

**IMPACT OF ECOTOURISM ON LOCAL LIVELIHOOD
AND ENVIRONMENT: EVIDENCE FROM SELECTED
AREAS IN SRI LANKA**

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Sri Lanka

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Thesis submitted in partial fulfillment of the requirements for the degree
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October 2019

DECLARATION

I hereby declare that this dissertation is my own work and effort and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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CERTIFICATION

This is to certify that this thesis submitted by R.R.N.N.Rathnaweera (Index number:158708M) in partial fulfilment of the requirement for the Degree of Master of Spatial Planning, Design and Management at the Department of Town and Country Planning of the University of Moratuwa is a record of the own work carried out by the student under my supervision. This thesis has been submitted with my approval.

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Signature of the principal Supervisor

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Date

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Head of the Department
Department of Town and Country Planning

.....
Date

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ABSTRACT

Whether the Tourism industry generates many negative social and economical to the communities and environment it has become largest fastest growing industry of the world. Eco tourism can be identified as a rapidly growing part of the industry and branch of the sustainable tourism. Eco-tourism has been embraced by many developing countries with the realization that it could go a long way in improving their economy and uplifting the living standards of the people while protecting the environment and the cultural values. Sri Lanka has welcomed Eco-tourism to avoid negative impact generating from mass tourism.

Genuine ecotourism practices cannot be seen in the tourism generated areas in Sri Lanka. They are not aware of the real ecotourism principles. Ranpathwila, Kirelakele, Bundala and Sathurukondan are examples for failure eco-tourism projects which have not practicing principles. Hence it is needed to understand how ecotourism used as a tool to assure economic benefit to local community and contribution to the environment and bio diversity conservation of Sri Lanka. Therefore this research focus to understand subscription ecotourism to local people living in selected areas in Sri Lanka.

Kandalama Lake surrounding area of Mathale District, Heeloya in Mathale district and Ampitigala Madurawala in Kaluthara district were selected as the case study areas. These three are very famous tourism regions in Sri Lanka. Sample of this study consists of 310 families living in Kandalama, Heeloya and Madurawala areas in Sri Lanka. 148 families, 94 families, 68 families respectively selected from Kandalama, Madurawela and Heeloya to the sample. Data collecting was carried out through a questionnaire survey and interview with community members of the villages. Collected data was analyzed through Statistical Package for Social Sciences (SPSS) 21 version. Both qualitative and quantitative data analysis techniques including descriptive statistics, and Binary Regression analysis and narrative analysis were used for of this study.

Survey data shows that 20% of people in Madurawala, 12% of people in Heeloya and 5% of people in Kandalama were aware of the concept of eco-tourism. People in Madurawala and Heeloya have knowledge of concepts of ecotourism. Main livelihood activity is agriculture it

contributes 65% of the total sample. Considering the income level most of them are having low income from their main livelihood activity. But they earned additional income engaging ecotourism activity. There is evidence in Madurawala and Heeloya. Kandalama people are not engaging ecotourism. 7.1% of the sample engaged in supply of food and beverages which is the activity with highest percentage among ecotourism activities. Women empowerment and community empowerment can be identified in these areas. There is positive contribution regarding socio economic and infrastructure. According to the result it can say that people who are said that there will be an improvement in living standards of the local communities due to eco tourist activities since there is an improvement in Improves quality of life, facilitates meeting visitors, increase employment opportunities, Improves understanding of different communities as the believe.

This research revealed that Eco tourist's activities in Madurawala / Heeloya / Kandalama have positive contribution to conservation program and improving living condition of local community in near future.

Key words- Ecotourism, local community, local livelihood

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LIST OF ABBREVIATIONS

| Abbreviation | Description |
|--------------|---------------------------------|
| CBJ | Community Based Tourism |
| GDP | Gross Domestic Product |
| CBE | Community Based Enterprises |
| SLEF | Sri Lanka Ecotourism Foundation |
| WTO | World tourism organization |

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Tourism means travel within your own country or to an international destination mainly for pleasure. (Pearce 1979) Tourism venture is considered world's biggest and popular industry, basically in terms of its support and promotional services. Being a major employment generator, it accounts for a sizable section of the workforce in developing countries in particular. Over the years, tourism has expanded and diversified to become one of the fastest economic sectors in the world (WTO).

This industry plays a great and vital role in providing job opportunities all over the world. Tourism provides a large number of both direct and indirect employment opportunities. Therefore, it largely contributes towards maintaining high level of employment and economic standard of a country. Furthermore, this industry is developing continuously and diversification various new features and developments as per the requirements of tourists (World Travel and Tourism Council, 2010).

Ecotourism has become a vital and essential part and parcel of global tourism today. It is basically based on environmental and cultural features of a country or an area and it generates direct and indirect income avenues and other advantages, especially for the people of the communities in the relevant areas. (Panos, 1997) In fact, ecotourism is the fastest developing sector and its development rate has been estimated at 10% - 15% per year (Panos, 1997). A close connection can be developed between ecotourism and cultural tourism, and the local communities are sure to be benefitted through them. Ecotourism venture in developing countries became the market for visitors who like to enjoy nature beauty and exotic places (Scheyvenes, 1999).

