



## An Analysis of Dropout Rate of Students after Flood at Secondary Level District Rajanpur Multan

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### ABSTRACT

This research is carried out to substantiate the effect of flood on the dropout rate of students in the flood-affected area. In the present study, responses were obtained from 51 students from the district of Rajanpur. Data is collected through a self-administered questionnaire from public schools of flood-affected areas based on a non-probability convenience sampling method. Data is analyzed using MS excel and (SPSS) Statistical Package Social Sciences. Descriptive statistics tools were used to analyze including percentage and mean scores. It appears that the majority of female students are dropping out of school due to floods. The flood negatively impacts school classrooms and Sanitation caused the dropout of students. Due to the flood, the children were victims of waterborne diseases like diarrhea are caused children dropout rate at the secondary level. The gender was affected equally by a flood but the female dropout percentage is greater than the male which shows that female students have a high rate as compared to male students.

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## 1. Introduction

The main cause of flood disaster loss and devastation on a global scale. Every year, more people become vulnerable to flooding than there are individuals in the population (Miller, Muir-Wood, & Boissonnade, 2008). The location of major floods and their effects on South Asia, East Asia, Pacific are regions with the greatest socioeconomic development (Kundzewicz et al., 2014). The study was based on the dropout rate of students after a flood in Pakistan and to know the factors of dropout in children at the secondary level in Pakistan.

Almost all of Pakistan has been affected by terrible floods, which have destroyed crops, homes, and other structures while severely affecting the lives of 33 million people, many of whom have been forced to flee their homes. Children, who make up nearly half of the population affected, have suffered particularly harsh repercussions. One of the most frequent and harmful natural disasters, floods wreak havoc on human settlements, infrastructure, public and private services, the environment, and the economy (Bakker, 2009).

For people to realize their full potential and exercise other rights, education is a fundamental and unalienable human right. In the event of disasters and emergencies, this right does not terminate or become suspended (Republic of Kenya, 2012). Floods have caused numerous schools to close, student dropouts, property destruction, infrastructure damage, and a temporary halt to formal education (Achoka & Maiyo, 2008).

Emergency education is essential since it can safeguard people's physical, mental, and cognitive health and can also save their lives (Richardson, 2011). Floods disrupt people's life by uprooting them, destroying their homes and livelihoods, killing and injuring them, and accelerating the spread of illness. When floods occur, schools are shuttered, marooned, or

partially submerged in floodwaters, making it impossible for students and staff to travel on the roads, bridges, and pathways. Teachers and students struggle to cross the flood waters, making it nearly difficult to get to the classrooms. The school may be closed for a while when students and teachers are compelled to switch locations for their safety or drop out entirely owing to inaccessible schools. Floods don't just close schools; they also devastate the infrastructure, block roadways for kids and staff, uproot families, and spread illness. Due to a lack of food, clothing, etc., families may have lost all of their assets and be unable to send their kids to school. Schools may sustain damage or have their contents destroyed, rendering them either permanently or momentarily unusable for educational purposes. People who have been forced from their houses owing to natural disasters may find shelter in schools.

Climate-related catastrophes such as flooding and epidemics are occurring more frequently and with greater intensity as a result of present climatic variability. Floods most prevalent or harmful natural hazard, wreaking havoc on human settlements, government, and private services, the environment, and the economy (Bakker, 2009). Catastrophic flooding occurred in the last ten years in several countries, including Bangladesh, China, India, Germany, the United States, Malawi, and Ethiopia. The most common hydro-meteorological disasters in East Africa are recurring flood losses, which have hampered economic growth in both industrialized and emerging nations. Floods become a disaster when an event seriously disrupts a community's or society's ability to function and causes significant living thing, resource, financial, or ecologic damages that are greater than what the affected society can reasonably expect to be able to recover from using its resources. Floods are a problem when their magnitude and effects outweigh the capacity of the affected communities to cope (United Nations International Strategy, 2008). Floods have an impact on many areas of the economy in Sub-Saharan Africa, including schooling, farming, cattle, transportation, housing, public health, industrial processes, and tourism.

