



THE PROCESS OF RECONCILIATION OF HUMAN-ELEPHANT CONFLICT AND THE NATURE OF STATE BUREAUCRACY

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ABSTRACT

The human-elephant conflict (HEC) in Sri Lanka is a multidimensional issue with its origins in environmental, socio-economic, and bureaucratic causes. As human populations expand particularly into previously undisturbed elephant habitats, conflicts over land, crops, and water resources intensify. Habitat loss and fragmentation, often driven by unsustainable development and political decision-making processes, are among the key contributors to this ongoing conflicts. Government officials play a crucial role in mediating the conflict, but the effectiveness of interventions such as elephant fences, early warning systems, and protected zones often depends on the capacity and coordination of state bureaucracy.

The aim of this study is to examine the reconciliation process of human-elephant conflict and critically assess the nature of state bureaucracy involved in conflict mitigation. The study was conducted in the Karuwalagaswewa Grama Niladhari Division, which is under Galgamuwa Divisional Secretariat in the Kurunegala District, Sri Lanka. Quantitative Research method was adopted, using a structured survey and semi-structured interviews with 186 respondents, who were selected through simple random sampling. The findings indicate that a lack of institutional coordination, political interference in land use decisions, and poor regulatory enforcement exacerbate the conflict.

Social consequences such as the breakdown of family welfare, increased domestic violence, and reduced opportunities for upward mobility further complicate the issue. Moreover, the imposition of transnational cultural norms in rural settings has altered community dynamics and adaptive strategies. The entanglement of wildlife and sanctuary

policies with political power structures has led to a protracted social conflict that cannot be resolved through technocratic solutions alone.

This study concludes that meaningful reconciliation not only requires technical interventions but also a socially inclusive, politically accountable, and ecologically conscious policy framework. Conflict transformation through mediation, participatory decision-making, and institutional transparency is essential to promoting long-term, sustainable human-elephant coexistence.

Keywords: *Human-elephant conflict, Wildlife, Rural livelihoods, Conflict mitigation, State bureaucracy, Political influence, Elephant conservation strategies*

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1. Introduction

Members of the affected communities, who are facing a prolonged social conflict, elephant-human conflict, face numerous challenges that disrupt their well-being, livelihoods and overall quality of life. The conflict has caused significant hardship and trauma among rural communities (Kopke, 2021). These communities face displacement, both physical and psychological trauma, low economic income, displacement, and resource scarcity. The lack of support systems, effective interventions, and empowerment strategies has further exacerbated the vulnerability and failed to address the multi-dimensional impacts of the conflict. Addressing these issues through community empowerment groups can help mitigate the negative consequences of human-elephant conflict and promote the well-being and resilience of affected families.

According to the Waste Lands Act, introduced by the British rulers in Sri Lanka in 1840, unclaimed lands were taken over by the government, resulting in state ownership of approximately 90% of the country's land. These acquired lands were mainly used for cultivation. Although in 1881, almost 84% of the land in Sri Lanka was covered by forests, by 1890 it had reduced to 70%, evidencing a decline in forest cover. This brought about a drastic change in the ecological balance that had existed in Sri Lanka until then. The majority of the forests in the wet zone, which had existed for many years, were cleared (Fernando, 2011). In more recent years, rapid urbanization has resulted in the loss of elephants' natural habitats due to development activities such as road construction, fencing, and the construction of canals (Fernando et al., 2008). Elephants also spend about 19

hours a day foraging. They forage for herbivores equivalent to 10% of their body weight, are in constant search of food (Krishnan & Braude 2014). The specialty of this is that male elephants tend to engage in foraging more actively compared to females (Krishnan & Braude 2014). As a result, the elephant population of the forest gradually migrated towards rural areas leading to direct and serve impacts on rural communities.

Human Elephant conflict (HEC) has a direct impact on individuals' lives (Santiapllai et al., 2010). The way in which conflict is linked to the economic system has been studied. The average value of a farmer's farm loss to a farmer is 25% annually. It is shown that the collapse of the economic system leads to the collapse of the entire social system. Family poverty directly affects the socio-economic life of the members and therefore, being caught in a poverty trap is a visual factor.

In the dry zone, Human Elephant conflict (HEC) significantly affects agricultural livelihoods and deepens rural poverty. According to this study, 100% of the respondents were reported experiencing crop damage, property damage or loss of life due to wildlife. This demonstrates the Human-elephant conflict has also been seen to have a profound impact on their day to day lives. These impacts have resulted in significant income loss (Bandara, 2005)

Furthermore, Gunawardena (2017) argues that the conflict has intensified due to an imbalance between the natural environment, wildlife and human activities, and the deliberate integration of human activities into everyday life. Community members and community leaders, as well as public and private sector officials, have an important role to play in empowering affected communities to rebuild their lives, enhance resilience, and promote peaceful coexistence with elephants. By providing skills, resources, and advice to community members, they can support communities in adopting evidence-based practices to address the human elephant conflict. Their involvement can help implement effective interventions, mitigate the negative consequences of the conflict, and improve the well-being of those affected. This can be achieved by promoting regenerative solutions and identifying strategies to provide the necessary support for vulnerable communities.

2. Significance of the Study

The human-elephant conflict (HEC) in Sri Lanka causes significant harm to both rural livelihoods and elephant conservation efforts. Despite numerous interventions, the problem persists, largely due to fragmented responses, weak institutional coordination, and political interference. The affected communities continue to endure losses in property, safety, and well-being. This study seeks to understand how state bureaucracy influences the effectiveness of HEC mitigation strategies. By critically examining the bureaucratic structures and political dynamics involved, the research aims to identify more inclusive, participatory, and sustainable solutions. Specifically, it investigates how bureaucratic inefficiencies and political manipulation affect the reconciliation process, particularly in rural areas such as Karuwalagaswewa, where the conflict is acute. The research problem lies in the persistent escalation of HEC despite state-led efforts, due to institutional shortcomings and the lack of cohesive, community-informed policies. Therefore, the study aims to assess the role of state bureaucracy in HEC mitigation and to evaluate the effectiveness of existing interventions like elephant fences, relocation schemes, and early warning systems. It also examines how political interference and fragmented governance influence land-use decisions, and how these, in turn, impact rural communities socially and psychologically. Ultimately, the goal is to propose socially inclusive and ecologically informed policy recommendations that support sustainable human-elephant coexistence and contribute to necessary reforms in wildlife governance and rural development policy in Sri Lanka.

