

Livelihood Resilience Assessment in Addalachchenai, Sri Lanka

March, 2024 | Addalachchenai, Ampara District

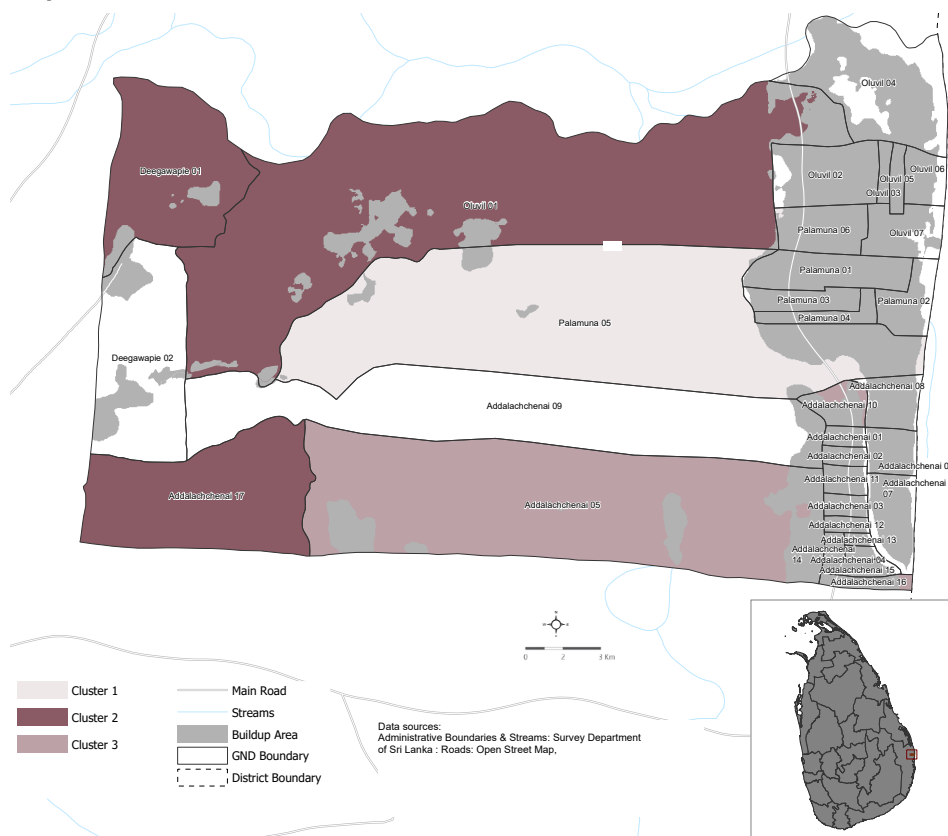
KEY MESSAGES

- As reported by KIs and FGD participants from Addalachchenai **heavy rains with floods, human-elephant conflict (HEC) and droughts** were the main hazards impacting the communities.
- Damage to agricultural land and crops**, along with the **loss of livestock, endangered farming livelihoods**, according to KIs and FGD participants. Respondents also noted that the **loss of human life** caused by hazards to be a significant impact for communities. Primary impacts of hazards reportedly were: **decreased income, triggering food insecurity and poverty**.
- According to reports from KIs and FGD participants, **poor infrastructure**, such as the **absence of appropriate drainage systems, poor sanitation facilities** contributed to experienced **vulnerability**. **Low levels of education and technical knowledge on Disaster Risk Reduction (DRR) and livelihood resilience measures** also **aggravated vulnerability**.
- Priority mitigation activities recommended** by respondents for **flood mitigation** included **constructing or repairing water stores**. While for **drought, constructing and maintaining agricultural waterstores** were recommended by respondents. To address **HEC, constructing elephant fences** was recommended as a priority.

CONTEXT & RATIONALE

Located in the Eastern province, Ampara district, Addalachchenai covers an area of 688 km², with a population of 53,384 individuals. It is estimated that the dependency ratio reaches 37%. The average population density is 77,6/ km². The terrain is diverse, ranging from lagoons, minor streams, ponds, tanks, water holes, forest-unclassified, grassland, homesteads, and marshlands. With 7 km of coastal area, Addalachchenai was one of the divisions severely affected by the Tsunami in 2004. The terrain in Addalachchenai is mostly flat, with several lagoons and water bodies in the region that contribute to agriculture, livestock and fishing activities. Addalachchenai vegetation comprises of agricultural land, forests and marshes. In addition, the geography significantly shapes its economy, with livelihood activities primarily revolving around agriculture, in addition to the 2,016 individuals engaged in fishing activity in the region, the secondary contributor to the division's economy.

Map 1 - Addalachchenai division and clusters of Grama Niladhari



ASSESSMENT OVERVIEW

IMPACT profiled the situation of farmers' and fishers' livelihoods in Vavuniya South, in order to inform the strategic programming of actors at the local level. The assessment focused on three clusters of Grama Niladhari (GND) (Map 1), chosen based on their level of risk to natural hazards identified in the [Area Based Risk Assessment \(ABRA\) conducted by IMPACT in 2023](#).

Methodology

A qualitative, semi-structured questionnaire was administered to 25 key informants (KIs) and 12 focus group discussions (FGDs) from January to February 2024 to understand the livelihood resilience context. KI profiles included Government actors, Community-Based Organisations (CBOs), and National and International Non-Governmental Organisations (NGO/INGOs). FGDs were conducted with members from agricultural and fisheries communities, divided by gender and age.

This report is made possible by the generous support of the American People through the United States Agency for International Development (USAID). The contents are the responsibility of Acted/IMPACT Initiatives and do not necessarily reflect the views of USAID or the United States Government

Risk governance and hazard impacts

Disaster Risk Management practices in place

In Addalachchenai, KIs reported that disaster response actions were the most practiced DRM strategy. Primary responses included emergency warnings, evacuation support, and the provision of dry food and water for survivors in temporary shelters. An LA KI mentioned that the Disaster Management Committee shared warnings with the district secretariat and divisional departments. Other KIs and FGD participants noted that the divisional secretariat led the emergency warning dissemination process, informing relevant government departments, Grama Niladharis (GNs), and religious institutions using phone calls, loudspeakers, and social media. KIs also reported that departments such as the Department of Fisheries and Aquatic Resources and the Department of Agriculture issued warnings to fishers and farmers. LA KIs further reported that district evacuation plans were in place, with public buildings like schools designated as shelters. A GN KI from cluster 1 highlighted the coordination between the district Disaster Management Center (DMC), police, Pradeshiya Sabha, and divisional secretariat during floods, which included emergency warnings, evacuations, and post-disaster road and drainage repairs.

