ENABLERS AND BARRIERS TO ENGAGING COMMUNITY IN NATIONAL DENGUE CONTROL PROGRAM IN LALITPUR MUNICIPALITY OF LALITPUR DISTRICT, NEPAL

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BACKGROUND OF THE STUDY

- Dengue fever, a neglected tropical disease, is caused by four closely related dengue virus serotypes: DEN-1, DEN-2, DEN-3, and DEN-4.

- The disease is a significant threat due to climate change and globalization, with estimates suggesting 50 to 100 million infections annually worldwide.

- The WHO's 2021-2030 Global Strategy aims to eradicate dengue cases to zero by 2030, emphasizing the importance of multisectoral partnerships.

- Dengue fever epidemics in Nepal have become severe over the last decade, with the first recorded case in 2005 in Chitwan district.

- The report highlights Lalitpur's significant dengue outbreak in 2022, with 9,614 confirmed cases, making it one of the most affected regions during Nepal's largest outbreak. The widespread nature of the epidemic, primarily concentrated in urban and suburban wards, highlights the severity of the public health issue and the need for collective action to address the broader community-driven concern.

Figure 1: Trend of dengue cases in Nepal (2004-2022) (Source: EDCD)

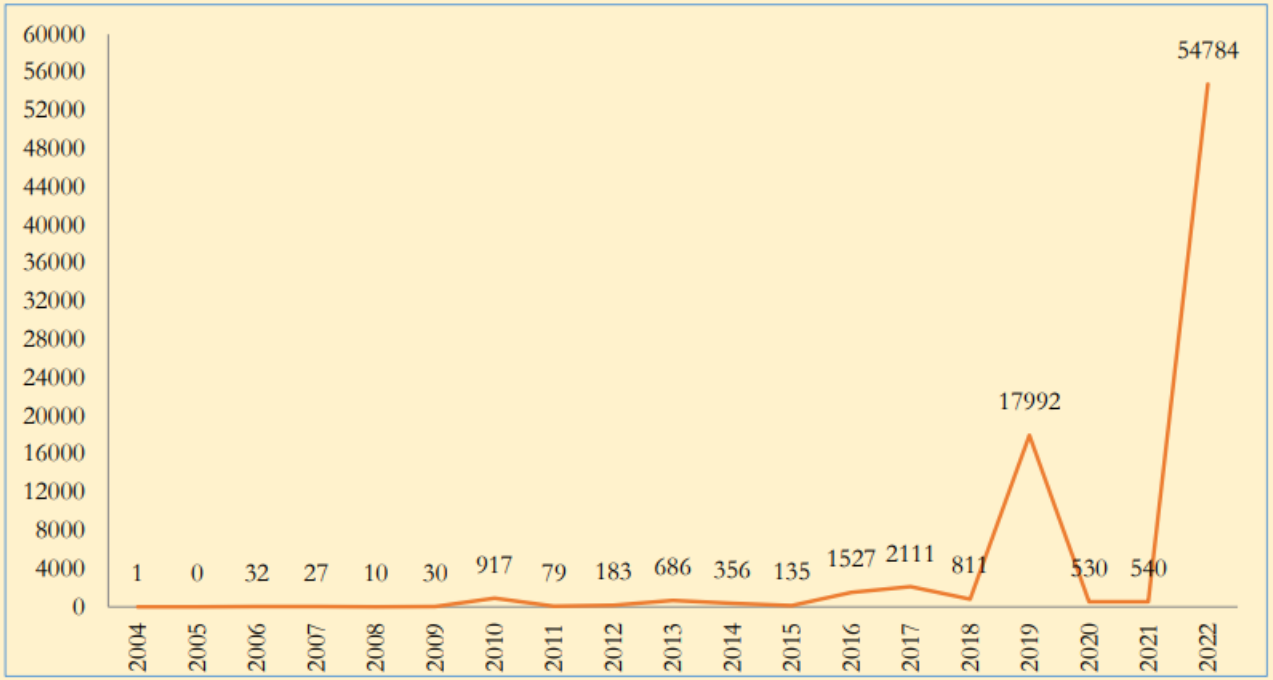


Figure 2: Number of Dengue cases by Provinces (2022, EWARS and district line list)

