

## **IMPACT OF TSUNAMI ON THE PSYCHO SOCIAL STATUS OF TSUNAMI SURVIVORS IN ALAPPAD PANCHYATH OF KERALA**

“You must be unlucky to die without seeing Tsunami

You must be more unlucky to die seeing one”

-A saying in a Pacific Island

India woke up to one of the worst natural disasters on the 26<sup>th</sup> of December 2004 that the country has ever seen in the recent history. On December 26th, 2004 at 6.28am, a rupture on the sea floor along a 1000km fault line triggered a quake of magnitude 9 on the West Coast of Northern Sumatra in Indonesia. This resulted in the ocean bed rising more than 10 meters and displacing overlying water generating a massive tsunami traveling at speed up to 700km/hr. Tsunamis are high tidal waves caused due to the sea water entering into the coastal land areas. It was when the tsunami struck Indonesia, Thailand, Maldives, Malaysia, Somalia, Kenya, Tanzania, Seychelles and the South Eastern Coast of India killing and affecting thousands of people. In India, the states of Tamil Nadu, Kerala, Andhra Pradesh and union territories of Pondicherry, and Andaman and Nicobar Islands witnessed massive destruction following the huge surging tsunami waves hitting the coastal land on 26th of December 2004. Tamil Nadu, Andaman and Nicobar Islands, Pondicherry, Andhra Pradesh and part of Kerala were devastated by the tsunami. It is the first of its nature in our country. The tsunami took away the lives of thousands, destroyed houses and disrupted the entire fabric of the fisher folk and others living in the coastal areas.

The quake waves devastated the coastal life of Kerala too. The fear and agony that were left in the mind of people of Kerala are indefinable. Every thing was not what it was before. All shattered ....., lives, homes, herds and dreams. 168 person were killed in Kerala. Tsunamis attack was merciless in Alappad Panchayath of Kollam District. 130 were killed by this in this small panchayath itself. The whole physical and organizational structure of the community was deeply changed. Because homes were destroyed, people were relocated, close relatives were dead, records and other valuables were loosed and changes were evident in psycho social patterns and human transaction.

In Kerala especially in Alappad Panchayath people manifested different types of emotional reactions, Numb in the beginning, people appeared to show signs of relief and elation for having survived. Post traumatic reactions like intense feeling of anxieties, depression, fear, frustration etc were the most common reactions replaced by the survivors. Certain specific stresses like displacement of individual to the other geographic areas, prolonged life in camps, unemployment, inactivity and lack of recreational possibilities were found to affect the people both physically, socially and mentally. The fostering of dependency in survivors, general disruptions in social fabric and the break down of traditional form of social support left devastate effects on people. As part of rehabilitation measures people were re-localized and de-localised. The insecurity feelings, apprehension about the future problems yet to be tackled are still haunting the survivors in Alappad Panchayat.

Psycho-social consequences of disaster have been observed in almost all post-disaster assessments that have focused on psychological health. But the psycho social needs were seen as something too secondary to the attention of relief agencies and relief workers. In recent years disaster research has seen dramatic increases in the study of psychological and social effects of disaster. The present study mainly focused on the psycho social impact of tsunami survivors in Alappad Grama panchayath. So Post Traumatic Stress Disorders (PTSD), Mental Disorders associated with Primary health Condition, Disability status, Maladjustment and Quality of Community Life (QCL) were the variables taken for the purpose of the study.

### **Need and significance of the study**

There was always been a general tendency in the past to consider that the basic needs of population by disasters were to be met essentially in terms of providing shelter, food, sanitation and immunization against epidemics. Their psycho social needs were seen as something too secondary to the attention of relief agencies and relief workers. Over the last few years, however different trend has become evident and there is wide recognition of fact that population affected by disaster have special psychosocial needs. WHO's role in disasters has also gradually shifted from providing emergency relief to incorporating disaster

preparedness, including involvement in training and in the assessment of possible future needs.

Proper handling of psychosocial problems associated with Tsunami is of great importance and must be included in the training programs of all personnel working in Disaster Management. But there is a dearth of information regarding the actual psychosocial consequences of such disasters. Well documented systemic data on the mental status of the survivors are indent to be few. Although a few studies are reported in other western countries, studies are almost nil in Kerala.

