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ANTHROPOGENIC STRESS AND SURVIVAL STRATEGIES: AN EX-POST FACTO STUDY ON FLOOD SITUATION IN HALDIA CITY, WEST BENGAL

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ABSTRACT

Forcefully human-willed changes to nature's own laws and the unplanned extraction and use of natural resources pose a danger to civilized society. Excessive rain compared to demand creates the possibility of damage to normal life, the working sector, education, social life and finances. Identify what are the survival strategies of people during the troubled days of being submerged in water? Evaluate the cause of a critical situation like this, which the people of Purba Medinipur had never seen in the past 20 years. This study adopts an ex post facto research design to examine the situation of people affected by floods due to excessive rain in Haldia city, Purba Medinipur District, West Bengal, India. The field investigation was conducted in August 2026. Primary data were collected through a structured interview schedule developed specifically for the study. Face-to-face interviews were conducted through personal visit by using intentional organized questionnaire, enabling informative enquiry such as travel problem, health issues, attacks from scared insects, supply of food, loss of income, suspension of daily work, household issues etc. Natural calamities don't spare any occupation from showing the result of destruction. Problems facing people get help from the social interaction group; it makes the bonding concrete. People sort out relief from problems by discussing interpersonally and should get help from the chaired committee.

KEYWORDS: *Water-Logging; Cooking Deprivation; Drainage Issue; Illegal Construction.*

INTRODUCTION

As everyone knows, water is known as the lifeblood of humans. Water from rain is a blessing for living species of the world. For plant species, the first rain of the rainy season provides a joyful feeling of boundaryless skies. The rainy season provides relief to forest animals from the intense heat and water shortages of the summer season. Forceful, human-willed changes to nature's own laws and the unplanned extraction and use of natural resources pose a danger to civilized society. A live example of this is the decline in groundwater levels during the summer in states like Rajasthan, Maharashtra, Karnataka, Tamil Nadu, Delhi, Haryana, Jharkhand and Bihar. Again, uncontrolled human lifestyles can cause disasters such as floods, tsunamis, or heavy rains by creating dams in rivers or blocking or changing the course of water, as we have seen in Purba Medinipur district in August this year 2026. According to Lord Byron, "Water, water everywhere, but not a drop to drink". The same situation was created in Haldia. This situation has arisen as a result of long-standing careless habits of man, so nature's cruel irony has tested man. If rain is controlled, people can organize their lives; if it creates some problems, then men can move forward in their lives. But excessive rain compared to demand creates the possibility of damage to normal life, the working sector, education, social life and finances. When flooding occurs due to extreme weather conditions, the biggest challenge is to survive; then people, along with their pet animals and other small creatures, try to save their lives. During this time, unlike normal days, there is no guarantee of food, drinking water, or essential medicines; if the situation is very bad, you may have to go without food for a few days. Then, one can be able to satisfy basic needs through one's own efforts or through government initiatives. Where did people go wrong in thinking about living their lives from the new address or living situation that has been created by people with only water all around them? When will we get relief from this? We should teach our future generations to follow some precautionary steps to protect them from this harmful problem. From this, it can be understood that the results of human actions bring about the habit of correction in their disobedient lives. The faster you can learn from your mistakes and put your life in order, the faster a new beginning will come into your life. Above all, a life of hardship produces well-educated, skilled, developed people who, without fearing the wonders of nature, cleverly create ways to save their existence.

OBJECTIVES OF THE STUDY

1) To understand the social life of people in waterlogged conditions.
2) To identify the survival strategies of people during the troubled days of being submerged in water.

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3) To find out whether the physical condition of people has deteriorated due to water-borne diseases or attacks by poisonous insects from rainwater.
4) To know how much human relationships have been beneficial in difficult times.
5) To assess whether a habitable house or source of income has suffered financial loss due to waterlogging.
6) To investigate whether your workplace was active or inactive during the flood.
7) To examine where family members and pets took shelter during the flooded days.
8) To analyze how difficult it is to lead a normal life during the days of excessive rain.
9) To find out if you were able to keep a sick family member safe during a partial flood situation.
10) To evaluate the causes of a critical situation like this, which the people of Purba Medinipur had never seen until 20 years ago.
11) To assess what steps to take to avoid falling victim to a similar situation in the future.

METHODOLOGY

This study adopts an ex-post facto research design to examine the situation of people affected by floods due to excessive rain in Haldia city, Purba Medinipur District, West Bengal, India. The field investigation was conducted in August 2026.

