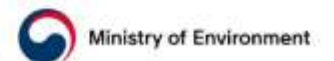


# IWRA's XVII WORLD WATER CONGRESS

제 17차 IWRA 세계물총회

29 November – 3 December 2021  
EXCO, Daegu, Republic of Korea



# GROUND WATER CONTAMINATION IN MANOHARA REGION, KATHMANDU



IWRA World Water Envoys



 **Pallavi**  
22 years old  
Nepal

World Water Envoy





# STUDY AREA

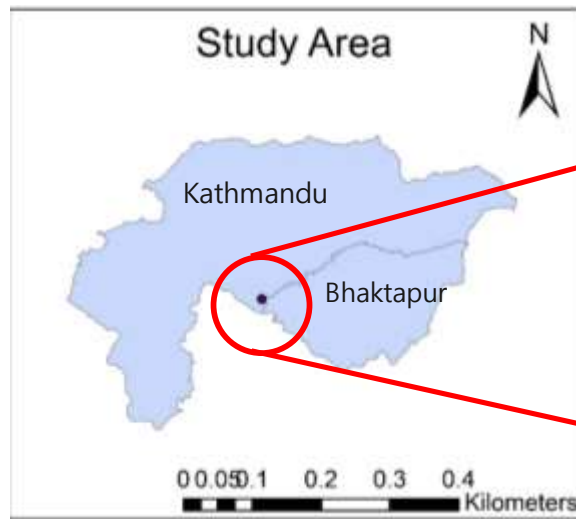
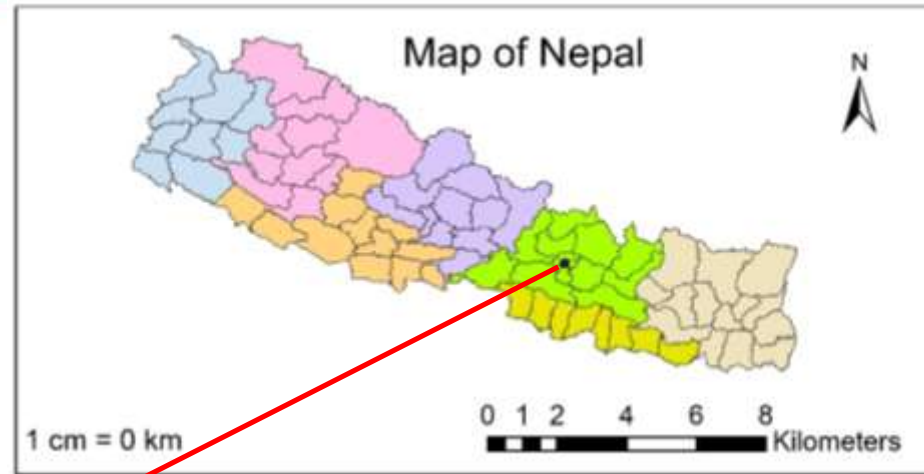


Fig: Manohara Area

# MY COMMUNITY



Area: Manohara region (bank of Manohara River)  
Total No. of households: 800

## Main Problems

- Unplanned Urbanization
- No drinking water pipelines
- Polluted river water
- Dependence on groundwater
- Ground water pollution