However, on some occasions, biodiversity conservation programmes were not successful in the areas where environment reserves are situated in. It was mainly because their approaches towards eco-tourism did not create a healthy and friendly

relationship between the businesses and communities there. Due to tough laws, rules and regulations which were related to eco-tourism projects in these areas tried to remove local communities from such areas. As a result of it, local communities were at a risk of losing their inherited lands, residential area and traditional livelihoods. As a result of it, many disputes, arguments and disagreements arose between local communities and law enforcement authorities. (Gurung 1995; Metha & Heinen 2001). Due to these reasons, such projects in environment conservation areas failed badly. With the lessons learned from such bad experiences and eco-tourism system that is closely linked with local community and oriented at economic and infrastructure development of local communities was introduced. It has been progressing very fast since recently. In fact, a lot of countries achieved great successes by introducing this community friendly eco-tourism this system contributed very positively towards the direct and indirect income avenues of local communities. Eco-tourism has also given them some value to their inborn skills, talents and creative products. It helps them get rid of poverty to a certain extent (Alpert, 1996).

Sri Lanka has a lot of potentials for economic progress through eco-tourism. Sri Lanka is a land full of cultural diversity and eco diversity. Furthermore, Sri Lankan local communities have inherited skills in creating a large number of eco-friendly products. They are able to introduce a number of unique products with the label of eco-friendly products to the tourists who come to Sri Lanka from numerous parts of the world. However, a bigger income in between 45 – 60% is obtained by dominant businessmen in the country who operate star class hotels and transport facilities for tourists who come to Sri Lanka (SLEF).

Ecotourism can be introduced to rural areas by the poor communities as a tool for alleviating poverty. Tourism generates substantial income through its operations but income not equitably distributed and shared among the society (Boo, 1990). This is the main reason for poverty in these areas. One of the main components ecotourism is alleviating poverty through tourism operations. (Silva 2004) Ecotourism should also be developed cautiously with careful attention to environmental damage. As well as it should reduce negative impacts of on natural resources and optimize the benefits for

poor community. Therefore, it is better to understand a better framework for identify eco-tourism potential to overcome current environment & economic problems. Lack of Community based ecotourism and community support in Sri Lanka is also major challenge (Gurusinghe, 2017).

1.2 Research problem

When consider the tourism sector of Sri Lanka, the situation is not very satisfactory because mass tourism is leading to sex behavior, erosion of traditional values, drug addiction and environment degradation problems in the society (SLEF).

Ecotourism introduced in many countries including Sri Lanka embraced ecotourism with a view of eradicating poverty and solution for the unemployment as well as along with conservation natural resources. Eco tourism can be often seen in rural areas enriched with natural resources by the poor communities as a tool for alleviating poverty. Ecotourism will encourage protection nature, which provided minor impacts, socioeconomic benefits and active participation of host community. As well as it is expected to poverty alleviation through tourism operations. (Gurusinghe2017)

Sri Lanka is a developing country. In this country, 6.7 percent of the population is falling under the poverty line, according to 2017 statistics. Poverty is the main problem affecting the people living in the tourism generating areas as well.

Most local communities in Sri Lanka participated in the Tourism industry are not playing an important role in the decision-making process in the absence of well-established community oriented tourism enterprises. Community-based tourism (CBT) is becoming increasingly popular worldwide with rural improvements and poverty alleviation. The CBT development in Sri Lanka is yet to become a success with the tourism potential in rural areas remaining untapped. (SLEF)

Genuine Eco-tourism practices cannot be seen in the tourism-generated areas in the rural sector. A fair share of the income derived from tourism does not go to the communities living around the tourism generating areas. Genuine Eco-tourism

programs could offer practical solutions to the socio-economic environmental problems. Eco-tourism can become real in the true sense of the term, if only it incorporates the concepts of community-based Eco-tourism. It has been observed that the majority of tour operators carry out natural environment oriented procedures while others implemented of nature and adventure-based tourism, excluding practicing real Eco-tourism. (Gurusinghe, 2017). Hence, there is a need to understand how Ecotourism act eradicating poverty and sustain environment and biodiversity conservation.

Real meaning of Eco tourism has been misunderstood. It is revealed that the meaning of real ecotourism have not been understood. As per the International Ecotourism Society definition, it is “Responsible travel to natural areas which conserves the culture, environment and improves the welfare of the local people”. A walk through the rain forest is not ecotourism if somehow benefits the environment and the people who are living in the area. At present many tour operators offering eco tourism packages to attract Eco tourists. But these tours are not genuine ecotourism and, these operations are leading to devastating the ecosystems which is not contributing to the conservation but leading to environmental destruction, increasing the gap between the rich and the poor (SLEF, 2001).

Tourism industry influence a vast area of natural resources in the country. Tourism activities involved degrading the environmental resources, excessively consuming water, lands, food and other goods based on natural resources. Tourism obviously has huge economic potential should it guided towards sustainable development to assure economic returns to the people living around the protected areas. Mass tourism obviously surpasses the carrying capacity of the environment, cultural sites, and natural sites such as national parks, sanctuaries, beaches and marine resources water and food resources.

Some ecotourism projects are unable to follow the real ecotourism principles. Kiralakele, Ranpathwila, Bundala, Sathurukondan wetland in Baticoloa are some

examples of the failure of ecotourism principles (Story of ecotourism Sri Lanka, 2017).

