

## COMMUNITY PARTICIPATION IN DENGUE PREVENTION ACTIVITIES IN THE KALMUNAI REGIONAL HEALTH SERVICES AREA, SRI LANKA

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### ABSTRACT

*Dengue is one of the most critical public health hazards which has made severe impacts in the recent past in Sri Lanka. The Government of Sri Lanka (GOSL) is very keen on implementing many programmes and policies to control and prevent Dengue. Thus, community participation is one of the key strategies which is keenly followed by the government in the successful Dengue prevention activities. Even though, Dengue has been a contested health hazard in the recent past, and number of preventive measures have been implemented by the government to control Dengue, the expansion of Dengue hazard is still obvious and the impacts also severe and wider. Many people have been victimized in terms of hospitalization and death in the island and numbers of people have been affected by Dengue in the Kalmunai Regional Health Services (RDHS) area. Therefore, this study is significant as it explores why community participation, as a Dengue preventive measure, could not be effective in the Kalmunai RDHS area, even though the RDHS has been equipped with technical and human resources. The main objective of the study is to assess the level of community participation in Dengue prevention in the Kalmunai Regional Health Services (RDHS) area, and to identify factors affecting community participation in Dengue prevention, and to understand how villagers reacted to Dengue prevention activities. The information and data for this research have been gathered from a desk analysis and a field survey (interview, questionnaire, and Focus Group discussions). Data have also been collected from structured interview with key informants. Secondary data have been gathered from Divisional Secretariat, RDHS and MOH records, books, publications, journal articles, e-sources, previously conducted research and reports, and other relevant documents. Through data analysis, this study found that the community participation in Dengue prevention activities could not be effected in Kalmunai regional health services area, and further, this study found that there are many factors affecting community participation in dengue prevention programs in the Kalmunai region. The carelessness in community health, lack of social capital, lack of community ownership and individualism, challenges of gender equity in terms of cultural barriers or restrictions and expecting money are the key factors identified as reasons for their poor participations in dengue prevention in the area of research.*

Key words: Community Participation, Dengue, Prevention measures, community ownership

### Introduction

Dengue is one of the most critical public hazards which has made severe impacts in the recent past in Sri Lanka. Dengue, an arboviral infection, has emerged as a serious public health problem in several regions in the island. From January to September 2009, Dengue patients numbering 25,301 have been reported and hospitalized throughout the country and 249 patients have died due to this disease (Peiris, 2009). Many people have been victimized in terms of hospitalization and death in the island and numbers of people have been affected in the Kalmunai Regional Health Services area. From 2006 to 2010, dengue patients numbering 1109 have been reported all over the region. And in 2010, 650 cases were reported and 07 patients have died due to this disease in the Kalmunai RDHS area (Regional Epidemiologist, RDHS, Kalmunai - 2010).

The Government is very keen on implementing many programs and policies to control and prevent Dengue. Thus, community participation is one of the key measures which is keenly followed by the government in the successful Dengue prevention activities. Many activities have been implemented in eradicating dengue with the participation of the public. And these activities have been planned to implement in-collaboration with the Ministry of Health, government hospitals and the Medical Officers of Health (MOH) divisions in the island-wide.

Community participation is an important component of disease prevention activities. The term 'community participation' refers to "... the active voluntary engagement of individuals and groups to change problematic conditions and to influence policies and programmes affecting the quality of their lives or the lives of others" (Reid, 2000). Charles Abrams defines community

participation as, “the theory that the local community should be given an active role in programmes and improvements directly affecting it. Thus, it can be applied that community participation in the dengue prevention activities in Sri Lankan context.

Kalmunai RDHS has been playing pivotal role in controlling and preventing Dengue in the areas coming under its purview. There are thirteen (13) MOH offices come under its authority. The RDHS has been functioning within the region in order to control Dengue by accelerating the community involvement as the key preventive measure. Therefore, this research is aimed at understanding the level of community participation in controlling or preventing Dengue in the region.

**Research Problem**

Even though, Dengue is being contested health hazard in the recent past, and number of preventive measures have been implemented by the government in the recent past to control Dengue, the expansion of Dengue hazard is still obvious and the impacts also severe and wider. In this study, researcher will pay special attention as to why Community participation could not be effective, as a Dengue preventive measure in the Kalmunai Regional Health Services area, even though the RDHS has been equipped with technical and human resources.

**Objectives**

The main objective of the study is to assess the level of community participation in Dengue prevention in the Kalmunai RDHS area. The following objectives are the specific objectives of this study: (1) to identify factors affecting community participation in Dengue prevention programmes and (2) to understand how villagers reacted to Dengue prevention activities

**Research Design and Methods**

The information and data for this research have been collected from primary as well as secondary sources. Primary data have been collected mainly from questionnaire survey, key-informant interviews and Focus-Group Discussions (FGDs). Two hundred questionnaires have been distributed, based on simple random sampling method covering the Thirteen MOH areas in the Kalmunai RDHS. The data have also been collected from structured interview with key-informants. The following groups of people have also been interviewed; *Medical Practitioners – 04, Medical Officer of Health (MOH) – 13, and Health officers from RDHS – 03.*

In addition, at the village level, data have been gathered through two (2) focus group discussions (FGD) with the participation of local people, social activists and health workers. These FGDs have been conducted using a number of participatory data collection instruments adopted from Participatory Rural Appraisal (PRA). Secondary data have been collected from Divisional Secretariat, RDHS and MOH records, books, publications, journal articles, e-sources, previously conducted research and reports, and other relevant documents.