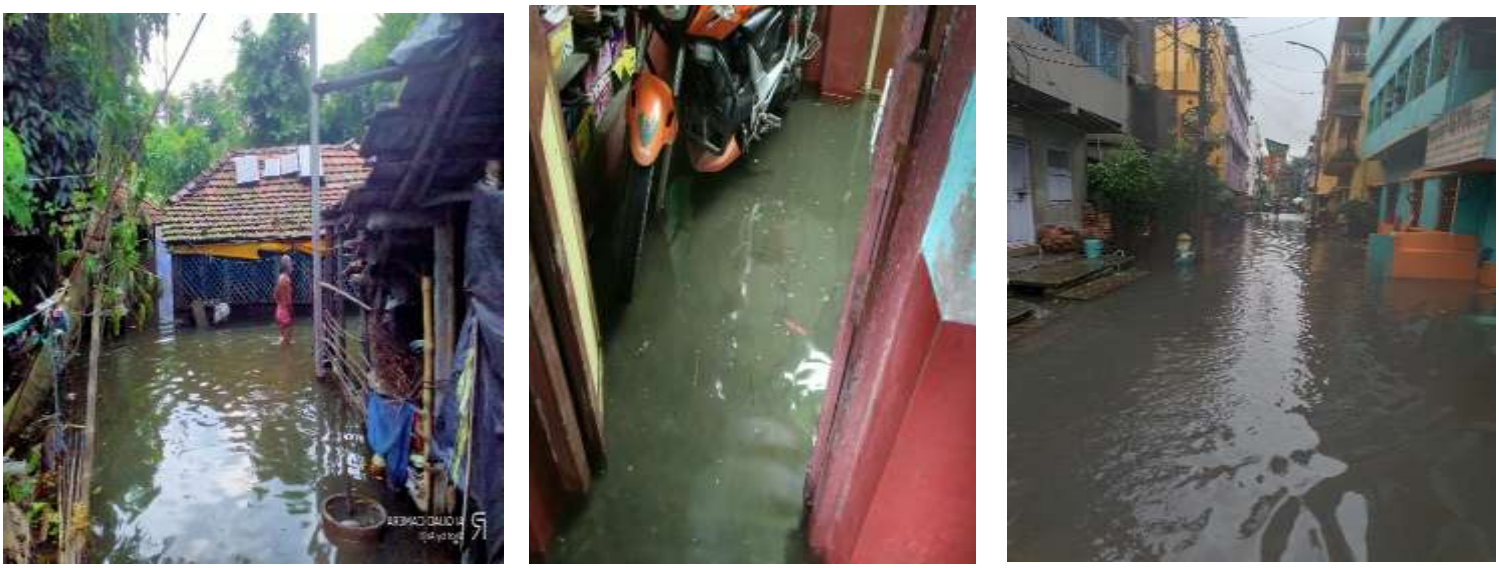

Image 1: Glimpses of Flood-affected area

A purposive sample of 50 respondents was selected from both rural and urban localities within the district. The sample included 80% male and 20% female respondents who were badly affected by waterlogging for 1 month and their social life, livelihood, normal action becomes devastated. Among the respondents, 90% belong to the Hindu religion, and 10% belong to the Muslim community.

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Image 2: Taking Relief by the Flood-affected People including Child

Primary data were collected through a structured interview schedule developed specifically for the study. Face-to-face interviews were conducted through personal visit by using intentional organized questionnaire, enabling informative enquiry such as travel problem, health issues, attacks from scared insects, supply of food, loss of income, suspension of daily work, household issues, etc.

Image 3: Glimpses of Flood-affected area

The interview schedule captured demographic characteristics, variety of employment, difference helping hand under society, temporary residence, possibility of accident, opinion of public for this circumstances, valuable consult to further avoidance.
The collected data were analyzed using descriptive and qualitative analytical techniques to interpret patterns related to waterlogging problems.

Findings and Discussion: The detailed findings along with discussion of the present study are given below:
A. Occupation Diversity: In the studied area it has been seen that most of the people's occupation is labour which is 50%, 16% respondent are farmer, 18% people have own small business, 8% people related with municipal worker, 4% people are house servant, 2% people are fisherman, and govt. job holders are 2%.

