Chapter I

INTRODUCTION

“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 26th of December 2004 that the country has ever seen in the recent history. On December 26th, 2004 at 6.28 am, a rupture on the sea floor along a 1000 Km fault line triggered a quake of magnitude 8.9 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 700 km/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 was 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.

Almost all the countries situated around the Bay of Bengal were affected by the tsunami waves in the morning hours of 26 December 2004 (between 0900 – 1030 hrs IST). The killer waves were triggered by an earthquake measuring 8.9 on the Richter scale that had an epicenter near the West Coast of Sumatra in Indonesia.
Tsunami had also struck countries around Eastern and some parts of West Coast of Indian Ocean as mentioned above. 2,86,000 were killed in South East Asia, India and Africa. It terribly hit Sri Lanka, Myanmar, Maldives and Somalia. 2,32,985 were killed by Indonesia, 30,957 in Sri Lanka, 12,709 in India, 10,500 in Thailand, 117 in Maldives 150 in Malaysia 36 in Myanmar and 100 in Somalia.

Official estimates issued by the Ministry of Home Affairs (2005), says that death toll due to tsunami was 9,995, with Tamil Nadu accounting for 7,923 death alone. The number of missing people was put at 6011 after thirteen days of the tsunami disaster. The total loss accounting for the loss of houses, means of livelihood and other infrastructures estimated were Rs.47 billion in Tamil Nadu, which alone become the 50% of the total loss in the South India, followed by Rs 13 billion in Kerala and Rs. 5 billion in Pondicherry respectively. The loss in Andhra Pradesh was calculated to be Rs 3.4 billion. A total of 2,260 kilometers of cost line besides Nicobar Islands was affected. More than 2,83,100 people were killed, 14,100 are documented to be missing around 1,126,900 people were displaced by earth quake and subsequent tsunami. In India approximately 10,749 people lost their lives. 1,57,393 dwelling units in 891 villages have been damaged.

The quake waves devastated the costal life of Kerala in a terrifying manner. The fear and agony that were left in the minds of people of Kerala were 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 in this small panchayath itself. The whole physical and organizational structure of the community was deeply changed. Homes were destroyed, people were relocated, close relatives were dead, records and other valuables were lost and changes were evident in psycho social patterns and human transactions.

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 exhibited by the survivors. Certain specific stressors like displacement of individuals to the other geographic areas, prolonged life in camps, unemployment, inactivity and lack of recreational facilities were found to affect people physically, socially and mentally. The fostering of dependency in survivors, general disruptions in social fabric and the breakdown of traditional forms of social support left devastated effects on people. As part of rehabilitation measures people were re-localised and de-localised. The insecurity feelings, apprehensions about the future problems yet to be tackled were haunting the survivors in Alappad Panchayat.

**Tsunami in India**

The first recorded tsunami in India dates back to 31 December 1881. An earthquake of magnitude 7.5 on the Richter scale, with its epicenter believed to have been under the sea off the Coast of Car Nicobar Island, caused the tsunami. The last recorded tsunami in India occurred on 26 June 1941, caused by an earthquake with magnitude exceeding 8.5. This caused extensive damage to the Andaman Islands. There are no other well-documented records of Tsunami in India. In the present tsunami, India was the third country severely battered after Indonesia and Sri Lanka. In India the State severely affected by tsunami are Tamil Nadu, Pondicherry, Andhra Pradesh, Kerala and Andaman and Nicobar Island.

It was all quiet on the water front on the Sunday morning after Christmas in 2004 at Kanyakumari, the famous Marina Beach in Chennai and elsewhere on the Kerala coast and Andaman Nicobar Islands. There was the excitement of a holiday with an offbeat mood with swarms of people on the sea front: children playing cricket and men and women on their morning walk at the Marina. Elsewhere, fishermen were putting out to sea for the day’s catch.
Then all on a sudden, a curious thing happened. The holiday makers at Kanyakumari were awestruck when the sea receded from the shores and high object like a high wall was formed distant at sea with kilometers long in length. Thus formed arrogant tsunami reached the shore and struck at the shore without giving loop holes to helpless persons to escape.