3. Literature review

A critical review of existing literature, including the content, methodologies, new findings, and recommendations, was conducted to develop a conceptual and theoretical foundation for this study. This process facilitated the identification of research gaps and an enhanced understanding of the current management strategies and future directions regarding the human-elephant conflict (HEC) in Sri Lanka.

Sri Lanka, with its diversity of ecosystems, provides a natural habitat for the survival of elephants. These majestic creatures are one of the most significant components of the country's natural heritage. However, their coexistence with human populations has increasingly evolved into what is now recognized as the

human-elephant conflict. When the elephants' traditional habitats overlap with human settlements, it results in adverse consequences for both parties (Jayewardene, 2019).

Human-elephant coexistence has also become a growing challenge as consequence of the expansion of human settlements into traditional elephant habitats. This has led to escalating incidents of property damage, crop destruction, and even loss of human life (Fernando et al., 2005). Communities living in high-conflict zones are frequently exposed to the severe impacts of HEC. Addressing this issue requires not only the protection of elephants but also empowerment of affected households to ensure their safety, livelihoods, and overall well-being (Santiapillai, 2003).

Understanding the root causes, dynamics, and consequences of human elephant conflict is essential to develop effective strategies and interventions. HEC is a multifaceted issue in Sri Lanka, not only affecting individuals but also has profound implications for families residing in conflict-prone areas. Exploring family dynamics within the context of HEC and investigating the nature of their interactions with elephants can offer valuable insights into the unique challenges and lived experiences of these families. Such understanding is crucial to design targeted interventions and sustainable solutions (Samarasinghe, 2018).

Moreover, examining the multifaceted relationship between distressed families and HEC, following socio-economic factors, psychological impacts, and coping mechanisms, can further present an even broader understanding of the multidimensional nature of the issue (Manamendra & Silva, 2018). These insights are also instrumental in shaping future strategies and policy recommendations more effectively.

Several approaches and methods have been implemented to empower the conflict-affected communities in Sri Lanka. Community participation, education, alternative sustainable livelihoods, and efficient conflict mitigation strategies have all been emphasized as vital to resolving this issue. These measures contribute to the development of comprehensive and practical solutions for a highly complex problem (Gamage, 2015).

For families living in HEC-affected areas, this conflict presents significant challenges, including property damage, crop losses, livelihood disruption, and

threats to human lives. These families are directly affected by the consequences of the conflict (Baptiste & Cugny-Seguin, 2017). Therefore, assessing the conditions of affected families is essential for understanding the challenges that they face. It further aids in designing effective strategies for mitigating the impacts of HEC and enhancing the well-being of those communities.

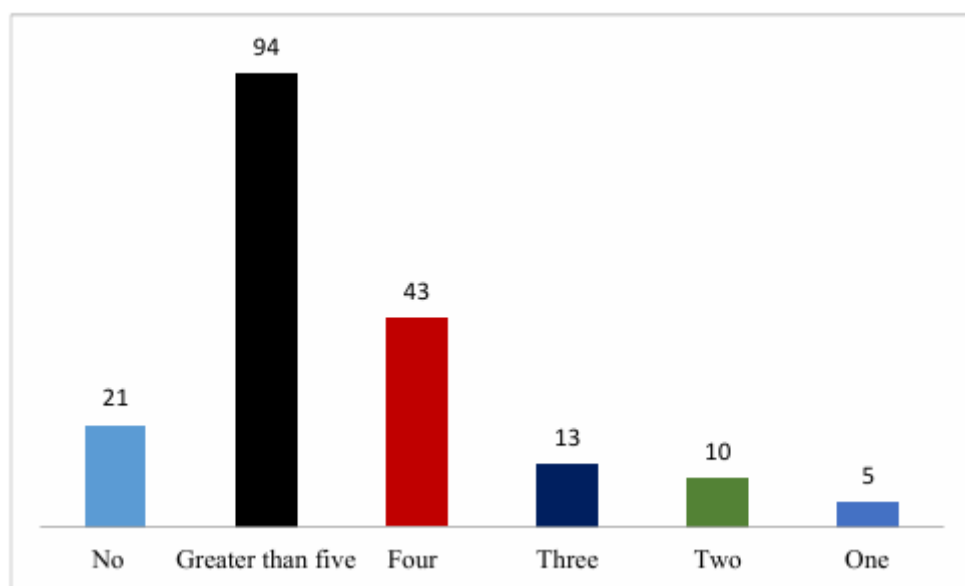
4. Methodology

This study employed quantitative method, using a survey method, conducted as a cross-sectional study. Questionnaires and interviews were used as primary data collection techniques. Primary data were gathered to examine the problem of this study. According to the secondary sources, human-elephant conflict (HEC) has been identified in eight provinces of Sri Lanka. Among them, the North, North Central, Eastern and North Western provinces report a higher incidence of conflict. In contrast, Sabaragamuwa province shows the lowest level of conflict, while the Western province reports no recorded conflict (Prakash, 2020). Further analysis of secondary data reveals that human-elephant conflict (HEC) and are highly prevalent in the dry zone of Sri Lanka. Areas such as Giribawa, Galnewa, Galgamuwa, Ehatuwewa, and Lunugamwehera have been identified as areas with high levels of both human-elephant conflict and poverty (Brouwer, 2006). Based on this, the Galgamuwa Divisional Secretariat Division, where both HEC and poverty are significantly high,, was selected as the study area. The selected Grama Niladhari Division for this research, Karuwalagaswewa, has a total of 358 households. Using, Morgan's table, the sample size for the study was set at 186 respondents (Krejcie & Morgan, 1970).

Quantitative data of this study were analyzed using statistical methods, including univariate, bivariate and multivariate analyses. This study aimed to assess the extent of the impact of the conflict, identify the needs of affected families, and evaluate the effectiveness of empowerment interventions. Accordingly, based on the collected data, findings were derived that reflect empirical generalizations and real-world insights.

