closures in the future, relevant materials and constant connection with the school is essential in order to ensure that students are on track as per the requirements of their enrolled grade.

4.0 Insights from In-Depth Interviews with Stakeholders

Insights and significant findings were derived from Key Informant Interviews (KII) and consultations conducted to enhance our understanding of learning losses and potential solutions. Various stakeholders, including Head Teachers, DEOs, the Department of Climate Change, Sindh Education Department, The Citizen Foundation, and USAID. Our questions encompassed the impact of both COVID-19 and Climate Change, the majority of responses predominantly focused on COVID-19 and the recent Floods 22 due to its recent occurrence and substantial impact. The discussions primarily centered around the strategies implemented to address learning losses caused by these calamities and the recommendations provided for future preparedness.

4.1 Impact of COVID-19

The subsections below discuss the impact of COVID-19 on the education sector, reported during in-depth interviews.

4.1.1 Impact on School Closures

In the earlier months of COVID-19, in order to control the spread of the virus, the government had banned access to all public spaces, which also meant that educational activities came to a halt. However, as the country gained more control over the spread of the virus and COVID-19 cases became less widespread, Pakistan shifted to smart lockdown, which entailed specific timings and restrictions on numbers in gatherings. Gradually schools started reopening, albeit under strict Standard Operating Procedures (SOPs). Once the country started going back towards normalcy, the impacts of COVID-19 on the education sector started becoming more apparent.

The Government of Pakistan announced school closures on March 13, 2020. Schools remained closed for six months across the country, until September 15, 2020. At this point, the schools were opened in three phases, starting with grades 9 to 12. On September 23, 2020, the government reopened middle schools, throughout the country except in the province of Sindh, which decided to wait a week to take a final decision⁷⁸. Sindh started reopening middle schools on September 28, 2020⁷⁹. On September 30, 2020 the National Command and Operation Centre decided to reopen primary schools across the country. After the second wave of COVID-19 hit, lockdowns were started again. On November 23, 2020, it was decided that all educational institutions would be closed. The official closure was to take place from November 26, 2020. This took place due to the Inter-Provincial Education Ministers Conference (IPEMC), which anticipated a month-long closure. Schools were allowed to call students for one or two days a week, though the final decision was left up to provincial governments⁸⁰. School closures continued until January 15, 2021⁸¹. After

⁷⁸Tribune (2020). The year everything changed: a timeline. Available at: The Express Tribune. (2020). The Year Everything Changed: A Timeline. The Express Tribune. Archive available online at: <https://tribune.com.pk/story/2276558/2020-the-year-everything-changed-a-timeline>

⁷⁹ Dawn. (2020). Sindh to go ahead with reopening schools despite health minister's warning. Dawn. Archive available online at: <https://www.dawn.com/news/1581394>

⁸⁰ The Express Tribune. (2020). The Year Everything Changed: A Timeline. The Express Tribune. Archive available online at: <https://tribune.com.pk/story/2276558/2020-the-year-everything-changed-a-timeline>

⁸¹ United Nations International Children's Emergency Fund (UNICEF) (2021). Pakistan Case Study Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Asia. UNICEF, UNESCO. Archive available online at: <https://www.unicef.org/pakistan/media/4011/file/UNESCO%20and%20UNICEF%20Education%20Case%20Study.pdf>

this, it was announced that January 18, 2021, classes 9 through 12 could start attending school. Students in classes 1 through 8, and university could start attending from February 1, 2021⁸². After the third wave of the pandemic, which was from April to May 2021, all public and private schools started to call students on alternate days⁸³.

4.1.2 Impact on Attendance

During our KII with the Head Teacher of the surveyed schools, **all four districts experienced a significant decrease in student attendance**. Despite the government notification, which stated that schools can resume normal functions, the attendance numbers in the initial days remained low. When inquired about possible reasons for this, one that came up in quite a few of the KIIs was that parents feared sending their children to school which resulted in dropout rates ranging from 3% to 50% across the four districts.

The concern regarding low attendance was also mentioned during our interviews with the DEOs and consultations with the Government Education Sector. The latter highlighted that it was not only the student attendance that was concerning, but even government teacher attendance witnessed a decline. The pandemic and subsequent confusion regarding closures and reopening of schools provided an excuse for teachers to be absent on a consistent basis.

4.1.3 Impact on Learning Levels

Assessing learning losses and evaluating students' performance proved to be a major challenge in all four districts specifically in the Government schools. **Our KIIs informed us that there was no formal strategy designed to assess the learning losses caused by the abrupt and constant closure of schools. However, independently, at school level, a range of different methods were employed to gauge the level of students learning at that point in this.** From the schools that did manage to conduct some form of a diagnostic assessment, we found that a majority of the schools opted for short written or oral tests as soon as students returned. These tests ranged from verbal, language to course-wise assessments. There were two main reasons for this: first, was that it was important to know how much students from each grade recalled and secondly, it was a method of determining who could be promoted to the next level. Umerkot was the only district that reported having tests conducted in only 2 of its schools.

When the head teachers were questioned about the assessment results, **a unanimous answer across all four districts was that they had declined hence students learning levels overall have also declined**. This trend was also reinforced during an interview with an NGO, which conducted diagnostic assessments in its school to reveal learning gaps. But in lieu of the government notice, all students had to be promoted to the next grade without any formal assessments, which proved to be a major contributor to the low levels of learning revealed by these tests.

4.1.4 Impact on Students Motivation and Attitude towards Learning

⁸² Dawn. (2020). Classes 9-12 to reopen from Jan 18 as planned, says Shafqat Mahmood. Dawn. Archive available online at: <https://www.dawn.com/news/1601645>

⁸³ ASER (2021). Measuring the Impact of COVID-19 on Education in Pakistan. Available at: https://aserpakistan.org/document/aser/2021/ASER_2021_Measuring_the_Impact_of_COVID_19_on_Education_in_Pakistan_FINAL_REPORT.pdf

In addition to the long periods of school closures, another contributing factor to the decline in learning levels had to do with their **depleting motivation to study and their consequent attitude towards learning**. The overall educational system in the four districts experienced a decline in quality and performance. Students' motivation levels decreased, leading to fluctuating attendance and a reduced interest in studying.

There was lot of negative change in attitudes towards learning. Students had almost forgotten everything they had learned and were not interested in studies
Headmaster KII, Badin

As mentioned in several KIIs with the head, it is also important to remember that there was a major aspect of fear involved, which translated in the lack of interest or motivation to continue learning. Another factor was the lack of interest – children who had been separated from learning and, as mentioned in several Head Teacher KIIs, did not continue learning during these breaks and had become disinterested in education.

There were very few Head Teacher that reported that students were happy to return to school, majority of them emphasized on their lack of attention to studies.

In conversation with an NGO representative, we found that it became a necessity to first encourage children to return to learning and boost their morale before we could make any progress with identifying and overcoming the loss to education. With the mindset that these children returned with - which was caused due to several reasons such as fear of the virus, loss of income and the consequent food insecurity, the impact on mental health caused by being cut off from friends and extended family- learning and education was not their highest priority.

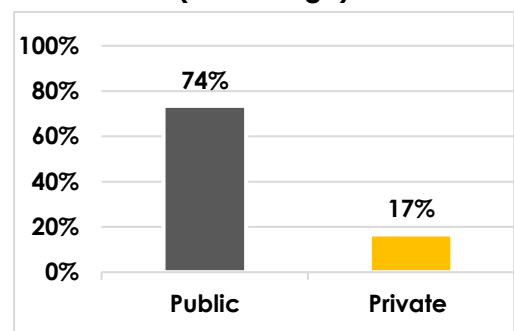
4.1.5 Strategies to Mitigate Learning Losses

As mentioned earlier, the lockdown took place in three phases. Until there was some form of control over the spread of the virus, there was a great deal of uncertainty regarding school operations. In light of the uncertainty regarding the period of school closures, many organizations, both public and private, started to work on strategies to resume educational activities.

When speaking to the Head teacher, a standard response across the districts to the question of **the strategies employed during school closures to limit the loss of learning** was that there were no preplanned strategies in place. Exhibit 4.1.5.1 below displays that, for majority of the schools, no strategies were employed to bridge the learning gap caused by COVID-19 and Floods 22. **Out of 102 schools surveyed across the four districts, 74% of the head teacher of these schools mentioned that at the time of the pandemic, there was no plan in place to lessen their impact on learning.** In private schools, however, out of the 18 schools surveyed, only 17% mentioned that there were no strategies in place, the remaining 83% had responses divided between “using printed worksheets, assigning work via digital devices and online classes.”

However, the consultations with the head teacher and the DEO also revealed that although no direct instructions were received from the provincial and federal government to public schools regarding continuity of learning, there were a range of methods used at

Exhibit 4.1.5.1: No Strategies to Facilitate Learning During School Closures (Percentage)



Source: IRC KII Survey, 2023

school level to ensure that education continues. The methods employed and their subsequent challenges are discussed below:

Strategy	Implementation and Challenges
Provide homework to students via WhatsApp	Although schools are generally required to keep a record of the students, in many cases the telephone numbers of students or their parents were not available so the strategy could not be employed for every child.
Conducting online classes	Limited resources and the absence of online learning facilities. There is no technological infrastructure present to conduct online classes and teachers had not been given any training related to online teaching
Assigning take-home worksheets	DEO Sanghar reported that students were given worksheets in their homes which would help them continue with their studies. This finding was also support by a significant number of HM KIIs, which stated that the most common solution was providing homework. The challenge here was there was no one to oversee their work, several of the parents were not educated themselves.
Calling students in shifts	This proved to be relatively more successful. We found that, in Badin, almost half the schools eventually called students in shifts, provided homework and asked parents to oversee their studies at home. However due to the fear of COVID-19 and general dissociation with education, attendance remained low.
Contacting parents	To counter the consistently low attendance, the HMs informed us that the school staff connected with parents via any means possible. This included calls, meeting them in the community, passing on the message through other parents etc.

Public schools could not rapidly transition toward online/remote learning systems compared with private schools. The Ministry of Federal Education and Professional Training (MoFEPT), in collaboration with the Ministry of Information and Broadcasting and Radio Pakistan, launched the distance learning initiatives of “Tele-school” and “Radio school” in April 2020 and November 2020, respectively⁸⁴. The Tele-school education channel was aired on Pakistan Television Corporation (PTV), a national broadcast service. It played lessons for 10 hours daily for grades 1 to 12 in partnership with EdTech organizations, including SABAQ Foundation, Knowledge Platform, and Taleemabad⁸⁵.

Educational programmes were also available on the FM networks of Radio Pakistan with a repeat broadcast. Under the Digital Pakistan mission, MoFEPT designed an E-taleem portal to provide a singular platform for all the federal government e-learning vertices where students can remotely access lectures online that were broadcasted on either tele-school or radio school. The E-taleem portal also provided educational resources for children with special needs to ensure inclusive digital learning⁸⁶.

⁸⁴ UNICEF (2021). Pakistan Case: Study Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Asia. UNICEF, UNESCO. Archive available online at: <https://www.unicef.org/pakistan/media/4011/file/UNESCO%20and%20UNICEF%20Education%20Case%20Study.pdf>

⁸⁵ Ibid.

⁸⁶ <https://etaleem.gov.pk/>

Exhibit 4.1.5.2: Federal Government's Initiatives – Tele-school, Radio School and E-Taleem



Additionally, in an interview with the **Sindh Education Department**, we were informed of Sindh's remote learning programs during COVID-19 which includes two initiatives: an online

Children in several districts lacked shoes, bags and uniforms, which were provided by the teachers through the donations they collected or through Zakat. As a policy, the expectation of every student to follow through with Digital Learning was far-fetched.
Sindh Education Department

Digital Learning Classroom for 6 to 12 grades and **Mera Sabaq (My Lesson)**, providing learning exercises for Pre- Primary to Grade 5. The initiatives were established in collaboration with UNICEF, Microsoft and Sabaq Foundation. These initiatives faced similar hinderances. The interview highlighted that students are dependent on guided and physical learning hence tele schools

or digital learning do not hold the same value as traditional education. Also, the weak IT infrastructure further added to digital learning remaining less impactful. The interview also reflected on the living situation in Sindh where socio-economic conditions are so weak that their livelihoods are at stake, it is difficult for them to manage basic necessities let alone technology.

Exhibit 4.1.5.2: Sindh Government's Initiative – Digital Learning Platform



Class / Grade	Subjects	In Collaboration with
KG to 5th	SELD Learning App by Muse (Watch Video Tutorials) Maths / ریاضی	
6th	General Science / جنرل سائنس English / انگریزی	
7th	Maths / ریاضی General Science / جنرل سائنس English / انگریزی	
8th	Maths / ریاضی General Science / جنرل سائنس English / انگریزی	

Source : www.sindheducation.gov.pk
<http://www.sindheducation.gov.pk/pages.jsp?page=digitalllearningplatform>

The private sector however had a relatively more impactful response to learning losses. A diversity of approaches was noted specifically in the private sector. One of the NGOs interviewed elaborated on their program "Ilm Ka Angan." This was a national program which consisted of TV shows with 30 minutes-long episodes focused on literacy, numeracy, and social/emotional learning were targeted towards children from 6-12 years of age. The math, vocabulary, and entertainment content covered broad early foundational academic requirements. Furthermore, a magazine called Ilm Ka Angan was delivered to schools or parents would pick them up or get them delivered. Children were comfortable reading and writing and this ensured deeper engagement. Sindhi versions were also made specifically for the Sindhi medium schools. Moreover, with a strong community of monitors, local teachers and facilitators, records were kept of children receiving and using these magazines by community leaders.

4.2 Impact of Climate Change

The 2022 floods in Sindh have had a severe impact on various aspects of the province. Houses, transportation, agriculture, irrigation, and communication infrastructure have suffered significant damage. The aftermath of the floods has left millions of people in need of assistance. According to the Post-Disaster Needs Assessment conducted by the World Bank and the UNDP, Sindh requires an estimated US\$7.9 billion for post-flood recovery and reconstruction, making it the province with the highest need's assessment among all provinces.⁸⁷

Since numerous livelihoods were at stake, the focus of majority stakeholders was on providing relief and shelter to the people hence education was naturally not the first priority. This seems to be a trend in majority of the Climate Change calamities and is reflected in our conversations with different stakeholders. Since Floods 22 were a recent calamity, there was still discourse and strategy regarding continuity of education. However, very limited information was received regarding impacts of heatwaves and droughts.

4.2.1 Impact on Infrastructure

With the exception of Badin, all the districts reported through HM KII, that there was significant damage to their school buildings. This damage included boundary walls collapsing, roofs falling through, damage to furniture and floodwater remaining stagnant in the school buildings. Badin, however, reported less damage to infrastructure. Although there were cases of damage and water retention in some schools, no long-term damage was witnessed overall.

USAID-built schools comparatively had stronger infrastructural facilities compared to the rest of the schools in Sindh. During Floods, these schools remained intact and could withstand the impact. Their infrastructural strength allowed them to become a shelter for many displaced people and also became a center of relief.
Sindh Education Department on USAID-built schools in Sindh

In the remaining three districts, with regard to infrastructure, the HMs mentioned that there were three main reasons that education delivery halted: the school building was damaged and could not be operational, there was floodwater in the school or there was no accessibility to the school area (roads/area around the school was flooded).

The DEOs of Sanghar and Umerkot provided further insights into the discontinuity of school measures. At district level, we found out that many schools that had relatively better infrastructure were being used as shelters for the displaced population. In some cases, refugees stayed in these schools for months and consequently the schools were not operational.

Several schools that survived the floods, as we later discovered in one of our consultations with donor organizations were those built under a public private partnership project. These schools were built after the 2010 floods had destroyed a significant number of school buildings in Sindh. These schools demonstrated resilience and were better equipped to withstand the destructive impact of such calamities. The consultation with one of the NGOs we met with also revealed a similar finding that TCF-built schools also proved to be exemplary in terms of their infrastructure. Almost all of the schools were converted into shelters for refugees.

⁸⁷ <https://www.worldbank.org/en/news/factsheet/2022/12/19/factsheet-sindh-flood-emergency-rehabilitation-project#:~:text=More%20than%204.4%20million%20acres,adversely%20impacting%20the%20livestock%20sector.>

4.2.2 Impact on Attendance

With school buildings either occupied, damaged or inaccessible, school operations were difficult to resume. Hence, the low attendance, as suggested by the HM KII, had to do with the inaccessibility of the school and also the migration that took place in certain districts. The impact was, however, relatively lower in Badin as compared to the remaining districts. The interviews from the HMs in Badin informed us that although school operations did come to a halt for several days, they were also resumed within a few weeks, with the exception of two schools.

We found that most Schools observed a 20%-50% drop out rate as, in some cases, schools were completely shut down due to mass migration. Schools that were unaffected by floods were able to retain their students.

4.2.3 Impact on Learning Levels

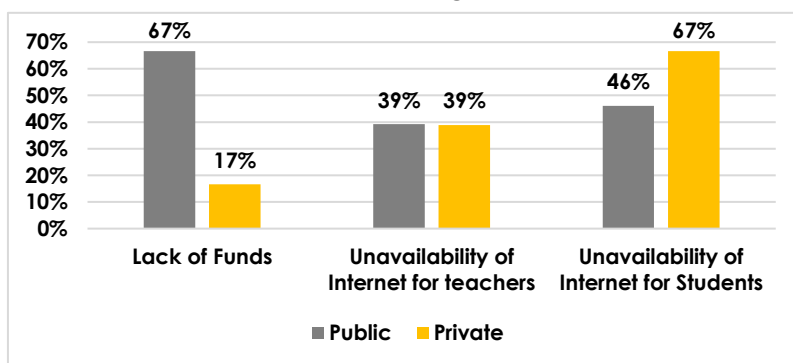
As mentioned earlier, majority of the public sector schools did not have any mechanism in place to assess learning losses. They resorted to disaggregated strategies to assess the learning levels of their students, with some opting for oral assessments, others taking subject-wise tests and some continuing as they were. In conversations with the HMs of these districts, we found that in the schools in which tests were conducted, the results indicated declining learning levels.

Results in the private sector, as informed by one of the NGO's interviews, were relatively better. The students weren't performing as well as they would normally, but the situation was less severe and could be more easily addressed. We also learned from the interview that, following the chaos caused by COVID-19, the organization had already planned for future calamities and was prepared to assess learning levels and alter their syllabus accordingly.

4.2.4 Strategies and Challenges

The impact of flooding was not the same across the province. Some districts were impacted more than others. Even within districts, the impact was different in different areas. The least impacted area remained Badin, with the household survey indicating that 50% of the area was impacted by floods. Much like the situation during COVID-19, the public sector schools could not rely on digital learning to continue the children's education. One of the main causes for this, which is highlighted in both HM and DEO interviews is the lack of funds provided by the government. Across the four districts, the HMs

4.2.4.1: Challenges School Faced to Provide Remote Instruction (Percentage)



Source: IRC KII Survey, 2023

and the DEOs claimed that even after the COVID-19 experience and consequent finding of a gap in technological infrastructure, no funds were provided during this time as well. Hence, online learning still remained a difficult solution to implement. This finding was also reinforced during our school observation survey where, when asked about the reasons for no distance learning strategies in place, 67% mentioned that it was due to lack of funds.

A few of the strategies employed by both sectors are discussed below:

Strategy	Implementation and Challenges
<p>Tent Schools One of the most common strategies adopted post-floods, which is mentioned by the HMs, the DEOs and the Sindh Education Department was the concept of tent schools. Tent school were makeshift places allocated as temporary educational facilities to ensure the continuity of learning.</p>	<p>However, given the damages caused by floods in the entire district, children were not able to come to these schools due to their own houses being damaged, mental strain and inaccessibility. As pointed out by the Umerkot DEO, camps could not be set up in every area. For the majority of the areas, learning was discontinued</p>
<p>CCCM – Camp Coordination and Camp Management. This includes where the camp will be put, the distance between 2 camps, how many people are in a camp, where the hygiene camp will be located and how camps will be rolled back. The International Organization of Migration (IOM) training was conducted on the same with HMs, Clerks and Teachers. People from the area are chosen for such trainings because they have ownership.</p>	<p>Although this seems like a viable option to ensure some of continuity, limited information was provided regarding this in the districts surveyed. Almost all the HMs who responded to whether they were provided any assistance or if training was provided from the government, the answer remained that: although tents were set up in some areas, no assistance regarding training was provided.</p>
<p>Reflection Hours and Customized Syllabus – NGO The strategy adopted included the first hour of every school day to be utilized for reflection.</p> <p>Crash Courses This included a pre-deigned syllabus that can be taught during or post-calamity.</p>	<p>The organization initiated back-to-school activities, building relationships with students and teachers and providing a remediation program. A diagnostic assessment was conducted to identify gaps in learning. Crash courses were designed following the same strategies implemented during COVID-19. Study packs were curated from the NGO's own books and planning sheets were provided. The crash course took 2-6 weeks to complete and end line assessments were taken to see whether the children can transition from remediation to normal classes.</p>

A country that is prone to the impacts of Climate Change did not, until very recently, have a Climate Change DG. The Sindh Climate Change policy was made in the pre-flood era, it needs to be adapted to current times, post flood.

In today's time, a five-year policy is not an answer – times are changing and so are the issues. A policy document should be evolving and continue changing with time. It should include global issues, such as the greenhouse effect and carbon issues.

Climate change policies in Pakistan have been coming along since 2012, then in 2019, and 2021. Climate change is constantly evolving, triple dip for the last 3 years. Floods were a result of constant monsoonal changes, resulting in disastrous consequences. In the end, the masses are affected, no matter their socio-economic status.

Government Representative – Climate Change

4.3 The Way Forward

We asked stakeholders to elaborate on what additional strategies could be used to minimize the damage to education and whether, in light of the two recent incidents, a plan was in place to combat future calamities.

The Sindh Education Department claimed that the government was not prepared to combat such a devastating natural calamity, and Sindh's irrigation systems and dams reflect that. A similar response was received from the Climate Change Department, which claimed that the impacts of Climate Change and COVID-19 have been greatly amplified, owing to the poor infrastructures in place.

A persistent weakness within the educational system of the country exists, which exacerbates its vulnerability. Consequently, whenever a calamity strikes, the education sector bears the brunt of the impact.

Furthermore, the education sector is less incentivized, which does not allow it to be improved. Additionally, teacher assessments focus on enforcement, rather than addressing teaching and learning issues, with access to educational materials being limited. High-quality assessments, instructional materials, and teacher training are also lacking.

Enrollment and attendance rates are uneven, leading to irregular student-teacher ratios and overcrowding in some schools, while rural schools suffer from low attendance.