**Tamil Nadu**

The state of Tamil Nadu has been the worst affected on the mainland, with a death toll of 7,923. Nagapattinam district had 5,525 casualties, with entire villages having been destroyed. Kanyakumari district had 808 deaths, Cuddalore district 599, the state capital Chennai 206 and Kancheepuram district 124. The death tolls in other districts were Pudukkottai (15), Ramanathapuram (6), Tirunelveli (4), Thoothukudi (3), Tiruvallur (28), Thanjavur (22), Tiruvarur (10) and Viluppuram (47).

Those killed in Kanyakumari included pilgrims taking a holy dip in the sea. Of about 700 people trapped at the Vivekananda Rock Memorial of Kanyakumari, 650 were rescued. In Chennai, people playing on the Marina beach and those taking a Sunday morning stroll were washed away, in addition to the fisher folk who lived along the shore and those out at sea. The death toll at Velankanni in Nagapattinam district was 1,500. Most of these people were visiting the Basilica of the Virgin Mary for Christmas, while others were residents of the town. The nuclear power station at Kalpakkam was shut down after sea water rushed into a pump station. No radiation leak or damage to the reactor was reported.

**Pondicherry**

An estimated 30,000 people became homeless in the Union territory of Pondicherry. The current official toll is 560. The affected districts were Pondicherry (107 dead), Karaikal (453 dead). Kariakal was the most devastated area in the Pondicherry
Union territory was massive destruction and loss of causalities accrued. This mishap occurred because of uncover stone block. Mostly fisher folk were affected due to location and distance between sea and their basti (village). Fishing people were just preparing for venturing into sea and within fraction of seconds every thing was washed away and their boats were damaged, they lost every thing in terms of life and property. More than 453 people were dead and some have been missing.
Andhra Pradesh

The official toll was 105. The affected districts were Krishna (35 dead), Prakasam (35 dead), Nellore (20 dead), Guntur (4 dead), West Godavari (8 dead) and East Godavari (3 dead).

Andaman and Nicobar

The Andaman and Nicobar Islands comprise 572 islands (all land masses in both low and high tides) out of which 38 are inhabited, both by people from the mainland and indigenous tribes. The islands lie just north of the earthquake epicenter, and the tsunami reached a height of 15 meters in the Southern Nicobar Islands. The official death toll was 812, and about 7,000 were missing. The unofficial death toll (including those missing and presumed dead) was estimated to be about 7,000.

The Great Nicobar and Car Nicobar Islands were the worst hit among all the islands because of their proximity to the quake and relative flatness. Aftershocks continued to rock the area for quite some time. One fifth of the population of the Nicobar Islands was said to be dead, injured or missing. Chowra Island had lost two thirds of its population of 1,500. Entire islands had been washed away, and the island of Trinket has been split in two. Communications have restored with the Nancowry group of islands, some of which have been completely submerged, with the total number of the population still out of contact exceeding 7,000.

Among the casualties in Car Nicobar, 100 Indian Air Force personnel and their family members were washed away when the waves hit their air base, which was reported to have been severely damaged. The St. Thomas Cathedral (also known as the John Richardson church after John Richardson, a missionary and member of Parliament) was washed away. The church, established in 1930 was one of the oldest and prominent
churches in the region. A cricket stadium named after John Richardson and a statue dedicated to him were also washed away.

It is reported that most of the native islanders survived the tsunami because they live on higher ground or far from the coast. The Onge (with a 2001 census population of 96), Jarawa (240), Sentinelese (39) and Andamanese (43) have been reached by survey teams and confirmed to be safe although the number of dead unknown. The Sentinelese live on a reserved island and are hostile to outsiders which made it difficult for Indian officials to visit the island. They have shot arrows at helicopters sent to check on them. In the Nicobar Islands, the Nicobarese, a Mongoloid tribe (2001 population of 28,653), have lost about 656 lives with 3,000 still missing. Surveys are being conducted on the Shompen (2001 census count of 398) located on Great Nicobar island.