KIs suggested strong coordination between district and divisional government departments during disaster response. They also emphasized the role of the village committee for disaster (VCD) and its coordination with government agencies for early warnings and evacuation efforts. However, some GN KIs stressed the need to strengthen disaster response at the GN level and improve collaboration with local CBOs to enhance the effectiveness of responses in Addalachchenai.

KIs and FGD participants highlighted the role of mosque administrations, other religious institutions, women-led CBOs, farming groups, and youth organizations in warning dissemination and evacuation. These groups also contributed to food distribution in shelters, community awareness, and infrastructure repair. Some CBO KIs mentioned building CBO capacity in DRR and risk mitigation. KIs also noted that community risk mitigation involved participation in training and responsiveness to government directives, though they identified a need to enhance community-level DRR responses.

KIs reported that external actors supporting DRR efforts included UN bodies, World Vision, the World Food Programme, Save the Children, the World Bank, Islamic Relief, regional development banks, Dialog, TRC Institute, Sarvodaya, Ruhunu Lanka, and Berentina Development Service

Main hazards in Addalachchenai

As depicted in the table, KIs and FGD participants reported heavy rain with flooding followed by human-elephant conflict (HEC) and droughts with the highest frequency as the main hazards occurring in Addalachchenai. Storms with strong winds were reported by KIs and other animal conflicts were also observed by FGD participants and KIs. Noted with less frequency were thunderstorms with lightning, extreme heat, strong sea turbulence, and cyclones. District and divisional LA KIs highlighted the yearly occurrence of floods, droughts, and HEC. An NGO KI noted that the last five years have witnessed annual floods and droughts. FGD participants cited that floods usually occur from October to January and droughts from July to September. A district-level KI commented that severe flooding was registered in the following years; 2012, 2014, 2018, 2020, 2022, and 2023. A CBO KI from cluster 2 commented that their region had not experienced severe

flooding in 13 years until recently. A KI also noted the regularity of HEC, occurring throughout the year and intensifying during harvest periods. A KI and participants from a farming FGD in cluster 1 also noted other animal conflicts such as from peacocks, monkeys, and wild pigs throughout the year.

Table 1: Main hazards in Addalachchenai as reported by KIs (total no. 23) and FGD participants (total no.12)

Major hazards	No. KI	No. FGD
Heavy rain with flooding	20	11
Human-elephant conflict	18	7
Drought	16	8
Storms and strong winds	8	2
Other animal conflict	8	7
Thunderstorm and lightning	3	0

Primary impacts of hazards

KIs and FGD participants in Addalachchenai identified crop damage and loss as the most recurrent and severe hazard impact. KIs noted that during heavy rains, water sources like the Kaliyodai dam overflowed, flooding agricultural lands and destroying crops. Divisional-level LA KIs reported that recent floods in 2024 caused damage to an estimated 1,500–1,711 acres of farmland. Heavy rains, flooding, and strong winds damaged crops such as paddy, maize, legumes, pulses, brinjal, chilies, pumpkin, groundnut, and melon. A divisional-level LA KI noted that elephants frequently encroached on farmers' lands, causing daily crop damage. KIs and FGD participants added that fruit trees, including coconut, jackfruit, mango, along with sugarcane, were often damaged by elephants. Additionally, some KIs and FGD participants reported an increase in crop diseases and pests during heavy rains and flooding, further reducing farmers' yields. FGD participants noted that small-scale plots and home gardens also suffered damage, and some participants mentioned that these lands were often abandoned due to substantial losses. Crop damage from floods, HEC, and droughts significantly reduced potential yields, lowering sales and profits and affecting farmers' socio-economic stability, according to KIs and FGD participants.

Another impact on farmers' livelihoods was the loss or illness of livestock, reported by KIs and FGD participants. Almost all divisional-level KIs noted the loss of livestock or the spread of infectious livestock diseases caused by flooding. These losses, along with disease outbreaks, reduced or halted the production of eggs and meat. Dairy production also declined, as flooded grazing lands left cattle malnourished, resulting in little to no dairy output. All these factors further diminished incomes from animal husbandry.

KIs also highlighted human loss as a significant hazard impact. Most KIs reported deaths caused by elephant attacks, with divisional-level LA KIs and a CBO KI each reporting 1–2 deaths in recent years, including the loss of a young child. A district-level KI estimated 50–70 human deaths and 250 elephant deaths over the past few years. Almost all KIs did not report fatalities from floods or droughts, though one divisional KI mentioned one death caused by flooding and the death of a young child from extreme heat.

KIs identified damage to fishing equipment, such as boats and

nets, as another primary hazard impact. Heavy rains with strong winds washed away canoes and boats parked along lagoons, while boat engines were damaged by harsh sea conditions. KIs and fishing FGD participants also reported that crocodiles had destroyed fishing nets. Without functioning equipment, fishers were unable to continue their livelihoods. A participant from a fishing FGD in cluster 3 noted that strong winds had prevented fishers from working for six months. Participants from another fishing FGD mentioned past incidents of crocodile and elephant threats, with one crocodile attack leaving a fisherman bedridden for three months.

Infrastructural damage was another common impact. Floods damaged homes, buildings, electrical poles, roads, and drainage systems. Stagnant floodwaters eroded walls, strong winds caused houses to collapse, and elephants damaged buildings. Floods also rendered roads impassable. Participants from a farming FGD noted that a recent flood split a main road hindered transportation, affecting access to markets, and preventing students from attending school. Sanitation facilities, canals, and drains were also damaged, leading to poor drainage and the spread of diseases. FGD participants additionally noted that power lines collapsed during heavy winds, disrupting access to electricity.