Donor

Hence the first **major recommendation to come out of the KIIs was that infrastructure systems need to be strengthened.** Giving examples of USAID and TCF school, these departments gave due credit to the organizations whose schools' structures were resilient enough to not only survive the impact of floods, but were also utilized as shelters in many districts. The government needs to focus on ensuring that the public schools in Sindh are built to withstand the inevitable impacts of climate change in the future.

Another common challenge that was highlighted in all the consultations was the lack of technological infrastructure. With everything, including education, quickly shifting online, access to basic technology (such as internet, laptops and mobile phones) is a necessity, rather than a luxury. A combined effort, from both public and private sectors, is needed to ensure that relevant infrastructure is available, not only in schools but also, to some extent, in households. This also means that the school staff needs to be provided training on how to use technology more efficiently. However, as also pointed out by the Department of Education, for children who do not have access to basic necessities, it is not viable to expect technology adaptation as a solution.

The lack of preparation proved to be one of the major causes of insufficient recovery. Almost all of the HMs who were questioned about plans and strategies in place to counter the impact of COVID-19 and climate change answered that no plan was in place. A similar response was received from the DEOs. Majority of the responses included that we should work towards planning beforehand for these calamities. As also highlighted by the Climate Change Department – “We as a nation learn the hard way. We don't have the right response, we are reactive rather than proactive.” **The strategy now should be to plan for similar calamities earlier, so a more sound and swift response can be given by all sectors in terms of both relief and education.** As noted in the interview with an NGO, educational losses can be mitigated if a plan is already in place to tackle the situation at hand. For example, the NGO mentioned that they have already planned for a similar situation if it were to arise. Their plan to mitigate learning losses in the case of a lack of technological infrastructure is to have a team of local volunteers that are trained to teach the children in

small groups. This project, called “Ilm Ujala” focuses on volunteer teachers going into the field and tutoring children. After COVID-19, as children were coming to school on a rotational basis, the pilot project picked up its pace and was increasingly successful. Volunteers aided in making sure that learning losses due to rotational school functioning were covered. This was possible because of constant evaluation and monitoring of the project, which showed an extremely positive response.

An interesting finding from the Department of Climate Change was that there were, in fact,

I was able to call students to a safe and dry space, with their books and learning material so that education could continue.

Headmaster – Dadu

We continued teaching in makeshift tents.

KII – Sanghar

We made efforts to clear out a few schools and contact the parents to send their children.

KII - Umerkot

policies in place to combat the impacts of climate change. We were informed that a climate change policy was established almost 7 years ago and it was just in July 2022 that it was finally approved. While there now exists a framework to facilitate its implementation, it is essential to recognize the inefficiencies that hindered its development. The Climate Change Department also suggested similar strategies where schools can be utilized as shelters, providing a safe space for affected communities. Tents can also be employed as temporary shelters during floods, allowing displaced

individuals to continue their education. The government has implemented the Sindh Climate Change Policy 2022. However, development projects in Sindh have been progressing at an alarmingly slow pace, indicating a lack of ownership and urgency in tackling climate change issues. The issue that arises here is not that there is a lack of policy, rather that there is no serious effort made to implement or improve the existing policies.

In conclusion, the consultations highlighted the need for strengthened infrastructure, improved technological access, and proactive planning to mitigate the impact of floods, climate change, and COVID-19 on education in Sindh. Efforts should focus on enhancing infrastructure resilience, providing technology and training, and developing comprehensive disaster response plans. Implementation of existing policies and a sense of urgency in addressing climate change issues are essential. Collaboration and proactive measures are vital to safeguard education and build community resilience in the face of future challenges.

4.4 Recommendations:

The recommendations derived from the study to address the impact of climate change on education include first and foremost steering towards a climate change resilient education system sufficiently prepared to ensure continuity of education during disasters. A key aspect of which is Preemptive Planning for education in emergencies to address the challenges caused by successive climate change induced disasters such as floods, heatwaves, droughts. These include:

- Development of district wide Local Adaptation Plans of Actions (LAPA) to plan for disasters to ensure continuity of education. District, provincial, and federal governments must take greater ownership and act urgently in tackling climate change issues in the education sector. Different levels of ownership will ensure context specific disaster management plans with an inclusive approach reaching out to communities to build capacity and resilience.
- Capacity building of key education personnel at provincial and district levels on Local Adaptation Plans of Actions (LAPA) and implementing and institutionalizing existing policies such as the School Safety Framework to prevent and counter effects of disasters on education service delivery coupled with monitoring mechanisms at district and school levels to understand extent to which policy implementation materialized.
- Identify and engage communities to improve collaboration between education departments, schools, and communities including the school management parent teacher committees. Teachers and Headteachers receive training for managing continuity of learning during disasters.
- Introducing a condensed Scheme of Studies for varied disasters to ensure learning continuity during disasters and include climate change as subject in syllabus as a topic. In addition, plan to conduct standardized diagnostic assessments across impacted districts to gauge the level of learning loss and initiating remedial classes to assist children in reaching their grade levels and plan remedial support accordingly.
- Where possible, alternative yet feasible and context specific education delivery and learning methods to include the use of technology to conduct classes during school closures. A more concentrated effort to include technological infrastructure in schools can prove to be beneficial during disasters with lower impact areas.
- Government policies shift focus on building climate-resilient school buildings to minimize damage from natural disasters such as floods and heatwaves.
- The strategies employed by private schools and NGOs during school closures such as teaching in groups, diagnostic assessments and remedial classes can be used as a framework for future policy making
- Collaboration at policy making level is required to use successful strategies from private sector schools and NGOs to adopt and scale up in formal government education system reflecting in policies and financial allocations.

By implementing these recommendations, educational authorities and policymakers can work towards a more climate-resilient and adaptive education system, ensuring the continuity of learning and the well-being of students and staff amidst climate-related challenges.

EDUCATION

1. PAKISTANS NATIONAL EDUCATION RESPONSE AND RESILIENCE PLAN FOR COVID 19
2. PAKISTAN SAFETY SCHOOL FRAMEWORK
3. NATIONAL EDUCATION POLICY FRAMEWORK
4. SCHOOL EDUCATION SECTOR PLAN AND ROADMAP FOR SINDH



DISASTER MANAGEMENT

5. THE 4RF(RESILIENT RECOVERY, REHABILITATION AND RECONSTRUCTION FRAMEWORK
6. NATIONAL ACTION PLAN COVID 19
7. NATIONAL DISASTER MANAGEMENT PLAN
8. MULTI HAZARD VULNERABILITY AND RISK ASSESSMENT INFORMED SINDH DISASTER MANAGEMENT PLAN
9. SINDH DISASTER MANAGEMENT POLICY
10. SINDH'S STRATEGIC POLICY FOR FLOODS RESPONSE 2022
11. NATIONAL MONSOON CONTINGENCY PLAN-2022



CLIMATE CHANGE

12. NATIONAL CLIMATE CHANGE POLICY
13. GOVERNMENT OF SINDH ENVIRONMENT, CLIMATE CHANGE AND COASTAL DEVELOPMENT DEPARTMENT DIRECTORATE OF CHANGE- CLIMATE CHANGE POLICY 2022



Annexures

Annexure 1: Field Enumeration Plan

BADIN

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
35	BADIN	BADIN TALUKA	BADIN STC	DUNGHADI TC	NANGRO	2,845	1	05-Jun-2023	Shahida
65	BADIN	BADIN TALUKA	BADIN STC	PANO TC	PATYARI	1,878	RC	05-Jun-2023	Shahida
36	BADIN	BADIN TALUKA	NINDO SHAHER STC	KADHAN TC	KADHAN (PART)	1,545	2	06-Jun-2023	Shahida
37	BADIN	BADIN TALUKA	NINDO SHAHER STC	MITHI TC	MITHI.I II & III	9,606	3	06-Jun-2023	Shahida
38	BADIN	BADIN TALUKA	NINDO SHAHER STC	PAKHOTHAR TC	W ALHARI	8,968	4	06-Jun-2023	Shahida
39	BADIN	BADIN TALUKA	SEERANI STC	BEHDAMI TC	W AGHU DAHO	2,465	5	07-Jun-2023	Shahida
40	BADIN	BADIN TALUKA	SEERANI STC	LUNWARI SHARIF TC	ANDHALO	3,017	6	07-Jun-2023	Shahida
41	BADIN	GOLARCHI (S.F.RAHU) TALUKA	AHMED RAJO STC	RARI NO.1 TC	RARI NO.1	2,468	7	08-Jun-2023	Shahida
42	BADIN	GOLARCHI (S.F.RAHU) TALUKA	GOLARCHI STC	CHAKRI TC	FATEHPUR	2,799	8	08-Jun-2023	Shahida
43	BADIN	GOLARCHI (S.F.RAHU) TALUKA	GOLARCHI STC	KANDIARI TC	KHARO DABO	4,444	9	09-Jun-2023	Shahida
44	BADIN	GOLARCHI (S.F.RAHU) TALUKA	GOLARCHI STC	MARI WASSAYO TC	NAKURJI I & 11	10,458	10	09-Jun-2023	Shahida
45	BADIN	GOLARCHI (S.F.RAHU) TALUKA	TARAI STC	KARIO TC	LAKRI	3,705	11	10-Jun-2023	Shahida
67	BADIN	GOLARCHI (S.F.RAHU) TALUKA	TARAI STC	GHARO TC	KHARACH	3,113	RC	10-Jun-2023	Shahida
63	BADIN	TANDO BAGO TALUKA	TANDO BAGO STC	KAK TC	RAJORI I	1,946	29	11-Jun-2023	Shahida
64	BADIN	TANDO BAGO TALUKA	TANDO BAGO STC	TANDOBAGO TC	MOTNA	8,875	30	11-Jun-2023	Shahida
66	BADIN	BADIN TALUKA	SEERANI STC	SEERANI TC	TALLI	2,557	RC	11-Jun-2023	Shahida
46	BADIN	MATLI TALUKA	MATLI STC	ADDL. MABAN TC	JARKI	2,708	12	12-Jun-2023	Shahida
47	BADIN	MATLI TALUKA	MATLI STC	MABAN TC	DULO DERO	1,234	13	12-Jun-2023	Shahida
48	BADIN	MATLI TALUKA	MATLI STC	PHARKARA TC	CHHORETANI	5,178	14	12-Jun-2023	Shahida

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
49	BADIN	MATLI TALUKA	PHULEJANI STC	ADDL. PHULEJANI TC	PANJAM HISO	3,896	15	13-Jun-2023	Shahida
50	BADIN	MATLI TALUKA	PHULEJANI STC	PHULEJANI TC	PHULEJANI	7,188	16	13-Jun-2023	Shahida
51	BADIN	MATLI TALUKA	TANDO GHULAM ALI STC	ADDL. DASTI TC	CHAKRAH	4,083	17	14-Jun-2023	Shahida
52	BADIN	MATLI TALUKA	TANDO GHULAM ALI STC	AGHAMANO TC	AGHAMANO	7,275	18	14-Jun-2023	Shahida
53	BADIN	MATLI TALUKA	TANDO GHULAM ALI STC	GUJO TC	GOPALO	4,597	19	15-Jun-2023	Shahida
54	BADIN	MATLI TALUKA	TANDO GHULAM ALI STC	TANDO GHULAM ALI TC	DIAL	3,029	20	15-Jun-2023	Shahida
55	BADIN	TALHAR TALUKA	TALHAR STC	DABHARO TC	NAR	4,962	21	16-Jun-2023	Shahida
56	BADIN	TALHAR TALUKA	TALHAR STC	SAJAN TC	BUHRO 3	936	22	16-Jun-2023	Shahida
68	BADIN	TALHAR TALUKA	TALHAR STC	WASI ADIL TC	W ASI ADIL	6,863	RC	16-Jun-2023	Shahida
57	BADIN	TANDO BAGO TALUKA	DADHA STC	BAGH SHAHMIR TC	KANGPER	2,820	23	17-Jun-2023	Shahida
58	BADIN	TANDO BAGO TALUKA	DADHA STC	KHADHARO TC	CHANDEHALI 1	3,717	24	17-Jun-2023	Shahida
59	BADIN	TANDO BAGO TALUKA	DADHA STC	SANGI TC	SANGI	2,262	25	17-Jun-2023	Shahida
61	BADIN	TANDO BAGO TALUKA	PANGRIO STC	KHAIRPUR TC	CHUBANDI	1,993	27	18-Jun-2023	Shahida
62	BADIN	TANDO BAGO TALUKA	PANGRIO STC	PANGRIO TC	MESSADI	4,249	28	18-Jun-2023	Shahida
60	BADIN	TANDO BAGO TALUKA	PANGRIO STC	DHUBNI TC	DHUBNI	3,849	26	19-Jun-2023	Shahida

DADU

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
29	DADU	MEHAR TALUKA	RAJWAH STC	ADDL. GAHI MAHESAR TC	KINARO KAKOLE	9609	29	06-Jun-2023	Farhan Hussain
30	DADU	MEHAR TALUKA	RAJWAH STC	GAHI MAHESAR TC	GAHI MAHESAR	17531	30	06-Jun-2023	Farhan Hussain
9	DADU	JOHI TALUKA	HAJI KHAN STC	BAKHIR SHAHID TC	MIRAN MACHHI	873	9	07-Jun-2023	Farhan Hussain
10	DADU	JOHI TALUKA	HAJI KHAN STC	HAJI KHAN TC	HAJI KHAN	3242	10	07-Jun-2023	Farhan Hussain
12	DADU	JOHI TALUKA	JOHI STC	BAHAWALPUR TC	DIRGH HETHEEN	4828	12	08-Jun-2023	Farhan Hussain
15	DADU	JOHI TALUKA	NAI GAJ STC	RAJODERO TC	RAJODERO	2597	15	08-Jun-2023	Farhan Hussain
8	DADU	JOHI TALUKA	CHHINI STC	KHARICHH TC	KHARICHH	2187	8	09-Jun-2023	Farhan Hussain
11	DADU	JOHI TALUKA	HAJI KHAN STC	WAHI PANDHI TC	WAHI PANDHI	13401	11	09-Jun-2023	Farhan Hussain
13	DADU	JOHI TALUKA	JOHI STC	KURJAMAK TC	JAMPUR PANHWARKI	4917	13	10-Jun-2023	Farhan Hussain
14	DADU	JOHI TALUKA	NAI GAJ STC	ADDL. THARIRI JADO SHAHID TC	KATHIA BARANI	1226	14	10-Jun-2023	Farhan Hussain
16	DADU	KHAIRPUR NATHAN SHAH TALUKA	KAKAR STC	GHARO TC	BAID	2893	16	11-Jun-2023	Farhan Hussain
18	DADU	KHAIRPUR NATHAN SHAH TALUKA	KHAIRPUR NATHAN SHAH STC	ADDL. CHIJAPUR TC	GADEHI	6008	18	11-Jun-2023	Farhan Hussain
17	DADU	KHAIRPUR NATHAN SHAH TALUKA	KAKAR STC	KHANPUR NO.1 TC	BORIRI	6401	17	12-Jun-2023	Farhan Hussain
19	DADU	KHAIRPUR NATHAN SHAH TALUKA	KHAIRPUR NATHAN SHAH STC	CHIJAPUR TC	CHEJAPUR JAGIR	1486	19	12-Jun-2023	Farhan Hussain
20	DADU	KHAIRPUR NATHAN SHAH TALUKA	KUDAND BHAR STC	ADDL. BUTRA TC	ISSO MACHI	2128	20	13-Jun-2023	Farhan Hussain
21	DADU	KHAIRPUR NATHAN SHAH TALUKA	KUDAND BHAR STC	BUTRA TC	LADHODERO	2796	21	13-Jun-2023	Farhan Hussain
22	DADU	KHAIRPUR NATHAN SHAH TALUKA	MADO STC	ADDL. GOZO TC	PEJAHO	2585	22	14-Jun-2023	Farhan Hussain
23	DADU	KHAIRPUR NATHAN SHAH TALUKA	MADO STC	MIAN NASIR MUHAMMAD TC	MUKHI NO-2	532	23	14-Jun-2023	Farhan Hussain
27	DADU	MEHAR TALUKA	MANGWANI STC	FARIDABAD TC	FARIDABAD	14541	27	15-Jun-2023	Farhan Hussain
28	DADU	MEHAR TALUKA	MANGWANI STC	MANGWANI TC	LAKHIARI	6063	28	15-Jun-2023	Farhan Hussain
24	DADU	MEHAR TALUKA	DARYABHAR STC	NAO GOTH TC	NAO GOTH	16262	24	16-Jun-2023	Farhan Hussain

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
25	DADU	MEHAR TALUKA	DARYABHAR STC	THARIRI MUHABAT TC	THARIRI MUHABAT	6732	25	16-Jun-2023	Farhan Hussain
26	DADU	MEHAR TALUKA	MANGWANI STC	ADDL. GUNGO TC	BALEDAI	9327	26	16-Jun-2023	Farhan Hussain
1	DADU	DADU TALUKA	BADANI STC	ADDL. KHUDABAD TC	KALHORA	6203	1	17-Jun-2023	Farhan Hussain
2	DADU	DADU TALUKA	BADANI STC	BADANI TC	PHAKA	6571	2	17-Jun-2023	Farhan Hussain
3	DADU	DADU TALUKA	BADANI STC	KHUDABAD TC	BUTH MALHO	5479	3	18-Jun-2023	Farhan Hussain
4	DADU	DADU TALUKA	DADU STC	DADU TC	DADU	14829	4	18-Jun-2023	Farhan Hussain
5	DADU	DADU TALUKA	DADU STC	MONDER TC	MONDER	6592	5	19-Jun-2023	Farhan Hussain
6	DADU	DADU TALUKA	PAT STC	ADDL. RAP TC	TAGA	11204	6	20-Jun-2023	Farhan Hussain
7	DADU	DADU TALUKA	PAT STC	PAT TC	PAT	9562	7	20-Jun-2023	Farhan Hussain
31	DADU	DADU TALUKA	DADU STC	ADDL. DADU TC	SIAL	5507	RC		Farhan Hussain
32	DADU	MEHAR TALUKA	DARYABHAR STC	ADDL. PATEJI TC	RAP NARI	8960	RC		Farhan Hussain
33	DADU	MEHAR TALUKA	DARYABHAR STC	NARI TC	MURID LAKHIAR	8839	RC		Farhan Hussain
34	DADU	MEHAR TALUKA	RAJWAH STC	KHUNDI TC	RONI	5270	RC		Farhan Hussain

SANGHAR

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
123	SANGHAR	SINJHORO TALUKA	JHOL STC	DHAM RAKHI TC	KOT BIJAR	6717	21	05-Jun-2023	Atif Hussain
103	SANGHAR	JAM NAWAZ ALI TALUKA	JAM NAWAZ ALI STC	DALORE TC	061-JAMRAO	2073	1	06-Jun-2023	Atif Hussain
124	SANGHAR	SINJHORO TALUKA	JHOL STC	LAKHA TC	LIARI RAYATI & JAGIR	5000	22	06-Jun-2023	Atif Hussain
126	SANGHAR	SINJHORO TALUKA	SINJHORO STC	RAKHIAL RIND TC	040-JAMRAO	3540	24	07-Jun-2023	Atif Hussain
127	SANGHAR	SINJHORO TALUKA	SINJHORO STC	TALEH ABAD TC	032-JAMRAO	2664	25	07-Jun-2023	Atif Hussain
125	SANGHAR	SINJHORO TALUKA	KHADRO STC	CHANHIO TC	011 JAMRAO	4438	23	08-Jun-2023	Atif Hussain
136	SANGHAR	SINJHORO TALUKA	KHADRO STC	RAHWARI TC	003-JAMRAO	4287	RC	08-Jun-2023	Atif Hussain
111	SANGHAR	SANGHAR TALUKA	SANGHAR STC	DIM TC	MITHRAO-NO-1	3862	9	09-Jun-2023	Atif Hussain
112	SANGHAR	SANGHAR TALUKA	SANGHAR STC	JAKHRAO TC	SADRAT	22575	10	09-Jun-2023	Atif Hussain
113	SANGHAR	SANGHAR TALUKA	SANGHAR STC	SAMATHRI TC	AKAN WARI	6128	11	10-Jun-2023	Atif Hussain
114	SANGHAR	SANGHAR TALUKA	SANGHAR STC	SANGHAR TC	SANGHAR	7352	12	10-Jun-2023	Atif Hussain
115	SANGHAR	SANGHAR TALUKA	SETHARPIR STC	SETHARPIR TC	MANO KHAN CHANDIO	6376	13	11-Jun-2023	Atif Hussain
116	SANGHAR	SANGHAR TALUKA	TANDO MITHA KHAN STC	BAQAR TC	DHORO JANIB	8513	14	11-Jun-2023	Atif Hussain
117	SANGHAR	SANGHAR TALUKA	TANDO MITHA KHAN STC	SAREJI TC	KALAR	4357	15	12-Jun-2023	Atif Hussain
134	SANGHAR	SANGHAR TALUKA	SETHARPIR STC	KANDIARI TC	KANDIARI	5917	RC	12-Jun-2023	Atif Hussain
128	SANGHAR	TANDO ADAM TALUKA	KHUMB-DARHOON STC	KHUMB-DARHOON TC	JUNEJANI	6649	26	13-Jun-2023	Atif Hussain
129	SANGHAR	TANDO ADAM TALUKA	KHUMB-DARHOON STC	SUIKANDAR TC	KURLAKDIR	6305	27	13-Jun-2023	Atif Hussain
130	SANGHAR	TANDO ADAM TALUKA	TANDO ADAM STC	DADI TC	DADI	8033	28	14-Jun-2023	Atif Hussain
131	SANGHAR	TANDO ADAM TALUKA	TANDO ADAM STC	MARANI TC	MARANI	4287	29	14-Jun-2023	Atif Hussain
104	SANGHAR	JAM NAWAZ ALI TALUKA	NAOABAD STC	JUNEJANI TC	025-DIM	899	2	15-Jun-2023	Atif Hussain
132	SANGHAR	TANDO ADAM TALUKA	TANDO ADAM STC	TANDOADAM TC	TANDOADAM	9986	30	15-Jun-2023	Atif Hussain
118	SANGHAR	SHAHDADPUR TALUKA	SARHARI STC	KARAMULLAH DAHRI TC	MURAD ALI RIND	5810	16	16-Jun-2023	Atif Hussain