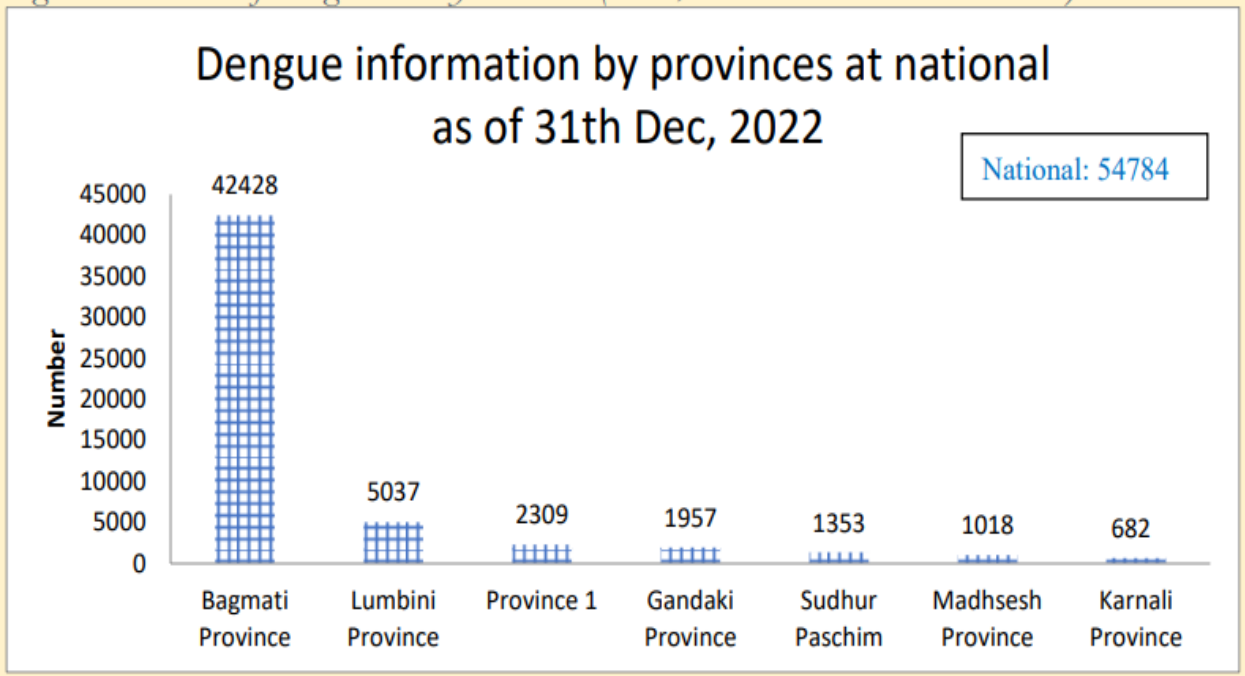
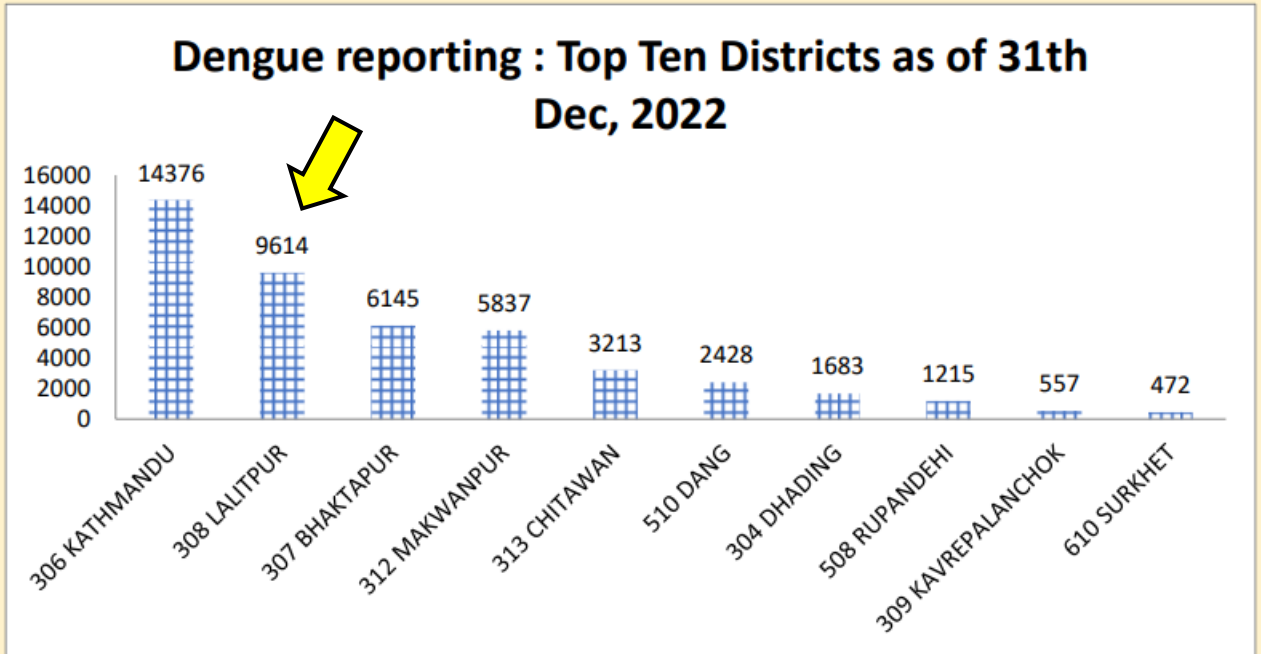


Figure 3 : Top 10 districts reporting dengue cases by months (2022, EWARS and District line list)



WHO Reports Dengue Cases in 2024

- Over 7.6 million dengue cases reported to WHO as of 30 April 2024.
- 3.4 million confirmed cases, 16,000 severe cases, and 3000 deaths reported.
- Increase in dengue cases particularly pronounced in the Americas region.
- Seven million cases by April 2024, surpassing 4.6 million in 2023.
- Three times the annual high of 2023, indicating health problem's acceleration.

STATEMENT OF PROBLEM

- The public's health system has been greatly impacted by the dengue fever outbreaks.

- Nepal has seen a significant increase in dengue fever outbreaks, with over 17,000 cases recorded in 2019.The largest outbreak in 2022 was 54,784 cases across 77 districts and 7 provinces, with Kathmandu suffering the most. By 31st Dec, 88 dengue-related deaths had been confirmed.

- The Epidemiology and Disease Control Division, Ministry of Health and Population, Nepal reported over 45,000 cases and twenty deaths as of November 2023.

- The response time was not optimal due to exhaustion of hospital capacities and increased morbidity/mortality rate. It has a significant economic impact, causing high medical costs and income loss for families.

- The outbreak put a huge burden on Lalitpur's healthcare system, with hospitals overwhelmed by the increase of patients. The problem was compounded by limited resources, including access to diagnostic testing, treatment, and preventative methods like as bed nets and pesticides. This mirrors a greater issue with Nepal's under-resourced healthcare institutions, where public health responses to epidemics are frequently reactive rather than proactive.