These risks have grown in magnitude, frequency, and complexity in Kenya. The further fatalities of people and plants, the failure of livelihood, the damage of infrastructure, and the effects, the scale of damage have also gotten worse, resulting in losses of varied sizes. Universal and unalienable, education is a human right that is crucial for enabling people to empower and execute other rights. Disasters and calamities do not cause this right to vanish or to be suspended (Republic of Kenya, 2012).

Students who have their education interrupted or curtailed drop out, which has serious and long-lasting financial and social impacts on the students their dependents, and the communities in which they live. Matiki (2005) adds that because schoolchildren cannot cross flooded rivers, flooding has a bad effect on students' attendance. Infrastructure for water and sewage systems is also destroyed by floods. Being exposed to contaminated water leads to increased levels of water-related ailments, which has a detrimental impact on schools since it causes chronic absenteeism that hinders learning.

Quality of learning offers physical, psychological, and cognitive well-being that can preserve lives, maintain pride promotes rehabilitation. The enrollment rate in secondary schools in Kenya was close to 50%. Millions of children are frequently prevented from attending school for a whole school year by yearly occurring floods Law Number No. 1 of 2005 Kenyan government focuses on promoting access, equity, relevance, and quality of education. The policy framework aims to achieve Education for All by 2015, ensure that children have the right to fundamental education, as stated in the Children of 2001 (Republic of Kenya, 2012), increase access, justice, and significance education, provide high-class services quickly efficiently to every period, levels (Republic of Kenya, 2012).

It is usually claimed that education is the most crucial element in attaining sustainable development and that it is a key tool for modifying attitudes and behavior. To foster a sense of security and durability at all levels of the country, the Hyogo Action Plan recognizes this and calls on civil society and governments to use education, which fosters knowledge and creativity. One way that floods might hinder educational achievement is by destroying schools. Protecting kids and schools from natural disasters is therefore crucial in the twenty-first century (Achoka & Maiyo, 2008).

According to the United Nations Office for Disaster risk reduction (2008), Kenya is subject to a variety of natural hazards, with weather-related disasters such as floods, droughts, mudslides, lightning/thunderstorms, wildfires, and strong winds being the most frequent. These risks have grown in size, frequency, and complexity recently. Floods can effectively destroy decades of infrastructure development, severely impair economic prosperity, and cause thousands of fatalities and diseases in less developed countries like Kenya. According to Achoka and Maiyo (2008), the much more susceptible members of society account for the majority of these fatalities.

Kenyan communities including Nairobi, Turkana East, Tana Delta, Naivasha, Narok, Kajiado, Rongai, Wajir, Marsabit, and portions of Kenya are affected by floods. To handle floods proactively, typically several steps must be followed. A multi-faceted approach to mitigation would take into account steps like limiting or prohibiting fresh or improper increase or actions in the flood plain, removing assured structures of the floodway, flood-proofing structures in the flood pure, introducing structural safeguards like levees, dams, and constructed channels, scheming earth utilize practices surrounded basin implementing flood risk and warning systems connected among responsiveness.

By April 2013, floods, landslides, and mudslides had claimed 33 lives in Kenya and uprooted 53,000 households (Kenya Red Cross Society, 2013). The school year was shortened as a result of flooding in the Nyando district in both January and May, which prevented certain schools from opening. Floods have caused numerous schools to close, student dropouts, property destruction, infrastructure damage, and a temporary halt to formal education (Achoka & Maiyo, 2008). Emergency education is essential since it can safeguard people's physical, mental, and cognitive health and can also save their lives (Richardson, 2011). Because of this, the purpose of this study is to investigate how the flooding in Kenya.