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
119	SANGHAR	SHAHDADPUR TALUKA	SHAHDADPUR STC	BHAJI TC	SARHORI	5169	17	16-Jun-2023	Atif Hussain
120	SANGHAR	SHAHDADPUR TALUKA	SHAHDADPUR STC	JAMMAN TC	JAMMAN	7869	18	17-Jun-2023	Atif Hussain
121	SANGHAR	SHAHDADPUR TALUKA	SHAHDADPUR STC	SHAHALI NAZAMANI TC	SHAH ALI NIZAMANI	7461	19	17-Jun-2023	Atif Hussain
122	SANGHAR	SHAHDADPUR TALUKA	SHAHPURCHAKAR STC	SHAHPURCHAKAR TC	QUBOSHAHDAD	3734	20	18-Jun-2023	Atif Hussain
135	SANGHAR	SHAHDADPUR TALUKA	SARHARI STC	SARHARI TC	BABORO	4498	RC	18-Jun-2023	Atif Hussain
105	SANGHAR	KHIPRO TALUKA	DHILYAR STC	DHIL YAR RUKAN TC	DHILYAR RUKAN	2988	3	19-Jun-2023	Atif Hussain
106	SANGHAR	KHIPRO TALUKA	DHILYAR STC	PABBAN TC	KHANI RAJAR	3289	4	19-Jun-2023	Atif Hussain
107	SANGHAR	KHIPRO TALUKA	DHILYAR STC	RANAHU TC	RANAK DAHAR	40446	5	20-Jun-2023	Atif Hussain
108	SANGHAR	KHIPRO TALUKA	DHILYAR STC	RAR TC	PHARHADI	3038	6	20-Jun-2023	Atif Hussain
109	SANGHAR	KHIPRO TALUKA	KHAHI STC	KUNRI TC	CHANESARI	2032	7	21-Jun-2023	Atif Hussain
110	SANGHAR	KHIPRO TALUKA	KHIPRO STC	MORAHDI TC	DHANDH LIYARI	1515	8	21-Jun-2023	Atif Hussain
133	SANGHAR	KHIPRO TALUKA	KHIPRO STC	DHADHRO TC	KHIRHADI	2145	RC	21-Jun-2023	Atif Hussain

UMERKOT

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
86	UMERKOT	UMER KOT TALUKA	DHORONARO STC	BANHIARI TC	CHHORE THAR	18253	18	05-Jun-2023	Rukhsana
87	UMERKOT	UMER KOT TALUKA	DHORONARO STC	CHHORE TC	CHHORE OLD	2013	19	05-Jun-2023	Rukhsana
89	UMERKOT	UMER KOT TALUKA	DHORONARO STC	MAKHYARO TC	KHARORO JAGIR	8265	21	05-Jun-2023	Rukhsana
82	UMERKOT	SAMARO TALUKA	PADHRIO STC	ARARO TC	KHOSINJI WAI	3688	14	06-Jun-2023	Rukhsana
83	UMERKOT	SAMARO TALUKA	SAMARO STC	ARORO BHURGRI TC	BIKHORI	1330	15	06-Jun-2023	Rukhsana
81	UMERKOT	SAMARO TALUKA	HIRAL STC	KANDIARO TC	HIRAL 25	1322	13	07-Jun-2023	Rukhsana
84	UMERKOT	SAMARO TALUKA	SAMARO STC	SAMARO TC	KHARORO EAST	7902	16	07-Jun-2023	Rukhsana
76	UMERKOT	PITHORO TALUKA	NABISAR STC	CHANDAL TC	HIRAL 6	2199	8	08-Jun-2023	Rukhsana
77	UMERKOT	PITHORO TALUKA	NABISAR STC	GHULAM NABI SHAH TC	DEH GHULAM NABI SH	6705	9	08-Jun-2023	Rukhsana
88	UMERKOT	UMER KOT TALUKA	DHORONARO STC	HARH TC	HARH	4880	20	09-Jun-2023	Rukhsana
90	UMERKOT	UMER KOT TALUKA	DHORONARO STC	SOOFI TC	SOOFI	2053	22	09-Jun-2023	Rukhsana
79	UMERKOT	PITHORO TALUKA	SHADI PALI STC	BAREJI TC	PIRORE	2793	11	10-Jun-2023	Rukhsana
80	UMERKOT	PITHORO TALUKA	SHADI PALI STC	SHADI PALI TC	SHADI PALI	6796	12	10-Jun-2023	Rukhsana
70	UMERKOT	KUNRI TALUKA	CHAR STC	MANJHAKAR TC	MANJHAKAR	4386	2	11-Jun-2023	Rukhsana
73	UMERKOT	KUNRI TALUKA	KUNRI STC	KUNRI TC	KUNRI	9798	5	11-Jun-2023	Rukhsana
69	UMERKOT	KUNRI TALUKA	CHAR STC	CHAR TC	SIRKHI	5259	1	12-Jun-2023	Rukhsana
71	UMERKOT	KUNRI TALUKA	KUNRI STC	BARANI TC	SANWARY	5447	3	12-Jun-2023	Rukhsana
72	UMERKOT	KUNRI TALUKA	KUNRI STC	CHAJRO TC	CHAJRO	14104	4	13-Jun-2023	Rukhsana
85	UMERKOT	SAMARO TALUKA	SAMARO STC	SHAKH SEMARO TC	SHAKH SAMARO	6506	17	13-Jun-2023	Rukhsana
91	UMERKOT	UMER KOT TALUKA	DINORE STC	ADDL. KAPLORE TC	KHALRAI THAR	12435	23	14-Jun-2023	Rukhsana
92	UMERKOT	UMER KOT TALUKA	DINORE STC	DINORE TC	LAPLO	10990	24	14-Jun-2023	Rukhsana
93	UMERKOT	UMER KOT TALUKA	DINORE STC	KAPLORE TC	KACHOLI	8385	25	15-Jun-2023	Rukhsana
94	UMERKOT	UMER KOT TALUKA	DINORE STC	KAPLORE TC	SHABHRI (SONAHRI)	6784	26	15-Jun-2023	Rukhsana

S No.	DISTRICT	TALUKA	STC	TC	Village	Pop	Cluster	Date of Visit	Supervisor Name
95	UMERKOT	UMER KOT TALUKA	UMERKOT STC	JANHIRO TC	CHUNDAWAH	5497	27	16-Jun-2023	Rukhsana
96	UMERKOT	UMER KOT TALUKA	UMERKOT STC	KARNA TC	KHIRAL	3069	28	16-Jun-2023	Rukhsana
97	UMERKOT	UMER KOT TALUKA	UMERKOT STC	KHEJRARI TC	PADHRIO	2053	29	17-Jun-2023	Rukhsana
98	UMERKOT	UMER KOT TALUKA	UMERKOT STC	MAROO WAI TC	MAROO WAI	2943	30	17-Jun-2023	Rukhsana
74	UMERKOT	KUNRI TALUKA	KUNRI STC	MORJHANGO TC	MALANSAR	4838	6	18-Jun-2023	Rukhsana
75	UMERKOT	KUNRI TALUKA	NABISAR STC	NABISAR TC	MALOOK SHAH	3570	7	18-Jun-2023	Rukhsana
78	UMERKOT	PITHORO TALUKA	PITHORO STC	JAGO TC	LANGNI	4502	10	19-Jun-2023	Rukhsana
99	UMERKOT	SAMARO TALUKA	SAMARO STC	JHILURI TC	DEH 325	6916	RC		Rukhsana
100	UMERKOT	UMER KOT TALUKA	DINORE STC	ADDL. KAPLORE TC	SADHURI THAR	1944	RC		Rukhsana
101	UMERKOT	UMER KOT TALUKA	DINORE STC	DINORE TC	DODAR	18546	RC		Rukhsana
102	UMERKOT	UMER KOT TALUKA	UMERKOT STC	UMARKOT TC	JUNEJA	2176	RC		Rukhsana

Annexure 2: Tools

Tool 1: Village Profile

VILLAGE OBSERVATION - SHEET					
Village/ Block Code:		Village Name:			
Town/ UC Name		Tehsil/ Taluka Name			
District Name:					
SURVEYED HOUSEHOLD IDENTIFICATION FOR MONITORING					
V01: Approximate Population	Number: _____		V02: Approximate Households	Number: _____	
V03: Local Languages (Write the name of languages)	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____				
V04: Electricity	<input type="checkbox"/> Yes (____%) <input type="checkbox"/> No		V05: Gas	<input type="checkbox"/> Yes <input type="checkbox"/> No	
V06: Government School	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, give number: _____				
V07: Separate primary school for girls	<input type="checkbox"/> Yes <input type="checkbox"/> No	Separate middle school for girls	<input type="checkbox"/> Yes <input type="checkbox"/> No	Separate secondary school for girls	<input type="checkbox"/> Yes <input type="checkbox"/> No
V08: Private School	Yes (_____ Total Number) a) Number of Private Schools: _____ b) Separate primary school for girls _____ c) Foundation Aided (PEF / SEF etc.) Number of Schools: _____ (d) (c) Number of Trust/NGO/Community Aided Schools _____ <input type="checkbox"/> No		V09: Madrassa	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, give number: _____	
V10: Private Clinic	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, give number: _____		V11: Hospital	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, give number: a. Government: _____ b. Private: _____ c. Trust/NGO/Community Funded: _____	
V12: Dispensary	If yes, give number: a. Government: _____ b. Private: _____ c. Trust/NGO/Community Funded: _____		V13: Maternity Centre	If yes, give number: a. Government: _____ b. Private: _____ c. Trust/NGO/Community Funded: _____	

V14: What is most common practice regarding the use of Latrine?	a) Inside Households b) Outside Households c) Defecation in Open Field		
V15: Nearest Big City Name		V16: How far is this city from your village? _____ Km	V17: How far is the main road from your village _____ Km
V18: What is generally the occupation of people in your village?			V19: What are the different types of transport used by the people in your village?

Climate Change			
	Floods- 22	Heatwaves	Droughts
Does your village suffer from _____?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, what months are impacted by this change?			
During this time, what is your source of clean drinking water?			
Do people in your village migrate during this span?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do schools in your village close down during this span?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No



Impact of COVID-19 and Climate Change (droughts, heat waves and floods etc) on Public Sector Primary and Elementary School Education in the Province of Sindh

Household Survey Sheet



Introduction and Consent: Asalam Alaikum, my name is _____ and I am from AASA Consulting. We are a renowned organization of Pakistan that has been focused on researching the educational, social and economic conditions of the country for the past 30 years. The project we are currently working on aims to assess the impact of COVID-19 and Climate Change (Heatwave, Droughts and Floods 22) on the Learning Outcomes of children. The purpose of reaching out to you is to get information regarding the difficulties faced by you and your children in learning and pursuing education particularly during the COVID-19 and Floods-22. This questionnaire will take approximately 30 minutes to complete. Some questions in this questionnaire are personal, but all the information you provide will be kept confidential. Neither yours nor your child's name will appear in any of the reports.

With your consent, I will also be conducting a basic assessment of any children in your household between the ages 5-16. They will be tested on their ability to read (English, Urdu and Sindhi) and do simple arithmetic. The results of this assessment are confidential and will only be used for this study's reports. Names of individual students will not be given even for reporting purposes.

Participating in this questionnaire may not benefit you directly, but it will help authorities in the education sector to counter the challenges this sector faces. Therefore, your children may be provided with better education in the future as a result of this information.

Participation in this questionnaire is voluntary, and you have the right to refuse to answer questions to which you do not wish to reply. You also have the right to leave the survey at any point if you are not comfortable with proceeding. Your opinions are valuable to the research. We will only use the information you provide to make research reports. Please let me know if you have any questions regarding the survey. (Pause). If I have your permission, I will begin the interview now.

Assent Form: Asalam Alaikum My name is _____ and I am here on behalf of AASA Consulting to conduct a study on the Learning Losses caused by COVID-19 and Climate Change (Heatwave, Droughts and Floods 22) on the Learning Outcomes of children. This research will help us understand the cumulative impact of COVID-19 and Floods 2022 on children.

To gauge this impact, I will be conducting a brief assessment. The subjects covered in this assessment include English, Math, Urdu, Sindhi and General Knowledge. You will be asked to identify basic alphabets in English and Urdu and Sindhi, solve basic Math problems and answer General Knowledge Questions. You may not ask anyone for assistance during the assessment, however you will not be graded for this assessment. If you don't know an answer to a question, that is alright. You can say "I don't know" and we can move to the next question.

Your assessment results will not be shared with your school. The results and final report of the study will not include your name. This assessment can take anywhere from 20 to 30 minutes depending on your answers.

I have taken permission from your parents/guardian to conduct this assessment, however in case you are uncomfortable or do not wish to participate, you may let me know. If you have any questions about the study, you may ask me right now. (Pause). If I have your permission, I will begin the assessment now.

1. Yes 2. no

A: Survey Information			
GPS Location			
Date of Interview	[Automatic]		
Interview Start Time	[Automatic]	Interview End Time	[Automatic]
Name of Enumerator & Contact No.	[Automatic]	Name of Supervisor & Contact No.	
Village Block:			
Type of Village	1. Urban 2. Rural		
Full home address			
Household ID number			
Name of head of household			
Respondent's Name			
Is the respondent the head of the household?	1. Yes 2. No		
Gender of respondent	1. Male 2. Female 3. Others		
Mother tongue of the family	1. Urdu 2. Sindhi 3. Siraiki 4. Pashto 5. Punjabi 6. Balochi 7. Brahvi 8. Others		
religion	1. Islam 2. Hinduism 3. Christianity 4. Sikh 5. Others		
Respondent's CNIC Number	1. ID card number exists 2. Identity card not made 3. Identity card is lost 4. Identity card is given by someone else 5. Refusal to give branch card number		

Provide the respondent's phone number (head of household, respondent or an adult member of the household through which the respondent can be contacted.			

Section – 1: Household Indicators

B1	Type of House	1. Katcha 2. Semi Pacca 3. Pacca (Brick & Cement)
B2	Total number of family members in the household?	_____ Total No. Male _____ female _____
B3	Total Male members	_____ Total No. Children _____ Adult _____
B4	Total Female members	_____ Total No. Children _____ Adult _____
B5	Total no. of children aged 3 to 16 years	_____ Total No. Boys _____ Girls _____ 77. Not Applicable
B6	Total no. of children aged 5 to 16 years	_____ Total No. Boys _____ Girls _____ 77. Not Applicable
B7	The total number of children with disabilities (including: 1. visual, 2. hearing, 3. physical, 4. Ability to think, understand, 5. Behavioral, 6. taking care of yourself 7 Communication (more than one answer is possible)	_____ Total No. Boys _____ Girls _____ 77. Not Applicable
B8	Total rooms in the household	_____ Total No.
B9	Ventilation in rooms	1. All Rooms 2. Most rooms 3. Some rooms 4. None
B10	Is there a latrine/toilet in your house?	1. Yes, inside the house. 2. Yes, attached to the bedroom or other room 3. Yes, out of the house 4. No
B11	Are all of them functional?	1. Yes 2. No 3. Others Please specify _____
B12	Do your household members usually wash their hands?	1. Yes 2. No 3. Sometimes 66. Refuse to answer
B13	Source of Clean drinking water?	1. Tap Water 2. Bore 3. Filtration Plant 4. Toba 5. Stream/Chashma 6. Well 7. Other
B14	Are the following facilities available in the household?	
i	Electricity Connection	1. Yes 2. No
ii	Solar Panel	1. Yes 2. No
iii	TV	1. Yes 2. No
iv	Cable	1. Yes 2. No
v	Radio	1. Yes 2. No
vi	Computer/Tablet/Laptop	1. Yes 2. No
vii	Internet Connection	1. Yes 2. No
viii	3G (Mobile Internet)	1. Yes 2. No
ix	4G (Mobile Internet)	1. Yes 2. No
B15	Are the following mean of communication available in the household?	
i	Mobile Phone	1. Yes 2. No

Section – 1: Household Indicators		
ii	Smart Phone	1. Yes 2. No
iii	SMS	1. Yes 2. No
iv	WhatsApp	1. Yes 2. No
v	Thames	1. Yes 2. No 3. Don't know
vi	Zoom	1. Yes 2. No 3. Don't know
vii	Google Mate/Google School	1. Yes 2. No 3. Don't know
B16	Vehicle owned by household (Mention in numbers)	
i	Motor Bike	_____ No.
ii	Cycle	_____ No.
iii	Car	_____ No.
B17	Does the household own any animal livestock, poultry, ducks etc.? (Multiple options)	1. Chickens 2. Ducks 3. Sheep 4. Goats 5. Cows 6. Buffalo 7. Donkeys 8. Horses 9. Camels 10 does not own any livestock
B18	Does your household have or hold any cultivable agricultural land? If yes, what is the area of the cultivable agricultural land?	1. Yes (_____sq. Feet/acre) 2. Yes (don't know how much) 3. No
B19	Have you received any help from an organization that works to eradicate poverty? (whether in the form of goods or cash)	
i	BISP (Benazir Income Support Program)	1. Yes 2. No
ii	Ehsas	1. Yes 2. No
iii	Akhuwat	1. Yes 2. No
iv	Waseel-e-Taleem	1. Yes 2. No
v	Mazdoor ka Ehsas Program	1. Yes 2. No
vi	Waseel-e- Rozgar	1. Yes 2. No
vii	Others Specify_____	_____
B20	What is household's average monthly income?	PKR _____ monthly
B21	What is households' main source of income? (Find out only basic income)	1. Personal Business/Self employed 2. Agriculture 3. Wage Laborer 4. Employed 5. Pension 6. Help from Family 7. Social Security/Assistance 8. Other, please specify (_____)

Section 2 – Floods-22		
C1	Was your area affected by floods-22?	1. Yes 2. No (go to question no. 22C)
C2	Was your house affected by floods-22?	1. Yes 2. No (go to question no. 22C)
C3	Did you migrate due to the floods-22?	1. Yes (go to question no.4C) 2. No (go to question no. 5C)
C4	If you migrated, how long were you away from your area?	_____ months
C5	Was your house damaged during the floods-22?	1. Yes (go to question no.6C) 2. No (go to question no. 7C)
C6	If yes, then to what extent?	_____ %
C7	Were any household assets damaged during Floods-22?	1. Yes, specify (_____) 2. No
C8	Was your Livestock damaged during the Floods-22?	1. Yes, specify (_____) 2. No 3. Don't have Livestock
C9	If you have agricultural land, was it flooded? If yes, to what extent	1. Yes (go to question no. 10C) 2. No (go to question no. 12C) 3. There is no agricultural land
C10	Is it cultivable now? (after floods-22)	1. Yes 2. No
HOUSEHOLD INCOME		
C11	Was your household income affected by flood-22?	1. Yes (go to question no. C12) 2. No (go to question no. C13)
C12	If yes, what was the impact on household income? And what percentage	1. Increased (____%) 2. Decreased (____%) 3. There was no effect
C13	How many people in your household were rendered jobless due to floods?	_____ number
SOCIAL SECURITY		
C14	Did you ever receive any kind of assistance during floods-22?	1. Yes (go to question no. 15C) 2. No (go to question no. 17C)
C15	If yes, from whom did this aid come from? (More than one answer is possible)	1. From the government 2. From a welfare institution/NGO 3. From individual people 4. Other, please specify (_____)
C16	What did you get in the form of aid? (Note: More than one answer is possible)	1. Food 2. Drinking water 3. Clothes 4. Medicines 5. Tent 6. Cash 7. Ration 8. Specify other
FOOD SECURITY		
C17	Did your family suffer from food shortages during the floods-22?	1. Yes (Go to Q.18) 2. No (Go to Q.21C)
C18	If yes for how long did you suffer from food shortages?	_____ day
C19	If yes, did your family ever have to go to sleep at night without food and/or drink?	1. Yes (Go to Q.20) 2. No (Go to Q.21c)
C20	If yes, how many times?	_____ number
C21	During Floods-22, what was your source of drinking water?	1. Flood Water 2. Tap Water 3. Bore 4. Filtration Plant 5. Toba

Section 2 – Floods-22		
		6. Stream/ Chashma 7. Mineral Water 8. Rain water 9. Other, please specify (_____)
EDUCATION		
C22	Did your children's school close down during Floods-22?	1. Yes (go to question no. 23) 2. No (Section D - Go to heat wave) Section I should not OPEN if NO has been selected
C23	If yes, how many days was your children's school closed due to rains/floodwater in 2022?	_____ day(s)
C24	What was the reason of school closures? (multiple responses)	1. School became a flood shelter 2. There was floodwater in the school 3. Access to schools was blocked due to floodwater 4. School building was damaged due to floods 5. Others, please specify (_____)
C25	How did the children in your family continue their education when school was temporarily closed? (multiple responses)	1. Family members taught children at home 2. Had private tutoring at home 3. School teachers used to give homework through the phone 4. Watched the Tele School channel to continue their education at home 5. Listened to the Radio School station to continue their education at home 6. Continued his education at the tent school 7. Did not continue education
26C	Did children use smartphones to continue their education at home?	1. Yes 2. No
C27	Did children use computers/laptops to continue their education at home?	1. Yes 2. No
28C	Did children use tablets to continue their education at home?	1. Yes 2. No
29C	Did you receive any support from the school during school closures?	1. Yes (go to question no. 30C) 2. No (go to question no. 31C)
30C	If yes, What support did you receive from the teachers and head teachers to continue children's education in the area? (multiple responses)	1. They (children) were informed about websites and TV channels that had all the learning materials
		2. They (children) were called to school in groups to be given homework
		3. They (children) were provided with worksheets/reading material for homework
		4. Teachers came to the (children's) house to assign or help with homework
		5. Teachers called them (children) to their homes
		6. Computer/Internet was used to teach (online)
		7. Audio files were shared by the school to assist the students
		8. Parents were informed about how to help students continue their studies
		9. Parents were told to check their child's homework
		10. No support received
		11. Other, please specify (_____)
31C	Were there any temporary learning centers established by the government or civil society?	1. Yes (Go to Q.32C) 2. No (Go to Q.33C)
32C	If yes, were they helpful?	1. Very Helpful 2. Slightly Helpful 3. Helpful 4 Not Helpful

Section 2 – Floods-22		
33C	Did you notice any change in your children's interest towards education after schools reopened?	1. No Change 2. Slightly Increased 3. Visibly Increased 4. Slightly Decreased 5. Visibly Decreased 6. Do not know
34C	What kind of help do your children need to make up for the lack of education during the floods?	1. Remedial classes at school 2. Digital platforms (tele school, radio, online learning material) 3. Additional support from parents 4. Private Tuitions 5. Summer School 6. Other, please specify (_____)