**Table 1.1: Method and techniques of data collection**

Type of Data	Methods	Techniques/instruments
Quantitative	Desk studies Surveys	Secondary data Household Questionnaire
Qualitative	Interviews and Discussions	Key informant interviews Focus Group Discussions (Rankings group dynamics)

The computer software SPSS is also used for processing and analyzing data.

**Literature Review**

It is very important to construct the review of the relevant literatures which are related to this study. Julia Rosenbaum et al. who have carried out a research on “Community participation in Dengue prevention and control: A survey of knowledge, attitude, and practice in Trinidad and Tobago”. It paves clear indication of the need for broad-based environmental sanitation strategies when

planning community-based vector control initiatives for the prevention and control dengue in Trinidad and Tobago. So, the consideration of research area comes under researchers' conscience.

Lynn M. Morgan (2001) in his review article 'Community participation in health: perpetual allure, persistent challenge', published by the Oxford University Press (Health Policy and Planning; 16(3): 221-230). He explains the recent trends and debates concerning the concept of community participation in health, focusing on new ideas that were added to the debate during the 1990s, and focusing specifically on examples from Latin America. Participation is divided into two as utilitarian and empowerment model in this paper. One is the utilitarian effort on the part of donors or governments to use community resources (land, labor and money) to offset the costs of services. On the other hand, participation is defined as an empowerment tool through which local communities take responsibilities for diagnosing and working to solve their own health and development problems. This research aims to study how the concept has been analyzed by Anthropologists and other social scientists, and by epidemiologists, health service managers and policy makers, but did not consider how to use community participation as a tool to prevent dengue in the context of research area.

Lenita Barreto Lorena Claro et al. have contributed to the qualitative study on 'Community Participation in Dengue Control in Brazil', which was published in 2006 (Dengue Bulletin, 2006: Volume -30). The paper shows that the information strategies have not determined effective behavioral changes in the community structure regarding the elimination of household mosquito breeding sites. This study reveals the lack of intersectional coordination between local and biomedical agencies dealing with health/disease and household sanitation, and it highlights the difficulties in avoiding larval infestation in urban areas with poor water supply and sanitation services. Community-based approaches have been applied for that research to study dengue control in Brazil. Finally, this research has highlighted the fact that the promotion of bonds between communities and health services should be an ongoing effort, rather than reserved for dealing with dengue epidemics, and health agencies and communities can together decide upon and implement more feasible and effective measures for dengue prevention and control. So, this study was carried out based on dengue situation and controlling mechanism of Brazil in that period, but not concentrated on dengue control or preventive measures implemented in Sri Lanka, especially Kalmunai RDHS area which comes under the present research.

Another literature taken into account for this study is 'Towards active community participation in dengue vector control: results from action research in Santiago de Cuba, Cuba', carried out by M.E. Toledo, M.E., et al. The study was conceived as quasi-experimental and the actual intervention phase conducted over a 2-year period (2001-2002). It has found that the community participation is advocated as essential for attaining effective dengue prevention, but knowledge of how to foster this is limited, and In Cuba, the program for *Aedes aegypti* eradication is vertically organized and the population co-operates with environmental sanitation activities. This study has highlighted the need to involve the community actively in dengue control and to build partnerships between the community, primary health care staff, vector control staff and governmental intersectional bodies. In this study, it clears the fact that the population showed adequate knowledge of dengue and its vector, but had completely transferred the responsibility for vector control to the health sector. Furthermore, community leaders did not apply the concept of 'bottom up community participation' and did not master techniques to foster it. So, to achieve social mobilization and wide community participation in dengue control, it can be designed an intervention that built an alliance between primary healthcare staff and the communities they serve. So, it completely looks the situation of dengue, community participation in dengue control and intervention strategies within the context of Santiago de Cuba, Cuba, not focusing on any region in Sri Lanka, though the expansion of dengue is still obvious throughout the country.

Cheung and Fok carried out a research on "Dengue vector surveillance and control in Hong Kong in 2008 and 2009" which was published by the World Health Organization in 2009 (Dengue Bulletin - Volume 33, 2009). This article basically enlightened based on the dengue vector surveillance programs which were implemented in the community and port areas in Hong Kong special administrative regions. It highlights as Aegypti, the important vector for the transmission of dengue fever and yellow fever. However, it is not detected in all the areas covered by the community and port surveillance programs. In this article, the presence and distribution of the dengue vectors, the effectiveness of dengue vector control work carried out by various agencies, and dengue vector control strategies and measures in Hong Kong 2008 and 2009 have been realized by authors. So, it is found that the active participation of the government, local organizations and the public at large was the key to success in controlling the dengue vector and, the timely release of the results of dengue vector surveillance to all parties concerned through the Geographic Information System (GIS) and to the public by press releases facilitated prompt remedial actions on vector control, and health education for sustaining public participation in the prevention and control of the vector continued to be one of the key elements in the mosquito prevention program. So, this article has covered the community and the port areas, particularly in Hong Kong, but, it did not deal with any dengue circumstances in Sri Lanka, especially the Kalmunai RDHS area which is coming under this research.