KIs and FGD participants emphasized the reduced access to drinking water and irrigation during droughts, which led to water scarcity.

During heavy floods, families were temporarily relocated to shelters in public buildings, such as schools, or to relatives' homes outside the disaster zone. A farming FGD reported that the 2024 floods displaced 500–600 families, who remained in public shelters for up to 10 days. A CBO KI from cluster 2 reported that 250 families were displaced during the same floods, while a fishing FGD participant from cluster 3 noted that 70 families from fishing communities had been displaced. Participants from an FGD also mentioned that families temporarily relocated during droughts. Recurrent flooding was linked to increased migration and households facing ongoing elephant threats had reportedly relocated to safer areas.

Secondary consequences of hazards

Economic

The most notable secondary impact of hazards was the rise in poverty and the loss of livelihood income and investments. KIs and FGD participants reported that income losses from reduced agricultural and fishing activities, crop damage, and destroyed equipment, hindered the ability to meet household and livelihood expenses. This loss of financial capacity shackled many households to poverty. An LA KI noted that farmers typically invested Rs 100,000 per acre or Rs 150,000 on leased land for cultivation, but hazards affected both investment and potential profits, causing financial decline.

To cope, farmers often took out loans but struggled to repay them, leading to cyclical debt burdens and further entrenchment in poverty. FGD participants added that low-income farmers relied heavily on loans to cover livelihood expenses. When hazards resulted in financial losses, many were unable to repay their loans, causing psychological distress from escalating debt, the most prominent secondary economic consequence reported by FGD participants.

Rising household poverty reduced purchasing power, limiting the ability to afford food, school supplies, and medicine, and to replace damaged equipment or livelihood inputs. FGD participants also noted the high costs of accessing water for cultivation during drought-induced scarcity. A farming CBO KI from cluster 2 highlighted the increase in early child marriages as a financial coping strategy during droughts.

Food access

KIs reported that rising food prices were the most significant secondary impact related to food access. Hazard-damaged crop yields from floods, droughts, and HEC led to shortages in local markets, driving up market prices. A divisional level LA KI noted that the price of a 62 kg paddy bag along with vegetables like brinjals and chilies increased, significantly exceeding market rates. FGD participants mentioned that milk and egg prices spiked as well. Participants from a fishing FGD reported a rise in fish prices from Rs 500 to Rs 1500 per kilogram. These price hikes limited access to food, with households forced to consume fewer than three meals a day. This drop in nutrition, particularly for children, elderly people, and the sick, was highlighted as a significant consequence by KIs and FGD participants. A women-led CBO KI from cluster 2 noted that inadequate maternal nutrition during pregnancy contributed to a rise in the number of infants born with a disability.

Social tension

KIs in Addalachchenai reported increased social tensions, particularly over water access during droughts. LA KIs noted that water for crop irrigation was rationed and released only on certain days, leading to disputes when water was not provided as agreed. Tensions also rose among communities sharing water sources as capacity declined during droughts. A KI mentioned that disputes often escalated, particularly among different religious groups, sometimes requiring police intervention. Some CBO KIs highlighted rising tensions over perceived unfair or discriminatory aid distribution. Additionally, a CBO KI and LA KI noted increased family conflict, violence, sexual violence, theft, and even homicide, linked to the financial strain caused by hazards.

Education

Almost all KIs reported that hazards, particularly floods, adversely affected children's education. Hazards led to increased school dropouts as families struggled to afford essentials such as uniforms, bags, books, or food, following income losses caused by disasters. Rising household poverty also forced children to either support family livelihoods or seek employment to support household income. A women-led CBO KI noted that during floods, damaged or flooded roads halted bus services, forcing students to walk up to 7 km to attend school, further contributing to dropouts. Participants from a farming FGD observed that financial stress caused by hazards triggered family conflicts, which in turn led to school dropouts. Other KIs indicated that educational standards and student performance likely declined because of interruptions in the school year caused by hazards.

Health

KIs and FGD participants identified an increase in infectious diseases as a secondary consequence of hazards such as floods and droughts. Waterborne diseases like diarrhea and cholera were reported, as a result of stagnant floodwaters and damaged sanitation facilities. FGD participants also noted a rise in fever and influenza during heavy rains. Increased dengue cases were linked to flooding and stagnant water. KIs and FGD participants highlighted skin diseases and eye infections caused by extreme heat. LA KIs reported increased psychological distress and substance abuse, particularly among fishers and farmers facing financial strain, with rising substance abuse also noted among the youth in Addalachchenai. Participants from farming FGDs noted a rise in respiratory infections and diseases reportedly caused by prolonged use of insecticides and agricultural oil. There were also reports of limited access to hospitals and health centers, attributed to elephant threats on main roads.



Vulnerability to hazards

Groups in vulnerable positions

The groups in vulnerable positions to hazards were identified as farmers, fishers, female-headed households (FHH), and people with a disability/household with a member with a disability.

Farmers

Almost all KIs identified farmers cultivating in at-risk areas such as low-lying lands near rivers, dams, and canals, prone to flooding. A divisional-level KI highlighted that settlements and agricultural fields in swampy areas easily accumulated water during heavy rains. KIs also mentioned that cultivation near forests led to recurrent HEC and conflicts with other animals. Participants from farming FGDS in Cluster 3 highlight that the absence of elephant fencing was another significant precursor to farmers experiencing vulnerability, leading to daily crop and land damage by elephants. Limited access to water for cultivation, particularly during droughts, was cited as a pre-existing issue exacerbated by hazards.

KIs and farming FGDS pointed to limited access to modern agricultural knowledge and practices as a pre-existing vulnerability, resulting in greater crop damage during hazards. They reported that farmers received no external expertise on livelihood resilience or DRR. The increase in insects and other pests affecting crops and limited awareness of control measures were highlighted by participants from farming FGDS as a vulnerability affecting their livelihood. Participants noted that farmers often relied on animals or manual plowing without modern equipment, due to limited awareness of new technologies and a lack of daily wage income. A female farming FGD in Addalachchenai stated that farmers depended on traditional methods and lacked the means to invest in modern equipment valued at Rs25,000 or more. KIs also noted that maintaining agricultural livelihoods can become increasingly costly, particularly regarding the cost of agricultural inputs. KIs further noted that farmers had no alternative income sources, relying solely on agriculture.