Section3 – Heatwaves		
D1	Is your area generally hot?	1. Yes (go to question no. 2 D) 2. No (go to question no. 20D)
D2	If yes, in which months is it extremely hot?	1. _____ 2. _____ 1. April 2. May 3. June 4. July 5. August 6. September 7th October
D3	How high does the temperature go in these months?	_____°C
4D	Does extreme heat cause deaths in your area?	1. Yes 2. No
5D	What safety measures do you take to avoid extreme heat? (Note: More than one answer is possible.) Don't read the answers)	1. Drink more and more drinks 2. Try to stay in the shadows in the middle of the afternoon 3. they cover their heads. 4. Trying to keep the houses covered 5. Arrange for drinking water. 6. They use special types of food. Explain Other _____
6D	Does your family migrate in the harsh summers?	1. Yes (go to question no.8D) 2. No (go to question no. 9D)
7D	Your family migrates in the harsh summer, so how many months do you usually stay away from your area?	_____ months
D8	Is your Livestock affected during the heatwaves?	1. Yes 2. No 3. Don't have Livestock

Household Income		
D10	Is your household income impacted during heatwaves?	1. Yes (Go to Q.13) 2. No (Go to Q.14)
D11	If yes, what was the impact?	1. Increased (____%) 2. Decreased (____%) 3. Remained constant
D12	How many people's work/livelihood activities are impacted during heatwaves?	_____ Number

SOCIAL SECURITY		
D13	Did you ever receive any kind of assistance during heatwaves?	1. Yes (Go to Q.16) 2. No (Go to Q.17)
D14	If yes, from whom did this aid come from?	1. From the government 2. From a welfare institution/NGO 3. From individual people 4. Specify others_____
D15	What did you get in the form of aid? (Note: More than one answer is possible)	1. Food 2. Drinking water 3. Clothes 4. Medications 5. tents 6. Cash 7. Ration 8. Other Explain

Section3 – Heatwaves		
3C-FOOD SECURITY		
D16	Does your family suffer from food shortages during the heatwaves?	1. Yes (go to question no. 17D) 2. No (go to question no. 20D)
D17	If yes for how long did you suffer from food shortages?	1. _____ days
D18	If yes, did your family ever have to go to sleep at night without food and/or drink?	1. Yes (go to question no. 19D) 2. No (go to question no. 20D)
D19	If yes, how many times in a month?	_____ number
3D – EDUCATION		
D20	Does your children's school close down during Heatwaves?	1 Yes (go to Question No. 21D) 2. No (Go to Section E Drought) Section J should not be OPENEd if NO is selected
D21	If yes, how many days has your children's school been closed due to the heat?	_____day
D22	How did the children in your family continue their education when school was temporarily closed? (Note: More than one answer is possible)	1. The members of the family used to teach the children at home. 2. He used to take private tuition at home. 3. School teachers used to give homework through phone. 4. Watched the tele-school channel to continue his education at home 5. Listen to radio school station to continue your education at home 6- Did not continue education
D23	Did children use smartphones to continue their education at home?	1. Yes 2. No
24D	Did children use computers/laptops to continue their education at home?	1. Yes 2. No
25D	Did children use tablets to continue their education at home?	1. Yes 2. No
26D	Did you receive any support from the school during school closures?	1. Yes (go to question no. 27D) 2. No (go to question no. 28D)
27D	If yes, What support did you receive from the teachers and head teachers to continue children's education in the area?	1. Children were informed about websites and TV channels that had all the learning materials
		2. Children were called to school in groups to be given homework
		3. Children were provided with worksheets/reading material for homework
		4. Teachers came to the (children's) house to assign or help with homework
		5. Teachers called them (children) to their homes
		6. Computer/Internet was used to teach (online)
		7. Audio files were shared by the school to assist the students
		8. Parents were informed about how to help students continue their studies
		9. Parents were told to check their child's homework
		10. Others, please specify (_____)
28D	Did you notice any change in your children's interest in education after schools reopened?	1. No change felt 2, slightly increased 3. Significantly increased 4. slightly reduced 5. Markedly decreased 6. do not know
29D	What kind of help do your children need to make up for the lack of education during the severe heat wave?	1. Remedial/Extra Classes in School 2. Digital platform (tele school, radio, online learning materials) 3. Additional support from parents 4. Private Tuitions 5. Summer School 6. Don't need any help 7. Others, Explain (_____)

Section E - Drought		
E1	Drought (drought) in which agricultural and drinking water is not available, there is no rain and there is a shortage of food. Is there a general drought in your area?	1. Yes (go to question no.2E) 2. No (go to question no. 17E)
E2	If yes, when did you last experience a drought in your area?	Year (_____)
E3	How many months is the average duration of drought in your area? (Get the answer in months)	_____ months
E4	Does your family migrate due to drought?	1. Yes (go to question no. 6 E) 2. No (go to question no. E5)
E5	If not, how does your family cope with drought?	1. Store drinking water 2. Store grain 3. Sell cattle 4. Buy food items from nearby area 5. Other, Explain (_____)
Household Income		
E6	Is your household income impacted during the drought period?	1. Yes (go to question no. 7 E) 2. No (go to question no. E8)
E7	If yes, what was the impact?	1. Increased (____%) 2. Decreased (____%) 3. Remained constant
E8	How many people in your household were unemployed due to drought?	_____ Number
SOCIAL SECURITY		
E9	Did you ever receive any kind of assistance during periods of droughts?	1. Yes (go to question no. E10) 2. No (go to question no. E12)
E10	If yes, from whom did this aid come from? (Note: More than one answer is possible)	1. From the government 2. From a welfare institution/NGO 3. From individual people 4. Specify others _____
E11	What did you get in the form of aid? (Note: More than one answer is possible)	1. Food 2. Drinking Water 3. Clothes 4. Medicines/Medical Camps 5. Tent 6. Cash 7. Specify other _____
FOOD SECURITY		
E12	Does your family suffer from food shortages during the droughts?	1. Yes (go to question no. 13E) 2. No (go to question no. 16E)
E13	If yes for how long did you suffer from food shortages?	_____ day
E14	If yes, did your family ever have to go to sleep at night without food and/or drink?	1. Yes (go to question no. E15) 2. No (go to question no. E16)
E15	If yes, how many times in a month?	_____ number
E16	During droughts, what is your source of drinking water?	1. Tap Water 2. Bore 3. Filtration Plant 4. Toba 5. Stream/ Chashma 6. Mineral Water 7. Rain water 8. Well 9. Other
Section 4D - EDUCATION		
17E	Does your children's school close down during periods of drought?	1. Yes (go to Question No. E18) 2. No (Go to Section F) Section K should not be Opened if NO is selected
E18	If yes, how many days does it usually close down for?	_____ Day(s) 1. Don't know
E19	How did the children in your family continue their education when school was temporarily closed? (Note: More than one answer is possible)	1. Family members taught children at home 2. Had private tutoring at home 3. School teachers used to give homework through the phone 4. Watched the Tele School channel to continue their education at home 5. Listened to the Radio School station to continue their education at home 6. Did not continue education

Section E - Drought		
E20	Did children use smartphones to continue their education at home?	1. Yes 2. No
E21	Did children use computers/laptops to continue their education at home?	1. Yes 2. No
E22	Did children use tablets to continue their education at home?	1. Yes 2. No
E23	Did you receive any support from the school during school closures?	1. Yes (go to question no. E24) 2. No (go to question no. E25)
E24	If yes, What support did you receive from the teachers and head teachers to continue children's education in the area?	1. Children were informed about websites and TV channels that had all the learning materials
		2. Children were called to school in groups to be given homework
		3. Children were provided with worksheets/reading material for homework
		4. Teachers came to the (children's) house to assign or help with homework
		5. Teachers called them (children) to their homes
		6. Computer/Internet was used to teach (online)
		7. Audio files were shared by the school to assist the students
		8. Parents were informed about how to help students continue their studies
		9. Parents were told to check their child's homework
		10. Others, please specify (_____)
E25	Did you notice any change in your children's interest in education after schools reopened?	1. No change felt 2. slightly increased 3. Significantly increased 4. slightly reduced 5. Markedly decreased 6. do not know
E26	What kind of help do your children need to make up for the lack of education during the scorching heat?	1. Correctional/additional classes in school 2. Digital platforms (tele-schools, radio, online learning materials) 3. Additional support from parents 4. Private Tuitions 5. Summer School 6 Doesn't Need Any Help 7. Other, Explain (_____)

Section F- Child's Mother Information									
	F1	F2	F3	F4		F5	F6	F7	F8
Serial	mother's name	mother's age	Total number of children (Between 3 and 16 years old) had been	Did the mother ever attend school?		Highest Class / Grade Completed**	Current Occupation*	Average monthly income Pakistani Rupees	At what age did you get married?
				yes	No (go to Q Number F6)				
1									
2									
3									
4									
5									

****Highest Class/Grade COMPLETED:** =Grade 1; 2=Grade 2; 3=Grade 3; 4=Grade 4; 5=Grade 5; 6=Grade 6; 7=Grade 7; 8=Grade 8; 9=Grade 9; 10=Grade 10; 11=Grade 11; 12=Grade 12; 13=Undergraduate; 14=Masters; 15=Post Masters 16=Diploma; 17=Kacchi/Nursery; 18=Illiterate; 19=Madrassa; 77=Refuse to answer

***Current Occupation:** 1—Government/Armed forces; 2—Semi-government; 3—Private; 4—Pensioner; 5—Self-employed; 6—Agriculture; 7—Labourer; 8—Looking for work; 9—Do not want to work; 10—Retired; 11—Student; 12—Housewife; 13—Child

Section G- Information on the Child's Father								
	G1	G2	G3		G4	G5	G6	G7
Serial	Father's Name	the father's age	Ever attended school		Highest Class / Grade Completed**	Current Occupation*	Average monthly income Pakistani Rupees	At what age did you get married?
			yes	No (go to Q number F6)				
1								
2								
3								
4								
5								

****Highest Class/Grade COMPLETED:** =Grade 1; 2=Grade 2; 3=Grade 3; 4=Grade 4; 5=Grade 5; 6=Grade 6; 7=Grade 7; 8=Grade 8; 9=Grade 9; 10=Grade 10; 11=Grade 11; 12=Grade 12; 13=Undergraduate; 14=Masters; 15=Post Masters 16=Diploma; 17=Kacchi/Nursery; 18=Illiterate; 19=Madrasa; 77=Refuse to answer

***Current Occupation:** 1—Government/Armed forces; 2—Semi-government; 3—Private; 4—Pensioner; 5—Self-employed; 6—Agriculture; 7—Labourer; 8—Looking for work; 9—Do not want to work; 10—Retired; 11—Student; 12—Housewife; 13—Child

Section H – Children's Information																							
General Information					Disability		Educational status (3-16 years)					Current educational status - 3-16 years											
H1	H2	H3	H4	H5	H6	H7	H8			H9	H10		H11	H12	H13	H14		H15		H16			
Serial Number	Mother's Name	Name of the child (children age 3-16 years regularly stay at home)	Child's age (3-16 years)	Gender (1 = male, 2 = female 3 = transgender)	Does the child have a disability? 1. Yes (go to 7H) 2. No (go to 8H)	Type of Disability* : 1. Visual, 2. Hearing, 3. Physical, 4. Ability to think, understand, 5. Behavioral, 6self-care, 7 communication 8. More than one	Educational Status (3-16 years)			When did you leave school? (Drop-out)	*Reason to drop out of school (go to 14H)	* Reasons for never going to school	Class/Grade- Current (ex ECE/Turtle/PG/Prep, NFE (Non-Formal Educational Centers)	Type of Institute		Does the child go to a surveyed school?	Tuition- (Is the child currently taking any paid tuition)		If yes, the fee (Rs)/ month?				
							Never enrolled (go to 10H)	Dropout (go to 9H)	In which grade currently enrolled (If dropped out, up to which class did the child studied (completed))					Official	Private school		yes	no		yes	no		
1																							
2																							

Codes	
H3	The child is present (go to 4 H) 2- The child does not exist - Explain other _____ (get information from the next child in the house)
H11	Reasons for dropping out of school: 1 = law and order situation 2 = poverty 3 = flood 4 = school building moved by the government. 5=No school 6=Negative attitudes towards the child 7=Migration 8 =Not school-age 9=Other__
H12	Reasons for dropping out of school: 1 = law and order situation 2 = poverty 3 = flood 4 = school building moved by the government. 5=No school 6=Negative attitudes towards the child 7=Migration 8 =Not school-age 9=Other__

Section I- Learning during flood-2022

Note: Make sure that the household code, child code, and child's name are exactly the same as those written on page 1 of the household survey sheet.

	11	12	13	14	15	16	17	18	19	110					111
Children's Code	The child's name (5-16)	Did you enroll in school before the flood?	How many hours did you devote to your studies every day during the school closure period?	Which of the following subjects did you find difficult to read on your own during the school closure period? (Note: Enter relevant code)	Did you receive learning resources/materials from the school during the school closure period?	During the school closure period, how many times did the school teachers/administrators contact you to provide support or learning resources?	Did you take help from any of the following to continue learning during school closure? (More than one answer is possible) (Note: Enter relevant code)	Which digital device did you use to learn online? (Note: Enter relevant code)	How long were you allowed access to a home computer or smartphone for the following activities during school closure? (Give the average number of hours per day) 1. Study _____hours 2. Game _____hours 3. Other Entertainment (Music, Movies) _____Hours	Which activities took up the most of your time during the school closure period (set up activities 1 = most time, 5 = least time)					Are you ready to study on your own if schools close again?
										did nothing	Take care	entertainment	Household work	Study	
1															
2															
3															

Codes

11	1. The child is present (go to 12) 2- The child does not exist - explain ____ (get information from the next child in the house)
13	1. < 1 hour 2. 1-2 hours 3. 2-4 hours 4. >4 hours
14	1. English 2. Urdu 3. Science 4. Mathematics 5. No one.
15	1. Yes 2. no
16	1. More than once a week 2. Once a week 3. Once every two weeks 4. Once a month 5. Never.
17	1. PTV Teleschool 2. Government Radio School Program 3. The school provided digital learning resources. 4. Other digital resources 5. Paid Tuition/Academy 6. Family Members 7. Friends/Neighbors
18	1. Computer/Laptop 2. Smartphone 3. Television 4. radio
19	1. Study 2. Game 3. Other Entertainment (Music, Movies)
110	1. Study 2. Household chores 3. Sports/Entertainment 4. Maintenance work 5. Free
111	1. Yes 2. no

Section J (Heat Wave) Learning during Heat Wave

Note: Make sure that the household code, child code, and child's name are exactly what is written on the household survey sheet page 1.

Children's Code	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10					Are you ready to study on your own if schools close again?
	The child's name (5-16)	Did you enroll in school before the heat wave?	How many hours did you devote to your studies every day during the school closure period? (Note: Enter relevant code)	Which of the following subjects did you find difficult to read on your own during the school closure period? (Note: Enter relevant code)	Did you receive learning resources/materials from the school during the school closure period?	During the school closure period, how many times did the school teachers/administration contact you to provide support or learning resources?	Did you take help from any of the following to continue learning during school closure? (More than one answer is possible) (Note: Enter relevant code)	Which digital device did you use to learn online? (Note: Enter relevant code)	How long were you allowed access to a home computer or smartphone for the following activities during school closure? (Give the average number of hours per day) Study _____hours . Game _____hours 3. Other Entertainment (Music, Movies) _____Hours	did nothing	Take care	entertainment	Household work	Study	
1															
2															

Codes

J1	1. The child is present (go to J2) 2- The child does not exist - explain _____ (get information from the next child in the house)
J3	2. < 1 hour 2. 1-2 hours 3. 2-4 hours 4. >4 hours
J4	1. English 2. Urdu 3. Science 4. Mathematics 5. No one.
J5	1. Yes 2. No
J6	1. More than once a week 2. Once a week 3. Once every two weeks 4. Once a month 5. Never.
J7	1. PTV Teleschool 2. Government Radio School Program 3. The school provided digital learning resources. 4. Other digital resources 5. Paid Tuition/Academy 6. Family Members 7. Friends/Neighbors
J8	1. Computer/Laptop 2. Smartphone 3. Television 4. radio
J9	1. Study 2. Game 3. Other Entertainment (Music, Movies)
J10	1. Study 2. Household chores 3. Sports/Entertainment 4. Maintenance work 5. Free
J11	1. Yes 2. no

Section K Learning during drought

Note: Make sure that the household code, child code, and child's name are exactly what is written on the household survey sheet page 1.

Children's Code	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10					K11
	The child's name (5-16)	Did you enroll in school before the drought?	How many hours did you devote to your studies every day during the school closure period?	Which of the following subjects did you find difficult to read on your own during the school closure period? (Note: Enter relevant code)	Did you receive learning resources/materials from the school during the school closure period?	During the school closure period, how many times did the school teachers/administrators contact you to provide support or learning resources?	Did you take help from any of the following to continue learning during school closure? (More than one answer is possible) (Note: Enter relevant code)	Which digital device did you use to learn online? (Note: Enter relevant code)	How long were you allowed access to a home computer or smartphone for the following activities during school closure? (Give the average number of hours per day) 1. Study _____hours 2. Game _____hours 3. Other Entertainment (Music, Movies) _____Hours	Which activities took up the most of your time during the school closure period (set up activities 1 = most time, 5 = least time)					Are you ready to study on your own if schools close again?
1										did nothing	Take care	entertainment	Household work	Study	
2															

Codes

K1	1. The child is present (go to K2) 2- The child does not exist - explain __ (get information from the next child in the house)
K3	< 1 hour 2. 1-2 hours 3. 2-4 hours 4. >4 hours
K4	1. English 2. Urdu 3. Science 4. Mathematics 5. No one.
K5	1. Yes 2. No
K6	1. More than once a week 2. Once a week 3. Once every two weeks 4. Once a month 5. Never.
K7	1. PTV Teleschool 2. Government Radio School Program 3. The school provided digital learning resources. 4. Other digital resources 5. Paid Tuition/Academy 6. Family Members 7. Friends/Neighbors
K8	1. Computer/Laptop 2. Smartphone 3. Television 4. radio
K9	1. Study 2. Game 3. Other Entertainment (Music, Movies)
K10	1. Study 2. Household chores 3. Sports/Entertainment 4. Maintenance work 5. Free
K11	1. Yes 2. no

Section L Learning Test Results

Consent Form

Assalamoalaikum, my name is _____, and I belong to AASA Consulting. The purpose of coming to you is COVID-19 and climate change (a severe heat wave). 22) To assess the impact of drought and floods on the educational level of children. This research will help us understand the overall impact of COVID-19 and the 2022 floods on children.

To assess this effect, I will make a brief review and assessment. The subjects included in this assessment include English, mathematics, Urdu, Sindhi, and general knowledge. You will be asked to identify basic alphabets in English, Urdu, and Sindhi, solve basic math problems, and answer general knowledge questions. You can't ask anyone for help during the diagnosis, but you won't be rated for this diagnosis. If you don't know the answer to a question, it's okay. You can say, "I don't know," and we can move on to the next question.

Your test results will not be shared with your school. Your name will not be included in the test results or final report. Depending on your answers, this test can take 20 to 30 minutes.

I have taken permission from your parent or guardian to do this test, but if you do not want to participate, you can let me know. If you have any questions about the test, you can ask me now. You can't get help from anyone between tests. Should I start the test now if you allow me to?

Serial Number	Mother's Name	Name of the child (children aged 5-16 years regularly live in the house)	L1 Language: 1 = Urdu 2 = Sindhi The language in which the child was tested	Basic learning level status (for the age group of 5-16 years)*					English (for the age group of 5-16 years)*							
				L2		L3		L4		L5					L6	L7
				Urdu/ Sindhi Reading – (Mark only at the highest level)		Bonus Question Question.1 (Understanding)		Bonus Question Question. 2 (understanding)		Reading English - only at the highest level					Word meaning	sentence meaning
Initial/ Nothing G0 TO L5	Letters G0 TO L5 -	Words G0 TO L5 -	Phrases G0 TO -L5	Story -G0 TO L3	yes	no	yes	no	initial / nothing (Skip to L9)	Capital Characters (Skip to L9)	Lower case letters (Skip to L9)	words Skip to L6)	Sentences (Skip to L6)	yes no	yes no Does not apply	
1																

Section L Learning Test Results

Serial Number		Mother's Name		Math/Math level (for age group of 5-16 years)*											General Knowledge-				
				L9		L10			L11	L12		L13		L14		L8			
				subtraction		Identification of numbers			Can the child solve the partition question correctly?	Bonus Question Question. 1 (Time)		Bonus Question Question. 2 (plus)		Bonus Question Question. 3 (line)		Question 1. (1)		Question 1. (2)	
2-Number	3-number (Skip to L11)	Initial/ Nothing	Identification of numbers 1-9	Identification of Numbers 10-99	Identification of numbers 100-200	can tell	can't tell	you can		can't	you can	can't	yes	no	yes	no	yes	no	
1																			
2																			

* Criteria given in Tool 8

Tool 3: School Observation Tool



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

School Observation Tool



Directions: Visit any private school; prioritise high school first, then middle, and then primary. Meet the Headmaster (in the absence of the HM, meet the most senior teacher in the school). Required Documents: Enrolment Register/Attendance Register

Name of School		Name of province												
Name of district		Name of Tehsil/ Taluka												
Union Council Name		Targeted Village Name												
Surveyor's Name		Date of Survey												
Time to start the survey		Time to finish the survey												
Village Block Code														
Type of School	1. Boys & Girls school 2. Boys Only 3. Girls Only													
From which class to which class	1. Kachi/ECE to 5 2. Class 1 to Class 5 3. Class 1 to Class 8 4. Class 1 to Class 10 5. Explain other _____													
School Medium	1. English Medium 2. Urdu Medium 3. Sindhi Medium 4. Arabic Medium 5. Explain other _____													
Year the school was established:														
A - Enrollment and attendance of children	Class/Grade											Total Number		
	ECE/ Class Kachi	Class Pakki	1	2	3	4	5	6	7	8	9	10	Boy	Girls
Children's Enrollment (check with self-register)														
Attendance of children today (count and write)														
School Fees (Monthly)														
Note: Count the children in the room. If there are merged groups (more than one class sitting together), ask the children in each class to raise their hands separately and then count accordingly.														

B- Classroom observation				
(Self-observe: If there is more than one sections in the class, choose one)				
Observe and mark the appropriate response	Class 2		Class 8	
	yes	no	yes	no
Are the children in this class sitting with the children of another class?				
If yes, then with which class? (Enter class)				
Is there a usable blackboard/whiteboard for this class?				
Do most children (75%) have textbooks? (Ask the children to show you their language i.e. Sindhi/ Urdu/ English / Arabic textbooks and review them accordingly)				
Other than textbooks, did you see any other supplementary/other materials (such as books, charts on the wall, board games, etc.) in the room?				