Many studies have been conducted on the basis of community participation in relation with disease prevention activities, especially dengue prevention initiatives. In Sri Lanka, there were many researches have been done based on dengue prevention actions, but many of them are not related with community participation as a prevention strategy to prevent and control dengue, especially in the Kalmunai RDHS area. Therefore, this study has been undertaken by the researcher to fill this gap.

## Results and Discussion

Before understanding the dengue prevention activities of all MOHs in Kalmunai RDHS, It can be given the past experience of Dengue in the region from 2006 to 2010, which helps the researcher to evaluate the preventing programs as well as the community participation. And also these data will attempt to illustrate the growth rate of affected dengue cases reported to the Epidemiology unit from different areas in different number.

**Table 1.2 Dengue Situation by MOH area in Kalmunai RDHS (2006 - 2010)**

MOH Area	2006	2007	2008	2009	2010
Kalmunai South	07	01	05	103	105
Kalmunai North	04	00	01	116	173
Sainthamaruthu	03	01	11	17	19
Karathivu	02	00	01	31	157
Nintavur	15	00	03	13	14
Addalaichenai	06	01	02	18	39
Akkaraipattu	05	01	02	10	59
Alaiyadivembu	02	00	00	02	16
Thirukovil	01	00	00	00	05
Pottuvil	00	00	01	01	01
Sammanthurai	01	00	05	47	50
Navithanveli	00	00	03	13	24
Irakkamam	0	00	00	02	02
<b>Total</b>	<b>46</b>	<b>04</b>	<b>34</b>	<b>373</b>	<b>664</b>

**Source:** Regional Epidemiologist, Regional Directory of Health Services, Kalmunai.

The above table 1.2 shows the dengue cases reported to the Kalmunai Regional Epidemiologist from thirteen MOH in the coastal belt of Ampara District, Sri Lanka. These data clearly displays the conditions prevented during the period of five years from 2006 to 2010 and it includes death and the affected cases respectively. According to the above information, the highest numbers (173) of dengue cases were reported from Kalmunai North MOH area and very low number (01) of dengue case was reported from Pottuvil MOH area during the last 5 years from 2006 to 2010. The death cases of dengue were also reported in Kalmunai region, particularly in the year 2009 and in 2010. The following data (Table 1.3) shows the detail of reported and death cases comparing with national reports.

**Table 1.3 Number of Cases and deaths in Kalmunai RDHS (2009 - 2010)**

No. of Cases	2009		2010	
	Kalmunai	National	Kalmunai	National
No. of Cases	373	35007	664	34105
No. of Death	07	346	07	246
Incident Rate	8.6	--	--	--
CFR	1.87	0.99	1.05	0.72

**Source:** Regional Epidemiologist, Regional Directory of Health Services, Kalmunai.

According to the Regional Epidemiology report, 14 death cases were reported in Kalmunai region from 2009 to 2010. On the other hand, numbers of dengue preventive measures have been carried out by 13 MOH offices in Kalmunai region. There are some key preventive measures made and followed up by all MOHs in the region as follows;

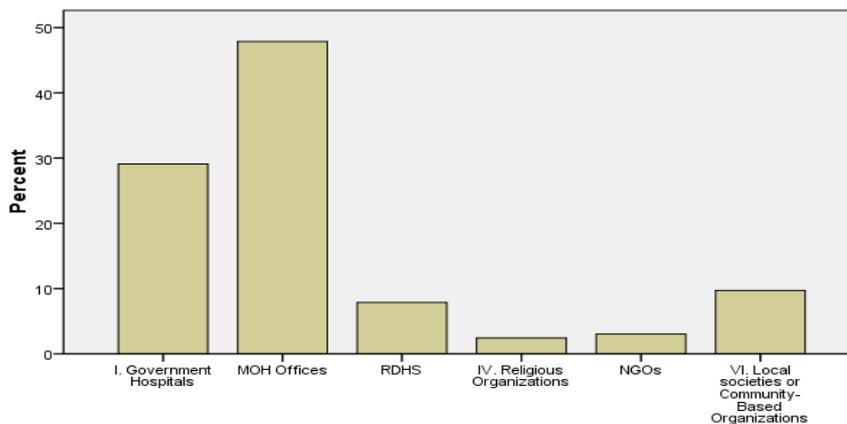
1. Awareness programs: to school children, and public at various levels through many different efforts like street drama, road rally and etc.
2. Cleaning campaign and Shramadhana activities with the participation of students, teachers, government officers, and volunteers, people from local government bodies and health sectors as well as few of the people of local community.

3. House to house inspection and issuing handbills and leaflets, public announcements and other relevant actions were taken, especially during the National Dengue Week and National Mosquito Control week.
4. Fogging / spraying DTI chemicals to the breeding sites and highly affected areas were identified by the Public Health Inspectors.

These strategies were done by 13 MOH divisions in Kalmunai region to control dengue successfully. To implement all these activities, the dengue supervisions are continuously made under the coordination of RDHS, Kalmunai, Sri Lanka.

Making efforts to prevent the Dengue is a massive social responsibility which should be taken into the account by every citizen of the society. Then only we can reach a healthy nation. One country's development depends on health of that particular country. As a result of this when the development is measured the disease prevention has been considered. There are various organizations offering their service in the prevention of Dengue in the Kalmunai regional health services area. The following table shows as to which of these organizations offer their service as to what level they render services in Dengue prevention activities in this region.