RATIONALE OF THE STUDY

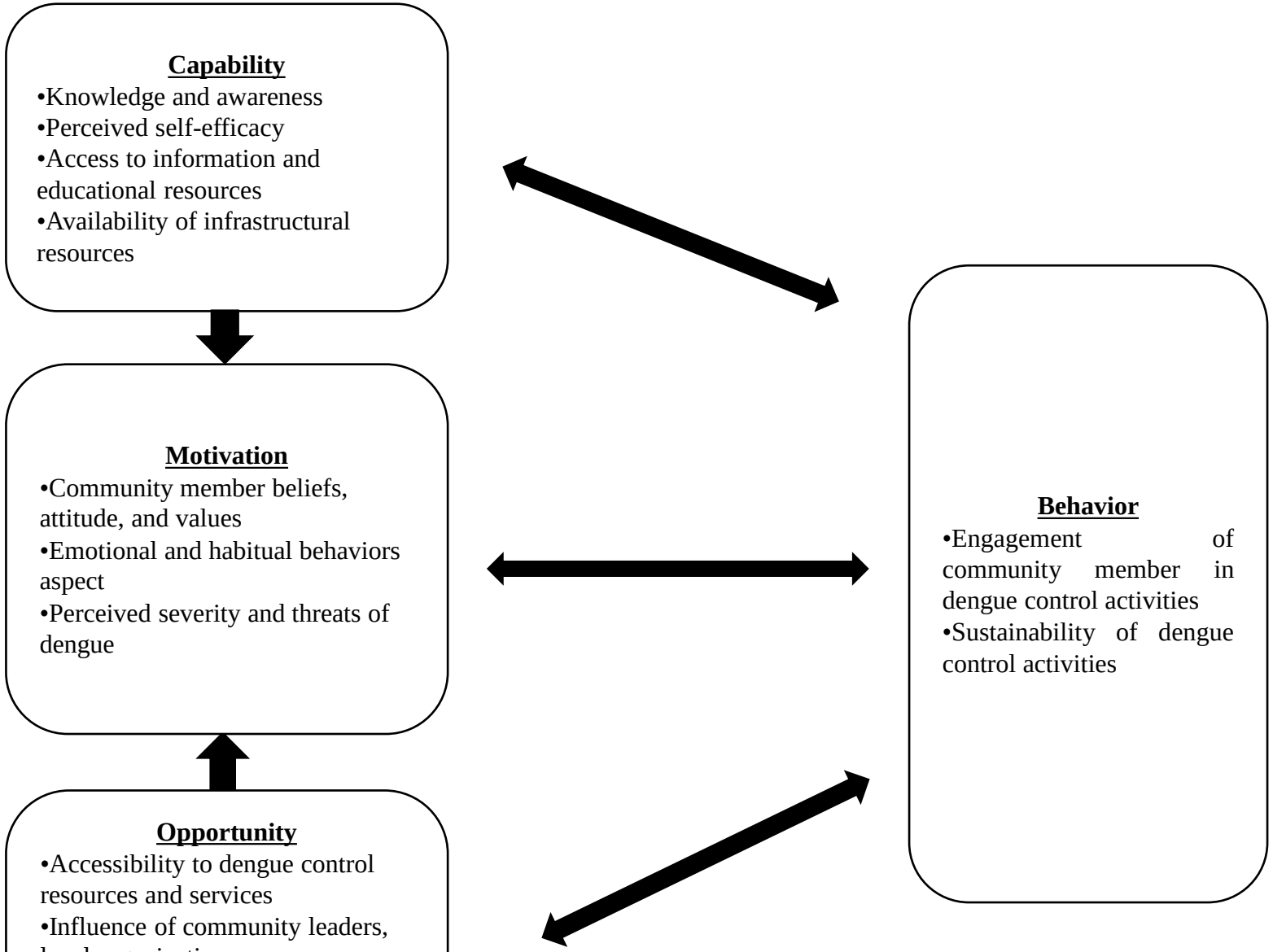
- **Dengue Fever and Vector-Borne Diseases**: Dengue fever, a recurring infection, leads to cyclical epidemics and increased secondary infection risk. The World Health Organization reports a rise in vector-borne diseases like chikungunya, leishmaniasis, and scrub typhus.
- **Impact and Vulnerable Populations**: In 2022, over 80% of dengue cases were reported in Nepal's major districts, disproportionately affecting those with poor sanitation and low socioeconomic status. The youth and elderly populations account for over 55% and 39% of dengue deaths, respectively.
- **Prevention and Community Engagement**: Interventions focus on dengue prevention through risk communication and community engagement. Mobilizing community members under the supervision of specialists and with government support is a crucial strategy for dengue management.
- **Research and Long-Term Strategies**: Community participation in reducing mosquito breeding places is the only cost-effective and long-term activity for dengue fever prevention and control. Understanding community engagement characteristics is critical for developing effective prevention programs.
- The outbreak revealed a lack of community readiness and motivation to participate in prevention programs, partly due to a perception that dengue is not life-threatening unless personally affected. This highlights a critical gap in public health education that prevents sustainable community engagement.
- This study helps to bridge the gap between public health priorities such as community engagement and disease prevention and the real-world challenges that communities like Lalitpur face. Its findings offer actionable insights to shape effective, sustainable, and locally adapted strategies to combat dengue and other vector-borne diseases.

OBJECTIVES

1. To explore the barriers to engaging the community in a national dengue control program
2. To identify the enablers to engaging the community in a national dengue control program
3. To understand the learning from the national dengue control program.

RESEARCH QUESTIONS

1. What are the barriers to engaging the community in national dengue control?
2. What are the possible enablers to engaging the community in national dengue control?
3. What are the key lessons learned from the national dengue control program?