Where were the kids sitting? (Tick on one of them)	Classroom					
	Verandah					
	Outside					
C - Health and Disability		yes	no			
Do you have children with disabilities at school?						
If yes, how many?	Total Number		Girls			
			Boy			
Type of disability (Tick mark on relevant response)						
Visual						
Hearing						
Physical						
Intellectual ability						
Behavioral						
Self-Care						
Communication						
More than one						
Do you have special facilities/personnel available? Tick mark the answer		yes	no			
Ramp						
Accessible toilets						
Health and/or Nutrition Officer						
Explain Other						
(VI) School Fund (Get information about this section from the headmaster. If he is absent, state who gave information about it.						
July 2019 - June 2020		July 2018 - June 2019		Who answered this section? Tick Mark		
no	yes	no	yes	Other_____	teacher	Head Teacher
				from the government.	Did you get any funds from somewhere?	
				from a personal.		
				from the NGO.		
				If yes then How much money was received from this fund?		
				Where can the fund amount be used?		
				In which month were the funds received?		
				Name of Department/Institution		
				Does your school have PTA/SMC?		

D- Facilities at school				
Observation (tick mark the relevant answer)	yes	no	observation	Write an answer
Does the school have a full boundary wall/fence?			Total number of rooms in school (count yourself)	_____number
Is there a playground in the school?			Total number of classrooms used for students (count yourself)	_____number
Does the school have an electricity connection?			Average classroom size (in square feet)	_____ square feet
Do schools have solar panels?			Seating arrangement (ft).	_____ ft
Does the school have a usable library?			The number of hands washing sinks that do not have water in their taps (count yourself)	_____number

D- Facilities at school				
Observation (tick mark the relevant answer)	yes	no	observation	Write an answer
Are there smart boards in school?			Number of hand washing sinks that do not contain soap/handwash (count yourself)	_____number
Is usable furniture available in this school? (Desks, chairs, boards, benches, cabinets/cabinets)			Number of hands washing sinks (outside the toilet)	_____number
Water is flowing from the washbasin tap.			Number of hands washing sinks (inside toilets)	_____number
Soap/hand wash is available in the handwashing sink			Number of taps for ablution	_____number
Are there usable toilets/latrines for students?			Number of toilets for teachers only	_____number
			Number of toilets for students only	_____number
Are there separate toilets for girls?				
Are there separate toilets for boys?				
Water available in toilets				
Are disinfectants available for cleaning?				
Are the toilets clean?				
Clean drinking water is available for students				
First aid equipment is available				

E - Teaching and non-teaching staff						
detail	Number of posts appointed		The number of teachers today (Survey day)		The number of teachers who live in this village	
	Male	Female	Male	Female	Male	Female
Number of Head Teachers						
Number of regular teachers						
ECE Teacher/ ECE Assistant						
Part-time teacher						
Cleaner/Sweeper						
Faraash cleaners						

F- Number of teaching/ qualified staff							
education	Less than matric	matric	FA/FSC	BA/BSc	MA/MSc	MPhil	Other_____
	Professional Degree	No one	Primary Teacher Certificate (PTC)	Certificate of Teaching (CT)	Bachelor of Education (B.Ed.)	Master of Education (M.Ed.)	

G - Number of teachers trained last year (July 2020-so far)			
No one	Less than 15 days	15 - 30 days	More than 30 days

Which of the following strategies did the school use to facilitate learning for students during climate change events (flood-22, drought and heatwaves)?

Digital resources provided	Printed material provided	Online classes were provided	No one	Explain other _____
----------------------------	---------------------------	------------------------------	--------	---------------------

What challenges did the school face in providing remote/online education?

Lack of funds	Unavailability of internet for teachers	Unavailability of internet for students	Explain other _____
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To what extent is the school ready to continue the virtual/online teaching process if schools close again?

Not ready at all	Not ready	is ready	it's absolutely ready
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Tool 4: In-depth Interviews for School Head Teachers



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

In-depth Interviews for School Head Teachers



Introduction and Consent:

Assalamualaikum, my name is _____ and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. The project we are currently working on aims to improve the quality of education. The purpose of this visit is to learn about the difficulties in access to education due to the COVID-19 pandemic and the recent 2022 rains and floods.

At present we are conducting national level research on health protection and welfare. Today's meeting is also a link in the same series which aims to learn about the experiences of headteachers regarding the difficulties in achieving education due to the outbreak of COVID-19 and school closures during rains/floods in Pakistan so that good and useful information can be collected. In the light of this information, better planning can be done to deal with situations like sudden disasters in the future, and timely provision of effective services will be made possible. Therefore, your involvement and awareness of your experiences is very important to this research and will surely add to the information we collect.

The duration of this interview will be approximately one hour. Rest assured that the information provided by you will be kept strictly confidential. This information will only be used by our research team.

Your consent is required to participate in this interview. You can refuse to participate in the discussion whenever you want during the discussion/conversation and no explanation will be required.

I am very grateful to you for taking time out of your busy schedule to participate in this interview.

Note: (Obtain verbal consent to participate before starting the interview)

Respondent's Background Information					
Name of Respondent					
District		Location	1. Urban	2. Rural	
Designation			Status	1. Regular	2. Temporary
			Gender	1. Male	2. Female
School Name			School Type	1. Public	2. Private
Address					
Contact Number			Email		
Basic Pay Scale (Grade)			Age	_____ years	
Highest Academic Qualification Obtained	1. Graduation	2. Masters	3. M. Phil.	4. PhD	Any Other
Highest Professional Qualification	1. Primary Teaching Certificate (PTC)	2. Certificate of Teaching (CT)	3. Associate Degree Program in Education (ADE)		4. Bachelor of Education (B.Ed)
	5. Master of Education (M.Ed)	6. Master of Philosophy (M. Phil.)	7. Doctor of Philosophy (PhD)	Any other	
Total Experience in the School	_____ years	Experience of Administrative Positions (other than the present one)	_____ years	Experience in the Present Position	_____ years
Name of the Interviewer			Date of Interview		
Start time of Interview			End time of Interview		

#	Key Guiding Questions for Moderators	
1	During the school closures caused by Covid-19 and climate change events including droughts, heat waves and then floods-22, what strategies did your school adopt to ensure continuity of learning for the students? How successful were these strategies?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
2	When children returned to schools, did you notice any change in their attitude towards learning? Was the change positive or negative and how significant. Please elaborate on any difference you may have observed in their willingness to learn, attentiveness and attendance.	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
3	After the children returned to school, was there any assessment conducted to gauge the loss of learning that occurred during the closures? What was the outcome of these assessments and how did your school deal with it?	
	Post Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
4	What instructions did you receive from the Provincial Government and the District government regarding strategies to overcome learning loss caused by each calamity respectively?	
	Post Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
5	Since we had already experienced the impacts on education due to Covid-19, during the Floods-22/drought/heatwaves, did you receive any support on preparedness, risk reduction and response plans? How effective was this support?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
6	Did your school introduce online teaching and learning? If yes, was there adequate online teaching material available for teachers and students? (Probe about the availability of school's ICT infrastructure – computer/laptop, internet, mobile phones etc. at the school level and also ask about availability of online teaching/learning resources with teachers and students)	
	Post Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
7	Have teachers been given any training on teaching online? If yes, how was the training given?	
8	What percentage of the students returned to school after the they reopened? What were some of the reasons that students did not return to school?	
	Post Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)

#	Key Guiding Questions for Moderators	
9	Tell me about your school and district – in light what we have learned from these calamities, do you think it is better prepared to deal with them in the future? Do you have the infrastructure and capacity for using technology-based solutions?	
10	What do you think about the quality of education and how it was affected in the last three years? What would you like to do a little differently now?	
11	Did your school become a flood shelter? If yes, for how long? Explain if it did any harm to your school.	
12	Did floodwater get into your school? Did it damage your school building? Please elaborate on the damages, if any.	
13	Tell us about access to the schools for children, were they able to commute to the school easily?	
14	Has the damage to the school been repaired? Who sponsored these repairs?	
15	Has the repair work been completed?	1. Yes 2. No
16	Are you satisfied with the repair work?	1. Yes 2. No
17	How much do you think it will cost to complete the repair work?	_____number
18	What has been the impact on the student's assessment results in the past two years?	
	Post Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
19	In your personal experience as the Head Master/Head Mistress How do you think this educational loss of children can be addressed in the future? What strategies were successful and which ones do you think could be improved?	

Tool 5: Guideline for Key Informant Interview for Government Officials and Policy Makers



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

Guideline for Key Informant Interview for Government Officials and Policy Makers



Name of the Interviewer					
Location/ Address of KII					
Name of Interviewee			Designation		
Department/ Office			Contact Number		
Session Date		Session Start Time		Session End Time	

Introduction and Consent:

Assalam Alaikum, my name is _____ - and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. I am very grateful to you for taking time out of your busy schedule for this meeting. The purpose of today's meeting is to know how the teaching and learning process has been affected by the COVID-19 outbreak and Climate Change including Heatwaves, Droughts and Floods-22. We would like to know your opinion and learn from your experience.

#	Key Guiding Questions for Moderators	
1	Tell me about what was the role the provincial and district government during Covid-19 and various impacts of Climate Change such as Heatwaves, Droughts and Flood-22? (Probe for decisions around school closing and re-opening, remote learning, modifications to curriculum, assessing learners when school opens)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
2	How prepared do you think your department was for the tackling the impact on continuity of education during Covid-19 and various impacts of Climate Change such as Heatwaves, Droughts and Flood-22?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
3	Did you receive any instructions from the provincial government regarding education delivery during Covid-19 and various impacts of Climate Change such as Heatwaves, Droughts and Flood-22? (Probe for decisions around school closing and re-opening, remote learning, modifications to curriculum, assessing learners when school opens)	
4	Was there a response plan in place for decision-making regarding education delivery during these spans?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
5	Explain how relevant mechanisms, policy actions and decisions regarding school closures were implemented at the district level during these spans?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
6	How long did schools remain closed during these times?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
7	Describe the use of technology for learning, whether in the form of TV programs or online teaching, training of teachers, etc. What have been the strong points and successes? (Probe for home-based, distance and blended learning for primary & secondary schools separately)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)

#	Key Guiding Questions for Moderators				
8	Tell me how the government facilitated continuation learning during COVID-19 and climate change events such as droughts, heat waves and Floods-22? If case of additional fund provided, where were these funds utilized?				
	During Covid-19		Climate changes events (During Floods-22, droughts and heatwaves)		
9	What was the number of children when schools reopened after each disaster (Covid-19 and climate change events such as famine, heat wave and flood-22)? Do you remember what percentage of children returned to school?				
	During Covid-19		Climate changes events (During Floods-22, droughts and heatwaves)		
10	How long did it take for schools to function normally?				
	During Covid-19		Climate changes events (During Floods-22, droughts and heatwaves)		
11	Finally, I would like to hear from you, when you think back to the events/experiences of the last three years, what steps do you think should have been taken a little differently to address the need for education and other situations that arose during this time? (What was missing in the response plan and what was effective?)				
12	Which districts of Sindh province were affected by floods in 2022? (most to least)	1 _____ (District Name)	2 _____ (District Name)	3 _____ (District Name)	4 _____ (District Name)
13	How many schools in these districts were closed as a result?	_____ percent	_____ percent	_____ percent	_____ percent
14	What were the main reasons for closing the school? 1. The school was set up as a temporary camp for the flood victims 2. Floodwater entered the school 3. Access routes were blocked 4. The school building was damaged				
15	How long did the floodwater stay in the area in these districts?	_____ Weeks	_____ Weeks	_____ Weeks	_____ Weeks

Tool 6: Guideline for In-depth Interviews for District Education Department Officials



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

Guideline for In-depth Interviews for District Education Department Officials



Name of the Interviewer					
Location/ Address of KII					
Name of Interviewee			Designation		
Department/ Office			Contact Number		
Session Date		Session Start Time		Session End Time	

Introduction and Consent:

Assalam Alaikum, my name is _____ - and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. I am very grateful to you for taking time out of your busy schedule for this meeting. The purpose of today's meeting is to know how the teaching and learning process has been affected by the COVID-19 outbreak and Climate Change including Heatwaves, Droughts and Floods-22. We would like to know your opinion and learn from your experience.

#	Key Guiding Questions for Moderators	
1	What was the role the provincial and district government during Covid-19 and climate change events including droughts, heat waves and then floods-22? (Probe for decisions around school closing and re-opening, remote learning, modifications to curriculum, assessing learners when school opens)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
2	How prepared do you think your district department was for the tackling the impact on continuity of education during these spans?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
3	Did you receive any instructions from the provincial government regarding education delivery during these spans? (Probe for decisions around school closing and re-opening, remote learning, modifications to curriculum, assessing learners when school opens)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
4	Was there a response plan in place for decision-making regarding education delivery during Covid-19 and climate change events including droughts, heat waves and then floods-22?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
5	Explain how relevant mechanisms, policy actions and decisions regarding school closures were implemented at the district level during these spans?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
6	How long did schools remain closed during Covid-19 and Floods-22?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
7	Describe the use of technology for learning, whether in the form of TV programs or online teaching, training of teachers, etc. What have been the strong points and successes? (Probe for home-based, distance and blended learning for primary & secondary schools separately)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)

#	Key Guiding Questions for Moderators	
8	Did the government provide additional funds to continue learning during COVID-19 and climate change event such as droughts, heat waves and floods-22? Where were these funds utilized?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
9	What was the enrolment number when schools reopened after each calamity (Covid-19 and climate change events such as droughts, heat waves and floods-22)? Do you remember what percentage of children came back to school?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
10	How long did it take for schools in your district to function normally after Covid-19 and climate change events like drought, heat wave and flood-2022?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
11	What were the main reasons for closing schools during floods?	1. The school was set up as a temporary camp for flood victims 2. Flood water entered the school 3. Access routes were blocked 4. The school building was damaged 5. Specify other _____
12	How long did the floodwater stay in your district?	Weeks
13	Do schools close due to extreme heat in your district?	1. Yes 2. No
14	If yes, for how many days are schools usually closed?	_____ days
15	If yes, how is the educational activity continued during this period?	
16	Does your district face drought/drought?	1. Yes 2. no
17	Do schools in your area close during droughts? If yes, how are educational activities continued in these circumstances?	
18	How long does this usually last?	
19	Finally, I want to know from you that, when you consider the events/experiences of the last three years, what steps do you think should have been taken to deal with the need for education and other situations that arose in the meantime? (What was the plan lacking and what was effective?) What was lacking in the plan, what was the plan done, which should be done in a slightly different way?	

Tool 7: In-depth Interviews for Civil Society Stakeholders / NGOs Representatives



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

In-depth Interviews for Civil Society Stakeholders/NGOs Representatives



Name of the Interviewer					
Location/ Address of KII					
Name of Interviewee			Designation		
Department/ Office			Contact Number		
Session Date		Session Start Time		Session End Time	

Introduction and Consent:

Assalam Alaikum, my name is _____ - and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. I am very grateful to you for taking time out of your busy schedule for this meeting. The purpose of today's meeting is to know how the teaching and learning process has been affected by the COVID-19 outbreak and Climate Change including Heatwaves, Droughts and Floods-22. We would like to know your opinion and learn from your experience.

I am grateful that you took the time out of your busy schedule to attend this meeting today. We would like to know your opinion and learn from your experience.

#	Guidelines for Interviewers	
1.	How do you think calamities in Pakistan, namely COVID-19 and climate changes events including droughts, heat waves and then floods-22 have affected the education system of Pakistan? Please explain.	
2.	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
3.	What strategies/policies were devised to ensure the continuity of learning during these spans? How successful were these strategies?	
4.	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
5.	During these calamities, children were distanced from regular education. Once the children returned to schools, what strategies/policies were devised to overcome the loss of learning during these spans and how successful were these strategies/policies?	
6.	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
7.	Did you know that Pakistan has prepared a plan to protect and restore the education system in case of COVID-19 and sudden disasters? In light of the recent calamities, how sound do you think this plan is? What could be improved?	
8.	Schools are usually closed first to deal with emergencies in Pakistan, which results in the loss of education for children. In case of such a calamity in the future, how well prepared do you think we are to minimize the loss of learning and mitigate the impact on education?	
9.	How successful do you believe online teaching/digital platforms will be in Pakistan? To what extent do you think our less developed areas have the required ICT infrastructure to integrate online learning especially rural areas?	
10.	What should central and provincial governments do to promote online teaching/digital platforms? In both urban and rural areas.	

Tool 8: In-depth Interviews for DG Health



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

In-depth Interviews for DG Health



Name of the Interviewer					
Location/ Address of KII					
Name of Interviewee			Designation		
Department/ Office			Contact Number		
Session Date		Session Start Time		Session End Time	

Introduction and Consent:

Assalam Alaikum, my name is _____ - and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. I am very grateful to you for taking time out of your busy schedule for this meeting. The purpose of today's meeting is to know how the teaching and learning process has been affected by the COVID-19 outbreak and Climate Change including Heatwaves, Droughts and Floods-22. We would like to know your opinion and learn from your experience.

I am grateful that you took the time out of your busy schedule to attend this meeting today. We would like to know your opinion and learn from your experience.

#	Guidelines for Interviewers
1.	<p>What were the major health hazards faced during the recent climate change events (droughts, heat waves and floods-22 and how were these challenges addressed?</p>
2.	<p>What strategies/policies were devised to ensure a more cohesive and planned response to the health hazards caused by Climate Change? (including diseases spread during floods, heat strokes and edema during heatwaves etc)</p>
3.	<p>How do you think the climate changes events including droughts, heat waves and then floods-22 have affected the education system of Pakistan? Please explain.</p>
4.	<p>Do you think schools / educational institutes can play a role in minimizing the adverse impacts of climate changes? What measures can be taken at the community level to minimize or lessen the impact of the climate change, such as diseases during floods, heat strokes during heatwaves etc in the future?</p>
5.	<p>During COVID-19, there were several awareness drives carried out at school/educational institutes. Please share the actions taken which were most effective and can be replicated in case of future calamities?</p>
6.	<p>During COVID-19, there were several awareness drives carried out at school/educational institutes. Please share the actions taken which were most effective?</p>
7.	<p>In light of the recent calamities, what have been some of the planning measures taken to mitigate the health hazards, especially to children in the future? What planning has been done to better prepare school going children and their parents for the upcoming floods, heatwaves and droughts and the subsequent precautionary measures and pandemic like COVID-19?</p>

Tool 9: Guideline for Key Informant Interview for Sindh Education Foundation (SEF)



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

Guideline for Key Informant Interview for Sindh Education Foundation (SEF)



Name of the Interviewer					
Location/ Address of KII					
Name of Interviewee			Designation		
Department/ Office			Contact Number		
Session Date		Session Start Time		Session End Time	

Introduction and Consent:

Assalam Alaikum, my name is _____ - and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. I am very grateful to you for taking time out of your busy schedule for this meeting. The purpose of today's meeting is to know how the teaching and learning process has been affected by the COVID-19 outbreak and Climate Change including Heatwaves, Droughts and Floods-22. We would like to know your opinion and learn from your experience.

I am grateful that you took the time out of your busy schedule to attend this meeting today. We would like to know your opinion and learn from your experience.

#	Key Guiding Questions for Moderators	
1	Tell me about what was the role the provincial and district government during Covid-19 and various impacts of Climate Change such as Heatwaves, Droughts and Flood-22? (Probe for decisions around school closing and re-opening, remote learning, modifications to curriculum, assessing learners when school opens)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
2	How prepared were you for tackling the impact on continuity of education during Covid-19 and various impacts of Climate Change such as Heatwaves, Droughts and Flood-22?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
3	Explain how relevant government mechanisms, policy actions and decisions regarding school closures were implemented during these spans?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
4	Describe the use of technology for learning, whether in the form of TV programs or online teaching, training of teachers, etc. What have been the strong points and successes? (Probe for home-based, distance and blended learning for primary & secondary schools separately)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
5	Tell me how the government facilitated continuation learning during COVID-19 and climate change events such as droughts, heat waves and Floods-22? If case of additional fund provided, where were these funds utilized?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
6	What were some of the strategies your schools deployed in order to make up for the learning losses caused by the pandemic and the climate change? (Floods, Heatwaves and Droughts)	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
7	In light of your experience during these calamities, what plans have been set forth to ensure continuity of education in case of school closures in the future? How well prepared are you for it now based on your experience?	



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

**In-depth Interviews for
DG Climate Change**



Name of the Interviewer					
Location/ Address of KII					
Name of Interviewee			Designation		
Department/ Office			Contact Number		
Session Date		Session Start Time		Session End Time	

Introduction and Consent:

Assalam Alaikum, my name is _____ - and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. I am very grateful to you for taking time out of your busy schedule for this meeting. The purpose of today's meeting is to know how the teaching and learning process has been affected by the COVID-19 outbreak and Climate Change including Heatwaves, Droughts and Floods-22. We would like to know your opinion and learn from your experience.

I am grateful that you took the time out of your busy schedule to attend this meeting today. We would like to know your opinion and learn from your experience.

#	Guidelines for Interviewers
1.	How do you think calamities in Pakistan, specifically Floods-22 , droughts, heat waves and then floods-22 have affected the education system of Pakistan? Please explain.
2.	What were the major challenges faced during recent climate change events (droughts, heat waves and floods-22 and how were these challenges addressed?
3.	In light of your experience of the recent calamities, what have been some of the steps taken to ensure better planning in case of predicted floods this year?
4.	Has there been any intimation regarding the impacts of Climate Change such as Floods and Heatwaves to the education department? Have they been given any guidelines to prepare accordingly?
5.	What role do you think schools and community organizations can play to mitigate impacts of climate change? (Probe about awareness drives, SMC meetings, community drives etc)
6.	What are some of the steps taken by Pakistan to provide relief to victims of climate change (Floods, Droughts and Heatwaves) especially school going children?
7.	Do you think we, as a country, are now relatively better prepared to deal with the extreme changes in climate and its subsequent impacts? What are some of the aspects that can be further improved?