**Chart: 1.1 Institutions Motivates Dengue Prevention in Kalmunai RDHS Area**



N = 170

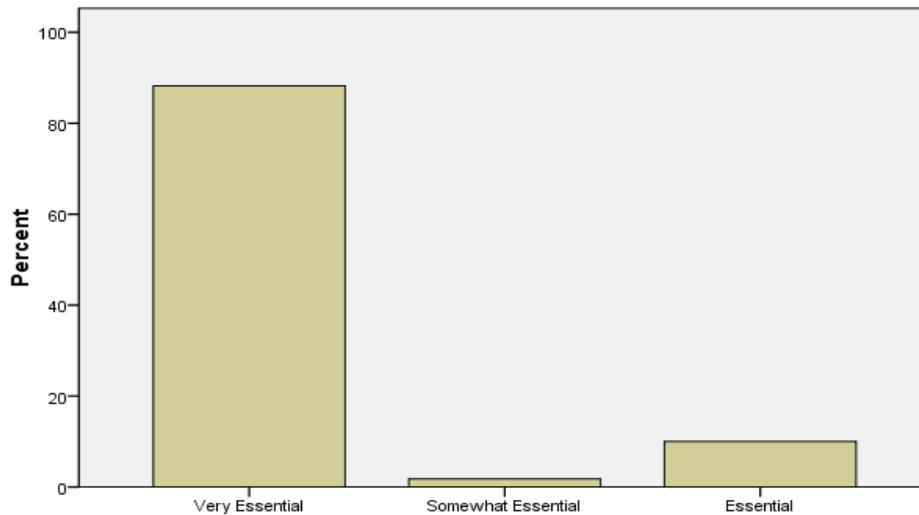
Source: Survey data, 2011

According to the above chart, Office of the Medical Officer of Health and government hospitals provide the high level of contribution on prevention of Dengue in the kalmunai RDHS region. In general 46.5% of Dengue prevention measures were done by the Office of the Medical Officer of Health, 28.2% of the contribution by government hospitals, local societies and community based organizations have contributed 9.4%, regional health centre 7.6%, while non-government organization have done 2.9%, religious organization have done 2.4% accordingly.

In fact, any kind of program's success depends on the average of community participation. If any preventive program is implemented by government or non-government organization, the Dengue prevention measures will not be success without a community participation in any society. Therefore it is clear nowadays that service providers on dengue prevention such as Health Ministry, Local Government Agencies, MOH, RDHS and so on have been realized the importance of community participation in dengue prevention activities.

Despite the fact that community participation is essential in Dengue prevention measures, in the research area, public participation is at the low level comparatively which is found as the main factor in spreading the dengue in coastal villages, especially in Kalmunai RDHS area in Ampara district. On this basis, in the questionnaire analysis, 24.7% of people say that the best strategy to prevent Dengue is community participation. At the same time, according to the following data analysis, most of the people have been realized the importance of community participation in Dengue prevention activities. People of Kalmunai region have gained the knowledge on the concept of community participation, and they agreed that community participation is an important phenomenon in Dengue prevention programs. There is evidence of such a position, by the following table.

Chart: 1.2 Community Participation as Dengue Prevention Measure



N = 170

Source: Survey data, 2011

The chart 1.2 clearly displays the importance of community participation in Dengue prevention activities in the Kalmunai RDHS area. While 82.2% of people say that Dengue prevention is essential, 10% of people say that community participation is very important in Dengue prevention strategies. But 1.8% of people say that community participation is important in some cases. All in all, 98.2% of people in the research area have been realized the necessity of the community participation in Dengue prevention programs. .

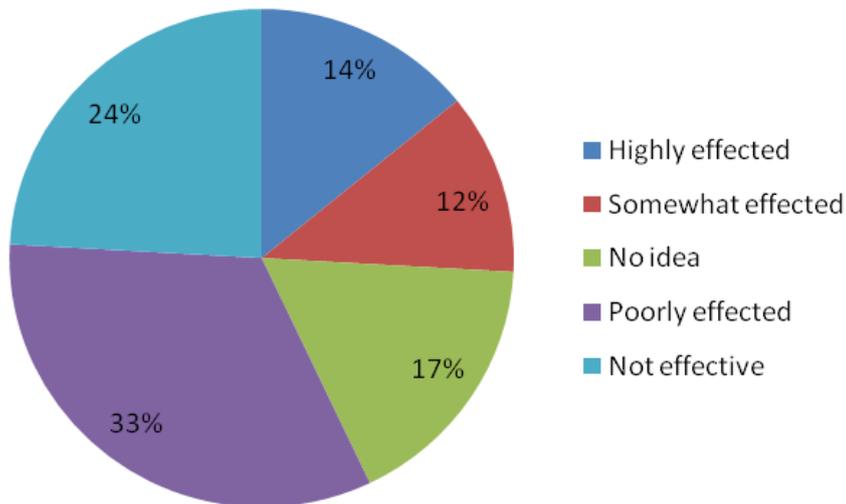
This research basically focuses on community participation; particularly it aims to analysis how community participation efficiently uses as key mechanism in Dengue prevention activities. Therefore, it is important that the village people in the study area have known the importance of Dengue prevention, which an appropriate indicator to analysis the above objective. Because, in common, village people who should have knowledge at least about Dengue or Dengue prevention programs, then only it can be examined easily about the Dengue preventive measures, what level of knowledge and experience they have, and to understand how much they awared on Dengue in their local areas. So, it is very important to highlight the fact that the local people in the research area are having sufficient knowledge in Dengue disease and the awareness programs which were carried out by various organizations.