5. The Nature of Human-Elephant Conflict

Graph No. 1: Number of human-elephant conflicts that have occurred in the study area

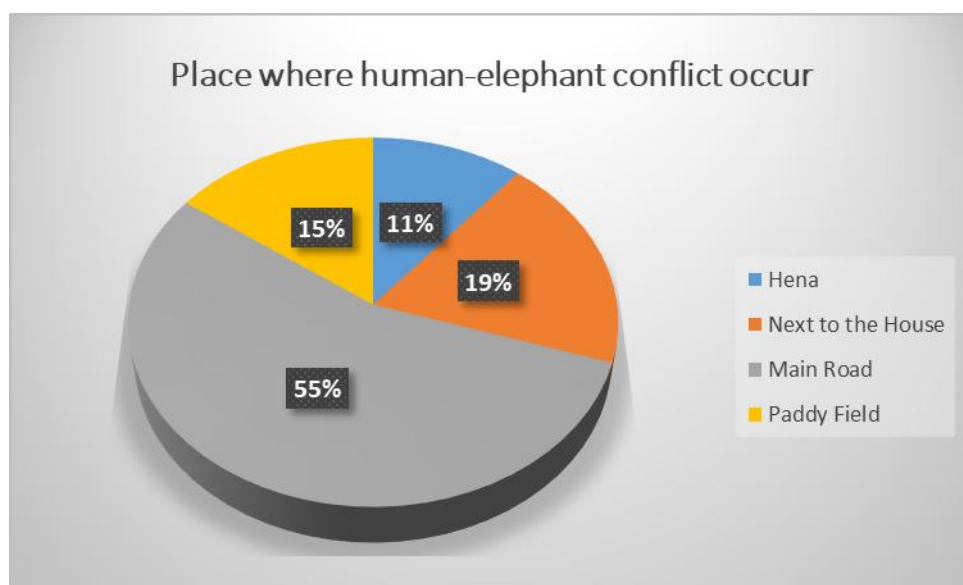


Source: Field study, 2023

21 respondents (11.3%) of the sample reported not experiencing any human elephant conflict. The highest reported was among 94 respondents (50.5%), who had experienced conflict multiple times. Furthermore, 5 families (2.7%) reported being affected once, 10 families (5.4%) twice, 13 families (7.0%) three times, and 43 families (23.1%) reported experiencing the conflict on four occasions.

5.1. Occurrence of Human-Elephant Conflict

Graph No. 2: Occurrence of Human-Elephant Conflict

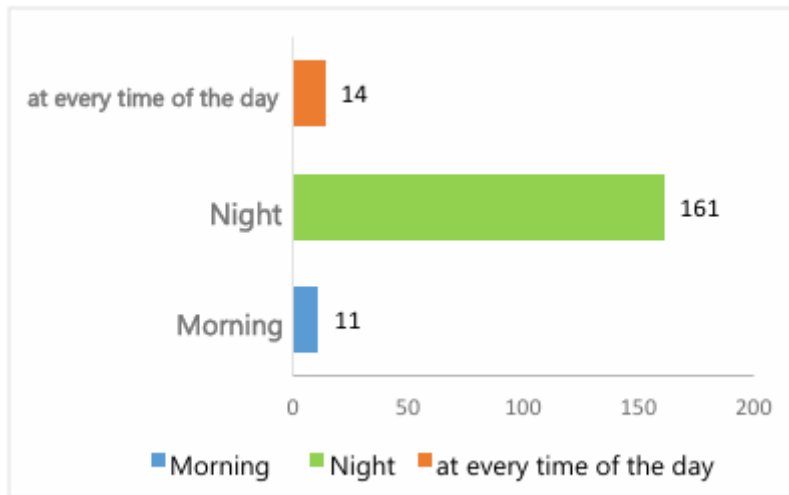


Source: Field study, 2023

The respondents reported that human-elephant conflicts most frequently occur on the main road, as indicated by 102 respondents (54.8%). Additionally, 36 respondents (19.4%) reported encounters near their homes, 27 (14.5%) near paddy fields, and 21 (11.3%) near 'hena'. This emphasizes that elephants mainly use the main road as a pathway to the forest, leading to human – elephant encounters. As a solution, respondents suggested that assigning this route exclusively to elephants and constructing alternative roads for human use could help mitigate these conflicts.

5.2. Elephant Roaming Periods

Chart No. 3 Elephant migration periods



Source: Field study, 2023

The study revealed that wild elephants are present in the village throughout the day and night. Fourteen respondents stated that elephant migration occurs throughout the day. Although this represents minority in the study sample, its impact is significant, as it disrupts various aspects of daily life, including children's education, household routines, and occupational responsibilities. Furthermore, 11 respondents stated that human elephant conflict occurs during the morning, while a majority, 161 respondents indicated that such conflict predominantly occurs at night. The nocturnal presence of elephants directly affects marital dynamics and children's educational activities.

6. Factors Influencing the Intensification of Human-Elephant Conflict

The human-animal conflict prevalent in the study area has evolved into a prolonged social and environmental crisis driven by various contributing factors that have intensified the conflict over time.

6.1. Habitat Degradation and Food Shortages

The conversion of protected areas into farmland and the loss of habitats due to urban development have reduced food sources for wild animals, prompting them to invade farmlands and villages for their livelihoods. The abandonment of traditional land use practices, irregular forestry practices and irregular crop cultivation have exacerbated wild animal encroachment. In addition, factors such as climate change, agricultural modernization and the collapse of local economies have intensified the conflict. Therefore, addressing these contributing factors, requires comprehensive strategies involving sustainable rural planning, technological innovations, community participation and wildlife conservation efforts. These approaches are essential to effectively mitigate human-wildlife conflict and foster harmonious coexistence between people and wildlife.

6.2. Informal Rural Planning

Although short-term solutions, such as updating elephant fences have been implemented, the lack of a long-term regulatory framework has led to the persistence of the conflict. Prioritizing of human development needs over wildlife conservation and undertaking various constructions in areas with elephant populations have identified their impact on the intensification of the conflict. The lack of formal planning measures has led to an insufficient attention to wildlife concerns. Specifically, the lack of an effective planning framework aligned with the root causes of the conflict has prolonged the crisis. Furthermore, measures such as shooting elephants highlight reactive rather than preventive approaches. Weaknesses in state planning are evident in the failure to uphold long-term strategies and in the inadequate enforcement of laws such as the Sanctuaries and Lands Act. Moreover, state institutions have failed to follow a systemic approach in building houses in protected areas and elephant habitats. Therefore, the necessity of implementing sustainable state plans to resolve the human elephant conflict has become evident.