Tool 11: In-depth Interviews for Donors



Impact of COVID-19 and Climate Change (droughts, heat waves and floods-22) on Public Sector Primary and Elementary School Education in the Province of Sindh

In-depth Interviews for Donors



Name of the Interviewer					
Location/ Address of KII					
Name of Interviewee			Designation		
Department/ Office			Contact Number		
Session Date		Session Start Time		Session End Time	

Introduction and Consent:

Assalam Alaikum, my name is _____ - and I work for AASA Consulting, a reputed organization in Pakistan. Our institution has been researching the educational, social and economic conditions of the country for the past 30 years. I am very grateful to you for taking time out of your busy schedule for this meeting. The purpose of today's meeting is to know how the teaching and learning process has been affected by the COVID-19 outbreak and Climate Change including Heatwaves, Droughts and Floods-22. We would like to know your opinion and learn from your experience.

I am grateful that you took the time out of your busy schedule to attend this meeting today. We would like to know your opinion and learn from your experience.

#	Guidelines for Interviewers	
1.	How do you think calamities in Pakistan, namely COVID-19 and climate change events including droughts, heat waves and then floods-22 have affected the education system of Pakistan?	
2.	What were the major challenges faced during COVID-19 and recent climate change events (droughts, heat waves and floods-22 in educational institutes and how were these challenges addressed?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
3.	What have been some of the interpositions by your organization to ensure the continuity of education during these calamities?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
4.	During these calamities, children were distanced from regular education. Once the children returned to schools, what strategies were devised to overcome the loss of learning during these spans and how successful were these interventions?	
	During Covid-19	Climate changes events (During Floods-22, droughts and heatwaves)
5.	In case of such a calamity in the future, how well prepared do you think we are to minimize the loss of learning and mitigate the impact on education? How will we deal with them in the future?	
6.	What are the changes in the approach towards education programs in light of the recent calamities and the subsequent impact on learning? Has there been an increase in funding to minimize the impact on education?	

Annexure 3: Institutional Review Boards Clearance

Fatima Jinnah Women University

THE MALL, RAWALPINDI

Tel: 051-9270050-57 Ext: 120 Fax: 92-51-9271170 E-mail: registrar@fjwu.edu.pk

Dated: June 16, 2023

AASA Consulting (Pvt.) Ltd,
3rd Floor, 14-C, Lane-7, Bukhari Commercial, Phase 6,
DHA, Karachi

Ethics Reference No: <i>Please quote this ref on all correspondence</i>	FJWU/ EC/ 2023/ 57
Project Title:	“Impact of COVID 19 and climate change on public sector primary and elementary school education in the province of Sindh”
Researcher’s Name:	AASA Consulting (Pvt.) Ltd

Thank you for submitting your application which was considered by the FJWU Ethics Committee.

The FJWU Ethics Committee approves this study from an ethical point of view. This approval is subject to the condition that any serious adverse events of significant changes which occur in connection with this study and /or which may alter its ethical consideration must be reported immediately to the FJWU Ethics Committee, and an Ethical Amendment Form submitted where appropriate.

You must inform FJWU Ethics Committee when the research has been completed. Please note that approval is only given for the data collection in Pakistan.

Yours Sincerely,

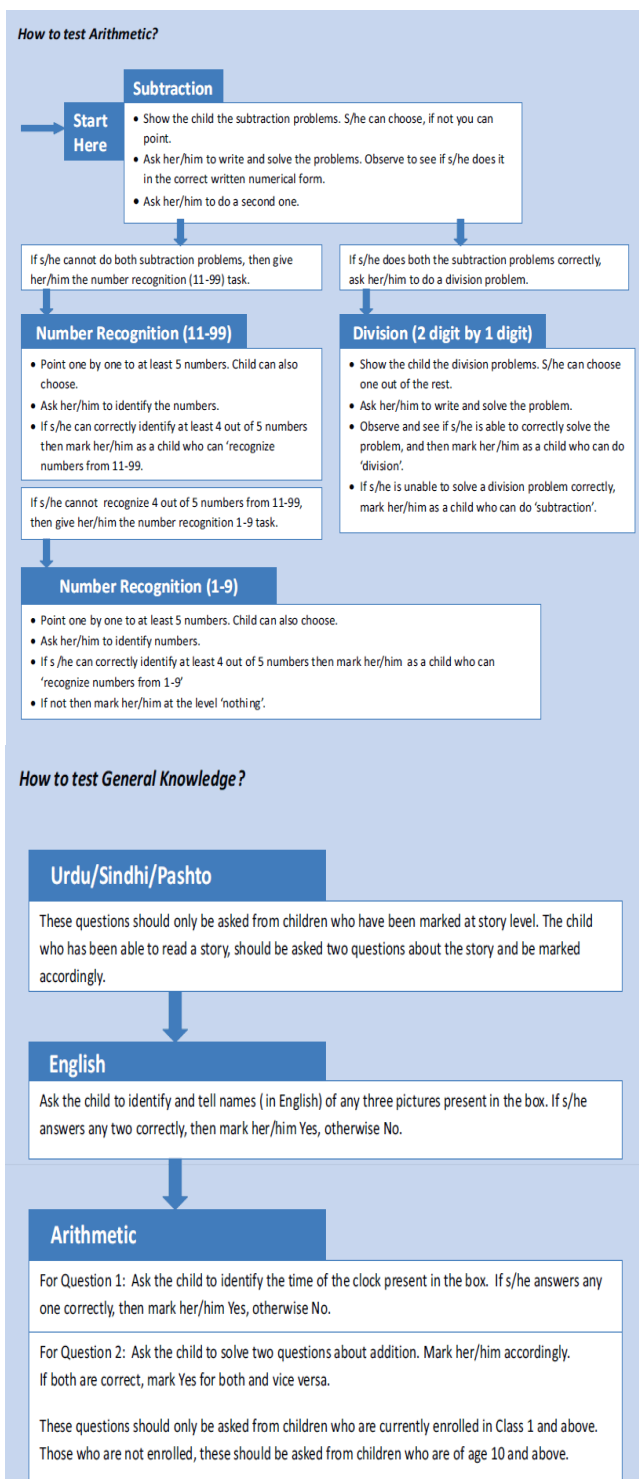
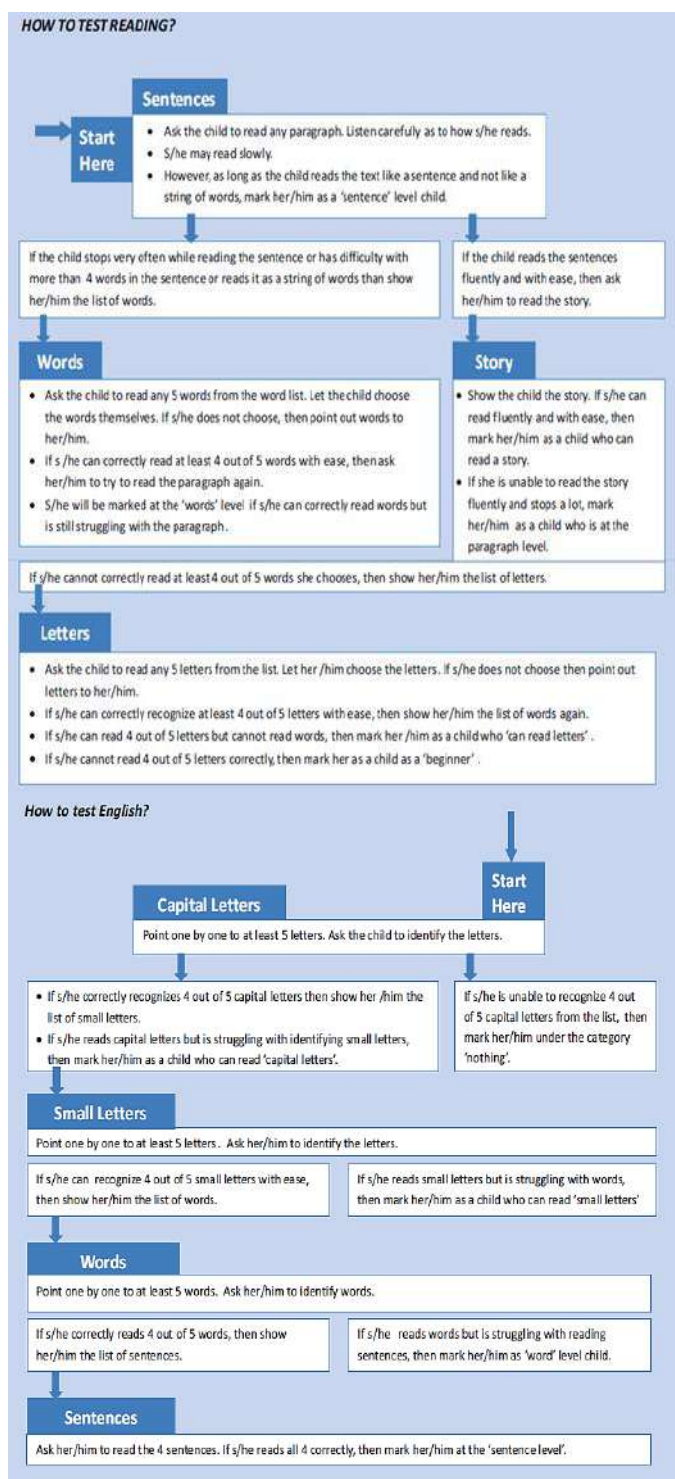

Saima Bibi
Secretary, FJWU Ethics Committee

Annexure 4: Donor Projects Links

1. **Merit and Need Based Scholarship Programme**
<https://www.hec.gov.pk/english/scholarshipsgrants/USAID-NeedsBased/Pages/default.aspx>
2. **Education Management Organization**
<http://www.sindheducation.gov.pk/pages.jsp?page=educationmanagementorganisations>
3. **Girls Stipend Project**
<http://www.sindheducation.gov.pk/pages.jsp?page=GirlsStipendProgram-Overcomingabarriertofemaleeducation>
4. **School Management Communities**
<http://www.sindheducation.gov.pk/pages.jsp?page=schoolmanagementcommittees>
5. **Flood Recovery Program** <https://www.undp.org/pakistan/publications/undps-flood-recovery-programme>
6. **Program to enhance Secondary education in Sindh** <https://www.adb.org/news/adb-project-enhance-secondary-education-sindh-pakistan>
7. **Program to improve Skills Training** <https://www.adb.org/news/100-million-adb-project-improve-skills-training-pakistan>
8. **Sindh Early Learning Enhancement Through Classroom Transformation**
<https://www.worldbank.org/en/news/press-release/2021/07/29/pakistan-early-learning-investments-to-reach-vulnerable-communities-in-sindh-province-with-world-bank-support>
9. **Covid-19 Response, Recovery and Resilience in Education Project**
<http://www.mofept.gov.pk/SiteImage/Misc/files/RRREP%20ESMF%20Draft.pdf>
10. **Sindh Resilience Project (in collaboration with SID)**
<https://www.technologytimes.pk/2023/07/11/sindh-resilience-project-aims-to-reduce-risk-of-flooding-drought/>
11. **Sindh Technical Assistance Development through enhanced education programme**
<https://www.aku.edu/iedpk/projects/Pages/sta-deep.aspx>
12. **Project for Gender Responsive Actions to Ensure Retention through Community Engagement and School Practices (GRACE, Sindh)**
<https://www.jica.go.jp/Resource/pakistan/english/office/topics/press211117.html>
13. **The Project for Upgrading Primary Girls' Schools into Elementary Schools in Rural Areas of Sindh**
https://www.jica.go.jp/Resource/english/news/press/2022/20230213_31.html
14. **The Advancing Quality Alternative Learning (AQAL) National Project**
<http://www.neas.gov.pk/ProjectDetail/YzYzOWI4MjctNDVINy00NTU3LThlMzktMTNjNzY4MzJhYjUw>
15. **The Strategic Strengthening of Flood Warning and Management Capacity of Pakistan**
https://www.jica.go.jp/Resource/pakistan/english/activities/activity02_17.html
16. **Improving climate adaptation and resilience in Pakistan- Federal German Ministry for Economic Cooperation and Development (BMZ)**
<https://www.giz.de/en/worldwide/107628.html>

Annexure 5: ASER's Assessment Guidelines

Exhibit 3.3.1: Assessment Guidelines



Source: ASER Website

Annexure 6: District Wise Graph

Exhibit 3.1.3a: Sources of Household Income by District

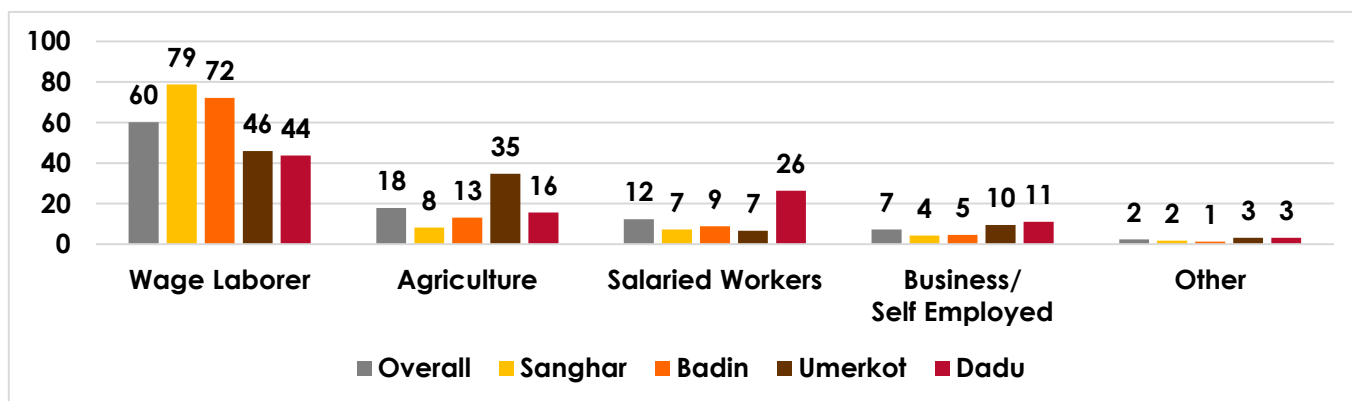


Exhibit 3.1.7a: Incidence of Disability (In Numbers) by District

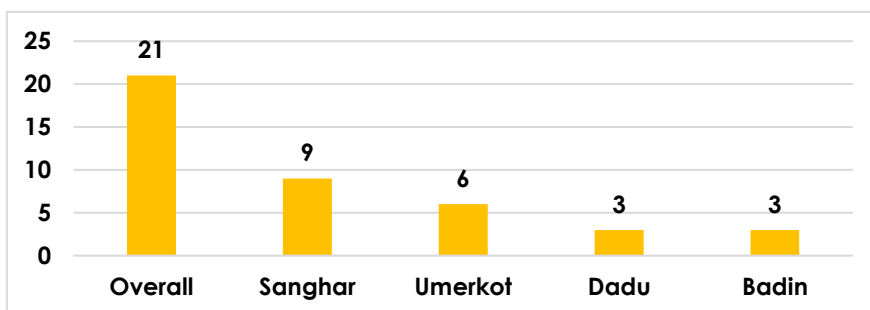


Exhibit 3.2.1a: Enrollment Status of Sampled Children by District

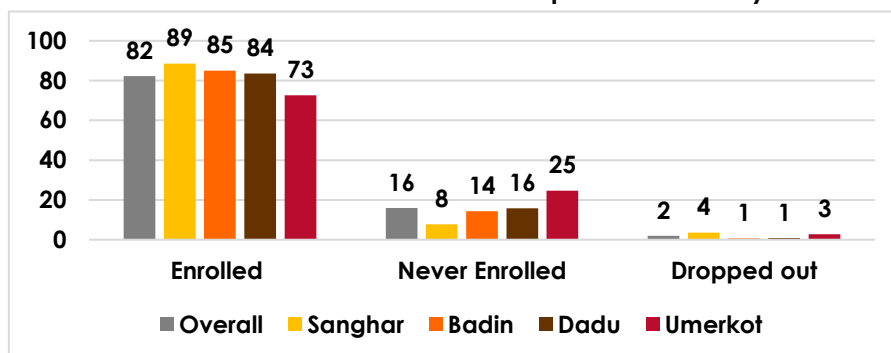


Exhibit 3.3.1.1a: Learning Levels (Urdu/Sindhi) Children Age between 5-16 years Who Can Read by Gender

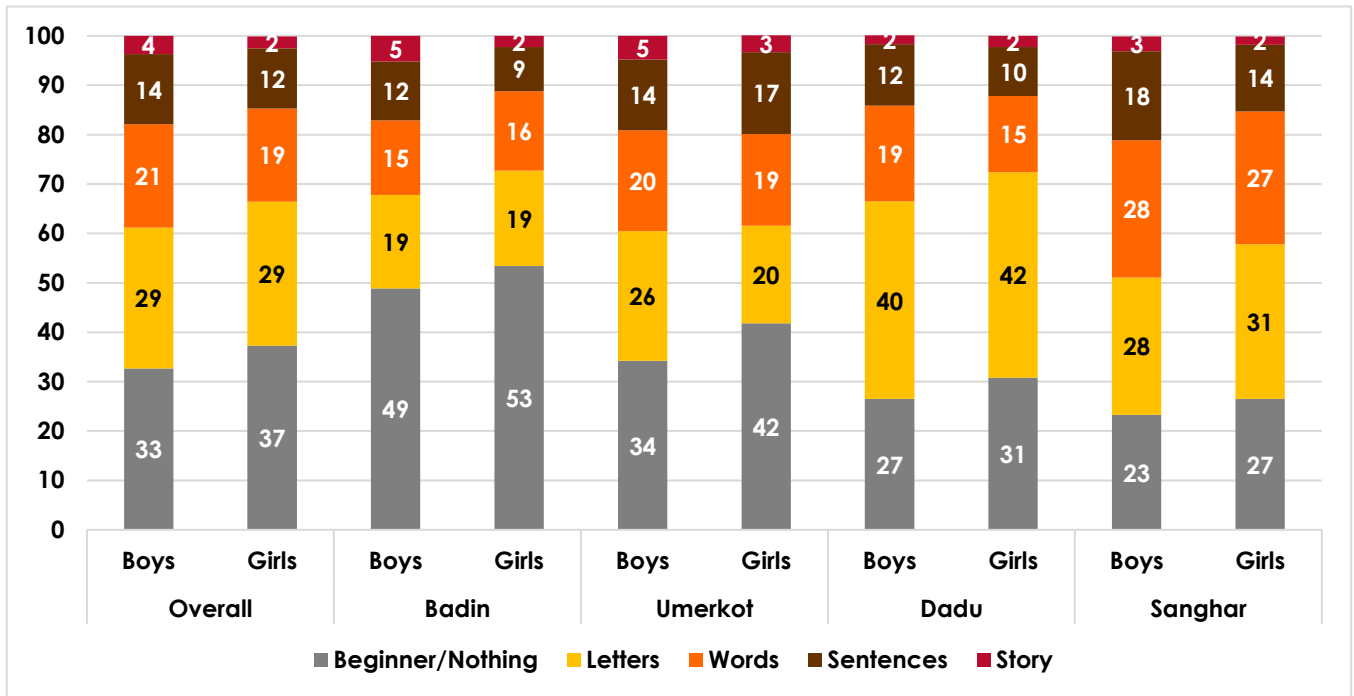


Exhibit 3.3.1.3a: Learning Levels (Urdu/Sindhi) Class-wise % Children Who Can Read by Class

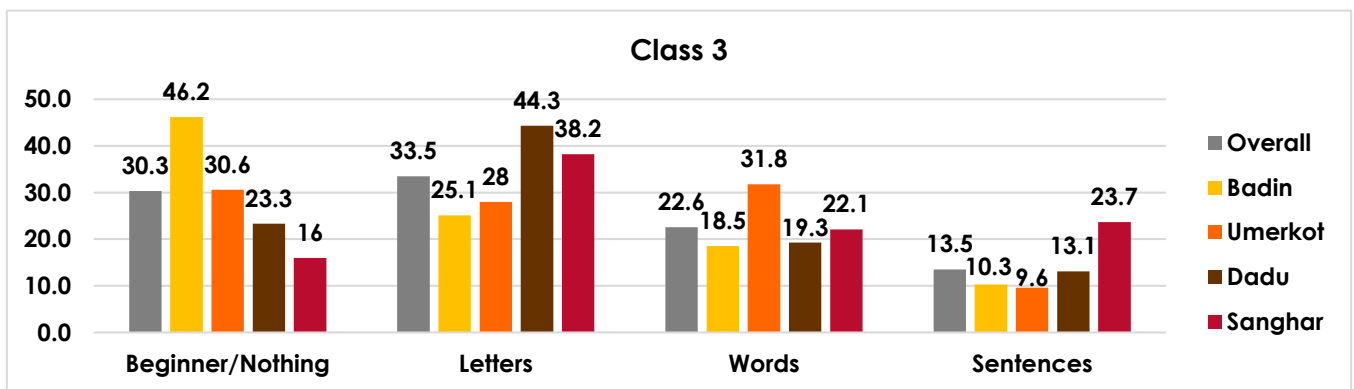
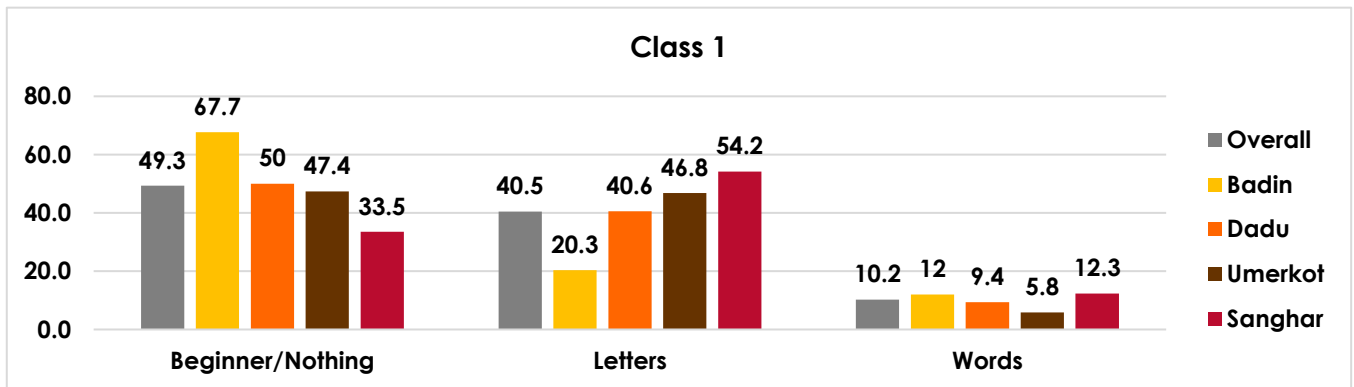


Exhibit 3.3.1.3a: Learning Levels (Urdu/Sindhi) Class-wise % Children Who Can Read by Class