Nyando district affects access to secondary education. According to the table below from the district's education office in Nyando, Tsingalia, and Onyango (2013), the district's 28 public high schools experience flood damage to at least 25 percentage points of them each year. The Objectives of the study are to find out the dropout ratio of students at school after the flood and to explore the factors of dropout in children at the secondary level after a flood.

## **2. Literature Review**

In 2022, Pakistan will see severe flooding. Floods brought on by monsoon rainfall have impacted nearly all of Pakistan's provinces since mid-June 2022. The devastating floods have resulted in 1,033 deaths and 1,527 injuries so far. An estimated 30 million people are affected, one million homes have been entirely or partially destroyed, and millions of people urgently require shelter (Turkish Red Crescent Society, 2022).

Natural disasters like floods typically disrupt children's and adolescents' education systems because they cause schools to be destroyed, families to be uprooted, and the most urgent needs to arise right away, forcing them to drop out of school and engage in child labor to support their families during these difficult times. Pakistan is one of the most vulnerable nations in the world to major natural catastrophes, such as floods, droughts, and earthquakes, due to climate change and its geographic location. South Asia, East Asia, Pacific are regions with the greatest socioeconomic development (Kundzewicz et al., 2014). The study was based on the dropout rate of students after a flood in Pakistan. Capitals affect a community's risk and resilience status as well as its citizens' well-being (Keating et al., 2017). Disasters affect the availability of food, particularly in economic and physical access to food, availability, as well as supply and use stability. A great flood occurred in Pekalongan City in January (2020) and the flood water reached a record high, evacuating 1500 residents. Batik production was halted for nearly two months, and the labourers' incomes were immediately lost, threatening their livelihood sustainability

The main cause of flood disaster loss and devastation on a global scale. Every year, more people become vulnerable to flooding than there are individuals in the population (Miller et al., 2008). Long acknowledged as an essential human right, access to education is now. The worldwide statement of human rights article 26 declares everybody has the right to be eructated. In addition to closing down classrooms, floods also wreak havoc on the community

by displacing families, destroying infrastructure, and blocking access to schools for both students and teachers. Some individuals might contain lost their possessions and are not capable to send kids to school because they are short of food, and clothing. A school has sustained damage or has its contents destroyed, rendering it inaccessible to learning activities either permanently or temporarily. If a natural calamity forces people to flee their houses, schools could be used as temporary shelters. A great flood occurred in Pekalongan City in January 2020, and the flood water reached a record high, evacuating 1500 residents. Batik production was halted for nearly two months, and the labourers' incomes were immediately lost, threatening their livelihood sustainability Floods hit Pekalongan, 1,500 residents evacuated Accessed 5th Dec 2021.

Individuals with no connections or those who rely on outside resources (Islam & Walkerden, 2015). Due to the study's high level of reliability, it was discovered that residents of the embankment did not consider flood disasters or how to prepare for them. however, they got worried about the water logging scenario that occurred in 2017. People who live outside, on the other hand, have the innate ability and traditional knowledge to deal with a flood disaster in the hopes of later receiving emergency aid from credit organizations. In the 2018 to 2019 South Indian cyclone was a fluvial flood that caused exponential flood damage in Africa. This was primarily due to Cyclone Idai, which devastated Zimbabwe, Malawi, and Mozambique, leaving a trail of destruction and deaths in its wake. J. Africa's Hurricane Katrina 2019.