Conceptual Framework using COM-B Model of Behavior

Methodology

STUDY DESIGN

- Qualitative research was carried out with all relevant stakeholders due to its ability to explore complex social phenomena, identify context-specific barriers, enablers and capture lived experiences.
- Secondary and qualitative data associated with the program were gathered through annual health reports, dengue situation report, and others related sources.

STUDY SETTING

- The study focused on wards 5, 6, 12, and 17 with high dengue prevalence because it enables the study to concentrate on areas that have been most impacted, offering insightful information about the enablers and barriers.
- Lalitpur Metropolitan City, Nepal's fourth most populated city, has 299,843 people living in 49,044 homes, located in the south-central part of Kathmandu Valley, it is rich in historical, cultural, and artistic value.
- Lalitpur's unique demographic and geographic characteristics make it an ideal study framework for the National Dengue Control Program.

STUDY TOOLS

- Qualitative data was acquired through in-depth interviews with local health service providers and focus group discussions with diverse community members.
- Secondary data sources included annual health reports, dengue situational reports, metropolitan and district health office reports, academic journals, and literature.
- Guidelines for interviews and discussions were developed through consultations, pre-testing, and literature review to systematically collect essential information.
- The guideline variables included cultural aspects, community willingness, socioeconomic concerns, geography, environment, resources, commitment, policies, and active participation.
- Pilot testing of questionnaire was done with similar settings. The recorded recordings were then re-listened to ensure probe quality before being transcribed within 24 hours. The moderator and notetaker took notes to augment the audio-taped transcripts, collecting and confirming facts from the conversation.

SAMPLE

S. N	In-depth Interviews number	Participants Name
1	Two	Ward-chairman
2	Two	Focal person for Vector-borne diseases of the district health office of Lalitpur district
3	One	Dengue focal person of Lalitpur Metropolitan City
4	Three	School teacher and Political leader
5	Four	Tole Health Promoter and Female Community Health Volunteer

S. N	Participants Name	Focal Group Discussions Participants Number
1	Dengue-infected people, mothers' groups, awareness campaign groups, and tole health promoters.	26

SAMPLING TECHNIQUE

- The purposive sampling method was applied to select target participants at research sites, allowing for the deliberate selection of individuals who can provide the most relevant and in-depth information for the study.

DATA ANALYSIS

- Interviews and FGDs were recorded and transcribed in Nepali and English, and data was validated by comparing transcriptions to audio recordings.
- Major themes were organized into three objectives: Barriers, Enablers, and Lessons Learned.
- Six phases of reflexive thematic analysis (RTA) were undertaken: familiarization with data, generating codes, constructing themes, reviewing potential themes, defining and naming themes, and producing the report.
- A qualitative software data package (Dedoose) was used for data organization and management. And codebook was developed and used to manage the data.

INCLUSION AND EXCLUSION CRITERIA

- Residents aged 18+ in selected wards.
- Health officers in dengue prevention and control positions for at least three to six months.
- Excluded individuals not involved in national dengue control program.

ETHICAL CONSIDERATION

- Ethical approval from Nepal Health Research Council and IIHMR University, Jaipur, India.
- Permission obtained from District Health Office, Lalitpur Metropolitan health section, and wards.
- Ethical criteria: informed consent, confidentiality, voluntary participation, fully informed about study purpose, and clear informed consent form provided.
- Participants assured of privacy and anonymity.

RESEARCH IMPLICATION

- Addressing determined barriers and exploiting enablers can dramatically improve the effectiveness of dengue control efforts. The lessons learned emphasize the need for observation, prompt response, and preventative measures in managing dengue epidemics.
- Policymakers and program implementers should take these consequences into account when developing and implementing dengue control measures.

Context Analysis

Strength

- National Guidelines on Dengue Prevention, Management, and Control are available in Nepal.
- A surveillance system is in place to monitor incidents of dengue. Recording and reporting through an online system called DHIS-2.
- Availability of rapid response team at local level bodies like ward wise.

Weakness

- Inadequate public knowledge and preventive activities for dengue prevention.
- There is limited expertise in early identification and reaction to epidemics.
- Less priority to the program at a municipality and ward level.
- Low budget priority for program planning and implementation.

Opportunity

- Multi-sectoral approach for planning and implementing the program.
- Encouragement or engagement of community people for promotion and prevention especially from local leaders.
- Need for standard operating guidelines for surveillance and response systems.
- Coordination and collaboration with locally available clubs or groups for dengue control efforts.

Threat

- Ongoing unplanned urbanization and development.
- Effects of climate change on increased mosquito breeding and transmission.
- Lack of ownership and commitment from the community towards the dengue control program.
- Insufficient support or collaboration of other multisectoral organizations for prevention and control programs.

Stakeholder Analysis

S. N	Stakeholders	Influence	Interest	Engagement
1	Epidemiology and Diseases Control Division	High	High	Secondary data sharing and coordination
2	Nepal Health Research Council	High	High	Collaborative and monitoring
3	District Health Office	High	High	Coordination, collaboration, and data sharing
4	Lalitpur Metropolitan City (Health Section)	High	High	Coordination with wards, focal person, and meetings
5	Ward-chairman	Medium	High	Implementation Partners
6	Practicum organization	Medium	Medium	Support in conducting the study
7	Tole health promotor	Medium	Medium	Coordination, support for planning and implementing at ground level

S.N.	Activities	Timeline in month (2023-2024)										
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
1	Community and stakeholder's meetings											
2	Stakeholder engagement											
3	Contextual analysis											
4	Recruit and train research team											
5	Select sites											
6	IRB approval from university and NHRC, project execution											
7	Data collection											
8	Data analysis/and translate and transcribe											
9	Qualitative analysis											
10	Project Monitoring and continuous feedback to the research team and stakeholders											
11	Policy briefs and journal articles											
12	Dissemination of the information											
14	Journals articles											

Findings

SOCIO-DEMOGRAPHIC CHARACTERISTICS

Variables	Frequency
Sex	
Male	6
Female	32
Age	
45≥	15
46-50	17
51+	6
Total	38

- The demographic characteristics that describe the gender and age distribution among a sample of 38 participants.
- The sex variable is separated into two categories: male (6) and female (32).
- The age variable is divided into three groups: less than or equal to 45 years, 46-50 years, and 51+ years. These age groups have relative frequencies of 15, 17, and 6.