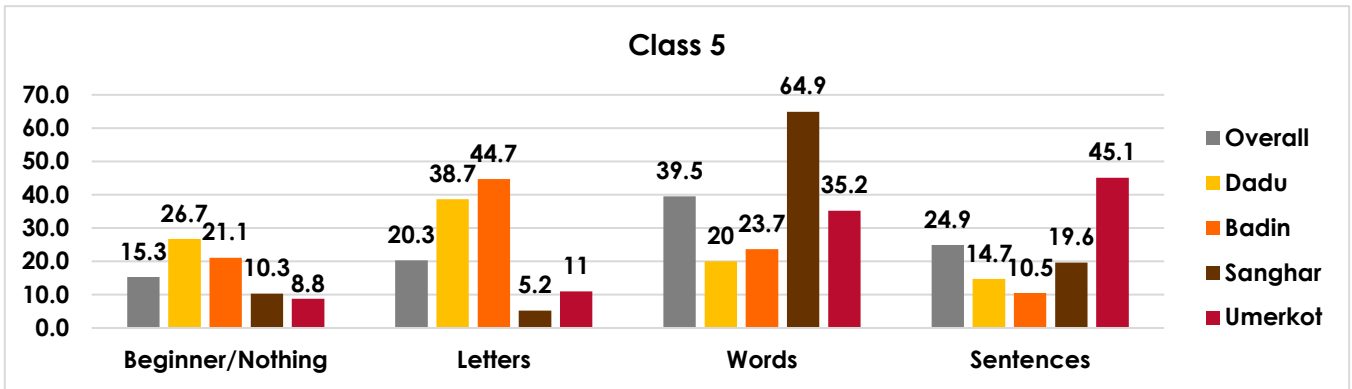


Exhibit 3.3.2.1a: Learning Levels (English) Children Age between 5-16 years Who Can Read by Gender

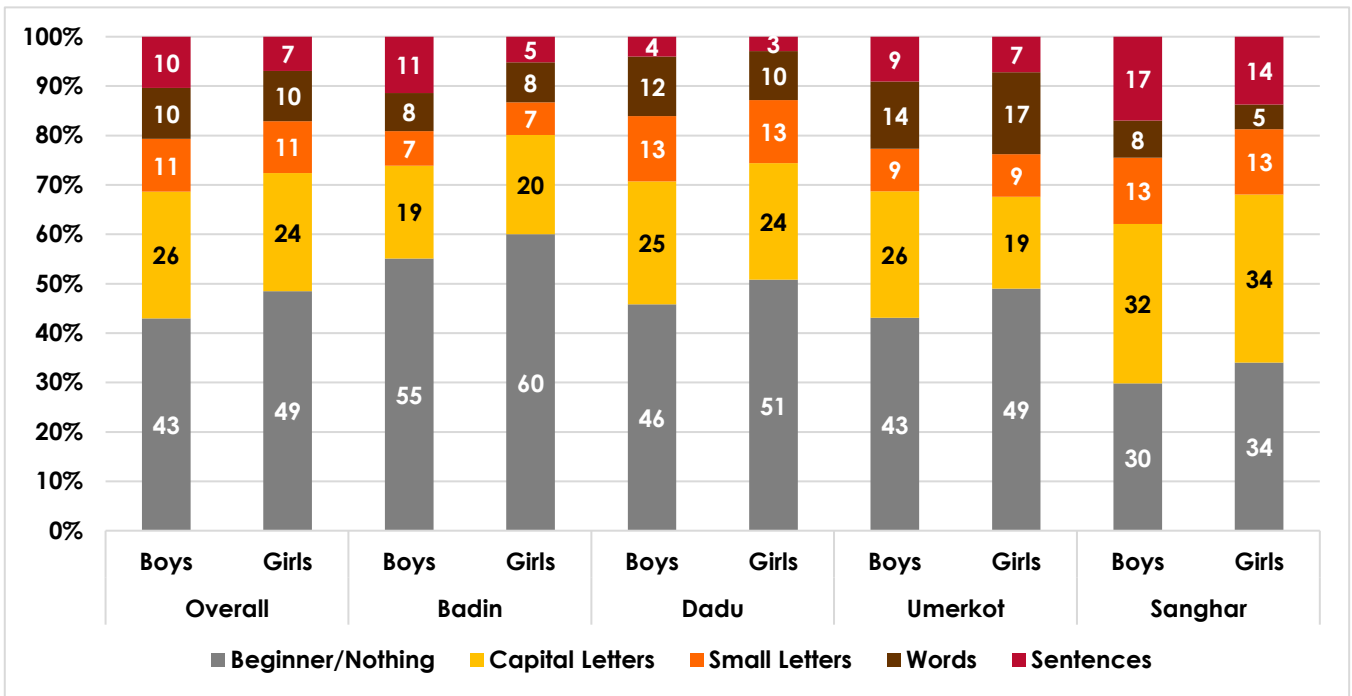


Exhibit 3.3.2.3a: Learning Levels (English) Class-wise Percentage of Children Who Can Read by Class

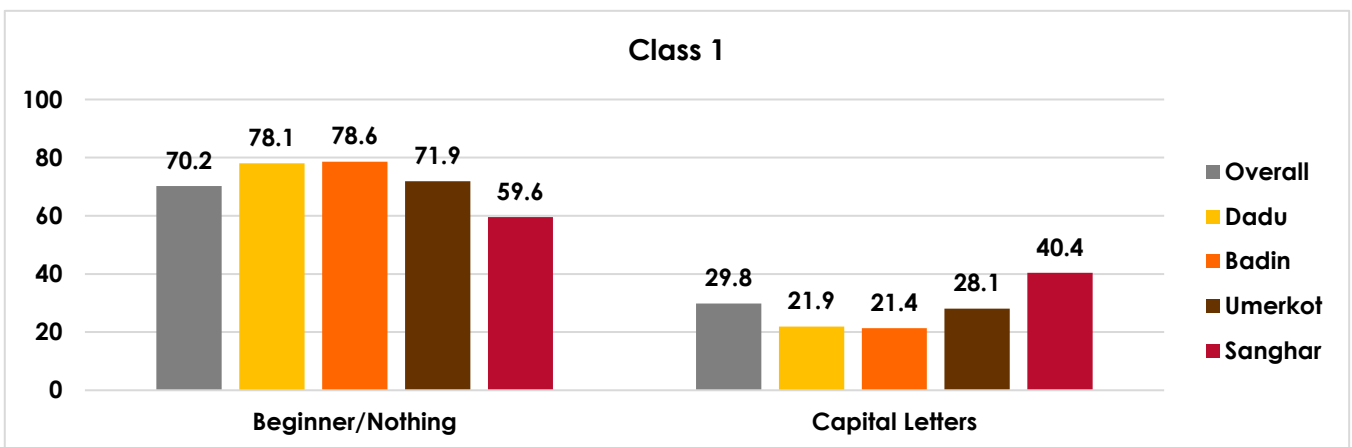


Exhibit 3.3.2.3a: Learning Levels (English) Class-wise Percentage of Children Who Can Read by Class

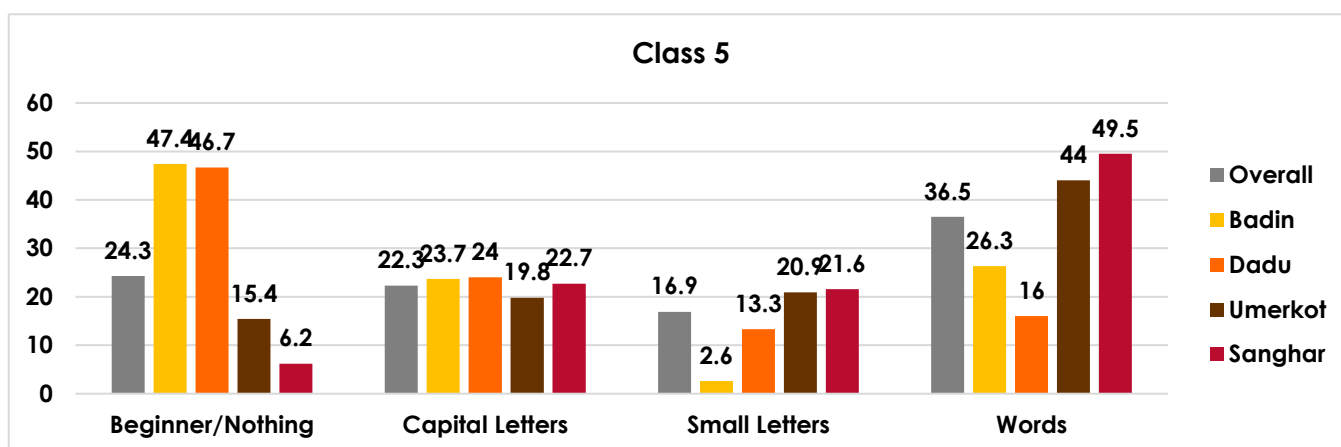
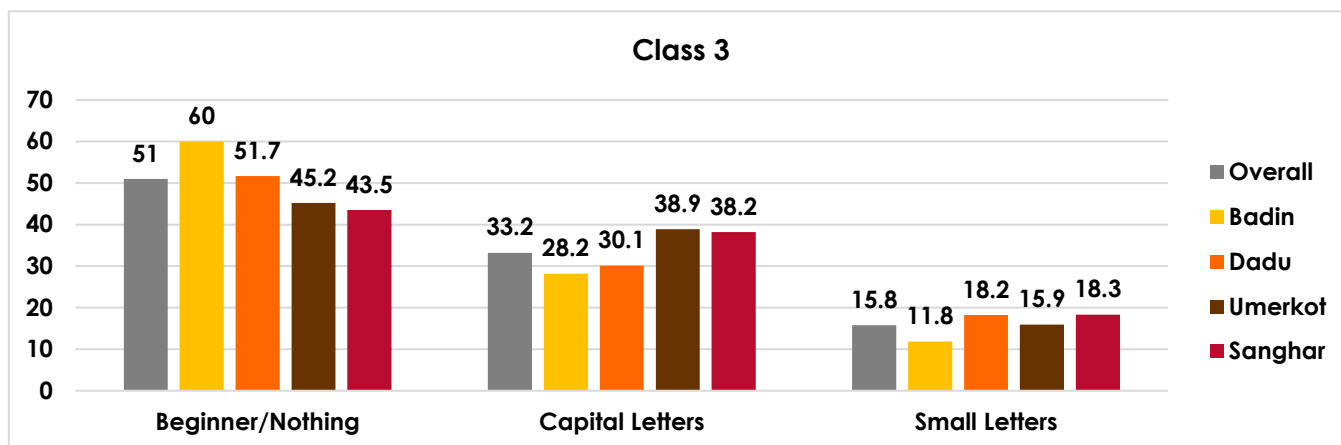


Exhibit 3.3.3.1a: Learning Levels (Arithmetic) Children Age between 5-16 years Who Can Read by Gender

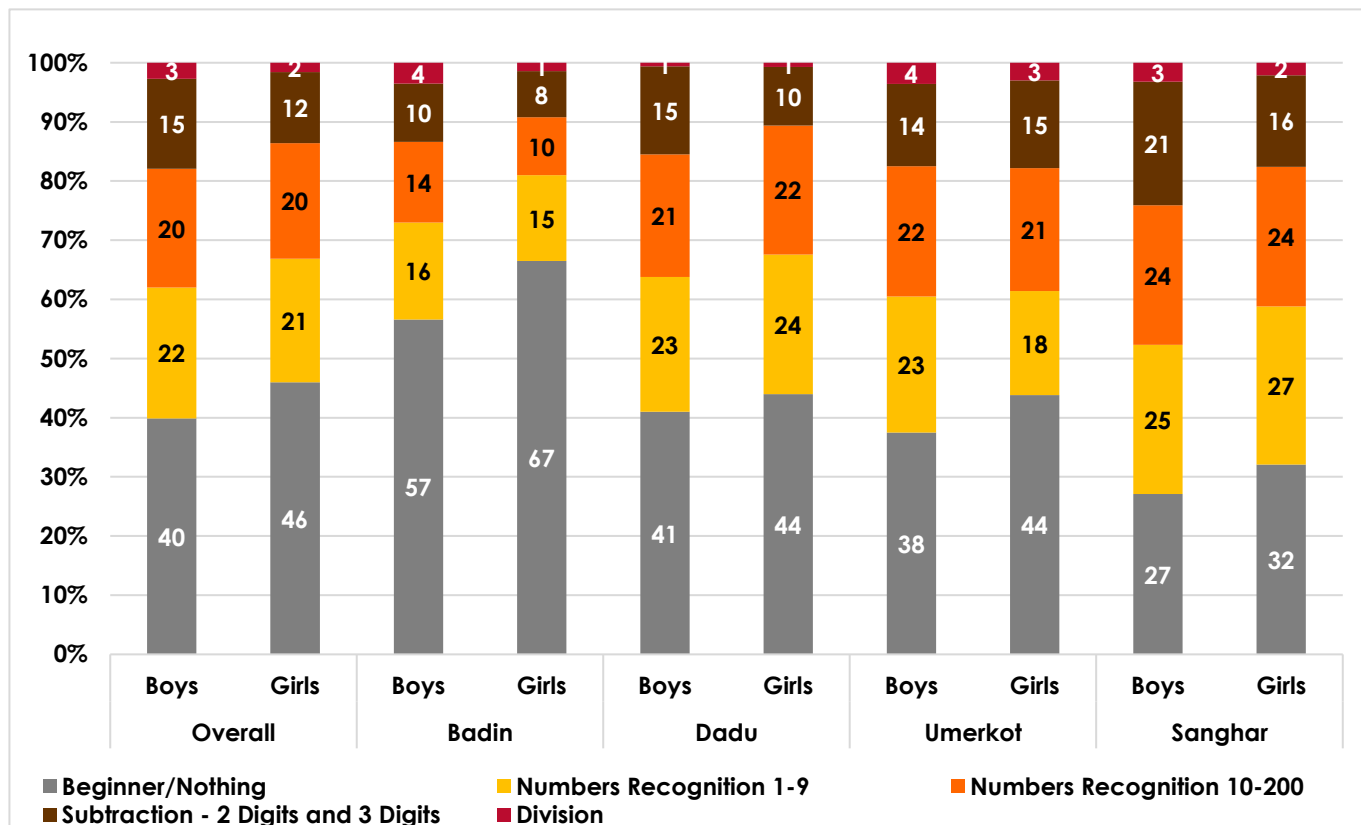
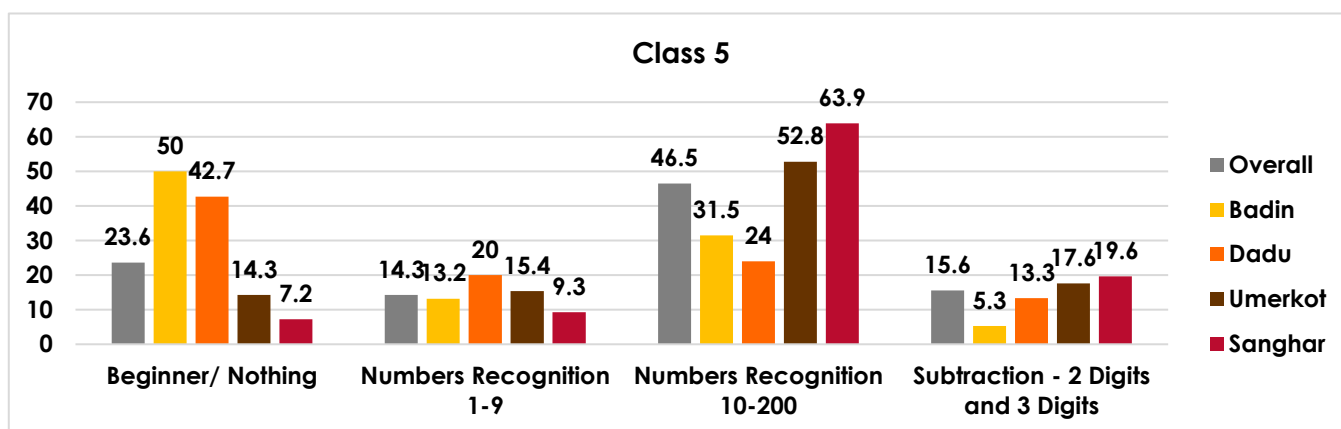
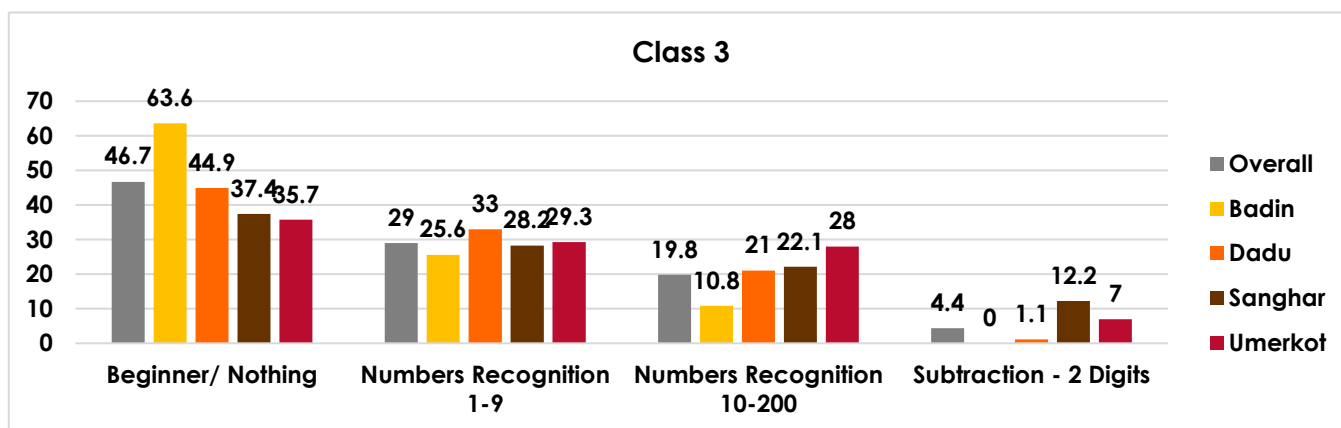
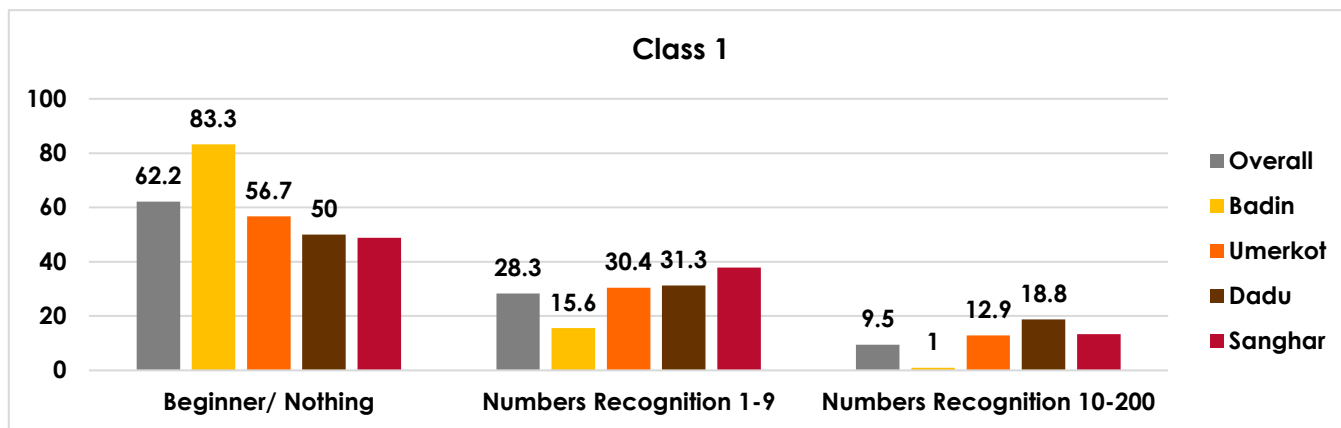


Exhibit 3.3.3.3a: Learning Levels (Arithmetic) Class-wise Percentage Children Who Can Read by Class



Annexure 8: Household Indicators Tables

Table 6.1: Disability Reported by Sample Households [Column Percentages]

		Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households		2400	601	601	600	598
Total Number-Disable	None	90.8	98.0	70.5	98.0	96.7
	One	3.8	1.7	8.3	2.0	3.0
	Two	3.3	0.2	13.0	-	0.2
	Three	1.3	-	4.8	-	0.2
	Four	0.5	-	1.8	-	-
	Five	0.3	0.2	1.2	-	-
	Six	-	-	0.2	-	-
	Eight	-	-	0.2	-	-
Disable Boys	None	92.6	98.5	76.2	98.5	97.3
	One	5.1	1.3	15.0	1.5	2.5
	Two	1.6	0.2	6.2	-	-
	Three	0.5	-	2.0	-	0.2
	Four	0.2	-	0.7	-	-
Disable Girls	None	94.5	99.2	80.0	99.5	99.2
	One	4.0	0.7	13.8	0.5	0.8
	Two	1.1	-	4.5	-	-
	Three	0.4	0.2	1.5	-	-
	Six	0.0	-	0.2	-	-

Household Questionnaire - Section B

Table 6.2: Housing Features of Sample Households [Column Percentages]

		Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households		2400	601	601	600	598
Type of House	Katcha	68.6	49.8	80.7	69.0	74.9
	Semi Pacca	22.3	33.3	15.8	22.8	17.1
	Pacca (Brick & Cement)	9.2	17.0	3.5	8.2	8.0
Average Number of Rooms		1.4	1.6	1.2	1.6	1.3
Number of Rooms	1-2 Rooms	93.3	84.9	99.2	91.7	97.5
	3-4 Rooms	6.3	14.3	0.8	8.0	2.2
	More than Four Rooms	0.4	0.8	-	0.3	0.3
Average Persons Pre-Room		4.6	5.2	4.0	3.8	5.5
Ventilation in rooms	All Rooms	61.3	72.5	47.3	42.5	82.9
	Most Rooms	1.8	1.3	2.2	3.3	.2
	Some Rooms	11.9	11.3	13.6	11.0	11.5
	None	25.1	14.8	36.9	43.2	5.4
Household Have Latrine	Inside the Household - Not Attached	36.8	68.9	9.7	25.2	43.3
	Inside the Households - Attached	0.4	0.2	0.5	0.8	-
	Outside the Household	17.8	0.8	41.8	16.5	11.9
All Latrine are in use	No Toilet	45.1	30.1	48.1	57.5	44.8
	Yes	41.4	65.4	9.2	37.8	53.3
	No	13.1	4.5	41.6	4.3	1.8
	No Toilet in Household	45.1	30.1	48.1	57.5	44.8
	Other	0.4	-	1.2	0.3	-
Source of Drinking Water	Tap Water	17.3	52.9	8.3	6.7	1.3
	Bore	73.9	33.9	90.5	74.8	96.3
	Filtration Plant	2.4	5.8	1.0	.8	1.8
	Toba	1.3	4.8	-	0.3	0.2
	Stream/Chashma	3.2	0.5	-	12.0	0.2
	Well	1.0	0.5	0.2	3.3	-
	Other	0.9	1.5	-	2.0	0.2