After the 2007 floods, attendance in Bangladesh decreased by 20%. As a result of schools being damaged and some being used as shelters during floods, 1.6 million kids are impacted (Integrated Regional Information Network, 2013). Numerous public structures, including schools, were destroyed by Hurricane Sandy in 2012. Over 100 schools were shut down because of damage, while more than 50 were entirely demolished. Due to bridges and culvert collapse, Zambia children are unable to cross rivers (Zambia Vulnerability Assessment Committee, 2007). The worst-affected districts reported attendance declines of 40% to 50%. Due to several factors, including flooding, a sizable proportion of Kenyan youngsters are still not attending school (Achoka & Maiyo, 2008). Rain continues, but most regions are now drying out despite the muddy terrain making certain sections inaccessible. Floods make it difficult to go to schools since many roads are wrecked or swept away, which lowers enrollment. Learning has resumed in schools, but there are few usable restrooms and health facilities are out of reach, causing students to get sick and be unable to attend class (Okuom, Simatwa, Maureen, & Wichenje, 2012). The schools that are vulnerable to flooding are located in rural areas, teachers choose to move to urban areas. Floods cause students and staff to abandon schools; for example, in Nyando, one school was forced to close entirely owing to flooding (Kenya Red Cross Society, 2013). Making sure that pupils have access to education is a challenging time and keeping them alive is insufficient just to go to school major undertaking (Kenya Red Cross Society, 2013).

Enrollment is hindered by floods because parents don't want to risk their kids' livelihoods. As a result, schools that frequently experience flooding are more likely to close due to low enrollment. The impact of lost income due to the floods can hinder enrollment, causing parents to choose not to enroll their children due to not having cash. Floods make schools uninhabitable and make roads unusable, which deters both parents and students from enrolling in such schools. In Bangladesh, a school feeding programmer has increased enrollment overall by 35%. This aids in accomplishing, which is to achieve universal access to basic education. The school food program assisted in bringing back students to school. When schooling is made accessible during the students' preferred times, enrollment and retention rates may be high. Students in Cambodia have a lot of trouble getting to school amid floods. The average annual dropout rate in the three provinces most vulnerable to flooding is 7% or 1700 students in 2007. Kenya's circumstance is similar since dropout rises after floods (Nyakundi, Mwanzo, & Yitambe, 2010).

Floods cause disruptions to academic schedules and damage to schools every year. In Cambodia, 21% of schools are located in locations that frequently flood. A persistent lack of qualified workers in this region may make it difficult for qualified teachers to accept teaching positions. Classes, teacher quarters, boarding houses, furniture, and literature were all damaged in Fiji during the floods in April 2012. The playgrounds appeared to be rivers. Concerns about education arise in Pakistan as a result of school damage from floods.

Throughout Punjab's southern district, which has been devastated by flooding, masses of debris, including bricks, pieces of timber, and concrete busted household items, have been seen since August 2010. Because of the damage that floods have done to families and school infrastructure, it might be months before the impacted children can return to school.

Natural disasters primarily disrupt the livelihoods of the poor and marginalised populations by causing loss of assets and income, a lower standard of living, and unemployment. This condition makes poor people less prepared to deal with disasters effectively. It's a vicious circle: disaster risk increases the likelihood of becoming poor and developing strategies to deal with future risks becomes increasingly difficult (Asian Development Bank, 2018).

Even though nations around the world are serious about providing quality education for future generations in the twenty-first century, access to education remains a serious challenge for many developing countries, particularly those in Sub-Saharan Africa and South Asia. Millions of children worldwide were absent from school in 2017, including 61, 62, and 141 million aged 6-11, 12-14, and 15-17, respectively (UIS, 2017). Pakistan, after Nigeria, has the world's second highest number of primary-aged out-of-school children. Approximately half of Pakistani children (5-16), or 23 million, did not attend any schools; 18 million had never enrolled, while 5.4 million had dropped out (Mughal, Aldridge, & Monaghan, 2019).

Financial capital, according to Scoones includes physical capital; however, Mahanta and Das define the latter as the assets or infrastructure that a household owns. A number of recent studies have found that SP interventions like cash transfers, public work programmes, and microinsurance have the potential to reduce disaster risk. As a result, they must be linked to disaster risk reduction (Sarker, Oba, & Daramy, 2020).