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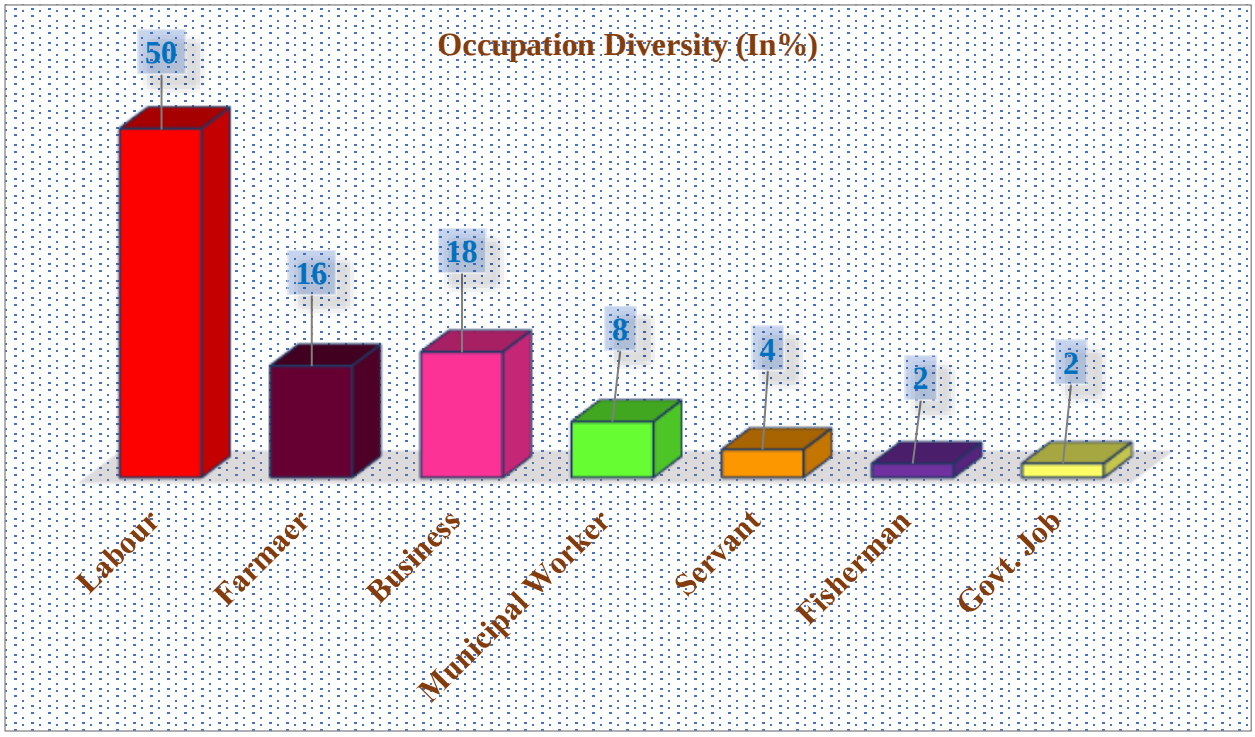

Figure 1: Occupation Diversity

B. Travel & Health Issues, Anxiety for Insects & Food: In the studied area, it has been seen that 88% of respondents suffered from movement trouble due to waterlogging, and 12% have no issues with this. 66% respondent affected by multiple disease including 30% affected by fever, 16% affected by cold & cough, 20% affected by skin disease and 34% people have no complain about health issue. In the other hand 46% respondent afraid about poisonous snake & insects but 54% people have no issue like it. 76% respondent deprived from cooking habits and 24% people are available for cooking to survive in daily life.

Table 1: Travel, Health Issue, Anxiety for Insect and Food

Item	Category	Percentage
Movement Trouble due to waterlogging	Yes	88
	No	12
Affected by Disease due to Circumstances	Yes	66
	No	34
Type of Disease		
None		34
Fever		30
Cold & Cough		16
Skin Disease		20
Others		0
Fearful of Poisonous Insects	Yes	46
	No	54
Deprived from Cooking	Yes	76
	No	24

C. Respondent Dependence for Food: In the studied area it has been seen that 24% people are able to make their daily food without any problem during water stagnation, 16% people get help by willful organization, 18% people assisted by political party, local club helped 16% people, 26% people take advantage from neighbor to fill their appetite.