Household Questionnaire - Section B

Table 6.3: Ownership of Vehicles [Percentage of Household who Reported]

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Motor Bike	23.1	37.4	15	17.8	22.2
Cycle	1	1.3	0.3	1.2	1.3
Car	2.4	4.3	0.8	2.3	2

Household Questionnaire - Section B

Table 6.4: Ownership of Livestock [Percentage of Households who Reported the Possession]

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Do not Own any Livestock	51.7	54.1	65.1	39.5	48.2
Ownership Reported - Chickens	14.1	18.5	23.3	3.2	11.4
Ownership Reported - Ducks	0.1	0.2	0.2	-	0.2
Ownership Reported - Sheep	1.1	3.2	-	0.5	0.7
Ownership Reported - Goats	28.4	16	10.8	53.8	33.1
Ownership Reported - Cows	11.9	12.8	6.5	12.5	15.9
Ownership Reported - Buffalo	15.8	21	5.2	20.3	16.9
Ownership Reported - Donkey	2	5	-	0.8	2
Ownership Reported - Horses	0.8	2.7	0.3	-	-
Ownership Reported - Camels	0.3	0.3	-	0.5	0.3

Household Questionnaire - Section B

Table 6.5: Ownership of Agricultural Land

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Ownership of Irrigated Land	3.8	3.7	3	3.8	4.5
Average Acres	10.2	14.2	6.2	17.5	3.4

Household Questionnaire - Section B

Table 6.6: Characteristics of Mothers of Sample Children

		Overall	Dadu	Badin	Umerkot	Sanghar
Mother Age	Average Years	37	38	35	37	39
Married at Age	Average Years	30	52	30	20	18
Children (Ever had) age 3 to 16 years	No Children 3-16 Years	20.5	60.5	6.9	13.5	0.5
	One	26.6	29.2	29.6	19.5	28.2
	Two	25	5.5	34.4	24.8	35.4
	Three	15.9	2.6	19.5	20.1	21.6
	Four	7.5	0.5	5.5	14.8	9.6
Highest Class Completed	More than 4	4.5	1.6	4.1	7.3	4.8
	No Education	91.5	85.3	95.4	95.8	89.8
	Below Primary	1	0.7	0.7	1.2	1.5
	Primary	3.5	5.7	1.8	2.3	4
	Elementary	0.8	1.5	0.5	0.2	1.2
	Matric	1.8	4.1	0.5	0.3	2.1
	Intermediate	0.5	1.1	-	0.2	0.8
	Graduate Level	0.9	1.6	1.2	-	0.7
Current Occupation	Government/Armed forces	0.3	0.8	-	0.2	0.2
	Semi-government	1.4	0.5	5.3	-	-
	Private	0.1	-	0.3	-	0.2
	Pensioner	0.1	-	0.5	-	-
	Self-employed	1.5	2	2.3	0.3	1.3
	Agriculture	4.5	0.7	7.3	10	-
	Labourer	8.5	5.1	21.3	1.3	6.3
	Looking for work	-	0.2	-	-	-
	Do not want to work	0.3	1.1	0.2	-	-
	Student	0.2	0.7	0.2	-	-
	Housewife	82.9	89.1	62.5	88.2	91.9
Child	0.1	-	0.2	-	0.2	
Average Monthly Income PKR	Rupees	1,514	2,552	2,275	467	744

Child Modules - Section F

Table 6.7: Characteristics of Fathers of Sample Children

		Overall	Dadu	Badin	Umerkot	Sanghar
Father Age	Average Years	186	42	40	39	627
Married at Age	Average Years	36	39	29	55	22
Highest Class Completed	No Education	66.4	57.3	87.9	68	52.6
	Below Primary	3.1	0.8	0.5	6.7	4.7
	Primary	10.2	10.8	3	12.7	14.5
	Elementary	4	5.1	2.3	2.3	6.2
	Matric	6.8	9.2	2.5	5.2	10.5
	Intermediate	5.4	9	2.3	2.2	8.2
	Graduate Level	4	7.9	1.5	3	3.5
	Current Occupation	Government/Armed forces	1.8	1.8	-	3.8
Semi-government		3.1	3.9	7	-	1.3
Private		2	2.5	1.5	2.2	2
Pensioner		0.5	1	0.5	0.2	0.2
Self-employed		7.2	8.7	5	10.7	4.7
Agriculture		14.4	4.4	11.9	34.3	7.3
Laborer		67.2	70.7	72.7	45.7	79.5
Looking for work		0.5	0.5	0.2	0.2	1
Do not want to work		1.3	1.8	1	1.3	1
Retired		1.8	3.8	0.3	1.7	1.3
Student		0.2	0.8	-	-	-
Child		-	0.2	-	-	-
Average Monthly Income PKR		Rupees	15,933	22,088	12,515	14,176

Child Modules - Section G

Annexure 9: Impact of Floods on Household Livelihood Tables

Table 7.1: Impact of Flood on Child Education - Assistance from School or Government During School Closures

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Received support from the school during school closures	2.2	0.2	3.2	-	5.5
Type of Support					
Children were called to school in groups to be given homework	1.3	-	-	-	5.0
Children were provided with worksheets/reading material for homework	0.0	-	0.2	-	-
Computer/Internet was used to teach (online)	0.0	0.2	-	-	-
Parents were informed about how to help students continue their studies	0.6	-	2.5	-	-
Parents were told to check their child's homework	0.2	-	0.7	-	-
No support received	0.1	-	-	-	0.5
Temporary learning centers established by the government or civil society	0.5	0.5	0.2	0.3	1.0
Were they Helpful					
Very Helpful	0.1	0.2	-	0.2	-
Slightly Helpful	0.2	-	-	-	0.8
Helpful	0.2	0.3	0.2	0.2	0.2

Household Questionnaire - Section C

Table 7.2: Impact of Flood on Child Education - Change in Children Interest after Re-opening Schools

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Did you notice any change in your children's interest towards education after schools reopened					
No Change	5.3	8.3	7.2	3.2	2.7
Slightly Increased	12.7	10.5	2.3	0.2	38.0
Visibly Increased	4.7	1.0	1.5	-	16.2
Slightly Decreased	13.8	20.3	6.3	9.0	19.4
Visibly Decreased	6.8	9.8	0.8	16.3	0.2
Do not know	16.7	30.0	8.8	15.5	12.5
What kind of support does your child need to overcome learning gaps if any					
Remedial classes at school	13.3	16.5	21.3	13.0	2.2
Digital platforms (tele school, radio, online learning material)	4.0	0.5	0.3	0.2	15.1
Additional support from parents	23.5	25.1	6.0	2.5	60.5
Private Tuitions	10.4	9.7	0.3	13.8	17.7
Summer School	3.3	12.8	0.2	0.2	-
No help is needed	7.7	15.5	1.5	13.8	-
Others	0.5	0.5	0.7	1.0	-

Household Questionnaire - Section C

Table 7.3: Impact of Flood on Food Security

	Overall	Dadu	Badin	Umerkot	Sanghar	
Sample Households	2400	601	601	600	598	
Family suffered from food shortages during the floods-22	27.1	20.8	6.8	14.7	66.4	
Average days of food shortages	27.3	9.6	2.8	19.2	37.2	
Family ever slept at night without food	16.5	17.8	2.8	1.5	43.8	
Average Nights without Food	9.3	5.1	2.5	4.1	11.6	
Source of Drinking Water during Flood-22	Flood Water	1.9	2.7	5.0	-	-
	Tap Water	9.8	29.3	4.8	2.3	2.8
	Bore	42.7	18.1	39.8	24.0	89.1
	Filtration Plant	0.8	1.7	0.2	-	1.5
	Toba	0.7	2.8	-	-	-
	Stream/ Chashma	1.2	0.3	-	4.3	0.2
	Mineral Water	0.0	-	0.2	-	-
	Rain water	0.3	-	-	0.8	0.2
	Well	0.2	0.2	0.2	0.3	-
	Other	0.2	0.2	-	0.3	0.2
	Not Applicable	42.2	44.8	49.9	67.8	6.0

Household Questionnaire - Section C

Table 7.4: Nature and Extent of Social Assistance During the Flood

	Overall	Dadu	Badin	Umerkot	Sanghar	
Sample Households	2400	601	601	600	598	
Received Social Assistance during the floods-22	10.2	22.8	0.7	8.2	9.2	
Sources of Social Assistance	From the government	3.7	10.5	0.3	-	3.8
	From a welfare institution/NGO	4.2	10.1	-	5.5	1.0
	From individual people	3.4	3.2	0.3	5.3	4.8
Kind of Assistance	Food	4.6	10.8	-	6.0	1.5
	Drinking Water	3.0	7.2	-	5.0	-
	Clothes	1.0	3.3	-	0.5	0.3
	Medicines	1.1	4.2	-	0.2	-
	Tent	1.8	5.2	-	1.2	0.8
	Cash	0.1	0.2	-	0.2	0.2
	Rashan	9.5	20.5	0.7	8.2	8.5

Household Questionnaire - Section C

Annexure 10: Impact of Heatwave on Household Livelihood Tables

Table 8.1: Safety Measures During High Temperature

	Overall	Dadu	Badin	Umerkot	Sanghar	
Sample Households	2400	601	601	600	598	
Safety Measures for Heatwave	Drink more and more	24.8	16.1	59.9	19.8	3.3
	Try to stay in the shade in the afternoon	43.5	51.9	13.5	58.7	50.0
	Keep their heads covered	62.5	77.5	46.1	42.8	83.4
	Try to keep the houses open	31.1	61.6	27.5	7.8	27.4
	Keep stock of drinking water	57.4	58.2	50.4	42.0	78.9
	Use special type of foods	6.8	24.6	1.3	1.2	0.2
Death because of heatwaves	4.6	15.1	2.0	0.3	1.0	
Livestock affected during the heatwaves	10.8	14.5	4.0	17.3	7.4	
Household Questionnaire - Section D						

Table 8.2: Forced Migration due to Heatwave

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Percentage of Household Migrated due to Heatwave	0.7	1.8	0.8	-	0.2
Average Months Away from Home	723	1098	32	-	60
Household Questionnaire - Section D					

Table 8.3: Impact of Heatwave on Food Security

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Family suffered from food shortages during the Heatwave	7.8	5.8	0.7	2.0	22.6
Average days of food shortages	22.0	6.9	6.5	27.9	25.9
Family ever slept at night without food	4.7	4.8	-	-	14.0
Average Nights without Food	9.6	4.0	-	-	11.5
Household Questionnaire - Section D					

Table 8.4: Impact of Heatwave on Child Education - Assistance from School or Government During School Closures

	Overall	Dadu	Badin	Umerkot	Sanghar	
Sample Households	2400	601	601	600	598	
Received support from the school during school closures	1.6	-	2.5	-	4.0	
Type of Support	Children were called to school in groups to be given homework	0.8	-	-	-	3.2
	Audio files were shared by the school to assist the students	-	-	0.2	-	-
	Parents were informed about how to help students continue their studies	0.4	-	1.7	-	-
	Parents were told to check their child's homework	0.4	-	0.5	-	1.0
Household Questionnaire - Section D						

Table 8.5: Impact of Heatwave on Child Education - Change in Children Interest after Re-opening Schools

		Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households		2400	601	601	600	598
Did you notice any change in your children's interest towards education after schools reopened	No Change	1.4	2.3	1.2	-	2.0
	Slightly Increased	12.3	0.3	2.0	-	46.8
	Visibly Increased	4.5		3.3	-	14.7
	Slightly Decreased	5.3	1.3	0.8	-	18.9
	Visibly Decreased	0.2	0.7	0.2	-	-
	Do not know	7.1	13.5	5.3	0.2	9.4
What kind of support does your child need to overcome learning gaps if any	Remedial classes at school	2.0	0.8	5.5		1.5
	Digital platforms (tele-school, radio, online learning material	3.8	-	0.3	-	14.9
	Additional support from parents	16.2	1.0	5.5	-	58.4
	Private Tuitions	4.5	0.8	-	-	17.1
	Summer School	0.2	0.7	-	-	-
	No Support required	4.1	14.8	1.3	0.2	-
	Other	-	-	0.2	-	-

Household Questionnaire - Section D

Table 8.6: Nature and Extent of Social Assistance During the Heatwave

		Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households		2400	601	601	600	598
Received Social Assistance during the Heatwave		0.3	0.5	0.5	-	0.2
Sources of Social Assistance	From the government	0.1	0.3	0.2	-	-
	From individual people	0.2	0.2	0.3	-	0.2
Kind of Assistance	Food	0.1	0.3	-	-	0.2
	Drinking Water	0.1	0.3	-	-	-
	Rashan	0.2	0.2	0.5	-	0.2

Household Questionnaire - Section D

Table 8.7: Learning During Heatwave

		Overall	Dadu	Badin	Umerkot	Sanghar
Sample Children		1366	165	93	2	1106
Enrolled before Heatwave		88.1	68.2	61.2	40.0	96.1
How many hours per day did you give to your studies during school closure period	< 1 hour	83.5	66.1	92.1	-	86.4
	1-2 hours	6.7	5.4	2.6	-	7.6
	2-4 hours	0.3	-	-	-	0.3
	>4 hours	0.1	0.4	-	-	0.1
	No Response	9.4	28.1	5.3	100.0	5.6
Which of the following subjects did you find difficult to study on your own during the school shut down period	English	50.3	56.2	66.4	-	47.1
	Urdu	11.2	2.1	15.1	-	12.7
	Science	5.0	1.2	3.3	-	6.1
	Mathematics	19.5	3.7	3.3	-	25.0
	No one	7.7	19.8	7.2	-	5.2
	No Response	6.3	16.9	4.6	100.0	3.9
Received learning resources/materials		11.7	12.0	24.3		10.1
Help Sought From:	PTV Tele School	2.6	0.4	25.7	-	-
	Government's Radio School Program	0.1	0.4	0.7	-	-
	School provided digital learning resources	0.1	0.8	-	-	-
	Other digital resources	0.3	1.7	-	-	0.1
	Paid Tuitions/Academy	2.8	2.9	-	-	3.2
	Family members	78.6	35.1	69.7	-	89.3
	Friends/neighbors	8.5	36.4	3.3	-	3.3
Which digital device you used for online learning	Computer/Laptop	0.9	0.8	7.9	-	-
	Smartphone	4.8	9.9	1.3	-	4.3
	Television	3.9	7.9	24.3	-	0.4

Table 8.7: Learning During Heatwave

		Overall	Dadu	Badin	Umerkot	Sanghar
Access to Technology at Home (Number of Hours)	Radio	19.7	7.4	33.6	-	20.5
	None of Above	70.6	74.0	32.9	100.0	74.8
	Most of the Time	8.1	2.1	-	-	10.4
	Minimum Time	11.0	5.4	3.3	-	13.2
	3 Hours	23.3	6.2	5.3	-	29.4
Activities During School Closure	4 Hours	5.9	5.4	2.0	-	6.6
	5 Hours	191.1	208.3	364.5	-	165.4
	Studying	15.2	24.8	42.8	-	9.6
	Household Chores	12.5	6.2	5.3	-	14.8
	Playing/Entertainment	25.5	6.6	17.1	-	30.7
Do feel prepared to study on your own if schools were to close again	Care work	4.8	7.9	2.0	-	4.5
	Idle	12.8	16.1	17.8	-	11.5
	Yes	83.0	23.6	69.1	-	97.7

Child Modules - Section J

Annexure 11: Impact of Drought Household Livelihood Tables

Table 9.1: Droughts in Sample Areas

	Overall	Dadu	Badin	Umerkot	Sanghar	
Sample Households	2400	601	601	600	598	
Droughts are common occurrence in the area	10.8	-	30.8	9.0	3.2	
If yes, when did you last experience a drought in your area	2011	-	-	0.2	-	
	2015	0.8	-	3.2	-	
	2016	0.1	-	-	0.5	-
	2017	0.5	-	-	2.2	-
	2018	0.1	-	-	0.3	-
	2019	0.5	-	-	1.8	-
	2021	0.4	-	-	0.8	0.8
	2022	5.1	-	18.0	-	2.3
2023	3.2	-	12.8	-	-	
Average span of droughts	Average Months	5	-	6	4	7
Migrated due to the droughts		-	-	0.2	-	-
How your household overcome the effect of drought	Drinking water is stored	1.9	-	1.3	3.2	3.2
	Grains are stored	0.3	-	0.8	0.5	-
	They sell goods and cattle	1.2	-	0.2	4.7	-
	They buy food and drinks from the nearby area	7.2	-	28.1	0.7	-
	Others	-	-	0.2	-	-

Household Questionnaire - Section E

Table 9.2: Impact of Drought on Child Education - Status of School Closer

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
School closed down during Drought	1.7	0.5	5.8	-	0.5
Average days school closed	39	10	40	-	60

Household Questionnaire - Section E

Table 9.3: Impact of Drought on Child Education - Learning During School Closer

	Overall	Dadu	Badin	Umerkot	Sanghar	
Sample Households	2400	601	601	600	598	
Learning During Droughts	Family members taught children at home	0.7	-	2.8	-	-
	Had private tutoring at home	0.2	0.5	0.3	-	-
	School teachers used to give homework through the phone	-	-	0.2	-	-
	Watched the Tele School channel to continue their education at home	0.1	-	0.3	-	-
	Listened to the Radio School station to continue their education at home	-	-	0.2	-	-
	Education did not continue	0.9	-	3.2	-	0.5
	Children used Smartphone for learning from home	-	-	0.2	-	-
Children used Computer/ Laptop for learning from home	-	-	0.2	-	-	
Children used Tablet for learning from home	0.1	-	0.3	-	-	

Household Questionnaire - Section E

Table 9.4: Impact of Drought on Child Education - Assistance from School or Government During School Closures

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Did you receive any support from the school during school closures	0.2	-	0.8	-	-
Type of Support					
Audio files were shared by the school to assist the students	-	-	0.2	-	-
Parents were informed about how to help students continue their studies	0.1	-	0.3	-	-
Parents were told to check their child's homework	0.1	-	0.3	-	-
Household Questionnaire - Section E					

Table 9.5: Impact of Drought on Child Education - Change in Children Interest after Re-opening Schools

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Did you notice any change in your children's interest towards education after schools reopened					
No Change	0.2	-	0.7	-	-
Slightly Increased	0.4	-	1.5	-	-
Visibly Increased	0.2	-	0.7	-	-
Slightly Decreased	0.2	-	0.7	-	-
Visibly Decreased	-	0.2	-	-	-
Do not know	0.8	0.3	2.3	-	0.5
Remedial classes at school	0.7	-	2.7	-	0.2
What kind of support does your child need to overcome learning gaps if any					
Digital platforms (tele-school, radio, online learning material)	0.2	-	0.7	-	-
Additional support from parents	0.4	-	1.2	-	0.3
Private Tuitions	0.1	0.5	-	-	-
No Support required	0.3	-	1.2	-	-
Other	-	-	0.2	-	-
Household Questionnaire - Section E					

Table 9.6: Impact of Drought on Food Security

	Overall	Dadu	Badin	Umerkot	Sanghar
Sample Households	2400	601	601	600	598
Family suffered from food shortages during the droughts	0.9	-	0.5	1.2	2.0
Average Days suffered from food shortages	21	-	2	43	14
Family have slept at night without food	0.3	-	-	-	1.3
Average Nights without food	4	-	-	-	4
Source of drinking water during Drought					
Tap Water	0.2	-	0.5	-	0.3
Bore	9.6	-	30.1	6.3	1.8
Filtration Plant	0.1	-	-	0.2	0.3
Stream/Chashma	0.2	-	0.2	-	0.7
Well	0.6	-	-	2.3	-
Other	-	-	-	0.2	-
Household Questionnaire - Section E					

Table 9.7: Learning During Drought

		Overall	Dadu	Badin	Umerkot
Sample Children		58	5	49	4
Enrolled before Droughts		61.7	62.5	60.5	80.0
How many hours per day did you give to your studies during school closure period	< 1 hour	89.4	87.5	92.6	40.0
	1-2 hours	5.3	12.5	4.9	-
	2-4 hours	1.1	-	1.2	-
	99	4.3	-	1.2	60.0
Which of the following subjects did you find difficult to study on your own during the school shut down period	English	52.1	25.0	54.3	60.0
	Urdu	21.3	-	24.7	-
	Science	6.4	-	7.4	-
	Mathematics	4.3	25.0	1.2	20.0
	No one	13.8	50.0	11.1	-
99	2.1	-	1.2	20.0	
Received learning resources/materials		37.2	50.0	37.0	20.0
Help Sought From:	PTV Tele School	34.0	12.5	38.3	-
	Government's Radio School Program	2.1	12.5	1.2	-
	School provided digital learning resources	1.1	12.5	-	-
	Other digital resources	2.1	12.5	1.2	-
	Paid Tuitions/Academy	5.3	62.5	-	-
	Family members	53.2	25.0	58.0	20.0
	Friends/neighbors	9.6	37.5	4.9	40.0
Which digital device you used for online learning	Computer/Laptop	10.6	-	12.3	-
	Smartphone	5.3	37.5	2.5	-
	Television	8.5	50.0	4.9	-
	Radio	51.1	12.5	58.0	-
	None of Above	24.5	-	22.2	100.0
Access to Technology at Home (Number of Hours)	Minimum Time	5.3	-	6.2	-
	3 Hours	16.0	25.0	16.0	-
	4 Hours	4.3	12.5	3.7	-
Activities During School Closure	5 Hours	416.0	462.5	418.5	300.0
	Studying	44.7	75.0	44.4	-
	Household Chores	6.4	25.0	4.9	-
	Playing/Entertainment	27.7	12.5	29.6	20.0
	Care work	7.4	12.5	7.4	-
Idle	20.2	-	21.0	40.0	
Do feel prepared to study on your own if schools were to close again	Yes	59.6	75.0	58.0	60.0

Child Modules - Section K