Further, it can be pointed out that the people in Kalmunai regional directory of health services area have obtained adequate knowledge on community participation. Since the key objective of this study is to assess the level of community participation in Dengue prevention activities, the field survey data have gathered and analyzed throughout this research. Based on the survey data (above chart: 1.2), the 98.2% of people agreed that the community participation is very much essential in Dengue prevention actions. People have scared and very much fearful of Dengue, because it is a serious health issue which have caused many deaths, chronic diseases and other infections in every part of the island, especially in the study area.

In addition to this, it is very important to points out the fact that the children, elders and pregnancy mother are more vulnerable to this disease. Because the local people in the Kalmunai RDHS region have been realized that the effect of the Dengue were very high among the above mentioned groups, they are always ready to get-rid of Dengue from the region in order to keep better social health. Therefore, the village people from kalmunai RDHS welcome and furnish their fullest support morally to the service providers on Dengue prevention such as MOH offices, government hospitals, local government authorities, volunteer organizations, community-based organizations and other civil society organizations.

Even though, they provide moral support to the service providers, it is still questionable by researcher how far they have actively participated in the Dengue prevention programs in the research area. The data analysis (sample testing) highlights the efficiency of community participation in Dengue prevention activities. The following chart 1.3 illustrates the effects of community participation in Dengue prevention activities in Kalmunai RDHS area in various ranges.

Chart: 1.3 Effects of Community Participation in Dengue Prevention



N = 170

Source: Survey data, 2011

According to the above chart 1.3, it can be quoted that only 14% of the people indicated the level of community participation has been very high in Dengue preventive programs in the study area, while 12% of people have highlighted as low level community participation received for controlling Dengue. But, 33% of local people pointed out that the efficiency of community participation in Dengue prevention has been very low, while 24% of people have agreed that the community involvement has not been efficient in any kind of Dengue prevention initiatives. The efficiency of community participation in the research area has not sufficiently helped to prevent the Dengue in order to make successful Dengue prevention programs. Because, any sort of disease prevention programs will not be successful without the engagement of local community and its active contributions. Therefore, while only 26% (14 % and 12%) of people have agreed that the community participation was efficient in Dengue prevention, the 57% (33% and 24%) people responded that the community participation in Dengue prevention activities in the Kalmunai region was not sufficiently effective in the same method of activity. So, the community participation approach was not successfully received as Dengue preventive measure in the study area as it was expected by health service providers at higher level.

The spread of Dengue has been reducing in all 13 MOHs divisions in Kamunai region. But, it has been realized that the community participation was not the reason for the reduction of Dengue. Meantime, although people who were well-aware of Dengue and its seriousness, they have not taken it in to their considerations that it is our responsibility to prevent, and participate in the preventive actions that leads by the service providers on Dengue. As a result of this, it has been stated that the community participation in Dengue prevention programs in Kalmunai region at very poor level.

*A key informant interview was made with Dr. S. Ahilan, MOH of Alayadivembu division quoted that "the death rate and the affect of Dengue in Alayadivembu division is comparatively lower than the other MOH divisions in Kalmunai region. Anyhow, we keep on implementing Dengue prevention programs in order to protect people from Dengue hazard. And, Dengue prevention is not successful without community participation, but in general, the local people have few attentions on engagement of Dengue prevention. Especially, in the Alayadivembu MOH area, according to my experience that 30-40% of community participation has been received in Dengue prevention programs accordingly".*

The community participation has not been practicing in the rest of 11 MOH divisions as it is in practice in Alayadivembu MOH division (30-40%). The Alayadivembu and Navithanveli MOH areas are connected with small number of villages and it is very easy to have awareness and to mobilize the people in the Dengue prevention activity. In both MOH divisions (Alayadivembu and Navithanveli), the village people have community ownership and other communal responsibilities more than the other developed or semi-urban and suburb areas in the Kalmunai RDHS zone. At the same time, although there are number of Dengue prevention programs implemented by many organizations, community participation was not successfully received in rest of the MOH areas such as Kalmunai North, Kalmunai South, Sainthamaruthu, Karaitivu, Nintavur, Addalaichenai, Akkaraipattu, Thirukovil, Pottuvil, Sammanthurai and Irakkamam. It is important to point out that the institutional arrangements were only helpful for controlling the spread of Dengue in the study area but community participation.

The following institutions have contributed mainly to prevent the Dengue from society. .

- Kalmunai Regional Directory of Health Services
- Offices of the Medical Officer of Health
- Pradesiya Sabhas
- Divisional Secretariats
- Hospitals
- Schools
- Religious Organizations
- Community-Based Organizations
- Non-governmental Organizations
- Other Civil Society Organizations

It is found that the aforementioned service providers' contributions and operations were highly effective and helpful for controlling the spread of Dengue in the region. And it can be pointed out that there is a possibility to increase the communicable disease in an area due to the lack of community participation and awareness. On this basis, the Sammanthurai and Santhamaruthu MOH areas have been identified as highly endemic areas of Dengue in the region during the period from January to December 2012. While 317 cases were reported and 3 deaths occurred in the Kalmunai RDHS area, an approximately 182 cases were reported in Sammanthurai MOH division. For this sudden increase of Dengue cases, it has been identified that lack of community awareness is the main cause so that it should be promoted by the organizations with the help of local community.