Kiralakele ecotourism was the first model how ecotourism could be used as a tool to assure economic benefit to local community and seek their corporation in environment and bio diversity conservation while achieving the ecotourism principles. This is the classic example of a case study how the politicians and corrupted officials and people which could ruin community base ecotourism projects to their personnel gains. At the beginning this project, it was successfully implemented while practicing eco principles. Later it was collapsed due to the interference of politician's whom interest of ecotourism business at a large scale degrading the wet land.

Ranpathwila ecotourism project was located in Galgamuwa. This project was also failed as a result of corrupted community leaders and internal disputes popped up between community members and leaders. Currently, it is functioning without any eco principles. Leader has personnel agenda to earn quick money disrespecting the natural environment.

Bundala ecotourism project was located in Hambanthota and this project is not functioning satisfactory due to similar reasons. Leader of the community handle this project by his own ideas without concern about the principles of ecotourism. Income generating from ecotourism is not divided among the people. Sathurukodan wetland project was located in Baticoloa. This wetland site is enriched with wide variety of birds and rare species and mangrove swamps are providing protection for birds. This project was not implemented satisfactory to any environment standard. Now encroachment of wetlands, mangroves cutting down and dumping garbage are happening in large scale.

The concept of ecotourism brings valuable meaning of the principles of ecotourism. The real meaning of ecotourism can be found if it only incorporating the concepts of

community based ecotourism in to the project. True ecotourism should support local people while protecting the natural environment.

1.3 Research Questions

Specifically, this research will explore the answer to the research questions given below.

Could ecotourism support local people while protecting the natural environment in Sri Lanka?

1.4 Objectives of the Study

There are two research objectives includes in this research.

1. To investigate the contribution of ecotourism to local livelihood in selected sites in Sri Lanka.
2. To identify the contribution of ecotourism to conservation of natural resources in selected sites in Sri Lanka.

1.5 Method of the Study

It is expected to carry out this research in mixed method. Both quantitative and qualitative methods is using to analyze. The locations selected are Kandalama Lake surrounding area of Mathale District Heeloya Kandy district and Ampitigala Madurawala in Kaluthara district as the case study areas. Villages located around the selected sites are used for the data collection using the random sampling procedures.

The first objective of the study was to investigate the contribution of ecotourism on local livelihood in selected areas, which was achieved by questionnaire surveys and interviews of the general public.

To the second objective was to identify the contribution of Ecotourism on conservation of natural resources, for that; data were collected through questionnaire surveys and interviews of community leaders.

Households of the study areas were selected for questionnaire survey. People who are participated and not participated in ecotourism activities were selected using Random sampling method.

1.6 Scope and Limitations of the study

Study attempts to examine how ecotourism impact on local livelihood and conservation of the natural environment. Eco tourism has many branches to study, but in this study focus on local livelihood development and conservation. When we reviewed ecotourism field many sections can be identified. Among them hoteliers, tourism management, Eco tourists, biodiversity, eco lodges, regional development, cultural factors education and interpretation are significant. But due to the time limitation scope of this study is to assess the contribution of ecotourism on local livelihood and its contribution to the conservation of natural resources in the study areas.

The focus of this study is to locations of Heeloya, Kandalama and Madurawala which is one of the limitations. In Sri Lanka there are many suitable places to investigate for the contribution of eco-tourism on livelihood activities. But those places are not accounted due to the time frame of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Through Sri Lanka tourism recognized ecotourism as an important sector in sustainable tourism as the present scenario in Sri Lanka. There are lot of unidentified resources in the country can be used to receive economic advantages for the country as a whole. Eco-tourism preserves natural habitat and pristine environmental resources. Such natural resources can be developed as revenue generating resources most positively.

This study discusses issues, definitions and back ground information of eco-tourism. The study also focuses on economic benefits of eco-tourism especially for economically less advantage of people of the country and standard of local communities. The study also focuses on positive contribution of eco-tourism on community, culture and conservation of environment.

2.2 Tourism in Sri Lanka

Organized tourism was introduced to Sri Lanka in mid-sixties as a popular destination in south Asia which was created mainly for needs of traditional sun, sea & sand pleasure tourists. Pleasure loving visitors attracted Sri Lanka. Since then beach resorts such as Negombo, Beruwela, Mount Lavinea, Benthot, Hikkaduwaall located along the coastal belt. Island became famous among the pleasure seeking tourists (SLEF).

Over the years, many beautiful resorts, hotels and adventure parks have been set up with new themes and became highest density of population. Incorporating the diverse culture of the country, the various Tourist Establishments here offer visitors a unique, yet memorable experience to cherish. With the popularity of as tourist transits Sri Lanka attracted tourists in many other countries, tourism income significantly contributed towards the national income and became the important segments of gross domestic production of the country. The country has to maintain

and promote tourism in Sri Lanka with stable political situation and security without terrorism. Short term and long term economic growth can be expected from tourism if it is properly managing. As a part of it, innovative strategies should use to attract more and more tourists from all over the world to this tiny island known as the paradise isle (Samaranayake, 1998).

2.3 Sustainable Tourism

Lot of theories of tourism evolved after the world war 11 (Telfer, 2002).After that tourism related literature emerged. However, after the Second War II, tourism began to grow slowly but surely. Tourism related theories began to develop further and a large number of books were written on tourism as well. Many researches defined the interconnection between tourism and development theories based on four factors; Modernization, Dependency, Neo-liberalism and Sustainable development” (Telfer, 2002).