Barriers

The list of themes :-

- Inadequate knowledge of dengue among community people
- Negative perception towards dengue preventive measures
- Limited Readiness
- Work priorities
- Inadequate budget and resources
- Perceived risk of perception
- Lack of accountability

Theme 1: Inadequate knowledge of dengue among community people

- Insufficient knowledge about dengue and its control measures hinders people's engagement in dengue control efforts and influences their attitudes towards dengue measures. The timing of an awareness program significantly influences people's knowledge level and their involvement. This indicates how inadequate knowledge about dengue and its control measures cannot motivate people to engage in dengue control efforts.

> *"When it comes to raising community awareness, we still fail to do so within the local people. I believe that the public is not being adequately informed about dengue, its prevention, how it spreads, and how mosquitoes breed in stored or uncovered water. People don't alter their behavior unless they are aware of it. So, we are still unable to raise the necessary level of awareness in the community". (IDI, FCHV (1))*

Theme 2: Negative perception towards dengue preventive measures

- Participants noted that certain community groups associate preventive efforts with incentives, discrediting the program's objectives and fostering distrust towards it. These perceptions towards the dengue program had failed to increase motivation and readiness towards engagement in the program.

> *"This is the case for the majority. When the campaign was initially launched, many of them inquired whether we were being paid." Another participant of the same FGD added to the same conversation, "They perceived our job to finish the budget. (Laughing), one person has once inquired about the amount of money."*

> "*People assume that diseases like dengue will be treated or cured at the hospital rather than participating in preventive programs*".

Theme 3: Limited Readiness

- Participants identified several reasons for limited readiness, including limited awareness, risk perception, time constraints, and perception towards community programs. People who have been infected by the disease often show more interest in the program and are more likely to participate than those who have not been infected.

"One of the reasons can be lack of communication conducted among people. They appear to be ignoring it (preventive measures) and don't discuss it much. When we visit different homes, we offer them flipcharts and advise them not to stay in the house for extended periods, but they choose to ignore this advice. We need to raise awareness through the media, including radio, television, and newspapers." (IDI, Dengue focal person-DPHO)

Theme 4: Inadequate budget and resources

- Community members at the grassroots level have expressed concerns about the lack of adequate budgets for dengue programs, citing challenges in running and engaging with the community. Participants cited limited budgets for the dengue control program due to local governments funding most of the program, which is often insufficient, and health-related activities being less prioritized in government budgetary practices.

"*Though health is considered a priority for everyone, health-related activities often receive lower priority. This is because health-related activities are not mentioned in the red book by the Metropolitan City where 25% of the budget must be allocated. The health section falls under the social welfare division, and when the 25% budget is divided among divisions, the remaining budget allocated to health is minimal." (FGD, Awareness campaign group)*

Theme 5: Perceived risk of perception

- Despite awareness programs, many people fail to take dengue seriously due to limited perceived risk, lacking motivation and readiness. Such perception hinders the participation of the community in the dengue control program, and it is difficult to execute the program effectively.

"Even after giving knowledge about the dengue prevention measures dismiss, it and they believe that the illness is not that serious. They won't understand how dangerous the illness is until they have it. When we suggest they throw the stored water, they neglect what we advise and do not act." (IDI, FCHV (1))

Theme 6: Lack of accountability

- Lack of accountability in dengue control preventive measures, particularly in search and destroy and waste management, often hinders people's engagement and hinders collective efforts in these areas. People often view the efforts and measures beyond their houses are not as beneficial to them and their families. People clean their houses and often neglect the shared spaces while cleaning, which results in breeding spaces for mosquitoes. Such belief is also observed in waste management in community spaces like picnic sites, colleges, schools, and so on. People often litter the community spaces with plastic caps, bottles, straws, etc. which are favorable breeding sites for mosquitos.

"They don't accept responsibility for keeping their apartments or rooms tidy. The renters believe that someone else should take care of cleanliness; hence they don't think they should be liable for it. People lament that they are not solely accountable for maintaining hygiene while ignoring illness. This is what we have observed." (FGD, Health promoter group)

Enablers

The list of the themes:-

- Awareness programs
- Training and capacity of mobilizers
- Adequate budget and resources
- Pre-planning in the dengue program
- Reward and punishment mechanism

Theme 1: Awareness programs

- Participants emphasized the importance of an awareness program in boosting community participation in the dengue program, urging for increased government effort in this area.

"*The primary focus should be on raising awareness. While the ward has been making efforts in this regard, it's not sufficient.*" *(IDI, FCHV (1))*

<u>Sub-theme</u>

- **Schedule of the program**
- **Integration of cultural aspects in the program**
- **Mobilization of community and government key persons**
- **Behavior Change Communication media, materials, and approaches**

Theme 2: Training and capacity of mobilizers

- Participants suggested training and capacity-building activities for community engagement in dengue control programs, targeting ward committee members, mother groups, schools, youth clubs, and FCHVs, as they significantly influence community and policy making.

"First, the ward volunteer should be given enough knowledge regarding dengue. There are other groups in the wards, such as the youth club, the women's group, and the THP, that need to be trained to educate and be aware of the community". (IDI, THP (2))

"Training sessions can be held once a month in each tole and can have a significant influence, it will keep us updated and proactive." (FGD, Mother's group)

Theme 3: Adequate budget and resources

- The participants emphasized that adequate budget and resources are necessary and can be great enablers for increasing community engagement. The majority agreed that the timely availability of resources and budget in the program can help the program to run consistently.