India's only active volcano, Barren 1, located at Barren Island 135 kilometres (80 miles) northeast of the capital Port Blair, erupted because of increased seismic activity on 30 December 2004. People have been evacuated since then and there had been no reports of any casualties.
Kerala

The tsunami that hit the Kerala coast on December 26, 2004, were three to five meters high. High wave swept the coast along a 40 km stretch, from Sakthikulangare in the south to Thrikunnapuzha in the north. This stretch has two narrow strips of land sandwiched between the sea and back water. The Tidal upsurge had affected 250 kilometers of the Kerala coastline and entered between one or two kilometers inland pounded 187 villages affecting 24.70 lakh persons in the state.

According to the National Institute of Disaster Management, (NIDM) which functions under the ministry of home affairs, 131 Lives were lost in Kollam, 32 in Alappuzha and 5 in Ernakulam, taking the official death toll to 168. As many as 6,280 dwelling units were destroyed and 84,773 persons were evacuated from the costal areas and accommodated in 142 Relief Camps opened in Kollam, Alappuzha and Ernakulum Districts.

Table 1.1
Alappad Grama Panchayath - General Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Alappad Grama Panchayat</th>
</tr>
</thead>
<tbody>
<tr>
<td>District</td>
<td>Kollam</td>
</tr>
<tr>
<td>Taluk</td>
<td>Karunagappally</td>
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<tr>
<td>Block</td>
<td>Karunagappally</td>
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<tr>
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</tr>
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<td>Coastal Area</td>
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<td>Kayamkulam Fishery Harbor</td>
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<tr>
<td>South</td>
<td>Panmana Grama Panchayath</td>
</tr>
<tr>
<td>West</td>
<td>Arabian Sea</td>
</tr>
<tr>
<td>East</td>
<td>Klappana, Kulasekharapuram Grama Panchayaths and Karungappally Municipality</td>
</tr>
</tbody>
</table>

**Fig 1.1**

![Map of Alappad Panchayat](image-url)
Impact of Tsunami on Survivors

In any disaster, the effect on the livelihood is one of the main impact, which affects the whole community. In a disaster like tsunami, where the entire costal area was devastated, the whole chain of livelihood gets affected. The fishing community was greatly affected and loss of boats, nets and other fishing equipments were very high. Simultaneously, many other businesses which were dependent on fishing like the fish vendor, the people working in the ice factory and other livelihood options were also affected. Due to entrance of the sea water, increased salinity of land was also an issue for agriculture in the affected areas. Thus on one hand there was loss of primary livelihood sources due to the disaster, on the other hand there was lot of secondary loss of livelihoods due to the loss of infrastructure and alternative livelihood options. So, unemployment and under employment became the major issues after the disaster. The financial hardship increased a lot due to the disaster. People lost their personal belongings, houses and property which caused huge economic losses for the survivors and nation too.

Economic problems associated with tsunami struck to the village were many. 1) Many of them never had a bank account. 2) several of them lost their boats and some of their boats were partially damaged, 3) The money and other valuables kept in houses were washed away, they had no money to restart their business. 4) Basic infrastructure was taken away.

The living structures were damaged forcing people to live in camps with little or no privacy. There was discontinuity of normal life routines and things like education etc too got totally affected. People faced problems of day-to-day living in difficult circumstances along with trying to pick up and rebuild their lives, and get back to life as it was before the disaster.
Given the spatial dispersion of the population and the absolute scarcity of land, some people, including those whose houses were no longer habitable had shifted either temporarily or on a permanent basis to new places. Many of the internally displaced people had been housed in the homes of host families. This arrangement led to increase uneasiness on both sides, as Internally Displaced Persons (IDPs) feel they have overstayed their welcome. Most of the affected returned to their original houses; some people however were resettled either out of choice (the community anyway desired to shift to a larger or safer places) or out of necessity (the home has been completely destroyed, submerged, or rendered uninhabitable). When relocating, communities jointly decided where to go to and moved together as a community. Management of temporary shelters for the displaced persons was another concern provided for safety and privacy.

Following tsunami, family and social support networks weakened, leaving women and children more vulnerable to psychological and emotional stress. The affected families needed immediate psycho-social support services especially for traumatized children.

Family structure underwent change like becoming a single parent family or losing the only earning member or a child becoming an orphan, losing life partners and becoming a widow or a widower. All this brought about substantial life changes. There were ceremonies that needed to be completed and cultural rituals that needed to be adhered to. People had to shift in with extended family member or adjust to a life without the family members whom they have lost.