At present all development tasks are generally based on sustainable development. All the development and its issues consider the aspects of sustainable development approaches. The term of sustainable tourism came to seen in 1990s. With the publication of journal of sustainable tourism. (Kimura 2011) the term of sustainable was widely famous. Since negative aspects of mass tourism there is a necessity of introduction of sustainable tourism.

The world became more concerned towards the issues like global forming, garbage disposal environmental pollution and stress to the social cultural and religious value of the communities. As a result of it more and more attention was paid to sustainability (Kimura 2011).

Sustainable tourism is defined by world tourism organization as “tourism that meets the needs of present tourists and host regions while protecting and enhancing the opportunity for the future”. According to this definition it assure conservation of the natural resources while fulfilling social cultural economic needs of present and future generation. Hence, sustainable tourism means minimal impacts on the environment

and culture of local community. However sustainable tourism is a new way of tourism industry directing the mass tourism with the sustainable guidelines. At present ecotourism is the most popular segment of the sustainable tourism. Ecotourism principles match with sustainability. The diagram is explained practicing true ecotourism concepts leads to conservation and socioeconomic development towards sustainable.

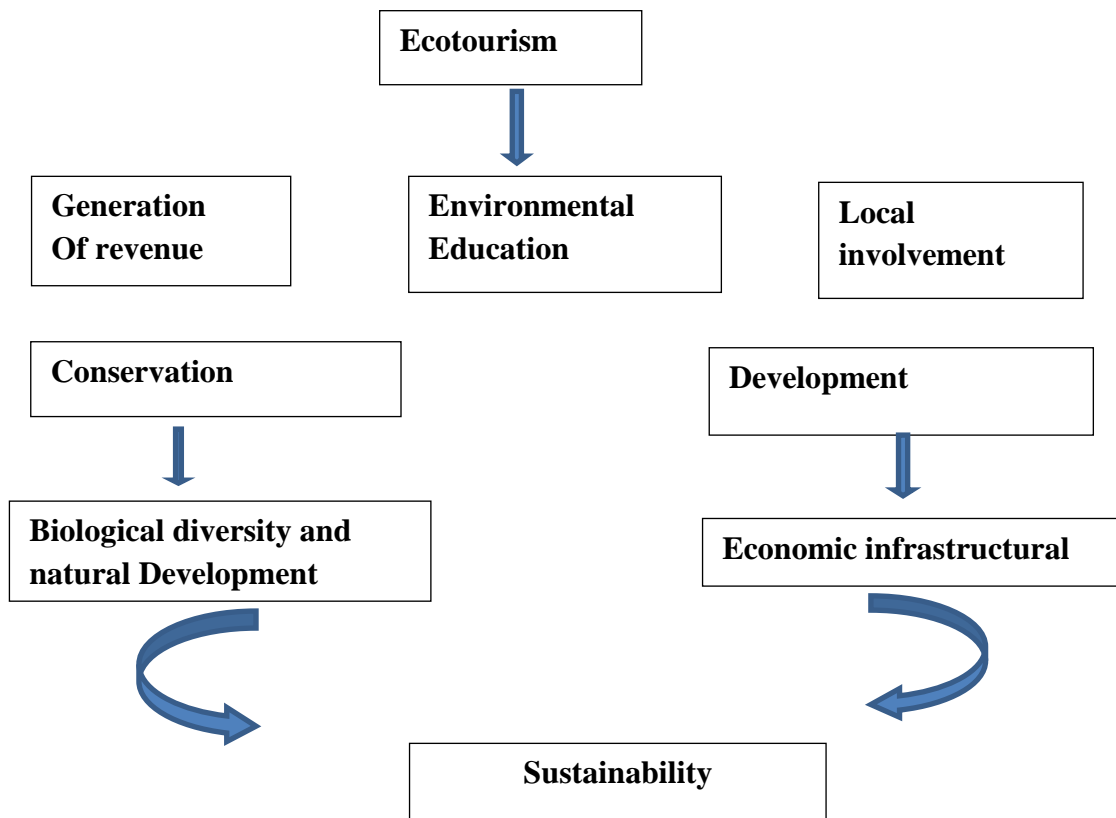


Figure 1: Ecotourism towards sustainability

Source: (Ecotourism: towards congruence between theory and practice Sheryl Ross*, Geoffrey Wall)

Ecotourism encourages conservation and development in sustainable manner (Ross and wall, 1999). If this happen both community development and conservation of environment will sustain. The overall living standard of the local community would considerably be improved making a healthy atmosphere in motivating them towards an environmental conservation and love for tourism.

2.4 Ecotourism

Ecotourism came to be seen in the 1980s with the attitude of tourism changing, all have been discussed about the alternative tourism through a sustainable manner (Silva, 2004). It is defined as “responsible travel to natural areas that ensures the protection of the environment and the wellbeing of the local people”. (International Ecotourism Society). Ecotourism is a form of sustainable tourism which conserves the natural environment and the wellbeing of the host community. Eco-tourism has a relatively short history with its concept gaining ground during the last 20 years. In fact, the contribution of Eco-tourism is a concomitant to the growth of environmentalism and the Green Movement and economic benefit to the region.