"The programs depend on the budget. If there's money allocated adequate and timely, the program happens on proper time and effectively." (FGD, Awareness Group)

"The municipality should offer financial assistance to the needy. Then only members of the community will actively participate in the initiative." (IDI, FCHV (2))

Theme 4: Pre-planning in the dengue program

- Several participants highlighted the importance of a timely work plan and calendar for the program. A prior work plan can help to metropolitan effectively conduct microplanning, and forecast human resources, materials, and budget along with potential challenges.

"Our main challenge is the lack of a program calendar. If programs were scheduled and implemented regularly, it would greatly aid our efforts." (IDI, Dengue focal person, DPHO)

Theme 5: Reward and punishment mechanism

- Some of the participants discussed the provisions of the reward and punishment system in the dengue control program can increase people's engagement. Moreover, participants suggested that proper supervision and monitoring should be conducted regularly to exercise the reward and punishment.

"There should be a reward system, the locality or tole or house which is surrounded clean and free of larvae should be awarded from the metropolitan.". It should be monitored regularly by a designated person" (FGD, Awareness campaign group)

LESSON LEARNED

Theme 1: Perception of dengue

- The participants' biggest lesson learned from the earlier dengue outbreaks and programs was their perception of dengue. Before experiencing it themselves or through their families, many did not perceive dengue as severe or life-threatening. However, after encountering symptoms such as high fever, weakness, headache, and loss of appetite, and witnessing its impact on themselves and their families, they began to prioritize dengue prevention.

"The first time when I had dengue, I had manageable symptoms like a 100-degree Celsius fever in the evenings. However, during the second time, my platelet count dropped, leading to weakness. It was then that I understood the severity of dengue." (IDI, Political leader (1))

Theme 2: Action during the epidemic

- Many participants felt that dengue program intervention during the dengue epidemic was inadequate. Participants shared their experience of having shortages of medications, unaffordability of dengue testing, and limited support during the epidemic. Participants recommended being proactive during the outbreak and developing the RRT (rapid response team) team during the outbreak. Participants suggested how the community people should be supported during the outbreak,

"Activities such as providing medical supplies, transporting sick individuals via ambulance, and spreading insecticides can be conducted. These efforts can also motivate others. For instance, if someone contracts dengue, receiving psychological support from the team can boost morale and aid in a quicker recovery." (FGD, Awareness campaign groups)

Theme 3: Importance of preventive measures

Another most cited lesson learned was the importance of preventive measures in the dengue program. Participants said that since dengue cannot be treated and has sometimes serious complications, they emphasized government should more focus on prevention.

"Sanitation and awareness programs are vital. However, it is more necessary to train health staff. We must raise public awareness about the importance of cleanliness; without it, sickness would be fatal. To ensure the success of the dengue control program, the public and ward should be made aware and conduct these programs regularly." (IDI, Ward chairman (1))

CONCLUSION

- The study investigated the barriers and enablers for community participation in the National Dengue Control Program in Lalitpur Metropolitan City.
- The findings of this study illustrated an interdisciplinary approach, incorporating public health, environmental science, and social science views. This improves our understanding of dengue control and gives more comprehensive options.
- Involving the community in dengue management has proven beneficial, although there are several possible barriers and enablers found that might impact the outcomes.
- Effective dengue control requires stakeholder ownership, regular communication, clear accountability, and community involvement in decision-making.
- Incorporating dengue management measures into routine schedules, continuously building capacity and strong community involvement approaches are also crucial. Addressing both barriers and facilitators can lead to long-term community engagement in dengue preventive and control operations.
- The multidisciplinary point of view promotes a comprehensive knowledge of the problem, emphasizing the relevance of integrated policies that address public health, the environment, and societal variables.

RECOMMENDATION

- **For Local Authorities**: Increase budget allocation for regular dengue control activities, particularly community-based efforts.
- **For Community Members**: Encourage local leaders to spearhead awareness programs and involve key community figures.
- **For Health Workers**: Enhance training for local health volunteers and improve the rapid response during outbreaks.
- **For Policymakers**: Develop long-term strategies that incorporate community engagement and support sustained dengue control efforts.

- Implement regular outreach programs to increase community awareness of dengue prevention, leveraging culturally sensitive approaches and varied communication platforms to reach a wide range of populations.

- Key operational approaches included developing a dedicated community engagement team, incorporating community involvement into management, and maintaining a strong presence in the local area.

