

ഇശൽ പൈതൃകം

ത്രൈമാസിക ലക്കം: 31

Ishal Paithrkam

Online issue 16

print issue 31

December 2022



Mahakavi Moyinkutty Vaidyar

Mappila Kala Akademi

Department of Cultural Affairs

Government of Kerala-India

December 2022

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2022 ഡിസംബർ

പകർപ്പാവകാശം: പ്രസാധകർക്ക്

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മാപ്പിള കലാ അക്കാദമി

കൊണ്ടോട്ടി: 673 638

ഫോൺ: 0483 2711432

ഇശൽ പൈതൃകത്തിൽ പ്രസിദ്ധീകരിക്കുന്ന രചനകളിലെ ആശയങ്ങൾ മാപ്പിളകലാ അക്കാദമിയുടേതോ, സംസ്ഥാന സർക്കാരിന്റേതോ, സാംസ്കാരിക വകുപ്പിന്റേതോ ആയിരിക്കണമെന്നില്ല. - എഡിറ്റർ

Ishal Paithrkam

ISSN: 2582-550X

Peer-Reviewed

UGC Listed

Quarterly

Bilingual

Issue: 31

Online issue: 16

Devenember: 2022

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Dr. Shamshad hussain. KT

Publisher

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Mappila Kala Akademi

Kondotty, 673638

India.

Ph: 0483-2711432

www.mappilakalaacademy.org

www.ishalpaithrkam.info

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Disaster Preparedness of Local Government Institutions: A Study from Alappuzha District of Kerala

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Dr. K Gireesan

India witnessed many natural disasters during the last three decades. All these disasters demand a shift from post-disaster measures to disaster preparedness, from readiness to mitigation, from individual aid to restoration of community services, and, from relief to rehabilitation. For an intensive field study, four Grama Panchayats (GPs) from two Blocks of Alappuzha District in Kerala were selected, considering their vulnerable and disaster-prone status. The study analyzed the roles, responsibilities, functions and potential activities of Local Government Institutions in disaster management at the local level with thrust on preparedness. The study brought out the absence of a holistic strategy, lack of pro-active mechanisms and less emphasis on capacity building programs for major stakeholders, etc.

Key Words: Disaster Preparedness, Local Government Institutions, Gram Panchayats

Introduction

A natural disaster is a complicated event that may occur as a result of natural phenomena in nature such as floods, tsunamis, tornadoes, volcanic eruptions, earthquakes, etc. It may happen unexpectedly, or may evolve over a period of time. In some cases, a flood or drought occurs gradually and results in a famine. According to the Emergency Events Database (EM-DAT) (2020), over the past two

decades, 7,348 disasters happened across the globe. Disasters resulted in the death of about 1.23 million people, an average of 60,000 each year, and impacted over 4 billion people (many on more than one occasion). Furthermore, disasters resulted in about \$2.97 trillion in economic damages globally (United Nations office for Disaster Risk Reduction (UNDRR), 2020).

India is the seventh-largest and second populous country in the world with a large landmass and diverse Geo-agro-climatic zones (Office of the Registrar General and Census Commissioner, 2011). The country is prone to natural calamities ranging from floods, droughts, cyclones, earthquakes, Tsunamis, and landslides as it has a diverse topography ranging from the peninsula to the mighty Himalayas (National Council of Educational Research and Training, n.d.). India witnessed many natural disasters during the last three decades such as Odisha super cyclone (1999), Gujarat earthquakes (2001), Tsunami (2004), Uttarakhand floods (2013), Chennai Floods (2015), Okhi hurricane, Kerala floods (2018, 2019), Cyclone Gaja (2018) and Cyclone Fani (2019). COVID-19 has affected the whole country infecting 44,442,507 people and 527,932 casualties as on 22 August 2022. All these disasters demand a shift from post-disaster measures to disaster preparedness, from readiness to mitigation, from individual aid to restoration of community services, and, from relief to rehabilitation. India should follow the pro-active approach than the reactive approach in disaster management, which means assistance in the post-disaster phase shall be replaced by planning and preparedness activity in the pre-disaster phase (Disaster Management Act, 2005). This dynamic approach can be achieved through proper training, active information management, and coordinating public relations.