Again from the present resources available in India, it is assumed that it would take at least 20 more years to develop a well equipped disaster management system which would meet the psycho social needs of the survivors. It was seen that Tsunami's traumatic aspects are not limited to physical event itself, but may continue for a relatively long period and include many subsequent additional traumas, change and disruptions especially of a psychosocial kind requiring further adjustment.

Accurate information is very important at every stage of disaster response. As part of preparedness, people should be provided with clear information about what to do in the event of disaster affecting their community. Such information neither should nor only be relevant to disaster that is frequent or likely to occur, but also be the general utility for unexpected circumstances. It is the time that voluntary organization as well as government agencies takes interest in the rehabilitation of survivors, but no agencies have shown interest in documenting the experiences of the people in the systematic and systemic way and hence the present study.

### **Statement of the problem**

Impact of Tsunami on the Psychosocial Status of Tsunami Survivors in Alappad Panchayath of Kerala.

### **General Objectives of the study**

1. To compare the impact of tsunami on the psychosocial status of the survivors in Alappad Panchayath with the people of non affected Chavara Grama Panchayath

2. To analyse longitudinally the impact of tsunami on psycho social status of survivors in Alappad Panchayath immediately after its occurrence, after one year of occurrence and after two years of occurrence
3. To analyse the impact of Tsunami on the psychosocial status of the survivors in Alappad Grama Panchayath

### **Specific Objectives**

1. To study the Post Traumatic Stress Disorders (PTSD) and its sub variables (Avoidance, Intrusion and Hyper arousal) expressed by the tsunami survivors in Alappad Grama Panchayath and make a comparative analysis with the people of non affected Chavara Grama Panchayath.
2. To make a comparative analysis of Mental Disorders associated with Primary Health Condition with tsunami survivors in Alappad Grama Panchayath and people of non affected Chavara Grama Panchayath.
3. To make a comparative analysis of Disability with tsunami survivors in Alappad Grama Panchayath and people of non affected Chavara Grama Panchayath.
4. To make a comparative analysis of Maladjustment and its sub variables (Anxiety, Depression, Mania, Inferiority and Paranoia) with tsunami survivors in Alappad Grama Panchayath and people of non affected Chavara Grama Panchayath.
5. To make a comparative analysis of Quality of Community Life with tsunami survivors in Alappad Grama Panchayath and people of non affected Chavara Grama Panchayath.
6. To make a longitudinal assessment of Post Traumatic Stress Disorders (PTSD) and its sub variables(Avoidance, Intrusion and Hyper arousal) with survivors in Alappad Panchayath immediately after tsunami, after one year and after two years of occurrence .7. To make a longitudinal assessment of Mental Disorders associated with Primary Health Condition with survivors in Alappad Grama Panchayath immediately after tsunami, after one year and after two years of occurrence .

8. To make a longitudinal assessment of Disability with survivors in Alappad Grama Panchayath immediately after tsunami, after one year and after two years of occurrence .
9. To make a longitudinal assessment of Maladjustment and its sub variables (Anxiety, Depression, Mania, Inferiority and Paranoia) with survivors in Alappad Grama Panchayath immediately after tsunami, after one year and after two years of occurrence .
10. To made a longitudinal assessment of Quality of Community Life with survivors in Alappad Grama Panchayath immediately after tsunami, after one year and after two years of occurrence.
11. To study the Psycho social variables of tsunami survivors in Alappad Grama Panchayath (Post Traumatic Stress disorders, Mental Disorders associated with Primary Health Condition, Disability Status, Maladjustment Pattern and Quality of Community Life) in relation to selected socio demographic variables(Age, sex, Education, Income, Type of Family, Marital Status, Occupation, Family Relationship, Type of Loss and Type of Displacement).

### **Hypotheses**

1. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Post Traumatic Stress Disorder (PTSD) immediately after tsunami.
2. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in avoidance immediately after tsunami.
3. There will be no significance difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Intrusion immediately after tsunami.
4. There will be no significance difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Hyper arousal immediately after tsunami.

5. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Mental Disorders associated with primary Health Condition immediately after tsunami.
6. There will be no significance difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Disability immediately after tsunami.
7. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Maladjustment immediately after tsunami.
8. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in anxiety immediately after tsunami.
9. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Depression immediately after tsunami.
10. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Mania immediately after tsunami.
11. There will be no significance difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Inferiority immediately after tsunami.
12. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Paranoia immediately after tsunami.
13. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Quality of Community Life (QCL) immediately after tsunami.
14. There will be no significant difference in Post Traumatic Stress Disorder(PTSD) (PTSD) among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence

15. There will be no significant difference in avoidance among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
16. There will be no significant difference in Intrusion among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
17. There will be no significant difference in Hyper arousal among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
18. There will be no significant difference in Mental Disorders associated Primary Health Condition among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
19. There will be no significant difference in Disability among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
20. There will be no significant difference in Maladjustment among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
21. There will be no significant difference in anxiety among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
22. There will be no significant difference in Depression among the survivors of Alappad Grama Panchayth immediately after tsunami, one year and two years of survival.
23. There will be no significant difference in Mania among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence
24. There will be no significant difference in Inferiority among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence

25. There will be no significant difference in Paranoia among the survivors in Alappad Grama Panchayath immediately after Tsunami, after one year and after two years of its occurrence
26. There will be no significant difference in Quality of Community among the survivors in Alappad Grama Panchayath immediately after Tsunami, after one year and after two years of its occurrence
27. There will be no significant difference in Post Traumatic Stress Disorders (PTSD) among the survivors in Alappad Grama Paanchayath in relation to the selected socio demographic variables. (Age, Sex, Education, Income, Type of Family, Marital Status, Occupation, Family Relation ship, Type of Displacement, Type of Loss)
28. There will be no significant difference in Mental Disorder Associated with Primary Health Condition among the survivors in Alappad Grama Paanchayath in relation to the selected socio demographic variables.
29. There will be no significant difference in Disability among the survivors in Alappad Grama Panchayath in relation to the selected socio demographic variables.
30. There will be no significant difference in Maladjustment among the survivors in Alappad Grama Panchayath in relation to the selected socio demographic variables.
31. There will be no significant difference in Quality of Community Life (QCL) among the survivors in Alappad Grama Panchayath in relation to the selected socio demographic variables.

### **The research design**

Ex-post facto research design was adopted for this study.

### **Sample**

The sample size was estimated based on a total reference population of 3707 House Holds, living in 14 relief camps of Alappad Panchayath. A Cluster Sample survey design was used, with probability proportional to size. The proportion is fixed as 10:1. Selection of clusters (n=14) was by camp location. 500 sample were taken from Alappad Panchayath.



Chavara Grama Panchayath is taken as control population for this study. 500 samples were also collected from the costal areas like Kovilthottam and Karithura for the purpose of the study.

## **Tools**

The following tools were used for the present study

1. Family Schedule (Indian Council of Medical Research,1998)
2. Impact of Event Scale Revised (IES-R)–Adult Version.(Weiss and Marmar, 1997).
3. Self Reporting Questionnaire (SRQ 1980,WHO/MNH/PSF/94.8)
4. Disability Assessment Schedule (WHODAS II,1999)
5. Mathews Maladjustment Inventory(1975)
6. Quality Of Community Life (QCL)(ICMR1986)

## **Procedure**

The data was collected by using Questionnaires by approaching the survivors personally. As it was a longitudinal study 500 data each were collected from the survivors separately for Phase I, Phase II and Phase III from Alppad Panchayath.

For the comparison of data with Chavara Grama Panchayath, data were collected from 500 people of Chavara GP.

## **Statistical Techniques**

One way Analysis of Variance(One way ANOVA), Independent sample 't' tests, Repeated ANOVA and Least Square Deviation Method(LSD) were used for the study.