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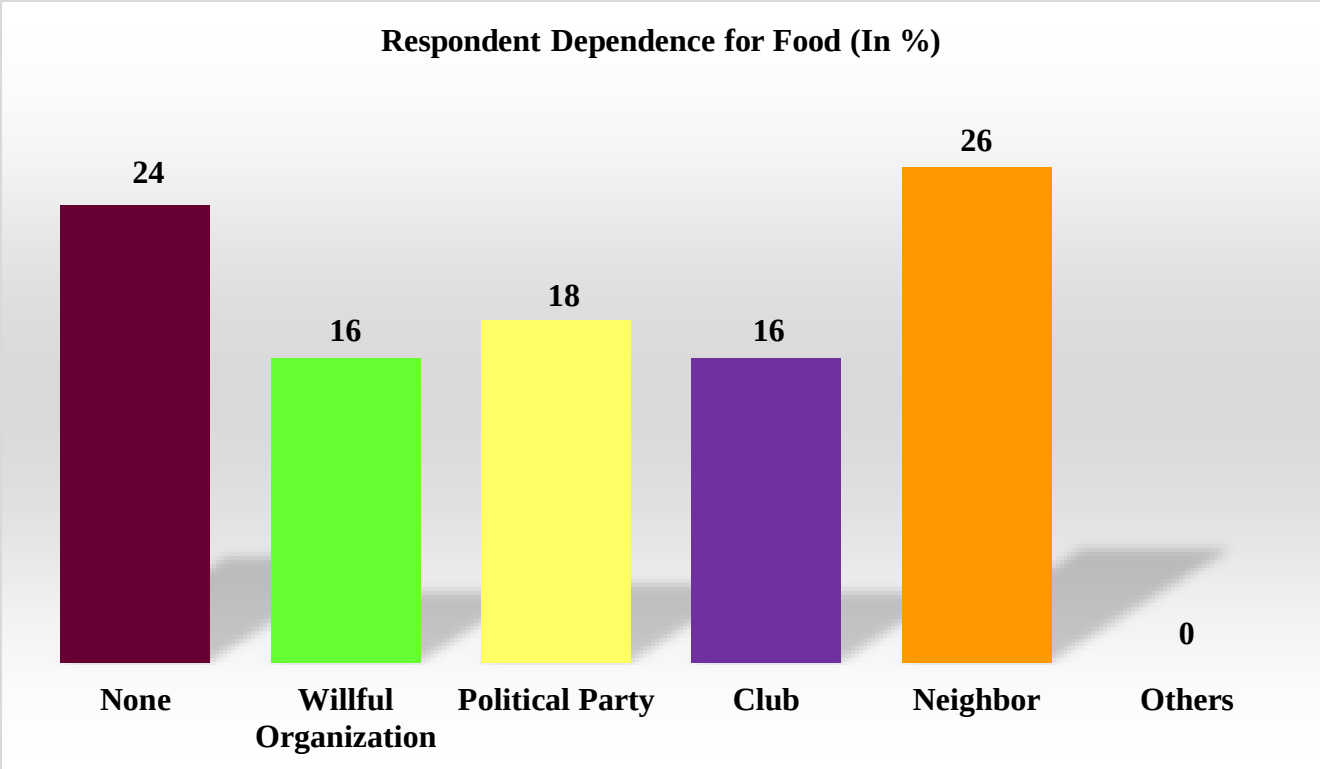

Figure 2: Respondent Dependence for Food

D. Situation of Cultivated Land, Farming Pond & Household Problem: In the studied area, it has been seen that 48% of cultivated land has been damaged by waterlogging and 52% of land has been saved by hard work. Same side 58% fishing pond has been damaged by overloaded water flow but 42% pond has no fish loss. During the tough situation, 96% of people have no income on a daily basis to spend on their lifestyle, and luckily 4% of people have some chance to collect money from their income source. As a result, 96% respondent get trouble to running household but 4% respondent have no issue like it. Even respondents' houses or furniture have been damaged; 60% are affected by this problem, and 40% have saved their residence from stagnant water. Among them, 16% have pet animals, but 84% have no headache from this.

Table 2: Situation of Cultivated Land, Farming Pond & Household Problem

Item	Category	Percentage
Cultivated Land Damaged	Yes	48
	No	52
Fish Farming Pond	Yes	58
	No	42
Financial Difficulties in Running Household	Yes	96
	No	4
Daily Livelihood Has Stopped	Yes	96
	No	4
House or Furniture Damaged Due to Waterlogging	Yes	60
	No	40
Do You Have Pet Animal	Yes	16
	No	84

E. Respondent's Temporary Residence: In the studied area it has been seen that during heavy rain fall as a result city has been submerged under water when 30% people take shelter on their upper floor of house, 30% people take shelter at neighbor's house, 28% get help from govt. initiative, 12% respondent leave their locality only cause of shelter to save expensive life.