REFERENCES

- Gulber DJ. Epidemic dengue/dengue hemorrhagic fever as a public health, social and economic problem in the 21st century. *Trends Microbiol* 2002; 10: 100–103.
- Sulistyawati S, Astuti FD, Umniyati SR, et al. Dengue Vector Control through Community Empowerment: Lessons Learned from a Community-Based Study in Yogyakarta, Indonesia. *Int J Environ Res Public Heal 2019, Vol 16, Page 1013* 2019; 16: 1013.
- Finkelman J. Innovative community-based ecosystem management for dengue and Chagas disease prevention in low and middle income countries in Latin America and the Caribbean. *Trans R Soc Trop Med Hyg* 2015; 109: 89–90.
- Wong LP, Shakir SMM, Atefi N, et al. Factors Affecting Dengue Prevention Practices: Nationwide Survey of the Malaysian Public. *PLoS One* 2015; 10: e0122890.
- Department of Health Services. Annual Report 2078/79. *FreseniusCom* 2018; 79: 1–168.
- Pandey BD, Costello A. The dengue epidemic and climate change in Nepal. *Lancet* 2019; 394: 2150–2151.
- Suwanbamrung C. Community capacity for sustainable community–based dengue prevention and control: domain, assessment tool and capacity building model. *Asian Pac J Trop Med* 2010; 3: 499–504.
- Nguyen-Tien T, Probandari A, Ahmad RA. Barriers to Engaging Communities in a Dengue Vector Control Program: An Implementation Research in an Urban Area in Hanoi City, Vietnam. *Am J Trop Med Hyg* 2019; 100: 964
- Mitchell-Foster K, Ayala EB, Breilh J, et al. Integrating participatory community mobilization processes to improve dengue prevention: an eco-bio-social scaling up of local success in Machala, Ecuador. *Trans R Soc Trop Med Hyg* 2015; 109: 126–133.
- Pratama IP, Handayani W, Setyono JS, et al. Community capacity building through an alternative approach based on participation in handling dengue hemorrhagic fever (DHF) in Semarang. *J Reg City Plan* 2017; 28: 52–69.
- Horstick O, Runge-Ranzinger S, Nathan MB, et al. Dengue vector-control services: how do they work? A systematic literature review and country case studies. *Trans R Soc Trop Med Hyg* 2010; 104: 379–386.
- Runge-Ranzinger S, Kroeger A, Olliaro P, et al. Dengue Contingency Planning: From Research to Policy and Practice. *PLoS Negl Trop Dis* 2016; 10: e0004916.
- https://reliefweb.int/report/world/disease-outbreak-news-dengue-global-situation-30-may-2024?gad_source=1&gclid=CjwKCAjw6JS3BhBAEiwAO9waF_OeZpLa_bCVw8f29Q0ktvvhDs6BASb8LgUARD6Gj7RsAUZSpBzB2RoCdUEQAvD_BwE

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Date: 08-07-2024

To,
SD Gupta School of Public Health
IIHMR University
Prabhu Dayal Marg, Jaipur, Rajasthan, India

Subject: Letter for completion of Practicum Training

This is to certify that **Mr. Manoj Sigdel**, a student of the Master of Public Health (Implementation Science) program at IIHMR University Jaipur (Session 2022-2024), has successfully completed his practicum training at Anweshan Research Pvt. Ltd.

Mr. Sigdel joined our organization on **22nd April 2023** and completed his training on **1st March 2024.** During this period, he actively engaged in various public health research projects and demonstrated exceptional commitment to his work. His performance was exemplary, reflecting his strong academic background and professional dedication.

Throughout his training, Mr. Sigdel contributed significantly to our projects, showcasing his skills in public health concepts and critical thinking relevant to Implementation Science. His work has been instrumental in advancing our research initiatives and has been conducted with the utmost integrity and professionalism.

We wish Mr. Sigdel all the best in his future endeavors and are confident that he will continue to excel in his career.

Sincerely,
Sanju Maharjan
Programme Manager
Anweshan Pvt. Ltd.

Government of Nepal
Nepal Health Research Council (NHRC)
Estd. 1991

Ref. No.: 1823

24 April 2024

Mr. Manoj Sigdel
Principal Investigator
IIHMR University
India

Ref: Approval of thesis protocol

Dear Mr. Sigdel,

This is to certify that the following protocol and related documents have been reviewed and granted approval through the expedited review process for its implementation.

Protocol Registration No/ Submitted Date	150_2024 22 March 2024	**Sponsor Protocol No**	NA
Principal Investigator/s	Mr. Manoj Sigdel	**Sponsor Institution**	NA
Title	Enablers and Barriers to Engaging Community in National Dengue Control Program in Lalitpur Metropolitan City of Lalitpur District		
Protocol Version No	NA	**Version Date**	NA
Other Documents	1. Data collection tools 2. Informed Consent Form 3. Recommendation letter of Academic Supervisor 4. Approval letter of University 5. Role and responsibilities 6. Conflict of Interest (CoI) 7. Ethics Training Certificate 8. Work plan	**Risk Category**	Minimal risk
Co-Investigator/s	1. Mr. Kshitij Karki 2. Prof. Jagajeet Prasad Singh		
Study Site	Lalitpur Metropolitan City of Lalitpur District		
Type of Review	✓ Expedited ☐ Full Board **Review Date:** 24 April 2024	**Timeline of study** 24 April 2024 to August 2024 **Duration of Approval** 24 April 2024 to 23 April 2025 **This approval will be valid for one year**	**Frequency of continuing review** NA

Tel: +977 1 4254220, Ramshah Path, PO Box: 7626, Kathmandu, Nepal
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Government of Nepal
Nepal Health Research Council (NHRC)
Estd. 1991

Ref. No.: 1823

Total budget of research	**NRs 1,54,300.00**
Ethical review processing fee	**NRs 10,000.00**

Investigator Responsibilities

- If you do not start the project within 3 months of this letter, please contact the Ethical Review M & E Section at NHRC
- Any amendments shall be approved from the ERB before implementing them
- Submit progress report every 6 months
- Submit final report after completion of protocol procedures at the study site
- Comply with all relevant international and NHRC guidelines
- Abide by the principles of Good Clinical Practice and ethical conduct of the research

If you have any questions, please contact the Ethical Review M & E Section at NHRC.