Participants also highlighted the lack of animal husbandry materials, such as chicken hatcheries, and insufficient grazing land, further limiting their livelihoods. FGDS from cluster 3 added that farmers' children faced discrimination in schools due to attitudinal stigma.

Fishers

Similar to farmers, fishers in Addalachchenai were solely dependent on fishing, increasing their vulnerability to hazards, reported respondents. Fishing FGDS highlighted limited access to risk financing, including loans, subsidies, and modern equipment like canoes and fish traps. The lack of disaster compensation also contributed to their economic vulnerability.

Participants from cluster 1 reported that fishers couldn't engage in their livelihoods during natural disasters, as water sources like ponds were filled with stones, silt, debris, and garbage after heavy rains. Some KIs mentioned that coastal fishers were often exposed to strong sea turbulence during heavy rains and strong winds.

Confiscation of fishing nets by authorities was also reported by FGD participants, further restricting fishers' livelihoods. Respondents noted rising costs for fishing supplies like oil, lead, and kerosene, which increased their operational expenses as a result of recurrent hazards.

A male fishing FGD noted that fishing communities lacked access to DRR plans and did not engage with relevant government departments in such initiatives, leaving them more vulnerable without precautionary protocols or mitigation plans.

Female-headed households, people with a disability and low-income households

KIs and FGD participants identified FHHs, people with a disability, and low-income households reliant on government benefits as the most vulnerable groups. FGD participants reported the presence of numerous FHHs in their respective GNDs, with numbers ranging from 60 to 300, and 4,850 low-income households dependent on Samurdhi benefits. A divisional-level LA KI reported 800 FHHs and 560 individuals with disabilities. The number of people with disabilities or households with a member with a disability ranged from 11 to 65.

KIs and FGD participants noted that these households often had limited financial capacity and relied heavily on government benefits such as Aswesuma and Samurdhi. KIs further shared that households with a disabled member also received a limited amount of welfare payments. A district-level KI reported that FHHs faced heavy debt burdens, incurred to improve household economic stability. Women in these households often engaged in low-wage, daily labor, such as seed harvesting and seasonal fishing. FGD participants added that many FHHs were a result of widowhood imposed by the previous civil conflict. Consequently, respondents concluded that FHHs and households with disabled members were especially vulnerable, given their limited socio-economic capacity to cope with hazards.

Pre-existing infrastructural conditions

KIs and FGD participants identified the most reported pre-existing infrastructural vulnerability as the lack of adequate drainage and canal facilities. KIs highlighted the absence of proper drainage systems, while FGD participants emphasized poor construction, leading to stagnant floodwaters. They also noted that existing drainage pipes were too narrow and often clogged with garbage, increasing the community's susceptibility to flooding during heavy rains.

Additionally, KIs reported the lack of proper sanitation facilities and drainage systems as factors of vulnerability, as damaged or overflowing sanitation pits during heavy rains posed heightened health risks, including dengue and waterborne diseases. KIs and FGD participants reported that flooding worsened in areas with poor road conditions, which contributed to stagnant floodwaters. Several KIs cited weak or damaged ponds and tanks as pre-existing factors increasing vulnerability to heavy rains and flooding. A VCD from cluster 2 mentioned coastal erosion, which heightened flooding risks and led to damaged infrastructure. KIs also pointed out that resettlement and illegal housing in flood-prone areas frequently resulted in recurring damages and challenges with ongoing repairs.

The absence of elephant fencing around villages or agricultural lands, along with a lack of maintenance of existing fences, was another significant reported vulnerability. Divisional-level LA KIs cited the large garbage dump in Pallakkadil, which attracted elephants to residential areas. Furthermore, limited electricity infrastructure in the divisions hindered the use of electric fences and streetlights to deter elephants at night. Participants from a male farming group in cluster 2 noted the growing elephant population as a major threat to the safety of farming communities.

A CBO KI from cluster 2 reported that the construction of a floodstone wall repeatedly damaged fishing boats and nets. The overgrowth of water hyacinth and moss further complicated fishing livelihoods by obstructing water sources. Additionally, a CBO and LA KI mentioned that the construction of a port had disrupted fishing activities, leading to reduced fish catch.

Participants from a female farming FGD in cluster 2 highlighted deforestation's impact on natural groundwater stores, which



affected farming lands. KIs also noted sand mining as a contributing factor to increased flooding and related health risks.

Pre-existing attitudinal conditions

Findings from Addalachchenai's KIs pointed to limited DRR literacy, attributed to the lack of DRR awareness campaigns, as a pre-existing attitudinal vulnerability. A district-level LA KI noted that communities faced significant losses during hazards, such as flooding, because of limited DRR knowledge. Other LA KIs highlighted that budget constraints prevented effective DRR awareness programs in divisions like Addalachchenai, further contributing to limited DRR knowledge.

KIs also identified a lack of modern technology knowledge among farmers and fishers, which led to damage to new equipment that could have improved resilience against hazards.

Furthermore, KIs noted that the national economic crisis following COVID-19 severely impacted communities' socio-economic stability, leaving households more vulnerable hazards.

Alternative sources of income

Table 2: Alternative sources of income to farming and fishing when livelihood activities are impacted by natural hazards

Alternative sources of income	No. KI	No. FGD	No. KI	No. FGD
	Farming		Fishing	
No other source	14	0	14	0
Daily wage labour	2	0	4	1
Livestock rearing and husbandry	5	0	7	0
Self-employment	2	0	0	0
Agriculture	0	0	0	2
Fishing	0	1	0	0
Construction and sale of fishing nets	0	0	0	2
Home rental for short-stay	0	1	0	0
Fish drying	0	0	0	1

Most KIs reported main fishing locations to be in nearby freshwater rivers, ponds, and tanks followed closely by coastal fishing. Most respondents highlighted that there were no other alternative fishing sources during heavy rain or drought, but some did mention other nearby freshwater and coastal sites as alternative locations.