Disaster Management and Local Government

Local Government Institutions (LGIs) are the most important institutions in rural areas, from village to district level, because of their proximity, universal coverage, and institutionalised participation of the populace. Active participation of LGIs in preparing the community for natural disasters and involving them all preventive and protective activities, reduces the impact of disasters and allows people to save their lives and property.

The Panchayati Raj Institutions (PRIs) can serve as catalysts for social mobilization by incorporating the traditional wisdom of indigenous communities for disaster mitigation efforts. Additionally, the PRI serves as a Coordinator for integrating diverse community concerns along with those of the NGOs and community-based organizations engaged in a variety of developmental activities at the grassroots. Panchayats can engage in a variety of disaster management activities (NIRD, 2008) such as pre-disaster, during disaster and post-disaster.

Pre-Disaster

It refers to the actions taken prior to a disaster that ensure that losses and damages are kept to a bare minimum.

- Organizing public awareness campaigns and promoting disaster preparedness education in the community.
- Community involvement and Panchayat ownership will be used to articulate the need for developing a preparedness plan.
- Identifying and filling physical and human resource gaps through capacity building.
- Creating synergies with local agencies such as NGOs/CBOs.
- Integrating risk reduction in national and state level development programmes.
- Promoting awareness and facilitating asset and livestock insurance.
- Establishing convergence with other local institutions.
- Executing the DM Plans with community participation.
- Task force formation and capacity building.

During Disaster

It refers to immediate relief or people who are already or will be affected by disaster.

- Arranging emergency communications with the assistance of available resources.
- Evacuation to temporary shelters and operation of relief camps.
- Co-ordination of various agencies for rescue and relief efforts.
- Monitoring of Relief distribution.
- Proper disposal of carcass/corpse.
- Creating provision of safe drinking water and sanitation.

Post Disaster

It refers to post-disaster activities and assistance to the affected community in resuming normal life.

- Damage assessment.
- Formulating plan for rehabilitating the affected and rebuilding houses or buildings.
- Enforce necessary specification for safe reconstruction.
- Long-term reconstruction and mitigation projects to be overseen.
- Mobilizing special funds to build disaster-resistant homes in vulnerable areas.

According to Gireesan (2013), the LGI is expected to act as a "Leader" in the pre disaster phase. As a leader, the LGI should take the lead in mapping the area's resources and facilities and forming a team with defined functions and responsibilities for developing a local level disaster management plan. It is also expected to take appropriate steps to strengthen the capacity of various stakeholders to address the situation in a systematic and comprehensive manner. During a disaster, the community often relies on the LGI to address their basic needs, concerns, and issues. The LGI is expected to monitor the situation and facilitate forward and backward communication as quickly as possible. They are expected to compile and verify information in order to seek and receive assistance from the District Administration. During this phase, the PRI is expected to act as a "Coordinator and Communicator."

During the post-disaster phase, LGIs play an important role in rescue, relief, rehabilitation, and reconstruction efforts. It is expected to act as a "Provider, Coordinator, and Facilitator." The primary function of a LGI in a disastrous situation is to be a 'provider' of basic services and facilities, followed by the provision of special services depending on the local context". Furthermore, its role is more of a 'Coordinator,' of various institution, organization, agencies as the activities during the phase that cannot be carried out successfully without the active role.

Study Area

Alappuzha district of Kerala has been traditionally vulnerable to natural disasters because of its unique geo-climatic conditions and

vast coastline. Because of its peculiar geography, most part of the district is prone to perennial floods. Agriculture, animal husbandry, fisheries, poultry and other productive activities have been taken up considering the unique geographical patterns in the district. Due to the perennial nature of floods and other geological conditions, probably Alappuzha is one of the least industrialized districts in the State of Kerala. Here, the study analyses the role, responsibilities, functions and operationalization of LGIs of Alappuzha district with thrust on preparedness. The study is descriptive in nature.