At the interview with Regional Epidemiologist of Kalmunai RDHS, Dr. A.L.M. Mihlar has said that;

*“In Kalmunai RDHS region, the community participation in the communicable disease like Dengue and Malaria was very few in earlier and now the people’s participation is little increased compared to the earliest situation. In general, the spread of Dengue has been reduced in the country up to 2011 due to the actions taken from 2006. In fact we cannot say that the community participation had led to reduce the spread of Dengue in the country. But, the people who somewhat involved in the Dengue prevention activities in Kalmunai (North), Kalmunai (South), Karaitivu and in Navithanveli MOH divisions, particularly the retired principals and teachers also have involved in such preventive programs partially. But, the involvement of youth was inadequate; meantime the people normally can support us when we go for house-to-house inspection with the support of military forces and police. At present, the level of community participation in Dengue prevention has been decreased suddenly in local areas coming under Kalmunai RDHS. The community participation is normally happening as temporary or situational effort but it should be promoted as a continuous and effective process among all MOH areas accordingly”.*

It is important to assess the level of community participation in Dengue prevention programs carried out by all 13 MOH divisions in the Kalmunai RDHS area. The following table (4.7) illustrates the actual stage of community participation in Dengue prevention activities in the research area.

**Table: 1.4 Level of Community Participation in Dengue Prevention in the Kalmunai RDHS area**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very high	26	15.3	15.3	15.3
	High	29	17.1	17.1	32.4
	No Idea	25	14.7	14.7	47.1
	Low	62	36.5	36.5	83.6
	Very Low	28	16.4	16.4	100.0
	<b>Total</b>	<b>170</b>	<b>100.0</b>	<b>100.0</b>	

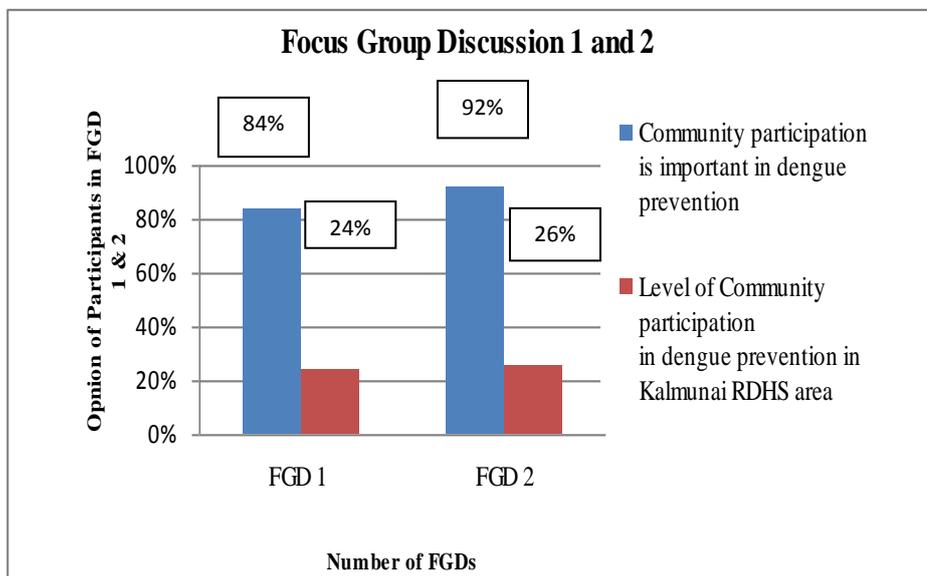
N = 170

Source: Survey data, 2011

The above table 1.4 elucidates the fact of the level of community participation in Dengue prevention in the Kalmunai region. According to the above data analysis, while 15% of people are of the view that the community participation level has been very high, 17% of people have stated that the level of community participation in Dengue prevention has been high. The 37% of people have responded that the community participation has been low and 16% of people have quoted that the community participation level has been very low in the study area. In the meantime, the 15% of people were not agreed none of the statements. In fact it has been realized that the level of community participation is very poor, which is the main cause for increasing and spreading of Dengue in Kalmunai RDHS area as whole.

Two focus group discussions also were conducted for gathering primary information from the local people relevant to the community participation and Dengue prevention in order to analyze the level of the local people’s participation in Kalmunai region. Based on two focus group discussions, there are mainly two facts that have been analyzed. One is the knowledge on community participation for Dengue prevention, and other one is the involvement of village people and their reactions to the Dengue preventive programs implemented by the services providers.

**Chart: 1.4 Level of Community Participation in Dengue Prevention in Kalmunai RDHS area**



The first focus group discussion was attended by 9 participant including Public Health Inspector (PHI), Grama Niladhari, Village people, retired principal and teachers who have expressed their point of view in terms of community participation in Dengue prevention activities. Through out the discussion, it has been noted that the 84% of people in the research area have realized and understood the fact that the community participation is very much essential in Dengue prevention activities. Meanwhile, it has been computed that only 24% of people are found involving in the Dengue prevention activities in the research area.

The second focus group discussion conducted with participation of 8 people including representatives from rural development societies, community-based organization and religious organization and member of Pradesiya Sabha in the study area. In this discussion, the participants were asked to point out their views on Dengue, the importance of Dengue prevention and the community participation in Dengue prevention programs. According to the participants in this discussion, it has been pointed out that 92% of people have understood the necessity of public participation in Dengue prevention activities. But, only 26% of people have involved in the Dengue prevention programs that were implemented by various organizations up to now in the Kalmunai RDHS area.