Eco-tourism has been embraced by many developing countries with the realization that it could go a long way in improving their economy and uplifting the living standards of the people while protecting the environment and the cultural values. Sri Lanka has welcomed Eco-tourism to avoid negative impacts generated from mass tourism. (Gurusinghe, 2017). Sri Lanka has enriched with cultural and natural diversity. Apart from that this is a tiny island with easy accessibility to diverse natural and cultural heritage sites considered as a main base for ecotourism promotion.

Tourism industry can be managed in a sustainable manner to alleviate poverty in the long run. Meanwhile, Eco-tourism can be developed as an immediate income source to the host communities. Tourism generates a substantial income through its operations, not equitably distributed. Wellbeing of the people raised to a great extent if opportunities are provided for the local people to share this income. Ecotourism should be developed cautiously to prevent possible damage to the environment. In this process it should encourage minimizing the adverse impacts on the environment and optimizing the social and economic benefits. Additional income gained from Ecotourism would inspire and encourage poor local people to protect the natural environment (Story of ecotourism Sri Lanka).

Ecotourism can provide the low-income communities with a viable means of earning a livelihood, but we seem to be still far away from achieving this goal. A community-based Eco-tourism and the community support are imperatives for achieving this goal.

Major benefit of Eco-tourism is arresting the fast-growing trend of urbanization – a phenomenon that spawns a multitude of social and economic problems. Eco-tourism can arrest the urban drift by providing avenues for earning a living for the communities in their own are Mass tourism and eco-tourism are almost too extreme of tourism. Undoubtedly there are so many advantages of eco-tourism. But expected results cannot be achieved through eco-tourism without proper planning and promotional strategies.

2.5 What is Ecotourism?

Definitions of eco-tourism Eco tourism development is well documented in many literatures. Because eco-tourism industry is becoming a dominant sector in most of the developing and developed countries. Eco tourism emerged in 1980 and it is developing at a high speed in the world.

Different people have given different definitions to eco-tourism and there are so many definitions and disagreements and arguments about these definitions. However, the definition given by Hector Ceballos in 1983 is considered as a definition first given. His definition was amended in 1993.

Table 1: Definitions

| | Source | Definition |
|---|-------------------------------|---|
| 1 | Ceballos- Lascurain (1987) | "Tourism is traveling to natural areas untouched and uncontaminated by human factor, with the specific purpose of studying, admiring and enjoying the scenery, wild animals and plants in it, as well as any cultural events" |

| | | |
|---|---|--|
| 2 | Tickell (1994) | "The journey to enjoy the impressive diversity of natural life and human culture without causing damage to any of them." |
| 3 | Ceballos-Lascurain, 1996). | "Environmentally responsible, enlightening travel and visitation to relatively undisturbed natural areas in order to enjoy and appreciate nature (and any accompanying cultural features both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socioeconomic involvement of local populations " |
| 4 | Ross and Wall (1999) | "strategy for preserving natural areas while promoting sustainable development of the area" |
| 5 | Wunder (2000) | "1.Minimal physical and social impacts on the visited areas; 2. Ecological education of the tourist at the natural sites; 3. Notable economic participation by local residents " |
| 6 | Che (2006) | "Ecotourism has been portrayed as a form of sustainable development, primarily in Third World 'pristine settings' as a means of using natural resources to support economic activity without compromising economic growth , the environmental carrying capacity, or social equity" |
| 7 | The international Ecotourism society (2006) | " Responsible travel to natural areas that conserves the environment and improves the well-being of local people " |
| 8 | Sri Lanka Ecotourism foundation | "Tool to conserve the environment ,to assure maximum economic benefits to the host community , Preserve aged old cultural heritage and provide in depth information about Sri Lanka and to satisfy the needs of both national and international eco tourists visiting genuine eco sites in the island" |

As ecotourism being popular its definitions have been expanded incorporating cultural and environmental tourism and wellbeing of people. In 2006 the international ecotourism society listed six principles to consider the ecotourism.

2.6 Key components of Eco-tourism

Some researchers emphasize ecotourism potential to both community development and their environment.

In all the definitions 4 elements are connected.

1. Conservation of natural areas
2. Community development,
3. Preserving cultural heritage
4. Education

When considering all the definitions and ambitions, Ecotourism has two main branches

1. Conservation of natural environment
2. Socioeconomic development of local areas

2.7 Conservation of natural environment

This study focuses on eco-tourism as a way of poverty alleviation. Most of the people in rural areas are poverty stricken. But they are compensated with large stretches of lands full of natural resources and natural beauty. Through eco-tourism, their inborn skills in creative products can be promoted along with natural resources. While the resources are protected, life of standard of local communities can be developed if proper strategies are put into action.

2.8 Socioeconomic development of local areas

Eco-tourism can be viewed as a way of developing the country while protecting the environment, wild life and local values. It also positively contributes towards reducing unemployment, developing infrastructure facilities, uplifting communication technology and upgrading social welfare

2.9 Employment opportunities and capacity building

Booming eco-tourism helps to generate employment opportunities directly and indirectly in the local communities while preserving both the nature and the culture. Both men and women gain opportunities to receive some kind of income from tourists. The job opportunities could vary, such as providing local rough and ready accommodation, introducing traditional food items, tourists guiding and organizing adventure trips. New job titles such as eco-tourism project manager, nature tourism ranger, eco-lodge manager, sustainable tourism manager, and adventure specialist....etc. are becoming very popular today. However, necessary action to be taken to make sure that local communities are benefitted more than wealthy businessmen through these projects.