## **Findings of the Study**

1. The survivors of tsunami in Alappad panchayath had reported higher level Post Traumatic Stress Disorders when compared to the people of Chavara panchayath

2. The survivors of tsunami in Alappad panchayath had reported higher level Mental Disorders associated with Primary Health Condition when compared to the people of Chavara panchayath
3. The survivors of tsunami in Alappad panchayath had reported higher level Disability Status when compared to the people of Chavara panchayath
4. The survivors of tsunami in Alappad panchayath had reported higher level Maladjustment Pattern when compared to the people of Chavara panchayath.
5. The survivors of tsunami in Alappad Panchayath had reported lower level Quality of Community Life when compared to the people of Chavara panchayath
6. The longitudinal assessment of Post Traumatic Stress Disorders (PTSD) and its sub variables (Avoidance, Intrusion and Hyper arousal) of survivors in Alappad Panchayath immediately after tsunami, after one year and after two years of occurrence had revealed that the PTSD had been continuously decreasing from Phase I to Phase II and reached minimum in Phase III due to psycho social intervention programmes conducted by the Governmental and Non governmental agencies during this time.
7. The longitudinal assessment of Mental Disorders associated with Primary Health Condition with survivors in Alappad Panchayath immediately after tsunami, after one year and after two years of occurrence had revealed that the Mental Disorders associated with Primary Health Condition had been continuously decreasing from Phase I to Phase II and reached minimum in Phase III due to psycho social intervention programmes conducted by the Governmental and Non governmental agencies during this time.
8. The longitudinal assessment of Disability of survivors in Alappad Panchayath immediately after tsunami, after one year and after two years of occurrence had revealed that the Disability had been continuously decreasing from Phase I to Phase II and reached minimum in Phase III due to psycho social intervention programmes conducted by the Governmental and Non governmental agencies during this time.
9. The longitudinal assessment of Maladjustment of survivors in Alappad Panchayath immediately after tsunami, after one year and after two years of

occurrence had revealed that the Maladjustment had been continuously decreasing from Phase I to Phase II and reached minimum in Phase III due to psycho social intervention programmes conducted by the Governmental and Non governmental agencies during this time.

10. The longitudinal assessment of Quality of Community Life with survivors in Alappad Panchayath immediately after tsunami, after one year and after two years of occurrence had revealed that the Quality of Community Life had been continuously increasing from Phase I to Phase II and reached maximum in Phase III due to psycho social intervention programmes conducted by the Governmental and Non Governmental agencies during this time .

11. Psycho social variables of tsunami survivors in Alappad Grama Panchayath in relation to the selected socio demographic variables(Age, sex, Education, Income, Type of Family, Marital Status, Occupation, Family Relationship, Type of Loss and Type of Displacement) were analyzed. Income of the survivors is a contributing factor to Maladjustment and Quality of Community Life among the survivors of tsunami in Alappad Panchayath. The survivors who had the first order family relation had high level of Mental Disorders after tsunami. Type of family was found to be a determinant factor of Adjustment to the post disaster condition. The survivors with livelihood loss showed high level Mental Disorders in post tsunami period. Displacement Pattern was also found to be determinant factors of Disability, Maladjustment and Quality of Community Life

## **Implications**

The findings of the study revealed that the survivors had experienced higher level of PTSD, mental disorders associated with primary health conditions, disability, maladjustment, and low quality of community life when compared to the non-affected people. This finding points to the need of providing a quick and effective psychosocial intervention to prevent further deterioration of the psychological distress and devastating social damages occurring immediately after disaster. The complexity and chronicity of stress disorders, mental health problems ,

disabilities and adjustment problems can be effectively managed if steps are taken on foot-war basis without delay.

The findings also showed that there was a systematic improvement in the psychosocial conditions after three months, one year and two years of intervention. This implies that the intervention carried out by the government and non-governmental agencies could bring drastic positive changes in the lives of people.

The systematic increase with quality of community life of the survivors owing to the interventions of various agencies implies that a multidisciplinary nature of support has to be provided to the survivors for a speedy rehabilitation as observed in the study. It also implies that proper coordination and links with the right type of agency can reduce a lot of distress and improve rehabilitation of the survivors to a substantial level. Occurrence of a disaster and the problems associated with its occurrence is a multilevel condition that involves not only physical damage but also psychosocial damage. A coherent and comprehensive account of the problems of the survivors, coordination of various agencies immediacy with which rehabilitating measures are taken and the access of the services provided all are key factors in bringing the situation into control. The findings of the study have shown that a multilevel rehabilitation had worked out successfully with the Tsunami survivors of Alappad Panchayat. The findings of the general highlights the agreement for early intervention and interagency collaboration in respect of Tsunami survivors.