Methodology

According to the vulnerability profiling carried out by the Institute of Land and Disaster Management (ILDM), Alappuzha is one of the most vulnerable districts in the State, considering the data on floods. Multi-stage sampling was adopted for the selection of administrative units for the field study. For the selection of Block Panchayats and Gram Panchayats from the sample district, purposive sampling method was used. It is also noted that among the different block panchayats in Alappuzha, Champakkulam and Veliyand Blocks are highly vulnerable. Based on discussions with the key functionaries in the District Administration and concerned Block Development Offices, two most vulnerable GPs from each Block were identified for an in-depth field study. Accordingly, Kainakary GP and Edathwa GP from Champakkulam Block, as well as Kavalam GP and Muttar GP from Veliyanad Block were chosen. Regarding the number of wards in each, Edathwa and Kavalam GPs have 13 wards each, and Kainakary and Muttar GPs have 15 wards each. Stratified random sampling was used by the researcher for field surveys towards gathering quantitative as well as qualitative data.

Various tools and techniques of Qualitative and quantitative research methodology were used for the study. To collect the primary data, tools such as interview schedule, Schedule for Focus Group Discussion (FGD), and in-depth interview schedule for the key officials of the LGI were incorporated. Secondary data was collected from research journals, research reports, books and other relevant literature (both published and unpublished).

Sample consist of about 310 respondents which included elected representatives of the LGIs; key informants from the locality that include officials, researchers, and social activists; and, a cross-section of the society with thrust on the key functionaries of Youth Organizations (Political and non-political) and leaders of women's organizations from the study area.

Activities carried out by Local Governments in Pre-Disaster Phase

It was noted that flooding is not something new in the day-to-day lives of the residents in Kuttanad region of Alappuzha district. The Kuttanad region, situated below mean sea-level (MSL), is vulnerable to floods in comparison with the surrounding regions. It was known from the respondents that the root cause of the floods is the absence of a channel to drain off the flood water. The amount of water flushed out through Thottappally spillway is far less than the quantity of flood water carried by rivers, which increases the water-level in Kuttanad. Bridges and roads constructed across paddy fields and water bodies block the water flow to the Arabian Sea. Paddy fields are converted for other purposes like building houses and settlements. Land reclamation and silting increases the vulnerability to floods. This impacted the carrying capacity of the Vembanad backwaters and polder system. Climate change, mismanagement of the reservoirs, absence of proper infrastructure development activity and heavy rains in the catchment area of rivers flowing through Kuttanad adds to the toll of vulnerability.

“Flooding is not a new issue for us; it had always hampered our livelihood and mobility. The severity of the floods in 2018 and 2019 changed our perspectives,” said Joseph, a retired teacher. The floods in 2018 and 2019 were extremely destructive and it took longer time to recover. Interactions with the local community revealed that on an average, they face floods for a month and the trend is on the rise. People who stay in the low-lying areas were affected for more than two months. During the FGD, some of the respondents (Mr.Rajan and Mrs. Renuka) shared their concerns about flood water in the roads and courtyard which will remain water logged for several months in the year. It was surprising to know that the flood water continues to

be there for a long period of time. In the previous years, the flood water used to recede in two or three weeks and the local community had managed to survive risking their lives in the water-logged areas. Village office with the support of ward members, used to set up a gruel center (Kanjiveezhalkendra). During the floods in the past, the residents stayed at their home and approached the gruel center for their food. Relief camps were an option only when the situation worsened. During the floods, the authorities usually consider establishing relief camps and the schools in the area were usually converted to relief camps. During the period of floods, the schools declare leave for the students. The floods happen during the South-West monsoon from June to September.

However, the increase in its frequency and intensity during 2018 and 2019 was quite unprecedented in terms of damages to the agriculture, infrastructure and the environment. The elected representatives from Kaavalam and Kainakary GPs mentioned that the families were forced to shift to a safer zone in the vicinity of Alappuzha and the neighboring district of Kottayam which happened never before.

Knowledge regarding Flood Prone Areas of the GP by Elected representatives

Elected representatives of LGIs and key informants from the study area had knowledge regarding the vulnerable areas in their respective GP. All elected representatives of the sample Gram Panchayats were aware of the vulnerable areas in their constituency as they have been living in the area for decades and came across multiple experiences of flooding. Interestingly, the elected representatives and the key informants had a reasonable experience in developmental planning and addressing socio-economic-political issues of their functional area during the past four and a half years. It is noted that regular interactions with the residents, youth, MGNREGS workers and Kudumbashree functionaries have boosted their awareness.