2.10. Infrastructure and other socio-economic development

Development of infrastructure facilities is essential to promote eco-tourism and attract more and more tourists. But authorities should make sure that such development does not ruined the essentials of natural beauty that eco-tourism is based on. Furthermore, infrastructure such as clean water, access roads, and accommodation and transport facilities should be developed with minimum impact on nature.

Conservation/Socio economic development

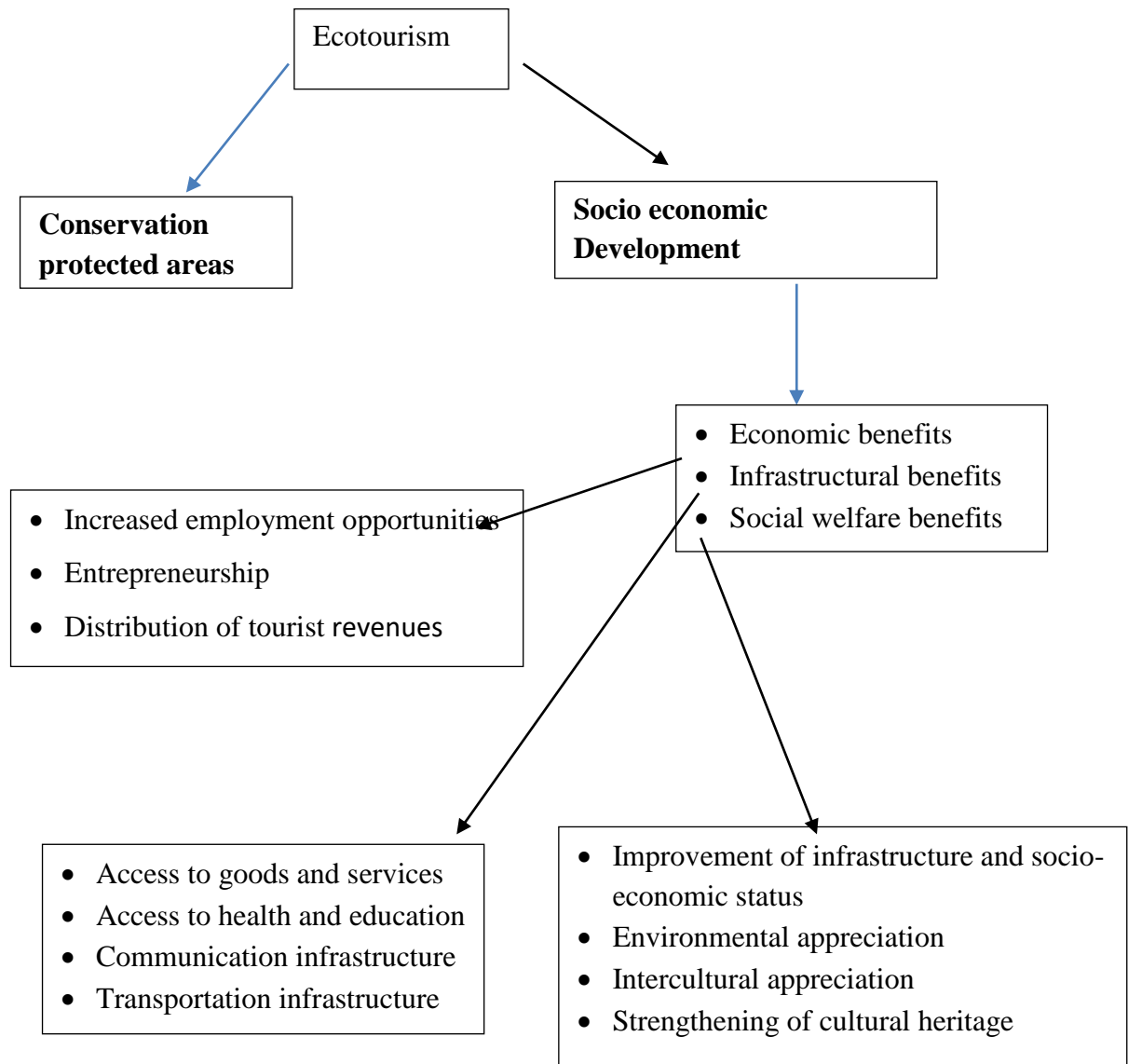


Figure 2: Conservation/Socio economic development

Figure 2: Conservation/Socio economic development

Source: (Compiled by author.)

According to the figure 2, it shows that implementation on ecotourism in any region it leads to development of conservation of environment and socioeconomic development. There are three aspects of socioeconomic development. Economic

benefits social welfare benefits and infrastructure benefits are the direct benefits achieved by ecotourism venture.

2.11 Ecotourism interrelationships

Conservation process and wellbeing of local people in tourism generated regions depends on interrelationship between local people, tourism and natural resources. These three factors play vital role to success of the ecotourism development. Three dimensions interfere each other .if this relationship not functioning properly whole process will be collapsed (Ross &Wall, 1999).

However, there is an unbreakable inter connection among natural resources, local communities, infrastructure and eco-tourism. Tourists who are interested in ecofriendly tours require fun, joy, entertainment, knowledge and variety by providing such facilities local communities receive some income. A part of that income is used to further develop their businesses. Local communities build up lifelong friendships with tourists. Income as well as the joy that they gain through eco-tourism keep them happy and smiling. Therefore, eco-tourism and local communities are inter connected in many ways (Ross & wall, 1999).