The empirical evidence supports the authenticity of this theoretical model in various contexts. For example, González, Santos, and London (2021) discovered that natural disasters affected individual personal experiences and human development outcomes in Argentina, e.g., the first year of disaster reduced schooling years and increased the chances of adults' unemployment, as well as reduced the country's living standards. They discovered that floods were the primary cause of the drop in school performance.

Drzewiecki, Wavering, Milbrath, Freeman, and Lin (2020) investigated the relationship between educational attainment and resilience in the West Indies using disaster risk reduction (DRR). They discovered a significant link between professionally educated adults and resilience to natural disasters, but not between adults with secondary school education and adults with only primary school education. Furthermore, researchers believe that education is an effective way to boost resilience and mitigate the negative effects of natural disasters. Furthermore, Shah et al. (2020) argued in the context of Pakistan that massive effects of a disaster are felt by children and young people. It also has a price to the world's educational systems, particularly those in underdeveloped nations. Disasters put millions of people's lives, rights, and basic needs under danger.

The Higher Education at Curtin University in Australia prepared a literature review that raised concerns about young people living in economically disadvantaged or low socioeconomic status communities (Drane, Vernon, & O'Shea, 2020). The review was governed by the applicable Creative Commons License and explained the impacts of floods on learning quality, school facilities, and educational recovery in Indonesia.

A study on the effects of COVID-19 on school education in India found that the pandemic had affected 320 million students across 1.5 million schools, and that regional and digital disparities as well as inequality have prevented many children, especially those from disadvantaged groups in society, from participating in online learning (Modi & Postaria, 2020). Developmental shortfalls, a lack of direction, and ineffective administration have lowered the standard of public infrastructure in developing nations. Schools continue to be an underutilized public benefit despite serving as both an educational institution and an emergency shelter.

### 3. Research Methodology

In this study the research methodology was descriptive and a quantitative research design was used by researchers. The area of the study is secondary school level in the district of Rajanpur. The flood affected area schools of district Rajanpur. The researcher selected the secondary school students and 10 schools in flood affected area of Rajanpur. The sample consisted of 51 students who were selected by the technique of convenient sampling. The information was collected with a questionnaire. The researcher developed the questionnaire itself. The questionnaire consisted of four factors and 22 statements. After the collection of data, it was tabulated, analyzed, and interpreted by calculating the percentage. For each statement of the questionnaire, a table was developed for the analysis of the respondents. Responses of each category were recorded on a five-point scale, detail of this is as under.

### 4. Analysis and interpretation of data

Table 1 shows that the percentage of a male is 40.4% and females 57.7% shows that both genders are affected equally by a flood but the female dropout percentage is greater than that of males which shows that female students have a high rate as compared to male students. Female students are faced different health problems during flood disasters is caused a higher rate of dropout students from schools. Most female students suffer from different mental disabilities after flood disaster is also hampered to going school for students. The cumulative frequency shows that the female students' dropout is higher than male students after the flood disaster.

**Table 1: The male and female out dropout ratio of students**

Gender	Total	Frequency	Percentage	Cumulative frequency
Male	21	21	40.4	41.2
Female	30	30	57.7	100.0

Table 2 shows that the gender-wise mean is 1.5882 and the standard deviation is .49705 which shows that there is no significant difference in dropout rate in children at the secondary level after the flood. The age-wise mean is 1.5686 and the standard deviation is .50020 showing that age is not a significant factor at the secondary level and class-wise mean is 2.2353 and the standard deviation of .76389 shows that the difference is not significant all the classes are equally affected by a flood. Different factors like infrastructure and dislocation of students are also caused dropout rates after posterior flood disasters. The secondary level students are more affected by flood facing different issues like many schools of secondary are used as a shelter for displaced families after a flood. Most schools building was dislocated after the flood causing dropout of students.