6.3. Failure of Authorities to Maintain HEC related Infrastructure

Temporary electric fences and the lack of maintenance of drainage system along forest access roads have posed significant challenges in protecting agricultural lands from wildlife encroachment. The accumulation of mud in the drainage and the lack of government intervention have exacerbated the risks to lives, property

and farmland. Furthermore, the lack of community participation in development processes and conflicts between officials and communities further hinder the maintenance of infrastructure, emphasizing the importance of fostering collaborative efforts and strengthen community engagement.

6.4. Inadequate Use of Technology and Human Resources

The lack of advanced technologies and the understaffing of government agencies responsible for wildlife management hinder effective conflict resolution. Globally recognized alternative methods of repellents, which are widely used to reduce human-wildlife conflict, are still not being utilized. Specifically, effective conflict prevention strategies such as night patrols and improved fencing are not currently being implemented. The research stresses that there is a requirement for skilled and well-informed staff to bridge these gaps.

6.5. Community-Based Strategies for Mitigating Elephant Intrusions

Table 1: Community-led efforts to repel elephants

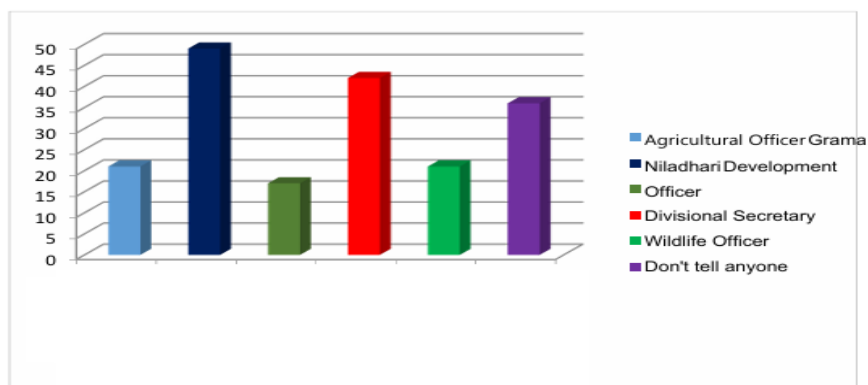
Method used	Number	Percentage(%)
Lighting the fire	176	94.6
Shouting loudly	92	49.5
Hanging the poles	90	48.4
Does nothing.	14	7.5
Elephant shooting	98	52.7
Operating a single-ploughing machine (raise their voices)	137	73.7
Hanging the can	157	84.4
Lighting the Hulu branches	152	81.7
Elephant fencing	96	51.6

Source: Field study, 2023

The community uses various strategies to chase away elephants. These methods include burning flags (94.62%), shouting (49.46%), hanging banners (48.38%), doing nothing (7.52%), shooting elephants (52.68%), raising voices at land masters (73.65%), hanging cans (84.40%), burning palm branches (81.72%), and fencing elephants (51.61).

6.6. Community Reporting of Elephant Incidents to Government Authorities

Graph No. 4: Community Reporting of Elephant Incidents to Government Authorities



Source: Field study, 2023

The respondents approach various responsible officials to raise awareness about the human-elephant conflict and other related disasters occurring in the study area. According to the data, 21 respondents (11.3%) reported incidents to the Agriculture Officer, 49 (26.3%) to the Grama Niladhari, 17 (9.1%) to the Development Officer, 42 (22.6%) to the Divisional Secretary, and 21 (11.3%) to the Wildlife Officer. Additionally, 36 respondents (19.4%) stated that they take appropriate measures for the disaster without informing any officials.

6.7. Human-Elephant Conflict and State Bureaucracy

It was revealed that the community in this Grama Niladhari division receives consistent support from various government officials. Field observations indicated that the officers such as Child Rights Promotion Officer, Agricultural Services Officer, Water Supply Board Officer, Department of Agriculture Officer, Post Office Officer, Health Medical Officers, Economic Development Officers, and Family Health Services Officers work closely with the village. The Health Medical Officer's office was identified as the primary facility providing basic healthcare services, particularly for pregnant women and functions as a medical center within the village. Therefore, residents are less dependent on urban health facilities. Furthermore, the Child Rights Promotion Officer was noted to act

responsibly and proactively in protecting children at risk. Other officers also intervene as needed in various situations affecting the community.

"Officers such as development officers, Samurdhi officers, and agricultural officers come to the village often. We get fertilizer from time to time. We also get seeds from agriculture. The elephant problem is not something that the villagers or we can solve. The Divisional Secretary knows about it very well. There is an elephant fence near the Mee Oya reserve at the end of the division. But elephants come. People are afraid at dawn and at night, wondering where they will come from and what they will do to whom. They take turns guarding the huts to protect the cultivated lands. It is difficult to solve the elephant problem without a national level program" (Informal Interview - 06, Grama Niladhari, Karuwalagaswewa)

During this discussion, it was revealed that several activities are being carried out, including agricultural training, farming advice, and distributing plants to support the village community. Various services offered by the Divisional Secretariat Office were identified. Participants noted that registering marriages and deaths, offering advisory services, assisting people with disabilities, clarifying land-related matters, and issuing vehicle and tree-cutting licenses were among the key services provided.

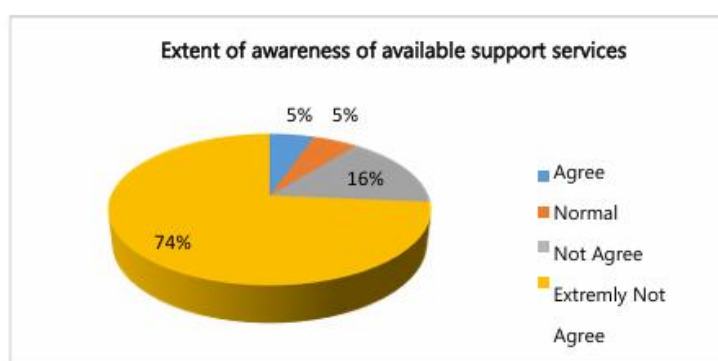
In addition, village post office provides a vital role not only in mailing letters but also in offering public assistance, handling farmer pension schemes, and facilitating the payment of electricity and phone bills. Furthermore, the discussions highlighted that police officers are among the most frequent external contacts for the villagers. Most villagers expressed that these officials maintain good social relationships with the village and that they generally satisfied with the services provided by them.