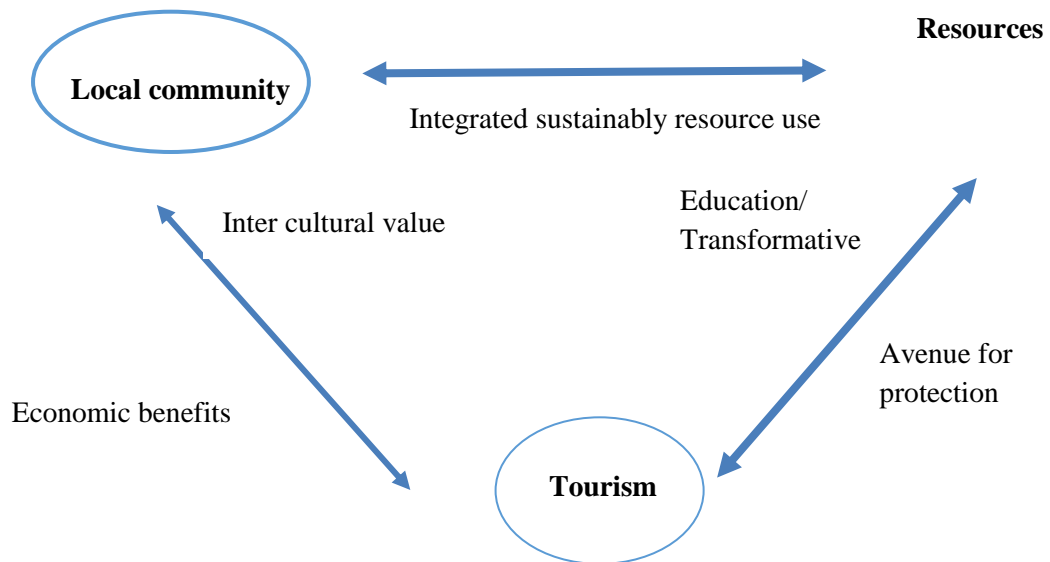


Figure 3: Interrelation of ecotourism

Source: Ecotourism: towards congruence between theory and practice (Sheryl Ross, Geoffrey Wall)

2.11.1 Community and Resources

Strong connection can be identified between local community and natural resources involved in it. Local people make efforts to protect the environment because so long as the environment is protected, their ways of income are protected. Host people should be encourage on the protection nature, identity in biodiversity, the preservation of local culture and identity in return for the tourism income they receive (Ross & Wall, 1999).

2.11.2 Resources and Tourism

Strong connection can be identified between eco-tourism and natural resources and the local people involved in it. Local people make efforts to protect the environment because so long as the environment is protected, their ways of income are protected.

Tourism industry depends on Natural resources; natural resources depends on tourism. This relationship promotes sustainability of nature. When the natural recourses sustain well it will be development of tourism. Hence, it is encouraging to protect and enhances of the nature. Optimal management of tourism industry will contribute protection natural resources and bio diversity in many aspects. Natural resources contributed tourists by education in nature while natural resources gain economic support from tourism for maintenance and protection. Tourists can benefit from Natural resources by getting high quality environmental education and tend to pay funds to protected area (Ross & Wall, 1999).

2.11.3 Local Community and Tourism

There is a strong connection between local community and tourism. Tourism generated income directly enhance the living condition of people. Tourism created direct and indirect job opportunities support local communities. In return tourist gets inter cultural experiences and education.

There is a strong connection between eco-tourism and local communities too. Local communities largely depend on the income that they gain through small and large business avenue which are generated through eco-tourism directly and indirectly. In

fact, previously there were rules and regulations which created the huge gap between eco-tourism and local communities. But later, remedial measures were taken to bridge the gap between eco-tourism and local people. Now while developing eco-tourism people have been able to achieve their economic targets to a great extent

2.12 Ecotourism Potential

Eco tourism mostly embraced by the developing countries which rich in bio diversity hoping economic development of the country. Development of ecotourism is well matched with community development. A vast majority of ecotourism projects are connected to protected areas. Measures implemented before ecotourism introduction were not compatible with local people. Traditional method separated local people and natural resources by enforcing rules and regulations (Heinen, 1996). Therefore there were conflicts between local community and the authorities. After the introduction of ecotourism these conflicts terminated and it is act as a bridge link the natural resources and local communities.

Ecotourism venture seeks community help to success both conservation and alleviating poverty. Many countries successfully experienced ecotourism gaining expected target.

Ecotourism venture seeks community help to success both conservation and alleviating poverty. Many countries successfully experienced ecotourism gaining expected target. Casey Catherine Miller (2017) conducted research on “Challenges and Potentials of Ecotourism as a form of Conservation and Sustainable Development on Zapatera Island, Nicaragua”, Study was carried out to look into the tasks of eco-tourism potential of Minakaleh Protected Region. Using Descriptive Analysis, research focuses on factors that affect to sustain ecotourism too. The information for the study was collected through questionnaires observations and interviews. Three hundred and Eighty Four families were used for the research. The information was analyze through SPSS method. The study reveals that there is a high potential for eco-tourism and environmental economic, social and cultural development and connectivity in the region.