Disaster preparedness and risk mitigation measures

Community disaster preparedness and response

KIs highlighted the community's limited preparedness and response measures, with most indicating that the broader community's role was confined to following instructions and protocols, and cooperating with government officials and CBOs during disaster emergencies. Some KIs mentioned the community's involvement in disseminating early warnings and the

role of community leaders in evacuation procedures. Participants from farming FGDs shared instances of community members disseminating warnings by the gates of schools, informing parents to seek shelter. Additionally, KIs noted instances of community members contributing cooked food at temporary shelters. A VCD KI added that community members were responsible for assembling their disaster relief kits during emergencies.

While several KIs pointed out the absence of community-based risk mitigation activities, others discussed the role of communities in constructing or repairing elephant fences and drainage systems. FGD participants also shared cases of community involvement in the construction or rehabilitation of water sources and waterways such as ponds, embankments, and canals. KIs and FGD participants also cited community participation in cleaning ponds and drain blockages to mitigate flooding. Another measure highlighted by participants from female FGDs was the use of sandbags, planted along roads to mitigate flood effects on their houses. Respondents also highlighted the role of the community in guarding lands against elephant encroachment. Participants from a fishing FGD in cluster 3 also noted measures taken by fishers to secure their boats and equipment to reduce damage from heavy rains with strong winds. An LA KI highlighted the consultation process with communities when planning DRR initiatives.

Government disaster preparedness and response

In KIs highlighted that government disaster preparedness and response activities primarily involved emergency community warnings. KI reported that the DMC was responsible for notifying district and divisional secretariats, as well as relevant departments, about hazards like heavy rains, strong winds, and flooding. Divisional secretariats supported the DMC by informing departments such as Agriculture and Fisheries, who then alerted fishers and farmers via emergency phone numbers, as reported by LA KIs. Farmers and communities in low-lying areas were warned of potential flooding, while fishers were advised to avoid sailing during hazardous weather, noted district-level KIs. The divisional secretariat and GNs disseminated warnings through social media, phone calls, and messages. Mosques and other religious institutions shared these warnings and precautionary measures using loudspeakers, in coordination with the divisional secretariat and GNs.

Comparatively, a district-level LA KI reported that tsunami warning instruments were no longer functional due to a lack of maintenance and theft. Another KI added that tsunami watchtowers and satellite systems previously established were no longer in use.

Data from LA KIs revealed the existence of disaster emergency management plans for floods, tsunamis, and droughts. District and divisional risk maps were available at the divisional secretariat, district DMC, and Department of Planning, though an LA KI noted they were neither displayed nor shared with other departments or the public. The KI emphasized the importance of sharing these maps to enhance community awareness. District-level LA KIs indicated that public buildings had been designated as temporary shelters and that provisions such as dry food, drinking water, medicine, and sanitary supplies had been organized for these shelters. A divisional-level KI mentioned that medical assistants and counselors were deployed to support survivors during emergencies, and the divisional secretariat, with CBO support, provided cooked food and other relief items to survivors in shelters. A KI reported that a tsunami evacuation drill was held in 2022 at Armham School, while another KI added that schools and households in high-risk areas received first-aid training for emergencies like tsunamis.

Disaster relief officers under the divisional secretariat assessed damages and gathered information during and after disasters. This



information was validated through an approval process before being shared with the district secretariat, which then provided compensation to survivors.

Government preparedness efforts also included infrastructural initiatives such as cleaning, repairing, and constructing waterways (canals, drains, ponds), bridges, elephant fences, and roads, supported by departments like Pradeshiya Sabha and the DMC. Additional activities focused on community awareness of agricultural resilience practices, particularly regarding cultivation during drought and monsoon seasons, reported KIs.

One KI also mentioned that the GN, with VCD support, helped chase away elephants encroaching on villages, while FGD participants noted the role of the Department of Wildlife Conservation in mitigating HEC.

Some KIs stressed the need to strengthen disaster mitigation and emergency response at the GN level. Several CBO KIs also recommended enhancing coordination between government departments and CBOs for joint DRR actions.

Civil Society disaster preparedness and response

The CBO KIs identified early warning announcements as the most common disaster preparedness practice. An NGO KI noted their organization's use of social media to share warnings, which were also disseminated through calls and text messages. The KI reported that communities in flood-prone, low-lying areas received these warnings. A farming CBO from cluster 1 noted that their organization conducted door-to-door dissemination of warnings and supported the elderly in reaching safe locations. NGO KIs also assisted with evacuations and provided temporary shelters for those in flood-prone areas.

During evacuations, CBO KIs supported government officials in distributing dry food and water to survivors. A fishing CBO KI and a women-led CBO KI highlighted their roles in raising community awareness for DRR, with the women-led CBO also conducting environmental awareness programs. A VCD from cluster 1 focused on dengue awareness and risks related to heavy rains and flooding.

While the VCD was established as a key player in disaster preparedness and response, funding issues limited its ability to implement effective DRR programs, reported a KI. Although VCDs supported emergency relief, their most notable contributions occurred post-disaster, such as sharing survivor information with government officials for compensation processing. The VCD also collaborated with GNs to repel elephants encroaching into villages.

Livelihood risk mitigation measures

An LA KI discussed the collaboration between an NGO and a government department for the ongoing 'Pubudama Ampara' project, which aims to repair flood-damaged roads.

Several KIs, primarily GNs, and CBOs, were unable to identify any previous livelihood activities conducted in Addalachchenai, with most reporting no existence of initiatives. However, district-level KIs noted that providing farmers with agricultural inputs such as fertilizers and pesticides had been a prior activity. Participants from farming FGDs mentioned that fertilizer subsidies aimed at easing farmers' financial burdens were a part of previous resilience-building efforts. They also cited cattle provision for animal husbandry as another initiative. However, participants from a female farming FGD in cluster 2 reported that livestock provided by the divisional secretariat perished the next day, making it an ineffective resilience measure. Similarly, they noted that wells built by NGOs to combat drought dried up during the summer, rendering them ineffective.