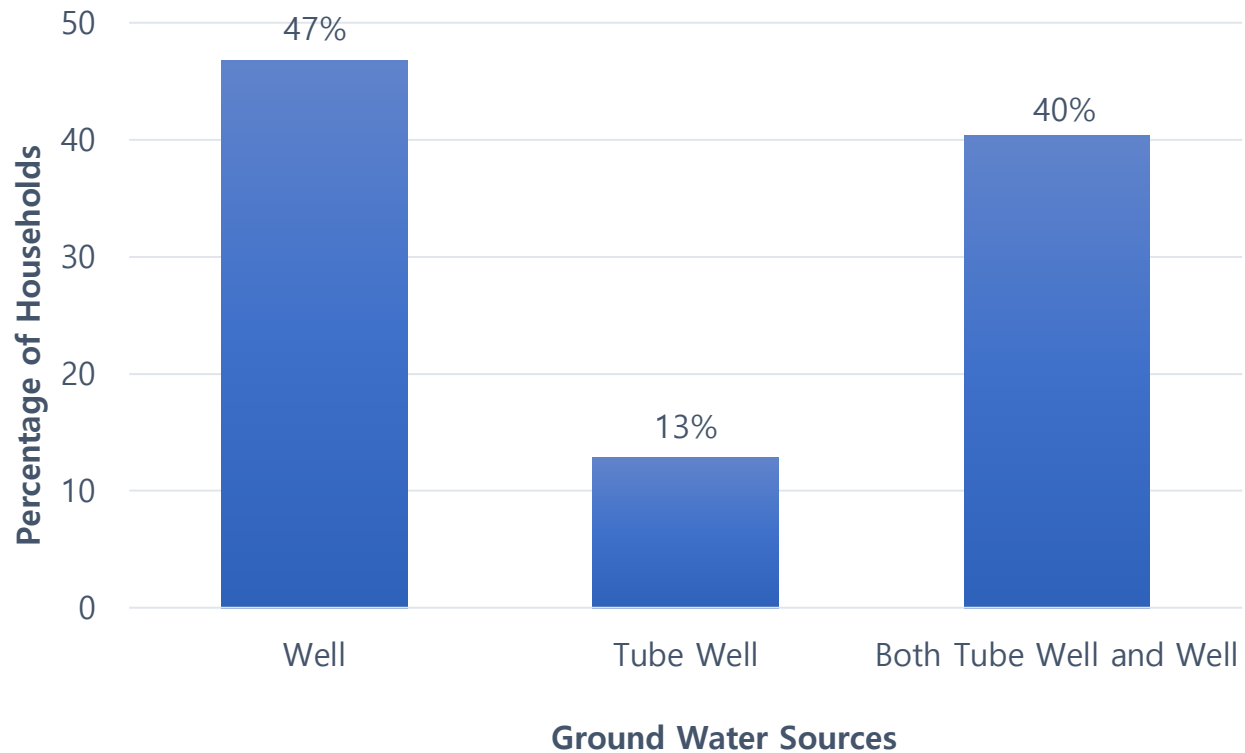




# WATER SOURCES AND HOUSEHOLD DEPENDENCY



Principle source of drinking water of the households.