Vulnerability analysis had shown that there were vulnerable groups which even prior to the tsunami were under-served by public safety nets. The poor and vulnerable groups included large families with no breadwinner, most of whom were headed by single women (divorcees and widows), and certain single elderly. These groups were in need of support both before and after the tsunami.
The tsunami created new vulnerable groups, i.e. those who lost their houses and other assets (in-kind or cash) and livelihoods. In the absence of targeted public support for asset restoration, recovery of lost livelihoods may take very long. Creating employment and restoring livelihoods are critical dimensions of the reconstruction process and will kick start the economy of the tsunami affected area, restore a sense of normalcy, and support the social and economic inclusion of the displaced populations. Such support will need to be rapid if it is to be effective. It will need to be well targeted if it is to be affordable. Reconstruction efforts should be undertaken involving the affected communities directly.

Any disaster leaves a profound trail of suffering to the community. To work with the disaster affected community, it is essential to understand the different nature of impact due to the disaster. The impacts of Tsunami are mainly categorized under four headings. Physical impact, Economic impact, Social impact and Psychological impact.

**Physical Impact**

- Fractures
- Injuries
- Infections
- Miscarriages
- Reproductive health problems
- Amputations.
- Premature delivery
- Fever
- Diarrhea
- Epidemics

**Economical Impact**
• Loss of livelihood and difficulties in restarting livelihood due to loss of fishing boats and nets.
• Death of the only earning member in the family.
• Loss of documents like ration card, Below Poverty Line (BPL) cards etc., because of which access to certain benefits is denied.
• Loss of houses.
• Significant decline in real estate business.
• Loss of valuable property in terms of household items, jewelries, vehicles.
• Unemployment.
• Loss of livelihood for the small hawkers, vendors who sell their wares on the beach.
• Sudden and steep decline in tourists visit to Indian beaches leading to losses in the tourism industry.
• A sudden decline in the sale and consumption of fish due to rumors of fish being contaminated after the Tsunami.
• Prolonged and cumbersome process of getting compensation.
• Disruption of the transport and communication system.
• Loss of certificates.
• Spoiled Agricultural land.

Social Impact

• Homelessness.
• Change in marital status due to death of the partner.
• Change in family composition, structure and roles.
• Sudden displacement and difficulties of living in temporary shelters.
• Lack of privacy in relief camps.
• Poor sanitation facility in the relief camps.
- Emergence of single parent families and orphans.
- Migration.
- Discontinuity of education.
- Difficulties in getting Para legal aid.
- Lack of adequate support from the local leaders.
- Lack of neighborhood support.
- Robbery and house breaking.
- Possibilities of increase in immoral and antisocial activities.
- Discrimination and disparity in terms of distribution of relief materials based on social class and caste.
- Violence towards women, immoral trafficking of women.

**Psychological Impact**

- Shock and panic.
- Fear.
- Anxiety.
- Bereavement.
- Grief.
- Guilt.
- Flashbacks/Nightmares.
- Excessive crying.
- Feeling of sadness.
- Feeling of hopelessness, helplessness, bleak and pessimistic view of future.
- Disturbed sleep and appetite.
- Death wishes, suicidal ideation.
- Lack of concentration.
Anger and irritability.

Social withdrawal, seeking isolation, becoming less communicative.

Increased risk-taking behavior.

Increased alcohol and substance use.

Frustration.

Most of the initial reactions of shock, surprise, anger, helplessness and confusion that characterise feelings and behaviours will subside over time. More than 90% of adults do not experience a major mental health disorder after exposure to a disaster, and of those that do, most experience full psychological recovery in 12 to 24 months (Freedy & Kilpatrick, 1994; Freedy, Saladin & Kilpatrick et al, 1994). For a small number of survivors however, stress reactions will be more enduring. There is as noted above a higher likelihood of elevated stress levels after human-made disasters. They may persist long after the disaster impact, and this may lead to various forms of mental illnesses, behavioural changes or alterations in physical health (Burkle, 1996).