**Table 2: Factors of dropout in children at the secondary level after the flood**

	Mean	Std. deviation
Gender	1.5882	.49705
Age	1.5686	.50020
Classes	2.2353	.76389

Table 3 showed that there is no significant difference in age and class wise. There is no significant relationship between the t value of the table. The confidence level of interval is 95% different between gender, age-wise, and class-wise. The table shows that gender, age, and class have no significant relationship the flood affected all genders, all age groups, and all classes. Most students in the secondary level face different economic problems like the lowest wealth increased poverty rate faced academic problems like a dropout.

**Table 3: Sample T-Test**

	t-test	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Gender	22.819	50	.000	1.58824	1.4484	1.7280
Age	22.396	50	.000	1.56863	1.4279	1.7093
Class	20.897	50	.000	2.23529	2.0204	2.4501

Table 4 showed after flood damage and destroy of the school buildings are caused higher dropout rate the mean is 4.3975 and while the S.D are 0.689.the table shown that the students most of students suffer from diseases. Most of schools are dislocate caused dropout rate among students. During flood all school equipment and furniture are flow out in flood water students lost their blackboard, tables, chairs etc cased dropout in secondary level. Most of students are not ready to go school without proper building after flood disaster. Many schools are using shelter for different peoples after flood is also the main caused dropout rate of students.

**Table 4**

<b>Sr.#</b>	<b>Statement</b>	<b>Mean</b>	<b>S.D</b>
1	The flood catastrophic damage and destroy the buildings.	4.35	.934
2	Posterior the flood disaster insecure conditions of a school building for staff and students.	4.27	.75
3	Students lose their educational facilities like Blackboard, tables, and chairs.	4.43	.781
4	During the flood all the school equipment and furniture is flowing out.	4.61	.493
5	The economic problems had an excessively high rate in terms of dropout students.	4.59	.638
6	The students' higher attendance proved some stipend for better economic conditions.	4.49	.809
7	The physical disabilities of students are also hampered because of flood disasters.	4.41	.726
8	Flood caused skin disease and dysentery in students.	4.25	.956
9	During the flood students suffer from diseases such as cholera and dengue.	4.49	.703
10	Students are not ready to go to such schools without proper building caused a dropout rate.	4.33	.841
11	After the flood, the school building was dislocated.	4.14	1.04
12	Many schools are being used as a shelter for displaced families.	4.41	.829
<b>Total</b>		<b>4.3975</b>	<b>0.689</b>

## **5. Conclusion**

In a study, we find out the ratio of the dropout rate of students at the secondary level. The data is collected from secondary students. Different factors after a flood like dislocated schools, economic conduction, health issues, and infrastructure caused students to drop out at the secondary level. Based on the findings both the gender affected equally by a flood but the female. dropout percentage is greater than that of males which shows that female students have a high rate as compared to male students. Based on the results there is no significant difference in dropout rate in children at the secondary level after the flood. The results show that age is not a significant factor at a secondary level of dropout students.

Different students face skin disease and dysentery after the flood caused the dropout rate at the secondary level. The result shows that the damage and destroy the school building caused a higher dropout rate among secondary-level students. The limitation of the study is flood-affected area rajanpur schools. At the elementary level, enrollment was generally satisfactory. However, there are not many students enrolled in secondary schools after a flood. It was determined that many pupils dropped out of school because of heavy floods most female students. Because of the poor economic quality, several students switch schools. High tuition costs are another factor in dropouts from secondary schools. It was determined that frequent teacher turnover in private schools contributes to secondary school dropout. However, having qualified personnel can boost enrollment. Additionally, it was shown that inadequate physical infrastructure contributed to the secondary school dropout rate of students.

The study was imitated in secondary school only because there is some unfavorable recourse. The data are collected only 51 students in flood affected areas. Some of constraints were experienced to the researcher like inaccessible road and unfavorable condition of

weather. When floods occur many schools may not be easily reached so the researcher will have to use boats to reach the schools. This research is carried out to substantiate the effect of flood on dropout rate of students in flood affected area only District Rajanpur Multan.

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