"Not only that, the midwife miss also does a great service to the village. She visits every house where there are babies and conducts various health programs like nutrition programs. In addition, the Samurdhi Development Officer has provided prosperity to every low-income person here. Grama Niladhari works day and night in the village. The Divisional Secretary also often comes to look into this elephant problem" (Interview - 03, Samurdhi Small Group Discussion, Karuwalagaswewa)

It is evident from this interview that a positive attitude has been developed within the community toward the service of public officials. The officials fulfil their responsibilities to the community appropriately. Furthermore, it is clear that the community receive both the basic benefits and proper services required for community development. The interview also highlights the strong and close relationship that has been established between the community and government officials.

6.8. Community Awareness of Available Support Mechanisms

Graph No. 5: Extent of awareness of available support services



Source: Field study, 2023

According to 73.7% of stakeholders' awareness regarding elephant behavior, conflict prevention, safety measures and available support services remain insufficient. Various roles played by government and non-governmental sectors are crucial to reduce human-elephant conflicts and ensuring the safety of both people and elephants. However, This has led to concerns within the community about whether these roles are being properly fulfilled. Although many policies and regulations manage human-elephant conflict, their dissemination to the public has been slow. Therefore, it is important to develop and implement effective systems to raise public awareness. Coordination among various departments related to wildlife management, forestry, agriculture and local government is essential. Stakeholders further stated that both state and non-state sectors must collaborate to effectively address the elephant-human conflict.

7. Role of Community-Based Organizations in Mitigating Human-Elephant Conflict

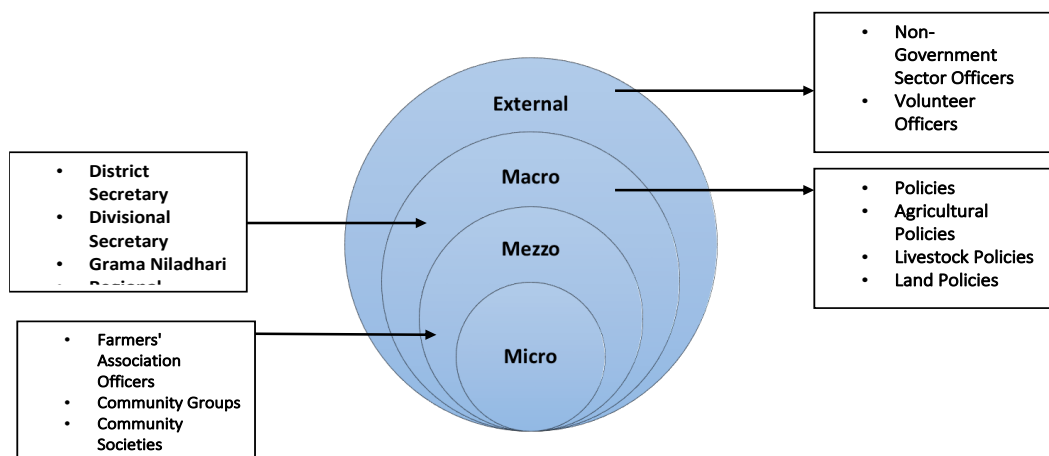
There are several welfare organizations and committees in this Grama Niladhari Division, actively working for the welfare of the community. Similar societies are also found in Karuwalagaswewa Division, including Children's Society, Samurdhi Society, Death Aid Society, Women's Society, Farmers' Society, Sports Society, Youth Society, Civil Protection Committees, Elders' Society, Welfare Society, Rural Development Society (Grama Niladhari Report, 2023). These organisations, address the welfare and daily needs of the children, youth and adults of the community as well as immediate emergency situations, by operating at the community level to provide quick solutions and support. Through these small organizations, the needs of the community have been balanced to a certain extent. Additionally, these societies serve as platforms to organize awareness programs and making referrals.

7.1. Power Structures in Karuwalagaswewa Village

An Analysis of power structures and resource exploitation in Karuwalagaswewa village revealed a complex interplay centered on environmental resources and their distribution. The implementation of the power structure model in the rural sector identifies four main layers, each directly or indirectly influencing the human-elephant conflict.

7.2. Power Structure and Hierarchical Divisions in the Study Area

Figure 1: Nature of power structure division in the study area



Source: Field study, 2023

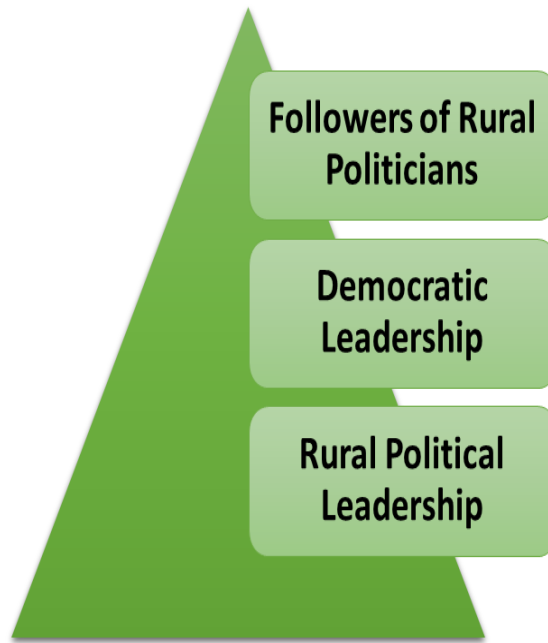
Based on field study discussions, it was revealed that the power structure model of the bureaucratic coordination is primarily driven by the Divisional Secretariat and political interests based on profit. This model is currently being implemented through policies that facilitate the leasing and sale of wastelands and reserve lands. The distribution of these benefits has reinforced the power dynamics across different layers of the hierarchy. Interviews regarding land exploitation activities led by politicians' emphasis this issue.