Thanking you,

Dr. Pramod Joshi
Member Secretary

Barriers

Q.1 How do socioeconomic factors such as income levels and employment opportunities influence the community's ability to actively participate in the Dengue Control Program?	• **How does the income level of community members impact their access to resources for participating in the Dengue Control Program?** • **To what extent do financial considerations, such as the cost of preventive measures or medical treatments, influence community participation in the Dengue Control Program?**
Q.2 How do cultural beliefs and social dynamics impact community members' willingness to engage in dengue control measures, as observed by the participants?	• How do traditional practices related to health and well-being impact community members' willingness to adopt modern dengue prevention measures? • Do cultural beliefs contribute to any stigma or fear associated with Dengue within the community? If yes, how?
Q.3 What are the main resource-related barriers that you observe, hindering community involvement in dengue control initiatives?	• Are there any financial or logistical constraints hindering community participation in the program? • Do community members feel adequately equipped with the necessary resources to engage in dengue control efforts actively? • What are your perceptions of the existing policies related to dengue control in Lalitpur Metropolitan City, and how do these policies impact community engagement?
Q.4 What factors contribute to or hinder the community's preparedness to participate in dengue prevention activities?	• Are there barriers to accessing reliable information, and how do they affect preparedness? • What factors contribute to a sense of commitment among community members to participate in dengue control initiatives actively?
Q.5 How do the geography and environmental conditions of Lalitpur Metropolitan City affect the spread of Dengue?	• How do environmental conditions, such as water accumulation and drainage systems, impact the spread of mosquitoes in Lalitpur Metropolitan City? • How do waste management practices within the city impact the availability of mosquito breeding sites? • How does the urban planning and infrastructure of Lalitpur Metropolitan City influence the spread of Dengue?
Q.6 What are the barriers faced at households, community, and institutional levels in implementing prevention and control measures?	• Are there communal factors or dynamics contributing to challenges in coordinating and executing prevention efforts? • How do individual and community behaviors act as barriers to effectively implementing dengue prevention measures? • How do communication and awareness gaps contribute to barriers faced at different levels (household, community, and institutional) in implementing dengue prevention measures?

FGD Questionnaire

Lesson learned

Q.1 Discuss any experiences or observations related to the national dengue control program that have provided valuable insights.

Enablers

Q.1 Can you recall any past initiatives or strategies that have encouraged community members to actively participate in dengue control programs?	• **What factors contributed to the success of these initiatives?**
Q.2 How can communication and awareness strategies be improved to engage community members in the national dengue control program?	• What community engagement approaches could be implemented to promote active participation in dengue control initiatives? • How can empowerment strategies be employed to make community members feel a sense of ownership and responsibility for dengue control?
Q.3 How important is it to make dengue control strategies in the local context, and what considerations should be considered?	• Can you provide insights into how cultural, social, or economic factors might influence the effectiveness of strategies? • How can community leaders play a pivotal role in encouraging participation in the national dengue control program?
Q.4 What role can education and training programs play in enhancing community understanding and participation in dengue control measures?	• Are there specific areas where community members lack understanding that could be addressed through education? • How can education and training programs be tailored to different demographic groups within the community?
Q.5 How do you (community members) perceive the government's commitment to dengue control?	• Are there existing policies that support or hinder community engagement? • What role do local authorities play in facilitating community engagement?
Q.6 In your opinion, how can the national dengue control program adapt its strategies to account for geographic and environmental diversity within Lalitpur Metropolitan City?	• How can the dengue control program involve local communities in developing and implementing environmental solutions tailored to their geographic context? • In your view, how can the dengue control program foster partnerships with local organizations, authorities, or community groups to address geographic and environmental diversity?
Q.7 Overall, what changes can be made in current prevention and control strategies of Dengue to engage community people to sustain and feeling of ownership of the program?	

Barriers (IDIs)

Q.1 In your perspective, what are the major obstacles preventing community involvement in the national dengue control program?

- How do you perceive the level of awareness within the community regarding the seriousness of dengue?
- In your opinion, does the community consider dengue a significant health threat, and how might this perception impact their involvement in control programs?
- From your perspective, how effectively is information about the national dengue control program communicated to the community?
- Are there specific channels or methods of communication that you believe would enhance community understanding and engagement in dengue control efforts?
- In your perspective, what are the key resources (financial, human, or material) that the community lacks for active participation in dengue control initiatives?
- How do you think enhancing resource accessibility could contribute to increased community involvement?
- From your viewpoint, how successful are current strategies in empowering the community to actively participate in dengue control measures?
- In your perspective, to what extent do cultural beliefs or social dynamics act as barriers to community engagement in the national dengue control program?
- Can you identify specific cultural or social factors that may hinder community involvement?
- How do you perceive the effectiveness of current dengue control measures implemented at the community level?

Q.2 Can you share specific instances or examples of community challenges in engaging with dengue control initiatives?

Enablers (IDIs)

Q.1 Explore the participants' thoughts on potential solutions or facilitators that could enhance community engagement in the dengue control program.

- In your opinion, what educational initiatives could be implemented to enhance community awareness about dengue and its control measures?
- Are there specific topics or information that you believe should be emphasized to motivate community members to actively engage in the dengue control program?
- From the participant's perspective, what communication channels or strategies could be employed to effectively convey information about the dengue control program to the community?
- Are there innovative or culturally relevant communication methods that might resonate better with the community?
- How can resources (financial, manpower, tools) be better mobilized to support community involvement in dengue control initiatives, according to the participant's viewpoint?
- Are there potential partnerships or collaborations that could enhance resource availability for community engagement?
- In the participant's view, what strategies can empower the community to take an active role in dengue control efforts?
- Are there specific participatory approaches or involvement mechanisms that could be implemented to encourage sustained community engagement?
- How can the dengue control program be adapted to be more culturally sensitive and inclusive, based on the participant's insights?
- Are there cultural nuances that, if considered, could enhance the program's acceptance and active participation within the community?
- According to the participant, what feedback mechanisms or platforms could be established to gather continuous input from the community on the effectiveness of dengue control measures?
- How might incorporating community feedback contribute to sustained engagement and improvement of the program?

Lessons Learned:

Q.1 Reflect on specific lessons or insights from the national dengue control program.

How do you envision applying these lessons to improve future public health initiatives and community engagement strategies?

FIELD WORK


Thank you