Among the respondents, just more than one fourth (26%) were partially aware of the major flood-prone areas of the sample GPs. It is significant to note that most of those who were not aware about the flood prone areas belong to the category of officials.

None of the Sample Panchayats from the study area made any effort to understand the strength, weakness, opportunities and threats from the perspective of disaster preparedness and management. Absence of scientific way of vulnerability profiling, documentation, mapping, risk zone identification, etc. were absent in the study area. No linkage/collaboration with the educational institution, research institution, development organization, etc. was noted in this regard.

Preparation of the projects at the local level

PRIs have the mandate to prepare the local level disaster management projects and revise them in their annual plans towards disaster mitigation. Despite the reality that the GPs were highly vulnerable to floods, no project proposal on disaster preparedness and management was prepared by any of the GPs during the last three Years.

There was no tangible result seen in the improvement of the existing physical resources for the relief camps and rehabilitation centers, from the point of disaster preparedness. The authorities of the GPs made attempts to justify this by citing their poor financial status and absence of specific funds for disaster management. By analyzing the action plans of the GPs for the last five years, it was noted that the sectors such as Roads, drinking water, Rural electrification, administrative and technical assistance, sanitation, women's and children's development, and public distribution system were given priority. However, none of these sectors tried to formulate plans from the perspective of disaster preparedness and management(e-gramswaraj,2021). Despite the fact that provision of specific funds for Disaster Management in these areas would have facilitated the efforts, even the available funds was not utilized scientifically, anticipating the disaster preparedness and mitigation.

Status of Capacity Building and Training (CB&T) attended by Elected Representatives

Disaster management training generally aims at improving the technical skills, personnel management, team management etc. to the key stakeholders. However, it is noted that only a very small segment of elected representatives received training with regard to disaster preparedness like rescue, first aid, emergency kit preparation, etc.

One of the Panchayat Secretaries from the study area expressed that the villagers did not have adequate exposure to use life jackets during the emergency situations. This is very important considering the fact that traditional boats are the primary mode of conveyance during floods. Most of the community members were unaware about the use of life jackets.

Three-fourths of the respondents (75%) were not aware about the application of first aid procedures in the event of any disaster. Though they heard the term "first aid" on numerous occasions, but did not have the requisite knowledge to provide scientific first aid to a person in need, as they did not receive any formal training.

Generally, the newly elected representatives of PRIs receive induction level training and refresher training sessions. However, capacity building sessions on disaster preparedness was not provided to them. Disaster preparedness and management shall be a mandatory component in the capacity building sessions for the elected representatives at the local level as it helps them to make wise decisions and strategies during an emergency. Respondents of this study expressed an interest in attending various training sessions on the basics of disaster preparedness and risk reduction, skill-based training, training in rescue operations, application of first aid etc.

Disaster Management Committee (DMC) at the GP level

All the sample GPs in the study formed a Disaster Management Committee (DMC) at their area. DMC is in charge of coordinating all disaster-related activities at the local level. The DMC consist of elected members of the GP, secretary of GP, village officer, officials of key Govt. Departments/ Institutions/ Agencies, representatives from the different political parties and the community members. Unfortunately, no representative from the youth/women organization, was included in the DMCs of the study areas.

DMC is a steering committee that coordinates all the activities during the various phases of a disaster. It is noted that all the GPs of the study area formed their DMCs is in order to comply with the instructions from the State Government. This committee is responsible for gathering, consolidating, and analyzing disaster-related data. The primary responsibility of the DMC is the preparation and the imple-

mentation of disaster management plans at the local level. Discussions on the vulnerable conditions of GP, formulation of supporting system for agriculture, construction of animal shelter, drinking water issues etc. are made in the meetings of DMC. The Committee used to meet for a minimum of three sittings in a year. The GP secretary is responsible for maintaining the minutes of the meeting. However, the data gathered from the field show that the decisions made by the DMC remained only on papers. The data collected as part of the process of disaster preparedness and management was either obscure or invisible. No disaster management committee or emergency response team was constituted at the ward levels.