“Because of the fertile soil conducive to cultivation, 33 plots of land in this village are being leased out on rent. They are sold to individuals in urban areas, especially in Colombo. After purchasing them, these individuals quickly clear the land and start industrial farming, leading to tragic consequences such as elephant deaths. Despite the protests of the villagers, various officials including District Secretaries, Divisional Secretaries, Land Commissioners, Pradeshiya Sabha politicians, MPs and ministers in Parliament are involved in land deals and continue the exploitation” (Interview 10, Chairman of the Farmers' Association, Karuwalagaswewa)

Land leasing has become intertwined with the exploitation of villages, the marginalization of rural communities and displacement of wildlife, thereby, intensifying the contradictions within the conflict. Factors such as global power politics, bureaucratic maneuvers and rural power dynamics have facilitated the extraction of resources and the transformation of the ecosystem into a private property, ignoring the needs of the animal community. As a result, the conflict has manifested as a form of social stratification, with rural communities becoming victims of capitalist exploitation. This hierarchical structure, consisting of rural political leaders, their followers and community leaders, facilitates the relevant parties to acquire resources and organize projects, that further exacerbated this exploitation of rural resources.

7.3. Rural Power Structure

Diagram number 2: Rural power structure



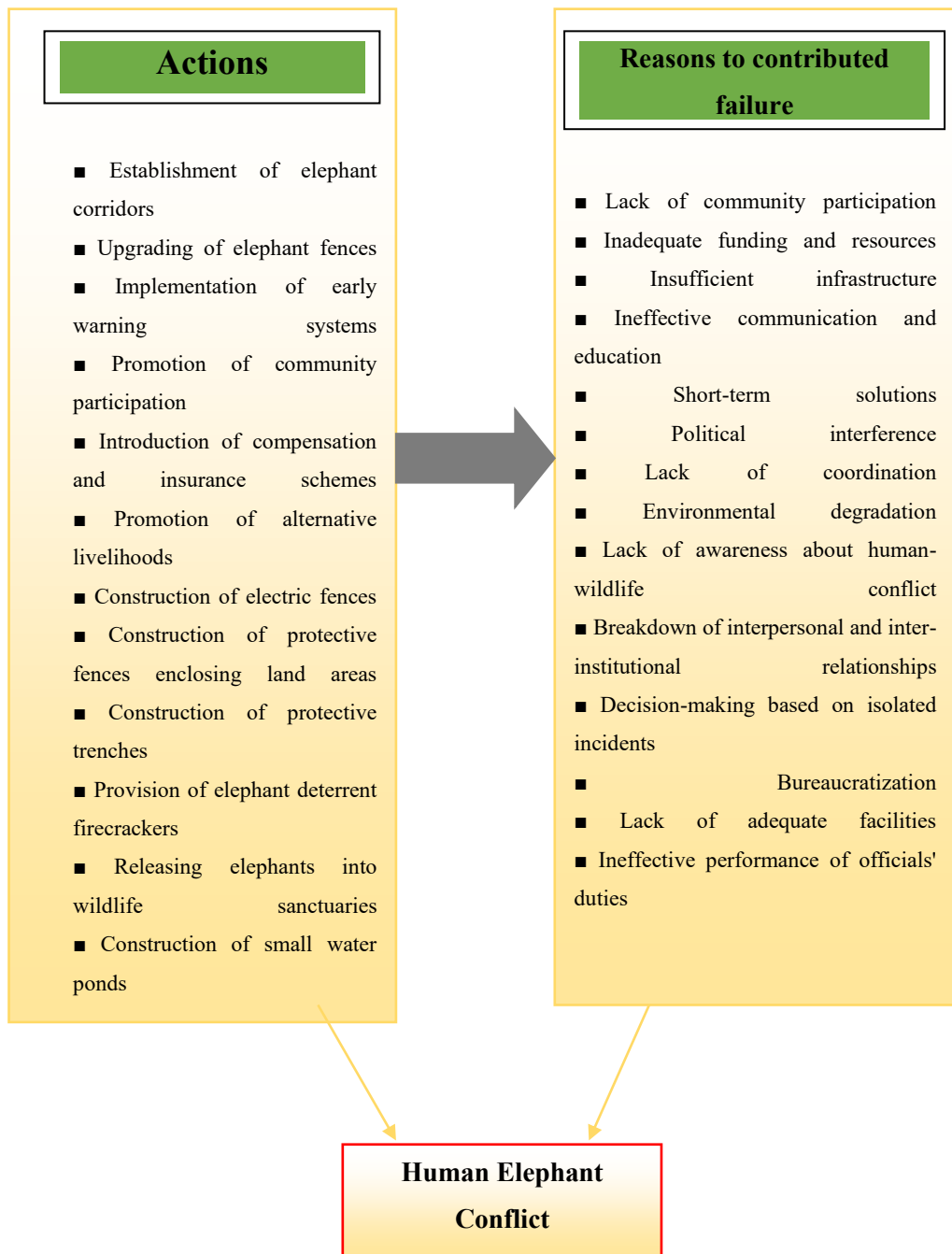
Source: Field study, 2023

This informal hierarchy provides the necessary environmental resources to formal rulers, while playing a significant role in acquiring and organizing physical resources within the village. As a result, it was revealed that they influence the formal hierarchy and facilitate the implementation of large-scale projects and businesses. Accordingly, the role of power hierarchies in the development of conflict has now intensified and revealed an ongoing process of resource exploitation. The emergence of ‘silent force’ hierarchies within villages, driven by this exploitation, has become a major contributing factor to the human-elephant conflict.