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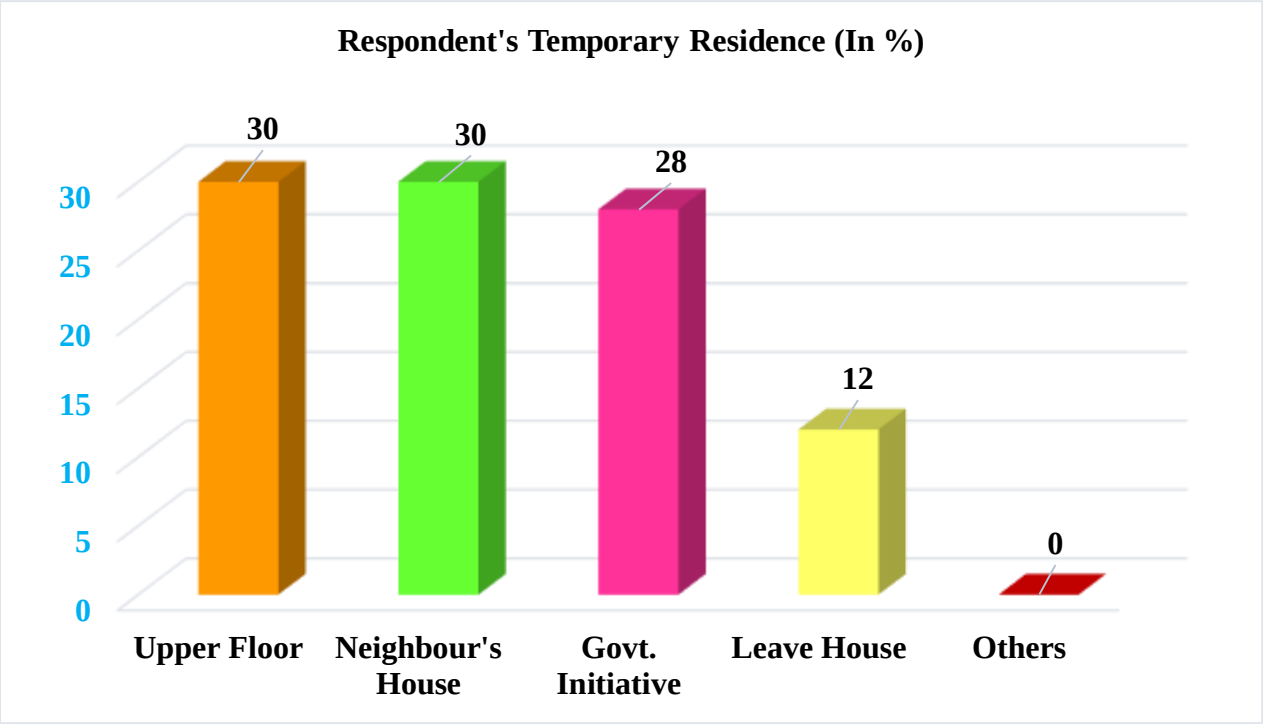

Figure 3: Respondent's Temporary Residence

F. Situation of Workplace, Electricity, Education, Hospital Going & Accident Probability: In the studied area it has been seen that 88% respondent's workplace has been stop due to water stagnation but 12% respondent are able to do their work for income. Electricity has been disconnected from the house for some days for 98%, and the other 2% have no issue. To make the educational institute as relief camp 38% people's children has been unable to take continuous education and 62% people's children take education without any problem. 48% people belief that there are accident probabilities in national highway for water logging and 52% people have no idea for this type of critical situation. On the same time 46% respondent face problem to reach hospital with their sick family member because of heavy rain fall & water locking situation but 54% people who have no ill member they don't face any difficulty.

Table 3: Situation of Workplace, Electricity, Education, Hospital Going & Accident Probability

Item	Category	Percentage
Workplace Affected by Water Stagnation	Yes	88
	No	12
Electricity Disconnection at Your House	Yes	98
	No	2
Children's Education Suspended	Yes	38
	No	62
Possibilities of Accidents on National Highway	Yes	48
	No	52
Difficulty Going to the Hospital	Yes	46
	No	54

G. Causes of Water Logging: In the studied area, it has been seen that 14% of people think this situation is created by heavy rainfall (A), 6% of people give their vote for a bad drainage system (B), 28% of people complain about both A+B, most of the people raising finger for A+B with abandoning plastic wherever possible, which numbers are 32%, illegal housing construction around canals is liable for this bad position; 20% of people said this.