Resource Mapping of the Area

Maintaining a database of the schools, roads, bridges, culverts and elevated shelters for animals, pipelines, sanitation facilities and sources of alternative / stand-by power supply can help the PRIs during disaster situation.

More than three fifth of the respondents (63%) from the locality have knowledge about the natural, physical and human resources in the area. However, the details regarding these resources were not collected, recorded and or updated by the GP. Among those respondents with fair understanding of the resources, 40% were aware of the buildings they could use as temporary shelters as emergency. Significantly, all the elected representatives of LGIs from the study area were aware of the vulnerable areas in their constituency as they were actively involved in addressing socio-economic and political issues in their functional area for the last so many years.

However, there is no data available with the GPs about the details of professionals/technically qualified persons like doctors, engineers, plumbers, electricians and other relevant categories. It was known that the GPs in the study area procured the private boats from the community members to carry out the rescue operations.

Awareness about Disaster resilient buildings in the area

More than two-thirds of the respondents (70%) were aware of the significance of disaster-resilient buildings and their specifications. Though the GP utilized the buildings in its area during the floods in previous years, at the time of study, those buildings are no longer

suitable for use as a shelter or storage place, due to very low maintenance. Owing to the unique topographical features of the study area, in which a large segment of land was located below MSL, identification of hazard free area and disaster-resilient buildings was a very tough task.

Gram Sabha and Disaster preparedness

Every year, all the sample GPs held a minimum of four Gram Sabhas. Just less than three fourth of the respondents (73%) used to attend at least three Gram Sabhas in a year. However, there was no trace of discussions in the Grama Sabha records about the disaster preparedness projects/ measures in the Gram Sabha meetings during the last three years. Recurring nature of flood management was not a matter of discussion in the Gram Sabha and no special meeting was convened in this regard.

Gram Panchayat Disaster Management Plan

Data gathered from the field showed that none of the GPs in the study area prepared the Disaster Management Plan at the local level up to the year 2020. Kerala State Disaster Management Authority (KSDMA), with the support of UNDP, prepared the Village Disaster Management Plan (VDMP) for two revenue villages in the State of Kerala.

Revenue village is the smallest administrative unit for collection of revenues, according to the Department of Revenue. The revenue officials of the Village Office such as Village officer and Village Assistants rarely interact with the community, unlike the elected members and officials of the Gram Panchayat.

Drawing lessons from 2018 and 2019 floods in the State, Kerala Institute of Local Administration (KILA) took the initiative to prepare Gram Panchayat Disaster Management Plan (GPDMP) for all GPs of Kerala. However, the extent of people's participation in the exercise of preparing the GPDMP needs to be examined, in order to assess its applicability and ownership by the community.

Conclusion

Considering the evidences gathered from the study area, it is viewed that the level of disaster preparedness by the local government is not sufficient enough. If the LGI is actively engaged in disas-

ter preparedness programmes/ activities, the ability of the local government and its citizens will definitely improve significantly. It is expected that the citizens may engage themselves as active stakeholders rather than passive recipients. Provision of requisite resources and their optimum utilization by the PRIs and their freedom of choice in decision making are linked with their ability to perform. Engaging community as an active stakeholder rather than as a passive recipient of benefits/services is very much needed for better sustainability.

The study highlighted the absence of a holistic strategy, lack of a pro-active mechanism, low emphasis on capacity building sessions, etc. The study advocates for a revision of national and state policies on disaster management with more thrust on disaster preparedness along with a pivotal role to the Local Government Institutions and Community Based Organisations in the pre-disaster phase.

In recent times, the extent and severity of natural disasters was enhanced with serious ramifications. This has increased the need for pro-active strategies with an active role for the Local Government Institutions during different phases of disaster management with special thrust on disaster preparedness. Disaster preparedness shall be a concerted effort and under the vibrant leadership of the LGI, co-ordination of all key stakeholders with focus on the participation of the local community will be very much possible. The study showed that the LGIs have a very significant role to play in disaster preparedness leading to sustainable development practices in their functional area.

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