8. Conflict Resolution Processes in Human-Elephant Conflict: A Theoretical Perspective

Diagram No. 3

Actions Taken to Mitigate the Human-Elephant Conflict and the Reasons for Their Failure



Efforts to reduce human-elephant conflict require a multi-pronged approach aimed at addressing the root causes and implementing effective solutions. One key strategy is the establishment of elephant corridors. This involves creating routes for elephants to travel between habitats and reduce the risk of conflict with human settlements. Updating, strengthening or installing elephant fences can prevent elephants from entering agricultural fields or human settlements, and can reduce crop damage. Early warning systems can alert communities to elephant presence, allowing timely responses. Educating local communities about elephant behavior, conservation and conflict mitigation strategies through community participation and education builds understanding and cooperation. Encouraging practices such as crop diversification or the establishment of chilli fences can reduce human-elephant conflicts. Providing compensation for crop damage or livestock losses due to elephant raids can help mitigate economic hardship for affected communities. Additionally, insurance schemes can provide financial protection against wildlife-related losses. Also, supporting alternative income-generating activities such as ecotourism, beekeeping or handicrafts should be considered to reduce communities' dependence on agriculture. This will lead to reduced conflicts over resources. Understanding of the dynamics of elephant-human interactions through Scientific research can lead to targeted interventions and long-term conservation plans. Formulating and enforcing policies that prioritize wildlife conservation, habitat protection and sustainable land-use planning are crucial to address the underlying issues of elephant-human conflict. By integrating these strategies, stakeholders can work to reduce human-elephant conflict and fostering coexistence.

Several factors have contributed to the failure of efforts to reduce human-elephant conflict. Lack of community participation can be seen as a key issue. Local communities were not actively involved in the planning and implementation of mitigation measures. Limited financial resources and insufficient support from government agencies and conservation organizations have further hindered the implementation mitigation strategies. Poorly designed or maintained infrastructure, such as elephant fences or corridors, fails to prevent human-elephant interactions and further fuels conflicts.

Additionally, Awareness programs were ineffective, as they have not reached the target groups. Many interventions have focused on short-term solutions that do not address the root causes, such as habitat loss, land use conflicts or population growth, have already failed to achieve sustainable results. Informal political decision-making processes have also intensified the conflict. Lack of coordination between responsible parties, such as government agencies, conservation organizations, and local communities, can reduce the effectiveness of the overall program. As elephant habitats change due to factors such as deforestation, habitat fragmentation, and climate change, elephants are drawn toward human settlements to meet their needs. Lack of recognition or understanding of the severity and complexity of this human-elephant conflict has led to insufficient attention and investment in long-term solutions. Addressing these challenges requires a multi-sectoral and collaborative approach that integrates community participation, sustainable resource management, effective conflict management, and long-term planning to develop sustainable solutions to elephant-human conflict. Research indicates that efforts to address the conflict have focused primarily on short-term solutions rather than long-term reconciliation strategies. These approaches have hindered the adequate resolution of the conflict. The lack of a shared understanding of the needs, grievances, values, and interdependence of conflicting parties has led to a dynamic of and unequal distribution of benefits among stakeholders. Consequently, stakeholders have failed to align their interests, resulting in ineffective resolution processes.

8.1. Community Perspectives on Resolving Human-Elephant Conflict

Table No. – 1 Respondents' ideas for resolving human-elephant conflict

	Comments	Number	Percentage (%)
1.	Developing awareness programs	29	15.6
2.	Using traditional chemical methods	10	5.4
3.	Preparing the elephant fence	67	36.2
4.	Justifying political interventions	28	15.1
5.	Conducting attitude development programs	19	10.2
6.	Separate preparation of human-elephant road systems	10	5.4
7.	Crop rotation	23	12.3
	Total	186	100

Source: Field study, 2023

In the Grama Niladhari Divisions under study, agriculture was identified as the primary source of income for the majority of the community. However, damage to crops caused by animals such as wild elephants, cheetahs and peacocks, has been a major factor contributing to decline of agricultural activities. This finding is supported by both interviews conducted with residents of the Karuwalagaswewa Grama Niladhari Division and quantitative data (Table No. 5.23), which indicate that 3,602 individuals have been affected. The lack of proper elephant fencing and effective repellents have influenced the community to withdraw from agricultural activities. Consequently, it was revealed that the human elephant conflict in the Thulin community could be reduced through systematic and well planned government intervention. In this context, one of the respondents in the focus group discussion expressed the following opinion.

“I cultivated three acres of peanuts, and it was growing well. Just before harvesting, I had to stay with my son as he fell ill. I returned home after two days when he discharged, but by then, only about one acre remained in the corner of the entire three-acre field. I had mortgaged my property and taken out a loan to grow peanuts, and I lost everything. I have been asking for an elephant fence for a long time, but there has been no response yet” (Interview - 1, Peanut farmer, Karuwalagaswewa)

According to the study data, it is necessary to develop various awareness programs to reduce human-elephant conflict within the community. Of the total sample, 15.6% (n = 29) emphasized this need. Specifically, programs on agricultural cultivation, elephant conservation strategies, and livelihood development are currently being implemented through community-based societies. Respondents noted that these programs are designed to help them adapt their livelihoods with elephant conflict and to enhance the economic stability of the family amidst a fluctuating economy. Accordingly, findings revealed that such initiatives, along with Samurdhi training programs, have made a positive contribution to improving household income. Since the area is primarily inhabited by agricultural communities, providing a positive contribution for their livelihood has helped prevent economic collapse. These programs contribute to support the family economy in more sustainable manner, by providing opportunities for beneficiaries to further develop their income generating activities.

It was revealed that by developing personal attitudes, individuals can strengthen their identity and contribute to resolving the elephant-human conflict. By identifying one's inner strength and resources, without a conflict mentality, can lead to personal empowered. In this context, mental development enables individuals to become independent and stand on their own.

“When elephants enter our village, we are all afraid. Some people build shelters in big trees to protect themselves from elephants. We cannot continue like this. Therefore, to get rid of this problem, it would be good if we provide training opportunities to all people in the village. This work should be done separately for young, elders, and children. If this happens, we can all get rid of this problem. Especially as a village, we need to change our attitudes and ensure the safety of the entire village. Otherwise, we will not be able to get rid of this problem like the nest of the seven elephants. So, we need to foster our attitudes and maintain the unity within the village. Our village needs such programs to change attitudes of these people. That's something the leaders should take care of.” (Informal interview - 11, farmer, 65 years old, Karuwalagaswewa)

The members of this community consistently live in fear and suspicion due to the threat of elephants. To reduce this fear, it is essential to implement attitude development programs and other training programs. These training programs should also aim to improve the community's economic conditions, linking economic development with conflict mitigation. Findings emphasis the importance of empowering the community through intersectoral collaboration among all responsible stakeholders.