Barriers to risk mitigation

Governance capacity needs

KIs identified several areas to strengthen governance capacity and reduce barriers to implementing risk mitigation measures. They emphasized the need for government departments to improve systems and initiatives to support communities more effectively. A CBO KI from cluster 2 highlighted the importance of better planning by government departments to avoid exacerbating problems. A district-level LA KI provided an example of a financial institution established in a remote area, making access difficult and limiting the project's impact on improving financial challenges. Another LA KI suggested the need to enhance the response time of wildlife officers during HEC incidents. Timely interventions, such as distributing fertilizer subsidies, were also mentioned by KIs as crucial.

KIs also highlighted the importance of adhering to ethical standards, avoiding political interference, and prioritizing disaster risk reduction and livelihood resilience. A divisional-level KI emphasized the need to improve communication and cooperation between government departments and community members. KIs noted the limited financial capacity of government departments, with some calling for increased funding for DRR and livelihood resilience initiatives, such as greater access to loans and larger subsidies.

Governmental policy impact on hazard mitigation

Most KIs reported that no government policies had affected hazard mitigation in Addalachchenai, with some attributing this to a lack of relevant policies. Others suggested that government policies had not negatively impacted risk mitigation. LA KIs noted that the fertilizer subsidy program had supported farming livelihoods.

In late 2022 and early 2023, the Minister of Agriculture announced cash vouchers worth Rs. 20,000 per hectare and Rs. 40,000 per two hectares to help farmers purchase organic fertilizers. This government subsidy responded to [Gazette Extraordinary No.2238/45, issued on July 31, 2021](#), which lifted the ban on chelated minerals and micronutrients, replacing it with Import Control License (ICL) regulations.

Risk financing

KIs frequently highlighted the limitations of risk financing in Addalachchenai. They reported that both private financial institutions and government banks offered loans at high interest rates, which deterred farmers and fishers from borrowing. A district-level LA KI noted that many farmers, unable to access loans, resorted to pawning personal belongings, such as gold, to fund livelihood risks. An NGO KI mentioned that informal loans were preferred by many farmers. Other KIs expressed awareness of the lack of alternative risk financing options, making affordable risk loans inaccessible to farmers and fishers.

However, some KIs noted the availability of agricultural loans through the Department of Samurdhi Development. A district-level LA KI also mentioned that the Agricultural and Agrarian Insurance Board provided compensation for crop damage caused by hazards. LA KIs added that government banks offered loans to farmers, with some KIs suggesting the interest rates were reasonable. A LA KI reported that fishers could insure their boats through private insurance companies as well as through the Department of Fisheries and Aquatic Resources.

District-level LA KIs emphasized the role of government fertilizer subsidy programs and the provision of seeds in mitigating the impact of hazards, as farmers did not need to bear additional costs for agricultural inputs. However, another KI noted that government initiatives faced challenges, such as conflicts over the



distribution of compensation and agricultural provisions, often due to disorganized systems. The KI also pointed out that delayed provision of subsidies frustrated farmers.

Limitations of funding or technical capacity

Data from most FGD participants and KIs suggested insufficient funding for hazard mitigation activities within affected communities. Responding KIs and FGD participants emphasized that the construction and maintenance of electric fences, a priority for the community, had not been implemented due to limited resources. Additionally, FGD participants and KIs reported that road repairs and rehabilitation aimed at reducing flooding were also unachievable, primarily due to high material costs driven by illegal organizations, as noted by a district-level LA KI. Other infrastructure projects, such as repairing road drains, water tanks, and bridges, faced similar financial constraints. FGD participants further mentioned that embankment reinforcement, pond deepening and cleaning, and canal straightening were postponed due to a lack of funds. Drinking water facilities and irrigation systems remained unaddressed for the same reason.

KIs, particularly LA KIs, highlighted that financial constraints hindered the introduction of new technology and equipment for agricultural initiatives. They also cited challenges in providing investment opportunities, including specific loans for technological upgrades. LA and CBO KIs further noted difficulties in supporting farmers with agricultural inputs, such as agrochemicals and seeds, because of financial strain. In cluster 3, KIs and FGD participants detailed the financial challenges in supporting fishing livelihoods by procuring modern equipment. Fishing FGDs added that securing or repairing fishing gear and safety equipment, like life jackets, remained difficult due to limited financing.

Both KIs and FGD participants pointed out that the lack of funding also prevented initiatives to develop alternative livelihoods. Specific DRR activities tied to flooding hazards, such as repairing watchtowers, satellite equipment, notification systems, and disaster rescue resources, remained unimplemented due to financial constraints. KIs also reported unmet needs, such as acquiring more emergency rescue vehicles, constructing and maintaining evacuation shelters, and establishing a central information center to provide warnings and updates. General DRR activities, including awareness programs and capacity-building for farmers and fishers, were also limited by funding, as noted by KIs. Regarding HEC, both KIs and FGD participants identified streetlight installation as another funding priority.

Solutions suggested by KIs and FGD participants for disaster resilience building

Recommended DRR activities

KIs emphasized that increasing DRR awareness within communities was the key priority for enhancing DRM effectiveness and risk reduction. LA KIs identified the lack of DRR awareness and training as a significant obstacle to building community resilience against recurrent hazards. A divisional-level LA KI stressed the importance of farmers actively participating in DRR awareness and capacity-building programs when available. Another LA KI suggested conducting separate training for farmers and fishers to provide livelihood-specific risk reduction strategies. CBO KIs also noted that disaster preparedness for both groups could be improved by increasing participation in awareness activities, thereby strengthening livelihood resilience to hazards. GN KIs from clusters 2 and 3 recommended expanding DMC activities and improving coordination with GNs in these areas. LA KIs

further highlighted the need to enhance early warning systems, noting that the district's automated system was inoperable due to limited maintenance. Participants from a fishing FGD in cluster 3 recommended improving communication with weather stations during emergencies. Finally, LA KIs advocated for increased financial assistance to farmers and fishers for disaster preparedness, including provisions for equipment and compensation for damages.