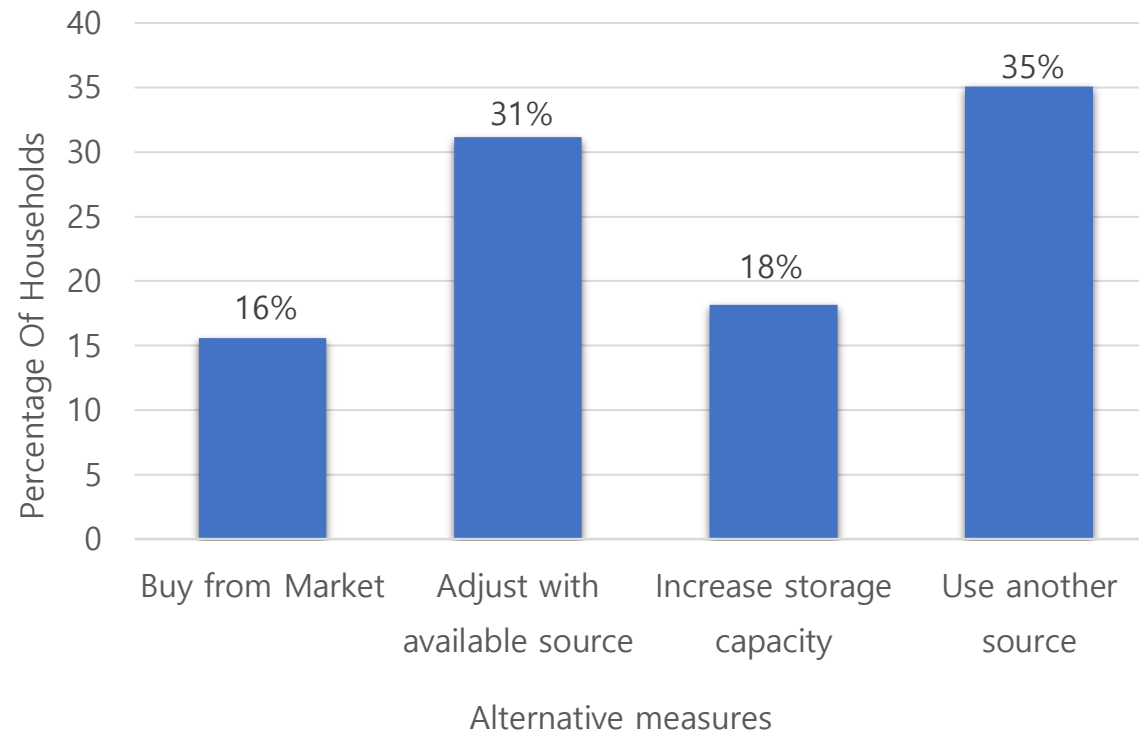


*Fig: A Tube Well Source in Manohara area.*

- **Ground water is the primary source of drinking water.**



## Different alternatives used by respondents during water scarcity



- Majority of people either use another source or adjust with the available source during water scarcity at source.

# WATER QUALITY STATUS



## Result of faecal contamination test in tube well at different level

Source	Water at Source and Household Levels		Faecal contamination	
Public Tube Wells	Source 1	At Source	Yes	
		At Household	HH1	Yes
	Source 2	At Source		No
		At Household	HH1	Yes
			HH2	Yes
			HH3	No
			HH4	Yes
	Source 3	At Source		Yes
		At Household	HH1	Yes
			HH2	Yes
	Source 4	At Source		Yes
		At Household	HH1	Yes
			HH2	No
			HH3	No
	Source 5	At Source		No
		At Household	HH1	Yes
	Source 6	At Source		No
		At Household	HH1	No



## Result of faecal contamination test in well at different level

Source	Household level	Result
Well	Source 1	No
	Source 2	No
	Source 3	Yes
	Source 4	Yes
	Source 5	Yes
	Source 6	Yes