Summary

Human-elephant conflict (HEC) in Sri Lanka is a multifaceted issue influenced by environmental, social, and political dynamics. Conflict-moderating variables include elephant reproduction patterns, conservation strategies, government policies, and social work interventions. Both humans and elephants possess cognitive abilities that influence conflict behavior. Thus, enhancing human understanding of elephant behavior, such as how elephants solve problems and respond to threats is vital. Human interactions and environmental context shape perceptions on both sides, making it essential to integrate psychological and ecological insights into conflict mitigation.

Engaging rural communities in conservation is a key strategy. Approaches that foster community ownership, promote alternative livelihoods, and ensure equitable benefit-sharing from conservation initiatives can improve outcomes. Involving communities in decision-making enhances their commitment to coexistence strategies. Practical interventions such as early warning systems, land-use planning, elephant deterrents, education, and awareness programs have proven effective in reducing conflict.

Government policies also play a pivotal role. These include establishing protected areas, regulating land use near elephant habitats, and supporting public education campaigns. Creating designated elephant zones and implementing strategic zoning can reduce human-elephant encounters. However, the bureaucratization of rural development has often undermined equitable resource distribution. Development projects such as infrastructure expansion and rural settlement programs, intended to improve rural livelihoods have sometimes worsened structural inequalities and environmental degradation.

A major shift has occurred from subsistence-based agriculture to commercial, profit-driven farming. This change has marginalized many rural communities while benefiting a select few, intensifying both ecological disruption and socio-economic disparities. Resource extraction by politically aligned groups has further exacerbated these issues, fostering parasitic relationships that exploit local environments for short-term gain and reinforce systemic inequalities.

Centralized, authoritarian governance structures have disempowered rural populations and limited community participation in decision-making. Informal power hierarchies and unchecked resource exploitation at the village level have intensified HEC, especially when primary needs (food, shelter) and secondary needs (education, healthcare) are compromised. These dynamics reveal how HEC is no longer solely a conservation issue but a deeply rooted socio-political challenge.

To address this, there is an urgent need to institutionalize a coordinated, multi-level management mechanism led by the Ministry of Wildlife. This should include national, regional, and district coordination units that bring together governmental and non-governmental stakeholders. Multi-tiered committees accountable to the Ministry must be established to ensure transparency, policy coherence, and efficient resource allocation. Ultimately, strategies must prioritize

coexistence between humans and elephants while promoting inclusive, ecologically sensitive rural development. This integrated approach is necessary to resolve the growing crisis of HEC and to ensure both human well-being and wildlife conservation in Sri Lanka.

References

- Bandara, R., & Tisdell, C. A. (2005). *The history and value of the elephant in Sri Lankan society* (Economics, Ecology and Environment Working Paper Series). School of Economics, University of Queensland.
- Baptiste, L., & Cugny-Seguin, M. (2017). Coping with elephant-human conflict in Sri Lanka: A qualitative study of affected families. *Society & Natural Resources*, 30(9), 1111–1126.
- Brouwer, R., Beardmore, B., Hewa Gunarathne, P. L., & Ayoni, N. (2006). *Policy brief: Human-elephant conflict and rural poverty in Sri Lanka* (No. 11). Poverty Reduction and Environmental Management.
<http://www.researchgate.net/publication/258939468>
- Ekanayaka, S. K., Campos-Arceiz, A., Rupasinghe, M., Pastorini, J., & Fernando, P. (2011). Patterns of crop raiding by Asian elephants in a human-dominated landscape in Southeastern Sri Lanka. *Gajah*, 34, 20–25.
- Fernando, P., Jayewardene, J., Prasad, T., Hendavitharana, W., & Pastorini, J. (2011). Current status of Asian elephants in Sri Lanka. *Gajah*, 35, 93–103.
- Fernando, P., Kumar, M. A., Williams, A. C., Wikramanayake, E., Aziz, T., & Singh, S. M. (2008). *Review of human-elephant conflict mitigation measures practiced in South Asia*. WWF.
https://wwfeu.awsassets.panda.org/downloads/wwf_human_elephant_conflict.pdf
- Gamage, S., Ratnayake, R. M. S. K., & Perera, B. M. A. O. (2015). Socioeconomic factors influencing human-elephant conflict in Sri Lanka: A case study in Hambantota District. *Tropical Agricultural Research*, 26(4), 797–807.
- Gunawardhana, L. M. A. P., & Herath, N. S. K. (2018). An analysis of human–elephant conflict of disaster: A case study in Anuradhapura district of Sri Lanka. *ResearchGate*. <https://www.researchgate.net/publication/328359673>

Jayewardene, J., & Prasad, T. (2019). Elephant-human conflict in Sri Lanka: An overview of causes, impacts, and management approaches. In *Conservation, conflicts and human rights* (pp. 55–70). Springer, Cham.

Köpke, S., Withanachchi, S. S., Pathiranage, R., Withanachchi, C. R., Gamage, D. U., Nissanka, T. S., Warapitiya, C. C., Nissanka, B. M., Ranasinghe, N. N., & Senarathna, C. D. (2021). Human–elephant conflict in Sri Lanka: A critical review of causal explanations. *Sustainability*, 13(15), 8625.

<https://doi.org/10.3390/su13158625>

Krishnan, K., & Braude, S. (2014). The effect of visitor group size on stereotypic behaviour and use of available space by captive Asian elephants. *Gajah*, 3, 24–30.

Manamendra-Arachchi, K., & de Silva, M. (2018). Exploring psychological impacts of elephant-human conflict on affected families in Sri Lanka. *Human Dimensions of Wildlife*, 23(3), 245–258.

Prakash, S. L. T. G., Wijeratne, A. W., & Fernando, P. (2020). Human-elephant conflict in Sri Lanka: Patterns and extent. *ResearchGate*.

<https://www.researchgate.net/publication/341150414>

Santiapillai, C., Wijeyamohan, S., Bandara, G., Athurupana, R., Dissanayake, N., & Read, B. (2010). An assessment of the human-elephant conflict in Sri Lanka. *Ceylon Journal of Science (Biological Sciences)*, 39(1), 21–23.

<https://doi.org/10.4038/cjsbs.v39i1.2350>