Reactions to disaster will depend on a number of variables. These include pre-existing personality characteristics and genetic predisposition, life experiences, age, and previous disaster experiences. Also, the type, length, intensity, and impact of the disaster as well as community, cultural and family expectations of behaviour will all influence mental health outcomes (Norris, 1992). The degree of ongoing disruption and other recent life events, as well as use of avoidance coping in the post-disaster period are also significant predictors of morbidity (Carr, Lewin, Webster & Kenardy, 1997).
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.

Post Traumatic Stress Disorders (PTSD) are the most commonly observed symptoms among the disaster victims in Post tsunami phase and the majority of people recover fully within six to sixteen months from it and thus PTSD was selected as a variable for the study.

PTSD is only one of a range of common mental disorders which become more prevalent after disaster. The psychological and psychiatric consequences like traumatic neurosis was also present in Post tsunami phase. By considering these fact Mental Disorders associated with Primary Health condition was taken as another variable for the study.

Most disasters result in a lot of physical injuries. People with orthopedic problems such as fractures, problems with mobility etc. were preset after tsunami. Severe physical impact is due to floating in waves and running for life in unimaginable speed. Many complaints of severe tiredness, vomiting of mud water and also stomach pain due to drinking of sea water were in initial days. Some other kinds of physical impacts like fever, cough, colds, headaches, tiredness, body aches etc was also reported. There were
many expectant mothers; there would be premature deliveries or other maternity complications after a disaster. Psychological reactions to physical injury and illness are also important post-disaster responses. Considering all these reasons Disability Status was taken as another variable for the study.

The prevention of psychiatric disorders often focuses on Post Traumatic Stress Disorders (PTSD), however this is not the only psychiatric disorder associated with disasters. In fact, PTSD may not even be the most common, major depression, substance abuse, generalised anxiety disorder, and adjustment disorder have all been noted following disasters (Rundell, Ursano, Holloway & Silberman, 1989; Shore et al, 1989; Ursano et al, 1996). After a disaster, the emotional reactions among members of a community may vary and this usually undergoes change over time. The emotional reactions can be understood based on the manifestations of Maladjustment hence it was taken as another variable for the study.

Tsunami affected people generally experience socio economic impacts like lack of employment, homelessness, environmental destruction and disorganization emerge as consequence following it. There may be total breakdown of communication and lack of basic supplies like food or raw materials causing a breakdown in the normal lives that people have been leading. The families lose their source of income totally. The education system gets affected greatly. There was many social divisions and restrictions imposed in the community after tsunami. Initially people come together but later in the rehabilitation phase, living with one’s own community and with one’s own group increases. It was found that the society gets divided according to caste and religion in some areas. There may be increase in corruption in the post disaster society. Other aspects like domestic violence, abuse and alcoholism become very prominent in the community affected by a disaster. Quality of the Community Life totally changes at its all phases and thus the investigator selected Quality of Community Life as a variable for the purpose of the study.
Need and Significance of the Study

The World Health Organisation (WHO) defines disaster as: ‘a severe disruption ecological and psychosocial which greatly exceeds the capacity of the affected community’ (WHO, 1992). The destruction of structures, lives, livelihood and community influences the way in which individuals and communities cope with disaster. Disasters are multifaceted events that have personal, social, political and economic dimensions and often the mental and psychological aspects of disaster are ignored (Garakani, Hirschowitz & Katz, 2004).

Earthquake Wind storms, Tsunamis, Floods, Landslides, Volcanic eruption and Wild firs have killed about 3 million people world wide over the past two decades, have adversely affected the lives of at least 800 million more people and resulted in immediate economic damage exceeding US$23 million. (UN Disaster Relief Coordinate office 1984). Even though all the disasters cause similar effects on humanity, Tsunami has special significance owing to its peculiar nature and unique impacts. The immediate transactions reflected the most horrifying dimensions of Tsunami related to physical injury exposure to extreme danger witnessing death of dear ones or traumatic experiences of hopelessness, separation, loss of familiar environment, continued threat to the sense of well being, fear and insecurity etc. The need to choose between helping others and fighting for ones own survival was evident. Maladaptive reactions during Tsunami such as paralyzing anxiety uncontrolled flight behavior and group panic were also observed.