Based on the above two focus group discussions, it can be finger out that even though 88% of people in the research area have realized and understood the importance of community participation in Dengue prevention activities, only 25% of people are involved in the Dengue prevention initiatives.

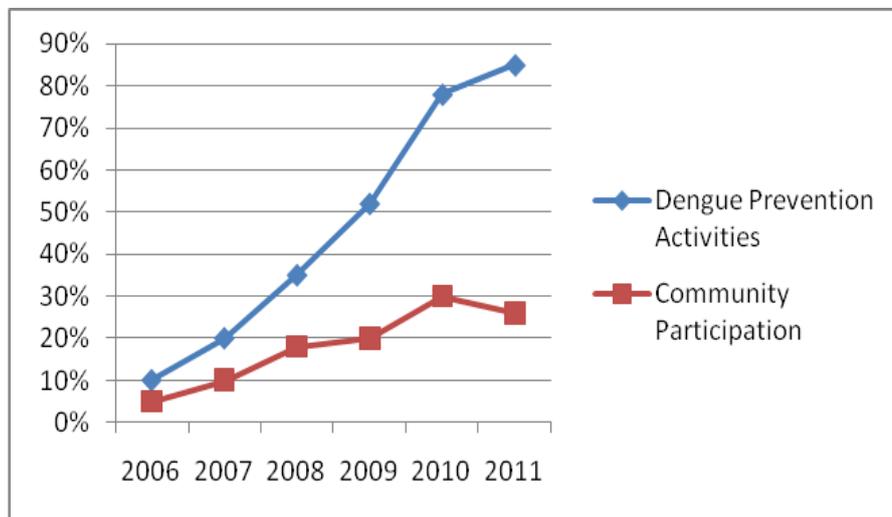
It has been identified that the Dengue has not been completely eradicated yet from Sri Lanka as well as in the Kalmunai RDHS division. There are many Dengue prevention strategies such as awareness program, disbursement of awareness rising materials, house-to-house inspection, screening the banners with public message, punishment or legal action taken for the unclean households and etc., have been implemented by the Ministry of Health, Regional Directory of Health Services (RDHS), Offices

of the Medical Officer of Health (MOH), local government authorities, schools, hospitals, community-based organizations and so on in various spectacles.

In addition to the aforementioned strategies or mechanism, every citizen of the country or every member of the society should have the responsibility or the social obligation to participate voluntarily in all kinds of communal works like disease prevention, development, environmental protection and disaster management etc. The Dengue is a serious public health issue which should be eradicated with support of the people in society. The Dengue is a kind of communicable disease, since it is a social phenomenon which is brought to the community as a result of the behavior of every individual in the family, group and society. In the meantime, the social problem should be handled by the community, therefore, people need an attitude changes to understand this aspect and to make behavioral changes in order to involve voluntarily in any kind of public related actions.

Even though the people have understood the community participation is a must in the Dengue prevention activities, their practice and reactions towards the prevention of Dengue is not healthy enough. Every year particularly from 2006 to 2011, the Dengue prevention programs have been increased in Kalmunai RDHS area, though the sufficient Dengue prevention programs carried out in the research area in a satisfactory level, the nature of community participation was very slow and not effective which is the key challenges identified throughout this study in order to make the above programs a success and noteworthy. The following chart 1.5 demonstrates the above statement.

**Chart: 1.5 Correlation between Dengue Prevention and Community Participation**



The above chart (1.5) shows the growth of the Dengue prevention actions from 2006 to 2011 respectively. And it exemplifies the different ratio of the institutional activities of Dengue prevention which has scrutinized as observable in the year 2006: 10%, 2007: 20%, 2008: 35%, 2009: 52%, 2010: 78% and in 2011: 85% accordingly. During the same period, the community participation in that prevention initiatives was not received satisfactorily as indicated by the above chart as in the year 2006: 5%, 2007: 10%, 2008: 18%, 2009: 20%, 2010: 30% and in 2011: 26% consequently.

Even though the progress of Dengue prevention programs was increasing gradually, particularly from the year 2006 to 2010 in the Kalmunai RDHS area, it is necessary to point out the ratio of Dengue prevention program which was suddenly reduced especially during the year 2011 comparatively. Because the service providers especially health institutions realized that the spread of Dengue had been controlled in the Kalmunai RDHS area during the same period. In the meantime the local people also were not incorporated with Dengue prevention actions. As a result of this, the Dengue was highly spread in 2012 in the Kalmunai Regional Health Services area, especially in Sammanthurai MOH area, there were 182 Dengue cases reported unexpectedly in the same year (Regional Epidemiologist, RDHS, Kalmunai- 2012), and this area also has been identified as highly endemic by Dengue in the national level. So, this incident has proved the fact that the communicable is disease increase due to the lack of community awareness and participation in the preventive programs.

The valuable contribution of the Kalmunai Regional Directory of Health Services and the role played by the all 13 MOH offices coming under the supervision of RDHS, are praiseworthy in Dengue prevention. In addition to that, the other service providers such as local government authorities, schools, hospitals, community-based organizations, religious institutions, voluntary organizations and civil movements have contributed relatively to prevent Dengue in Kalmunai region. In order to strengthen their valuable contribution more the community participation was needed, but it could not be received satisfactorily as it was expected.