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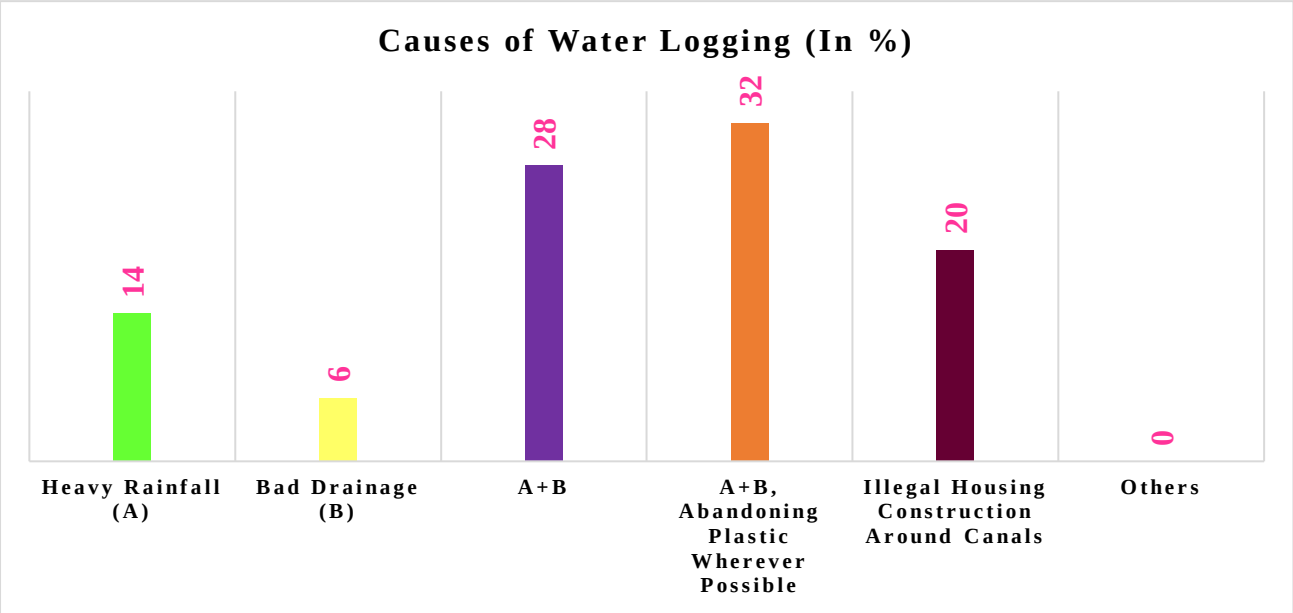

Figure 4: Causes of Water Logging

H. Respondents' Opinion regarding Causes of Flood: In the studied area it has been seen that we get some opinion for do not face such a situation in the future like this, 10% people say about drainage cleaning & repair, 20% people tell about closedown illegal construction, 12% people utter about laydown plastic in particular place, 16% people speak about drainage expansion, other 10% people give opinion for reserve rainfall water, 6% people mention about built public awareness, 2% people say about drainage cleaning & expansion, most of the people from respondent they have no opinion which are 24%.