Livelihood solutions for fishing communities

KIs most frequently recommended providing fishing equipment, especially during periods when fishers could not work due to adverse weather conditions, to enhance their coping capacity. A fishing CBO from cluster 1 also suggested increasing access to low-interest or interest-free loans as a form of risk financing. Participants from fishing FGDs in clusters 1 and 2 proposed establishing open fishing markets to mitigate secondary socioeconomic impacts from hazards. Participants in cluster 1 also recommended installing night lights along the coast as a safety measure for nighttime fishing and introducing modern technologies to strengthen fishers' resilience.

Male fishing FGDs from cluster 3 highlighted the vulnerability of smaller boats to strong winds and recommended providing larger boats with outboard motors better suited for hazardous weather.

Livelihood solutions for farming communities

Findings from KIs emphasized the provision of high-yield, hazard-resistant crop varieties as a priority recommendation. They also highlighted the importance of timely delivery of agricultural inputs, such as fertilizers, to bolster farmers' resilience. Participants from a female farming FGD in cluster 1 recommended providing inputs like new crop varieties, modern technology, and agricultural resilience training to strengthen their capacity against hazards. Male farming FGDs from cluster 1 further suggested prioritizing disease-resistant crops, as extreme weather increased susceptibility to crop failures due to disease spread. Some KIs advocated for raising awareness and building capacity on best agricultural practices, particularly climate-smart strategies, to enhance livelihood resilience. Participants from a farming FGD in cluster 3 recalled previous field visits by agricultural educators, who provided advice on fertilizer and pesticide usage and conducted regular soil tests. They recommended making this a routine practice. LA KIs suggested expanding access to low-interest loans and compensation schemes to improve risk financing for farmers, alongside ensuring timely government subsidies, especially for fertilizers. CBO KIs called for increasing subsidy amounts to safeguard livelihoods further. Participants from farming FGDs in cluster 3 recommended constructing elevated livestock sheds to prevent losses and disease outbreaks during floods. KIs also proposed allocating land for cattle grazing and rearing in flood-prone areas. Male FGDs from clusters 1 and 2 suggested increasing access to interest-free agricultural loans and disaster compensation to strengthen risk financing mechanisms.



Recommended solutions for flood mitigation

As portrayed in the table below, KIs and FGD participants from Addalachchenai recommended repairing damaged water sources, including ponds, tanks, dams, and embankments, as well as rehabilitating shallow ponds by deepening and widening them to reduce overflow during heavy rains. Strengthening dams and embankments was also suggested to mitigate flood damage. KIs emphasized the importance of improving drainage systems by constructing new drains and renovating existing ones to enhance floodwater flow away from agricultural lands and residential areas. FGD participants cited drainage improvements as the top flood mitigation priority. Both KIs and FGD participants recommended regularly cleaning drains and culverts to prevent blockages that exacerbate flooding. FGD participants from clusters 1, 2, and 3 also recommended repairing damaged roads, as poor road conditions worsened flood impacts.

Table 3: Recommended solutions for flood mitigation

Recommended mitigation solutions	No. KI	No. FGD
Construct or renovate water stores	12	3
Improve and maintain drainage facilities	4	10
Repair roads	0	3
Clean waterways	0	3

Recommended solutions for drought mitigation

As depicted in the table below, KIs priority recommended constructing and rehabilitating agricultural water storage facilities to mitigate drought effects. They suggested building additional tube wells to support farmers with irrigation during droughts. Participants from a female farming FGD in cluster 3 emphasized the importance of establishing reliable irrigation systems. Farming FGDs also recommended constructing boreholes. An LA KI proposed introducing and maintaining rainwater harvesting systems for long-term agricultural use. Both LA KIs and FGD participants advocated for building public drinking water facilities, such as wells, to alleviate water scarcity. KIs also recommended introducing drought-resistant crop varieties and those capable of withstanding drought-related diseases. A district-level KI suggested promoting home gardening to improve food security and nutrition during droughts. Male farming FGD participants underscored the need for government departments to ensure consistent water supply to communities facing drought-induced water scarcity.

Table 4: Recommended solutions for drought mitigation

Recommended mitigation solutions	No. KI	No. FGD
Construction or rehabilitation of agricultural water storage facilities	5	5
Introduce new cultivation methods and technology	5	1
Drinking water facilities	2	3
Introduce new irrigation systems	4	1
Home gardening	1	0

Recommended solutions for human-elephant conflict

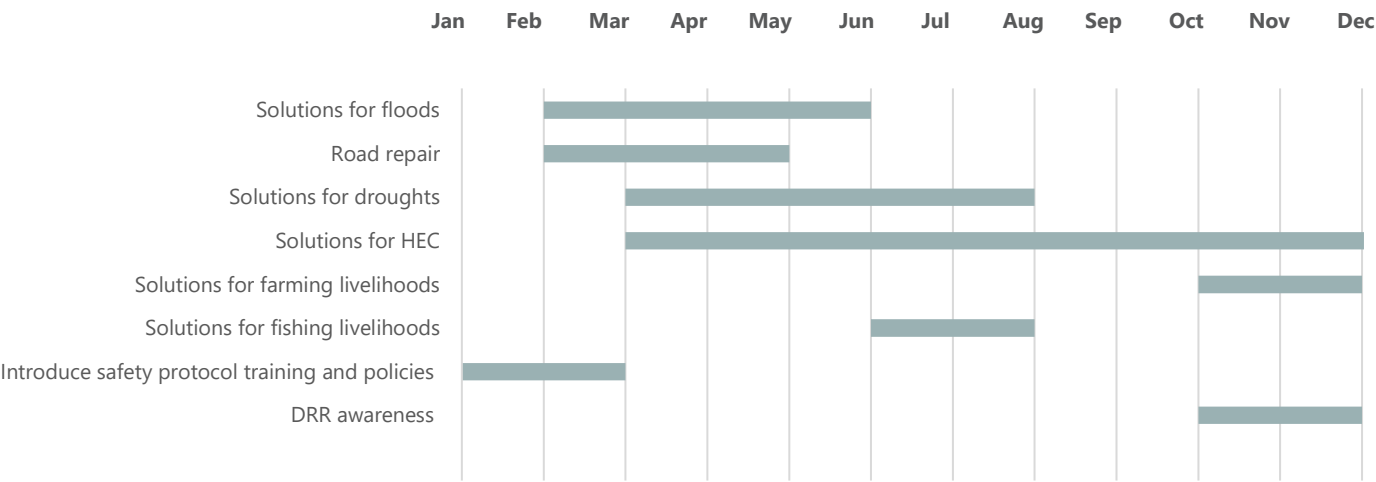
As shown in the table below, the priority solution respondents from Addalachchenai identified was constructing and maintaining elephant fences as the most effective measure to mitigate HEC. A KI specifically recommended using electric fences and increasing the capacity of existing ones. A CBO KI added that areas with vulnerable populations should be prioritized for fence installation. KIs also suggested installing night lights to deter nighttime elephant encroachment. District-level KIs proposed introducing GPS collars to monitor elephant movements and improve early warning practices. They further recommended bio-fences, using thorny trees like lime and palm, as a cost-effective, environmentally friendly, and sustainable solution. However, they noted that bio-fences would take time to become fully operational, so electric fences would still be needed in the interim. Additionally, district-level LA KIs proposed beekeeping as a method to reduce HEC. Other suggestions from KIs and FGD participants included increasing support from the Department of Wildlife Conservation to drive away elephants and providing airrifles, elephant firecrackers, or other deterrents.