Today, the government and non-governmental organizations have realized that the community participation is a must for implementing and succeeding any kind of programs or plan such as rural development, educational and health service, transport and other infrastructural development in the society. Particularly, the community participation considered as an important component of the Millennium Development Goals (MDGs) and it was found that the community participation can be used as a key tool for achieving sustainable development as well. In this scenario, protecting people from diseases, especially from communicable diseases, is one of the important aspects in the contemporary society. The public health problems or diseases like Dengue which bring many challenges to the people and it should be annihilated by the community. The community participation is essential for solving any problems related to the society. Although there are a number of Dengue prevention programs that were implemented by many health related service providers, the community participation could not be effective in such programs. Even though many programs targeted towards the community engagement in order to make the program successful, the nature of the community involvement was not gained as they planned in the Kalmunai RDHS area. Generally, it has been found that when any kind of community-based programs is implemented in the research area, most of the programs lead by the institutions and the stockholders of the relevant authorities, without any involvement of local people which should be promoted in order to make their better participation in communal efforts.

According to the findings derived from primary and secondary data analysis, it can be concluded that the community participation, as a Dengue preventive measure, could not be effective in Kalmunai RDHS area due to the social, economic, cultural, environmental, psychological aspects and the institutional setup currently prevailing in the research area. There are many factors that have influenced the community participation in Dengue prevention programs. The attitude, believes, cultural barrier or restriction, nature of social structure and material thinking have been identified as major factors that have restricted the participation of local people in Kalmunai region. Further, the following substances also have been identified as the key issues in the study area.

- Dengue prevention activities did not reach the grass-root level at all times.
- Lack of community ownership and social responsibilities among village people in the area of research.
- Individualism and the feeling of exclusion from the main stream of social events and in the communal duties.
- The local people are expecting money for their societal attachment out of their works and their domestic chores.
- Challenges for keeping the gender equity in any kind of social works due to the cultural barriers and religious restriction they follow.
- Awareness programs and other Dengue preventive actions were carried out mainly by the organizations related to the health services, not by other institutions as whole.
- Lack of social capital in terms of social network, reciprocity, trust and bond among village people in order to achieve the successful Dengue prevention.

The above issues and factors that influence and decide the nature of the level of community participation in Dengue prevention programs in the Kalmunai RDHS area are coming under this study.

## Conclusion

There are many Dengue prevention strategies that have been implemented by the number of institutions in Kalmunai Regional Directory of Health Services (RDHS) area in various spectacles. Many organizations from health and non-health sectors have implemented various strategies or programs in order to control Dengue from the Kalmunai coastal region. The findings of this study have revealed that local community themselves evade to take part actively in the dengue prevention activities. They want to be with their own work and not to be involved actively in this way to ensure community participation in their own area, where endemic of dengue is still obvious. Though the RDHS and the MOHs were actively involved in the dengue prevention task, the participation of community has not a record of massive adaptation with these institutions. It reveals that community has poor interests in involving these kinds of communal works due to many reasons. People in the Kalmunai region think that the dengue is a serious health hazard and it is their duty to protect their children, families and society. But, the attitudes of people create different approaches to keep away themselves from public concern and put them to think of money and other self-interest features. The findings of this study explored that many factors influenced community participation in dengue prevention programs in the Kalmunai regional health services area. The carelessness in community health, lack of social capital, lack of community ownership and individualism, challenges for gender equity in terms of cultural barriers or restrictions and earning purpose or expecting money, were the key factors identified as reasons for their poor participations in dengue prevention activities. Since this research focused only on community participation in dengue prevention in the Kalmunai regional health services area, there is a need to conduct similar studies in various parts of Sri Lanka and in other developing countries.

## Recommendations

The following recommendations can be made for the consideration of the policy makers to act upon in the future.

- Dengue is endemic in Sri Lanka, especially in the research area. Therefore, it is important to make the people more aware of the importance of community involvement as disease prevention measure.
- The RDHS and the MOHs have experience and knowledge on implementation of dengue preventive strategies. So, their services can be utilized to enhance community participation techniques from grass-root level, especially in the rural areas.
- The people need to be educated to increase and widen their knowledge to understand community ownism and make them better with communal manner and societal deliberation. It can be undertaken and carried out by both government and non-governmental organizations.
- Government must create effective frame-work to promote institutional set up for motivating community participation at various levels such as family, schools, society, organizations and in working environment etc.
- The proper legal systems on clean-less households must be followed up and implemented without considering any kinds of tolerance. The government should develop the system for implementing the special laws for preventing dangerous health hazards like Dengue and other infectious diseases.
- The local government bodies must allocate funds for constructing proper drainage facility in the villages in order to reduce mosquito breeding sites
- The educational and health sectors must conduct training program to the local people to build social capital with trust, values and reciprocity to ensure the community participation in all social spheres.
- Health sectors must coordinate and incorporate with NGOs, community-based organizations, local social services bodies, religious organizations and other civil societies to provide their services in a proper way by promoting community participation with people of integrity to regulate the fair commitment of help to the deserving ones and to prevent diseases and other social dilemmas.

So, this study aimed to understand the community participation in Dengue prevention activities. The research findings are based on particular research area selected for this study. The possible and different conclusion could be made if the study area is different. The findings of this study provide guidelines to the researchers in the future to continue to find further facts and response by the people who were affected by dengue and who involved in dengue prevention activities.

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