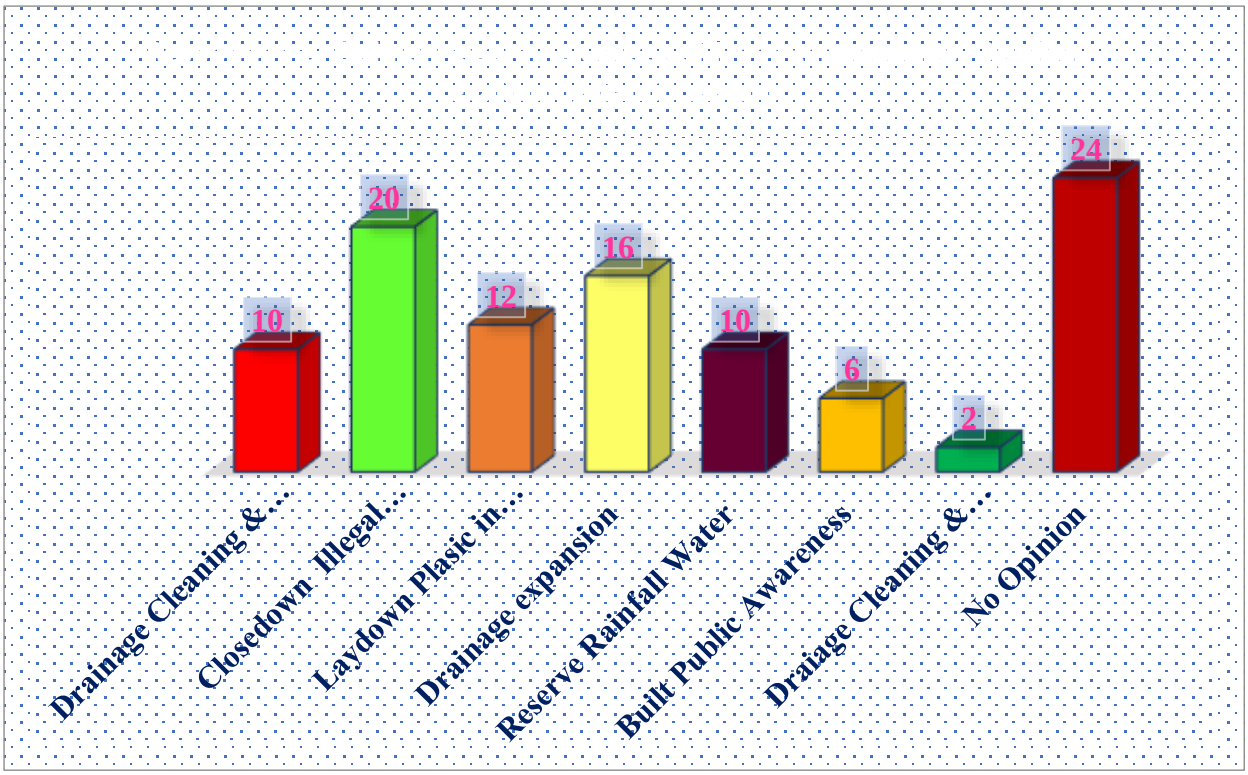

Figure 5: Respondents' Opinion regarding Causes of Flood

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Major Findings: The major findings of the present study are-

1. It has been seen that most of the people choose their occupation as labour, which is 50%, 16% respondent are farmer, 18% people have own small business, 8% people related with municipal worker, 4% people are house servant, 2% people are fisherman, and govt. job holders are 2%.
2. It has been seen that 88% of respondents suffered from movement trouble due to waterlogging, and 12% had no complaint about this. Other hand 66% respondent affected by multiple disease including 30% affected by fever, 16% affected by cold & cough, 20% affected by skin disease and 34% people are overall healthy. In the other side 46% respondent afraid about poisonous snake and insects bite but 54% people have arranged to stay in safe places. 76% respondent deprived from cooking habits which is revealed the fold of thoughts and 24% people are available for cooking to survive in daily life.
3. It has been seen that worry-free people can make their daily food without any problem during water stagnation which are 24%, 16% people get help by willful organization, 18% people assisted by political party, local club helped 16% people, 26% people take advantage from neighbor to fill their appetite, that is good social relation sign.
4. It has been seen that 48% of cultivated land has been damaged by waterlogging, and 52% of land has been saved by hard work and their own venture. Same side 58% fishing pond has been damaged by overloaded water flow due to bad drainage also excessive rain is responsible for this but 42% pond has no fish loss, they continue their business after situation being normal. During the tough situation 96% people worried about they have no income for daily basis to spent their lifestyle and luckily 4% people have some chance for collect money from their income source. As a result, those 96% respondent who have zero balance on the same time get trouble to running household but 4% respondent have no issue like it. Even respondents' houses or furniture have been damaged; 60% are affected by this problem, and thankfully 40% have saved their residence from stagnant water. Among them, 16% have pet animals, so they are anxious for their pets' safety, but 84% have no headache about this.
5. It has been seen that during heavy rainfall, as a result, the city has been submerged under water when 30% of people take shelter on the upper floor of the house to save their lives, 30% of people take shelter at a neighbor's house without thinking about their own house and its security, and 28% get help from govt. initiative, worst case scenario 12% respondent leave their locality only cause of shelter to save expensive life.
6. It has been seen that 88% respondent's workplace has been stop due to water stagnation also industries loss their daily production but 12% respondent can do their work for income. Electricity disconnects from house of respondents for some days to save valuable human lives in the greater good, the electricity board thinks as a responsible owner which are 98% and other 2% have no issue. To make the educational institute as relief camp 38% people's children has been unable to take continuous education and 62% people's children take education without any problem. 48% people belief that there are accident probabilities in national highway for water logging and 52% people have no idea for this type of critical situation. On the same time 46% respondent face problem to reach hospital with their sick family member because of heavy rain fall & water locking situation but 54% people who have no ill member they don't face any difficulty.
7. It has been seen that 14% of people think this situation is created by heavy rainfall (A), 6% of people give their vote about a bad drainage system (B), 28% of people complain about both A+B; most of the people are raising a finger for A+B, with abandoning plastic wherever possible, which numbers are 32%; illegal housing construction around canals is liable for this bad position; 20% of people said this.
8. It has been seen that we get some opinion for do not face such a situation in the future like this, 10% people say about drainage cleaning & repair, 20% people tell about closedown illegal construction, 12% people utter about laydown plastic in particular place, 16% people speak about drainage expansion, other 10% people give opinion for reserve rainfall water, 6% people mention about built public awareness, 2% people say about drainage cleaning & expansion, most of the people from respondent they have no opinion which are 24%.

Recommendations

1) About the Road Conditions-

Our data collection has revealed that 88% of respondents suffered from movement trouble due to waterlogging; there is a pressing need to:

- Paved roads must be ensured throughout the area.
- Low-lying roads should be raised to the appropriate heights where necessary.
- Trees should be planted on both sides of the road to prevent flooding.