Table 5: Recommended solutions for human-elephant conflict

Recommended solutions for HEC	No. KI	No. FGD
Construction or maintenance of elephant fences	13	5
Install night lights	3	0
GPS trackers for elephants	3	0
Introduce bio-fence	2	0
Introduce beekeeping	2	0
Increase security through the Department of Wildlife Conservation	1	2
Provision of elephant deterrents	2	2

Recommended implementation period

Graph 1: Recommended time of year for the implementation of disaster resilience solutions



Methodology Overview

Research Design: The primary research tool for the LRA was a qualitative and semi-structured data collection questionnaire, designed to assess and strengthen sectoral understanding of communities' experiences regarding the primary and secondary consequences of hazards on agricultural and fishing communities. It also explored pre-existing vulnerabilities to hazards, existing governmental, civil society and community disaster preparedness and response capacities, barriers to risk mitigations, and key solutions for disaster resilience building.

Data Collection: The geographic coverage of the LRA included three Clusters of GNDs in Addalachchenai identified by the ABRA. Cluster 1 included Palamuni 05 and Palamuni 06. Cluster 2 included Oluvil 01, Deegawapiya 01 and Addalaichenai. Cluster 3 included Addalaichchenai 05, Addalaichchenai 09, Addalaichchenai 10 and Addalaichchenai 16.

A purposive and snowballing sampling method was employed, with 20 KI profiles and 12 FGDs selected per division. KI profiles included government actors, Community-Based Organizations (CBOs), and National or International Non-Governmental Organizations (NGO/INGOs). FGDs were conducted with members from agricultural and fisheries communities, divided by gender, age and cluster.

Enumerators trained by IMPACT conducted the key informant interviews (KIIs) and FGD in Tamil or Sinhala, with the support of field officers. Detailed notes in the local languages were recorded in IMPACTS debrief forms. These debrief forms were then translated into English by a third-party professionals and then shared with the research analysis team.

Data analysis and outputs: Using a data-saturation and analysis grid (DSAG) in Excel, data from KIIs and FGDs were logically coded into categories based on the research purpose, objectives and themes of the research questionnaire. The data was analyzed and compiled into key findings. Each coded topic was organized within the grid and tracked to identify the frequency of points mentioned across the qualitative session per division for KIIs and FGDs. Data cleaning and analysis were reviewed by the IMPACT HQ research department.

A more comprehensive overview of the methodology is found in the LRA [TOR](#).

Research limitations

Availability: Instances occurred where KIIs or FGD participants, including CBO leaders and LA officials, were unavailable. Issues arose when several interviews, particularly in specific clusters, were not conducted as originally agreed upon, resulting in the prioritization of data collection in other areas or with different groups.

Clarity: While most of the reported information reported during the FGDs and KIIs are included in these final outputs, some interview notes were too brief to be able to interpret respondents' intended comments, for this reason, certain reports have not been included. This led to a loss of specificity in some of the findings.

Language and translation: The questionnaires, designed in English and containing academic and technical language, may have posed challenges for third-party translators. Specialized terminology often requires theoretical understanding in addition to strong bi- or trilingual language skills. The use of technical jargon and academic language during interviews might have hindered access to more personal and nuanced responses, which could have been achieved with more accessible language. Furthermore, it is possible that errors in accurate translation, omissions, repetition, or the loss of emotional experiences occurred when responses were translated from Sinhala and Tamil into English. These issues may have resulted in a loss of contextual perspectives, thereby impacting data quality.

Sampling: The LRA was conducted in eight DSDs across four districts in Sri Lanka (Ampara, Batticaloa, Kilinochchi, and Vavuniya). The total amount of interviews conducted was 256 (160 KIIs and 96 FGDs). The large sample generated a large volume of data with varied responses, which proved challenging to streamline data, code, analyse, and report within the expected time frame.

ENDNOTES

- 1 [Jayasinghe, N., Fernando, S., Haigh, R., Amaratunga, D., Fernando, N., Vithanage, C., Ratnayake, J., & Ranawana, C. \(2022\). Economic resilience in an era of "systemic risk": Insights from four key economic sectors in Sri Lanka. Progress in Disaster Science, 14, 100231.](#)
- 2 [The Gazette Extraordinary No.2238/45, Imports and Exports Controls Department, Operating instructions No.22/2021, IECD/6/1/10/2021/Vol 1.](#) Retrieved July 30, 2024.

Disclaimer: The views and opinions expressed in this factsheet are the reflections gathered through a participatory approach from interviewees and do not necessarily reflect the position of IMPACT or Acted.