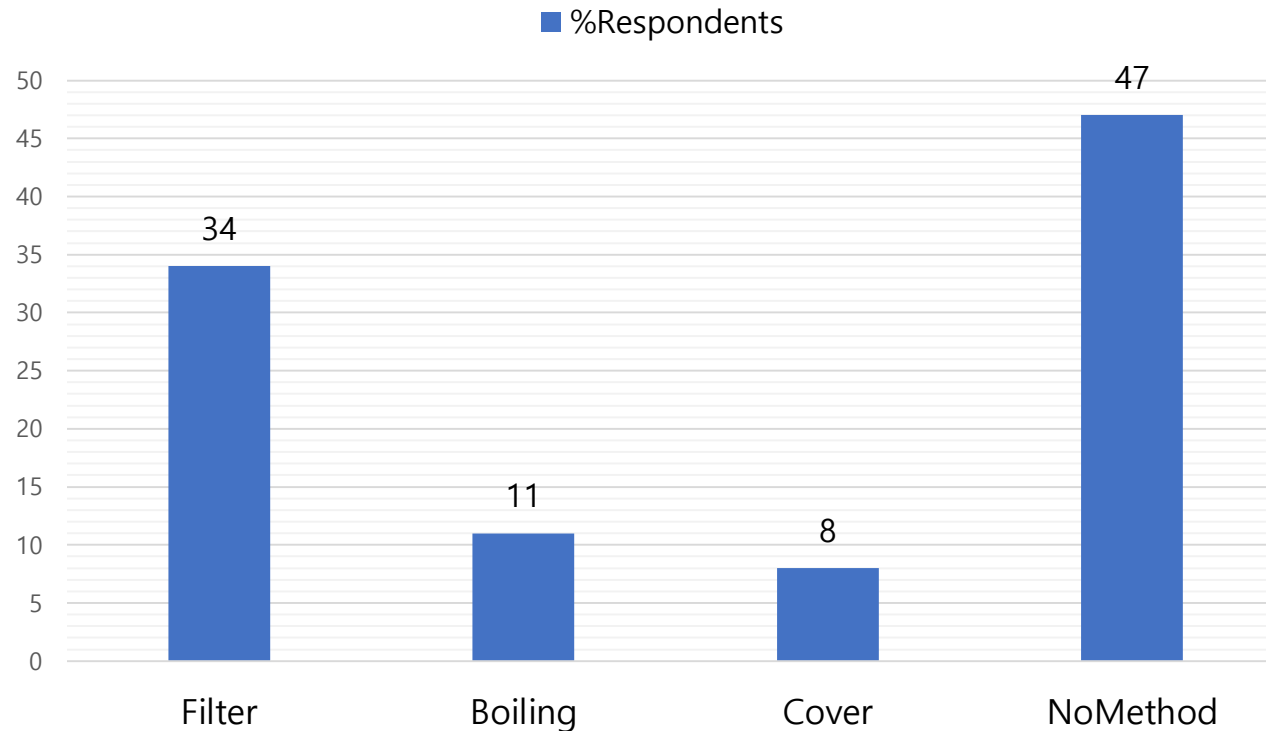


- Majority of the water samples are contaminated with *E coli* and Total Coliform.
- 68% of samples contained iron
- 53% of samples contained arsenic