The social fabric of the tsunami hit had been seriously impacted by extensive physical damage, loss of life and livelihoods, and displacement of people. Most affected people lost savings kept in cash in the house. The affected communities had a heightened vulnerability to poverty. The impact of the losses had been exacerbated by the shock and fear caused by the tsunami.
The human toll of death and physical injury from large-scale natural disasters in the developing world can be large. The mental health of survivors is another area of core concern for relief and reconstruction policy and a growing epidemiologic literature assesses disaster impacts on psychological health in a variety of disaster settings.

Disaster affected people experience various kinds of reactions. Emotions immediately follow the event while socioeconomic impacts like lack of employment, homelessness, environmental destruction and disorganization emerge as consequence following the devastation caused by the disaster.

Psycho-social consequences of disaster have been observed in almost all post-disaster assessments that have focused on psychological health. A review of 225 studies covering events in both developing and developed countries found an array of psychological etiologies in the disaster’s aftermath. Specific disorders include post-traumatic stress disorder (PTSD), depression, anxiety, non-specific psychological distress, and somatic manifestations of psychological distress (Norris, 2005). In terms of frequency, PTSD is by far the most commonly observed appearing in 74% of the samples studied. Depression was next most common at 39%, followed by non-specific distress (35%), somatic concerns (27%) and anxiety (20%).

However, PTSD is only one of a range of common mental disorders which become more prevalent after disaster (de Jong, Komproe, & van Ommeren, 2003) and low levels of PTSD in non-Western cultures suggest that PTSD is not the focus of many trauma survivors (Jones, Rustemim, Shahini, & Uka, 2003). Van Ommeren, Saxena and Saraceno (2005) argue for a thoughtful long-term approach with a focus on developing sustainable services inside and outside the health sector to ensure optimal long-term outcomes. Thus it becomes essential to measure and understand common mental disorders in the post-disaster situation.
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 psycho social 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 psycho social 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.

Understanding post-tsunami mental health indicators is essential for identifying vulnerable populations and developing culturally specific mental health interventions. After a disaster, the emotional reactions among members of a community may vary and this usually undergoes change over time. The emotional reactions can be understood based on the manifestation of various stress reactions. Level of effort put by the people for their on reconstruction, Post-disaster, psychological interventions should be flexible and based on an ongoing assessment of psycho social needs.

The coastal communities in the different regions who were seriously hit by it have not recovered from the stroke and stress. Unlike the normal communities the effects
of Tsunami in coastal community like Alappad was different because of its peculiar characters.

The fishermen and others living in coastal areas were badly affected by the tsunami disaster. They lost their family members, near and dear ones, fishing nets, boats and other means of livelihood, houses, thereby leaving their lives shattered and destroyed. They have spent their lives living near the seashore for generations together, worshipping the Sea Goddess who has nurtured and protected them and their families, enabled them to fish and feed their family. They did not understand why the same sea all of a sudden became angry and furious and caused this massive destruction to their life.

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. A well documented data need to be originated in this regard.

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 take interest in the rehabilitation of survivors, but no agencies had shown interest in documenting the psycho social impact of any disaster on the people in the systematic way and hence the present study. A well documented study on the psycho social status of people after a disaster can throw light on the long term suffering and trauma people undergo during and after a disaster. Such findings would help the
administrators for planning processes as well as for moulding intervention strategies for such a disaster situation.

**Statement of the Problem**

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

**Operational Definitions of the Terms**

**Impact**

The impact of tsunami is the time when its greatest force and disruption occur.

**Psycho Social Status**

In this study psycho social status is meant by Post Traumatic Stress Disorders (PTSD), Mental Disorders associated with Primary Health Condition, Disability, Maladjustment and Quality of Community Life (QCL).

**Survivors**

In this study the terms ‘survivor’ refer to individuals and families who have suffered from a disaster and its consequences.

**Post Traumatic Stress Disorders (PTSD)**

It is current subjective distrust for any specific life event like Tsunami. It includes anger and irritability, heightened startle response, difficulty concentration, hyper vigilance and re experiencing when experiencing true flash back

**Avoidance**
It is defined as the degree to which a survivor is mentally or physically avoiding something that causes distress.

**Intrusion**

Intrusive re-experiencing is a core symptom of post–traumatic stress disorder (PTSD). It can take various forms, including intrusive images, flashbacks, nightmares and distress and physiological reaction when confronted with reminders.