2) To Protect Against Attacks by Poisonous Insects-

Given that 46% of respondents are afraid of poisonous snake & insects bite, we must advise them:

- Medicines to control poisonous insects should be kept in the house.
- You need to be aware of the names of poisonous creatures, what to do if bitten, etc.
- Identify the habitats of poisonous organisms and stay away from them.

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3) Strategies for Surviving During Flood Days-

It can be said that the various difficulties faced by flood-affected people:

- Family members should be careful not to get sick.
- Children's food, essential medicines, and dry food for adults should be stored in a safe place.
- Cooking utensils must be kept intact.
- People involved in difficulties must be helped.

4) To Keep the Path of Earning Free from Obstacles-

As we have seen, 96% of people are worried that they have no daily income to spend on their lifestyle, so there are precautions for continuous earning:

- Farmers and fishermen need to take precautions to protect their land and water bodies.
- Industrial workers must be allowed to work safely every day.
- The government should provide financial assistance to those whose income has been cut off during the crisis.

5) Property Protection Measures-

From our data analysis, we find that respondents' houses or furniture have been damaged; 60% are affected by this problem, so we have some plans for them:

- Valuable things (gold & silver ornaments, mandatory documents & certificates, radio, television, mobile, laptop, refrigerator, couch, etc.) in your own house should be kept in a safe place.
- To avoid danger, the electricity connection must be disconnected.
- Pets and adopted plants must be kept safe.
- Cars and motorized vehicles should be kept safe and used when necessary.

CONCLUSION

We may highlight that in the studied area in the flooded situation of Purba Medinipur district, 80% male and 20% female respondent among them 90% belongs to Hindu religions and 10% belongs to Muslim religions affected by flooded situation it proves that harmful weather difficulties don't discriminate between gender and religion. Based on the survey report, 50% of people are labour by profession, 16% of people are farmers, 18% of people have their own business, 8% of people are related to municipal work, 4% of people are house servants, 2% are fishermen, and 2% have govt. Here, we understand that natural calamities don't spare any occupation, showing the result of destruction. It has been seen that 88% of respondents suffered from movement trouble due to waterlogging, but 12% moved easily by their choice. Through the metering 66% respondent affected by multiple disease including 30% affected by fever, 16% affected by cold & cough, 20% affected by skin disease most of the people are liable to create the atmosphere and 34% people are overall healthy. In the watery situation 76% respondent deprived from cooking habits, they get help from willful organization, political party, club also from neighbor; it shows tight bonding in social rapport and 24% people are available for cooking to survive in daily life. Through the vision of data exploration 48% cultivated land has been damaged by water logging, 58% fishing pond has been damaged by overloaded water flow due to bad drainage also excessive rain, 96% people worried about they have no income for daily basis to spent their lifestyle, those 96% respondent who have zero balance on the same time get trouble to running household, respondent's house or furniture has been damaged 60% are affected by this problem. We can see that during heavy rainfall, as a result, the city has been submerged under water; when 30% of people take shelter on the upper floor of the house to save their lives, 30% of people take shelter at a neighbor's house without thinking about their own house and its security; 28% get help from the government initiative, worst case scenario 12% respondent leave their locality only cause of shelter to save expensive life. We can reveal that 88% respondent's workplace has been stop due to water stagnation also industries loss their daily production, 98% houses has no electricity connection on this time, to make the educational institute as relief camp 38% people's children has been unable to take continuous education, 48% people belief that there are accident probabilities in national highway for water logging, 46% respondent face problem to reach hospital with their sick family member because of heavy rain fall & water locking situation. Some issues for this are that 14% of people think this situation is created by heavy rainfall (A), 6% of people give their vote about a bad drainage system (B), 28% of people complain about both A+B, and most of the people are raising fingers for A+B by abandoning plastic wherever possible, which numbers are 32%; illegal housing construction around canals is liable for this bad position; 20% of people said this. When we are metering the study area, then we get some opinions to prevent this type of situations they are 10% of people say about drainage cleaning & repair, 20% of people tell about closedown illegal construction, 12% people utter about laydown plastic in particular place, 16% people speak about drainage expansion, other 10% people give opinion for reserve rainfall water, 6% people mention about built public awareness, 2% people say about drainage cleaning & expansion, most of the people from respondent they have no opinion which are 24%.

In summary, the findings of the present study demonstrate that troubled persons have some key issues, which are travel problems, health issues, loss of basic needs, loss of earning possibilities, damage to property, etc. They short out the relief from problems by discuss interpersonally and should get help from chaired committee.

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