Percentage of households using different water treatment methods

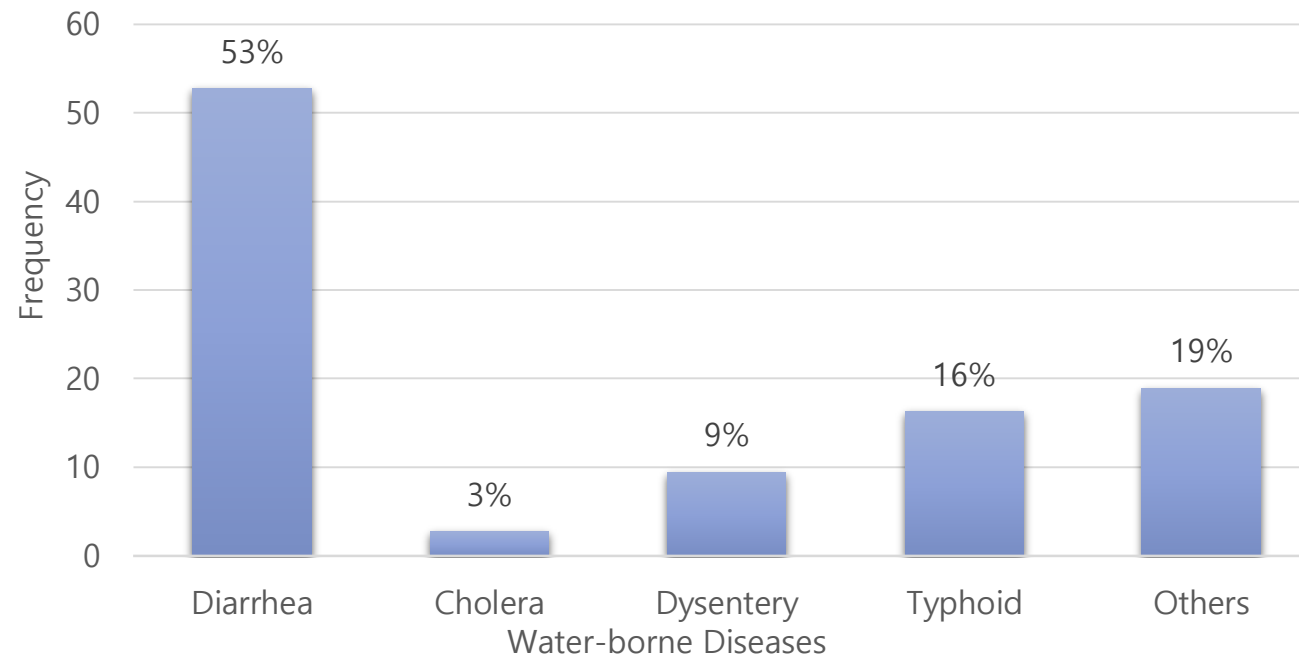


**Majority of the respondents did not use any method for treatment.**

# HEALTH IMPACTS OF POOR WATER QUALITY

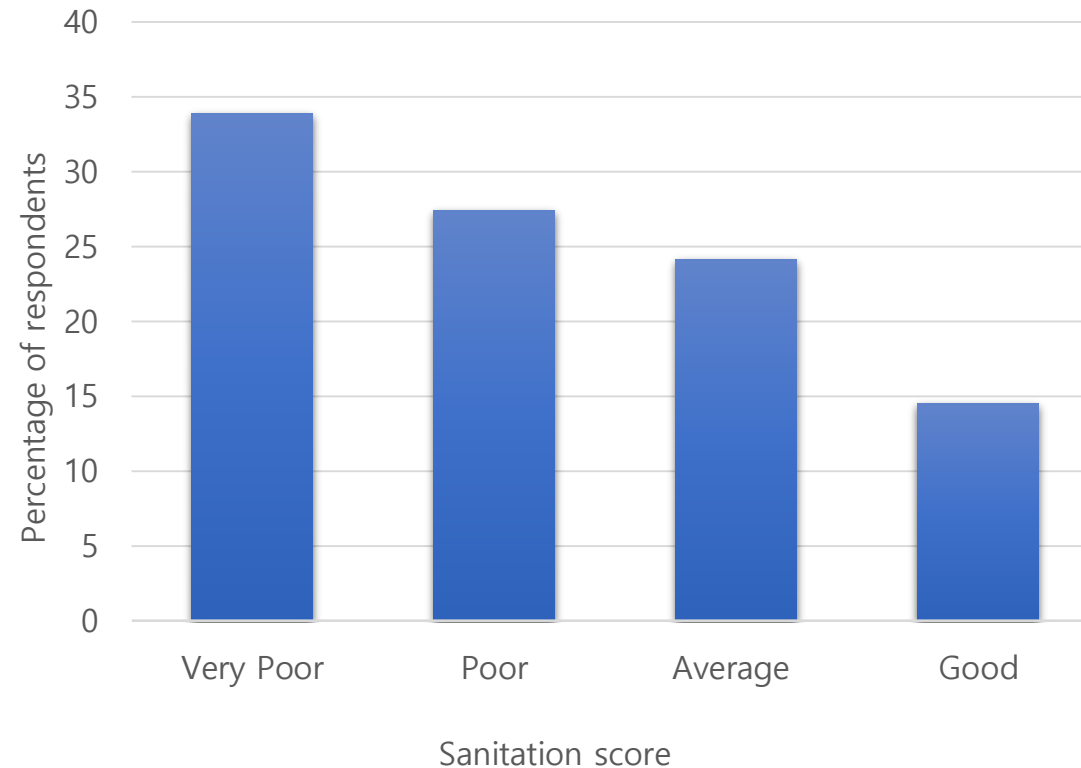


**Frequency of disease occurrence among the households**





## Sanitation and hygiene condition of the households



- **65% of households did not have permissible distance (15 m) between their latrine and the stored water.**

# CONCLUSION



- **Most of the drinking water sources had faecal contamination and did not comply with National Drinking Water Quality Standard.**
- **Contamination is attributed to lack of safe water storage and treatment methods, and lack of proper sanitation and hygiene condition.**
- **Lack of proper water treatment measures is attributed to poor financial condition.**
- **Diarrhea is the most prevalent water borne disease in the area.**
- **Increased literacy, access to good sanitation facility and switching to alternative water sources reduce the occurrence of water-borne diseases.**