**Hyper arousal**

Hyper arousal is a key symptom of PTSD. A person suffering from hyper arousal symptoms may attempt to restrict him/her or other family members’ activities due to the extreme fear that there is danger waiting around the corner.

**Mental Disorders associated with Primary Health Condition**

It is the psychological distress in person following any stressful life event like tsunami.

**Disability**

It is the short term health conditions followed with stressful event like Tsunami. It include difficulties in cognition, mobility, self care, getting alone, life activities and participation.

**Maladjustment**

Failure to adapt to a change in one’s environment, resulting in inability to cope with work or social activities. There may be feelings of depression or anxiety, or
behavioral problems in children and adolescence. Maladjustment usually disappears when
a person is removed from the stressful situation or adapts to it.

It has five subscales like Anxiety, Depression, Mania, Inferiority, and Paranoia.

**Anxiety**

It is defined as feeling of impending doom, fear, worry of future, perspiration, palpitation, tremor, being upset.

**Depression**

Feelings of worry, suicidal tendency, disinterest, feeling of guilt, sense of failure, hopelessness, despair, emptiness.

**Mania**

Feelings of restlessness, lack of self control, restraint, over reactivity, quick temper, getting into trouble, over talkativeness and impulsivity.

**Inferiority**

This is the feeling of smallness, sensitiveness, shyness, self consciousness, lack of self confidence and easily hurt.

**Paranoia**

Feeling of suspiciousness, feeling of being persecuted, exploited and misunderstood, not trusting others and getting into quarel.

**Quality of Community Life**
It is the quality of community life in terms of relationship with colleagues, support of relatives, support of families, support of neighbors, relationship of friends and social discrimination.

**General Objectives of the Study**

1. To compare the impact of tsunami on the Psycho social 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 Psycho social 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 between tsunami survivors in Alappad Grama Panchayath and people of non-affected Chavara Grama Panchayath.

3. To make a comparative analysis of Disability between 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) between 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 (QCL) between 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) among 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 among 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) among survivors in Alappad Grama Panchayath immediately after tsunami, after one year and after two years of occurrence.

10. To make a longitudinal assessment of Quality of Community Life (QCL) among 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, Maladjustment 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 Displacement Status).

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.

4. There will be no significance difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Intrusion immediately after tsunami.

5. 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.

6. 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.

7. There will be no significance difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Disability immediately after tsunami.
8. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Maladjustment immediately after tsunami.

9. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Anxiety immediately after tsunami.

10. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Depression immediately after tsunami.

11. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Mania immediately after tsunami.

12. There will be no significance difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Inferiority immediately after tsunami.

13. There will be no significant difference between the survivors of Alappad Grama Panchayath and people of Chavara Grama Panchayath in Paranoia immediately after tsunami.

14. 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.

15. There will be no significant difference in Post Traumatic Stress Disorders (PTSD) experienced by survivors in Alappad Grama Panchayath immediately after Tsunami, after one year and after two years of its occurrence.
16. There will be no significant difference in Avoidance experienced by 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 Intrusion experienced by 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 Hyper arousal experienced by 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 Mental Disorders associated Primary Health Condition experienced by 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 Disability experienced by 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 Maladjustment experienced by 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 Anxiety experienced by survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence

23. There will be no significant difference in Depression experienced by survivors of Alappad Grama Panchayth immediately after tsunami, one year and two years of survival.
24. There will be no significant difference in Mania experienced by 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 Inferiority experienced by survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence

26. There will be no significant difference in Paranoia experienced by survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence

27. There will be no significant difference in Quality of Community Life among the survivors in Alappad Grama Panchayth immediately after Tsunami, after one year and after two years of its occurrence

28. There will be no significant difference in Post Traumatic Stress Disorders (PTSD) among the 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 Displacement Status).

29. There will be no significant difference in Mental Disorder Associated with Primary Health Condition among the survivors in Alappad Grama Panchayath in relation to the selected socio demographic variables.

30. There will be no significant difference in Disability among the survivors in Alappad Grama Panchayath in relation to the selected socio demographic variables.

31. There will be no significant difference in Maladjustment among the survivors in Alappad Grama Panchayath in relation to the selected socio demographic variables.