Rugayah et al., (2015) on their study on “The Praxis of Langkawi’s Sustainable Regeneration Strategy through Eco-Tourism” The study made an effort to find out whether local communities have been benefitted by eco-tourism and also whether eco-tourism can be effectively used for the management and conservation of natural resources. People from all walks of life inclusive of businessmen unemployed people general public and government employees were taken for the research.

Manyara and Jones (2007) in their study, evaluates “community based enterprises potential and challenges for poverty reduction in Kenya”. In the study done in Kenyasix CBES was selected under snow ball sample methods. Some leading people in the village were taken to gather information. The information reveal that the investment made were not sufficient to fulfill the needs of local people based on the above facts a development framework based on sustainable development was proposed to be introduced.

Lai and Nepal (2006) in their study on “local perspectives of ecotourism development in Tawushan nature reserve Taiwan” Information was gathered to find out response and attitudes towards eco-tourism by Taiwanese, as a whole they have a lot of positive attitudes towards eco-tourism. Tourism has been continuing for many years in the west eastern countries. Issues connected with tourism have been identified and eco-tourism is now considered as a solution to most of such problems.

2.13 Ecotourism and community benefits

Leon (2007) evaluated the “Impact of tourism on rural livelihoods of the Dominican Republic’s coastal areas”. 23 costal colony communities were selected as a sample. Their family income level have to be studied because family income is a yardstick of the family standard. It was obvious that tourism has largely contributed towards upliftment of these families. Further attention was focused on to decide family welfare standard and management of natural resources. Welfare facilities were high in most of the areas, but those facilities have not in properly distributed. Mainly the poor families had less facilities whereas the rich families had received most of the welfare facilities.

Bandyopadhyay et al. (2004) assessed the benefits of community conservancies in Namibia selecting 1192 households. Research has two branches. Assessment of conservation impact and Assessment of economic impact on selected households. Study conducted using multivariate analysis method. Research revealed positive impact on local livelihood.

Stone (2002) in his study on “Ecotourism and community development case studies from Hainan, China” In the research was carried out in two areas in China where ecotourism practice well.. The target of the research was to improve sustainable development by providing more and more advantages of the eco-tourism

Roger and Bhatta (2013) had done a study on “Ecotourism planning and sustainable community development: Theoretical perspectives for Nepal “. In the researches study done in Nepal four areas were selected.

As a whole the researches reveal that eco-tourism has contributed positively to uplifted livelihood of host community in the relevant region. But more and more community oriented strategies should be introduced to achieve the desired best objectives of eco-tourism.

2.14 Ecotourism & Conservation

Stem, et al, (2010) in their review on “Community Participation in Ecotourism Benefits: The Link to Conservation Practices and Perspectives”. Eco-tourism is responsible for the maintenance of eco system and generating income avenues for host community. In the researches done in Costa Rica, it was reveal that a large number of people are slowly getting rid of agricultural activities but focuses attention for reforestation targeted at eco-tourism through environment conservation. However, researches up to now have revealed that contribution of local communities towards eco-tourism in developing countries is less than that of developed countries.

Most of the researches on eco-tourism are based on socio eco development. There are researches based on advantages and disadvantages of eco-tourism.

Another important facts which was revealed is that many eco-tourism projects which are operated today are not genuine eco-tourism projects and many such projects have neglected local communities. But through eco-tourism should built a strong connection among natural resources, local communities, income avenues and environment conservation.

Gurusinghe (2017) in his “Story of ecotourism Sri Lanka” highlights that Sri Lanka community based ecotourism is practiced in several areas such as Kirelakelle, Matara, Ranpathwila, Ehatuwana, Galigamuwa, Walawe, Ambalanthota, Bundala, Thissamaharamaya, Arugam Bay, Heeloya and Maradankadawala. Kiralakekele was the first community based ecotourism project which is initiated by Sri Lanka ecotourism foundation in 2002. These projects are initiated with the view of assure economic benefits to local community and seek their cooperation in environmental and bio diversity conservation. But some of them are failed.

2.15 Research Gap

Most of the research conducted in tourism sector assess social, cultural and economic impacts of tourism venture. Presently ecotourism became fast growing prominent sector of the tourism industry. Hence researches are conducting studies, discuss advantages and disadvantages, negative impacts and positive impacts of the ecotourism sector. It is revealed that presently implemented many ecotourism projects are not practicing real ecotourism components. These projects are not working with local people and on the other hand they produce unnecessary pressure on to natural resources.

But it is revealed that a few studies has been conducted to examine impact of eco-tourism on local livelihood. Government and other relevant authorities have not pay attention to get public perceptions regarding ecotourism project conducted by government sector and private sector. It is revealed that many projects have been failed due to non-availability of feedback from users. Hence tourism projects are not associated with people’s needs and natural resource conservation instead it leads to social unrest. There is lack of theoretical and empirical research on livelihood development and conservation of natural resources in Sri Lanka. It is hardly find any

literature on contribution of ecotourism on local livelihood and contribution to natural environment. Ecotourism Contribution of local livelihood and natural resources has not been adequately addressed. This study is very relevant to filling this gap.

CHAPTER 3

RESEARCH DESIGN

3.1. Introduction

Purpose of this study is to examine the impact of eco-tourism on local livelihood and the natural environment with special reference to the surrounding areas of Kandalama Lake, Madurawala and Heeloya. This chapter devoted to explain the research design of the whole study.

3.2 Research Flow of the Study

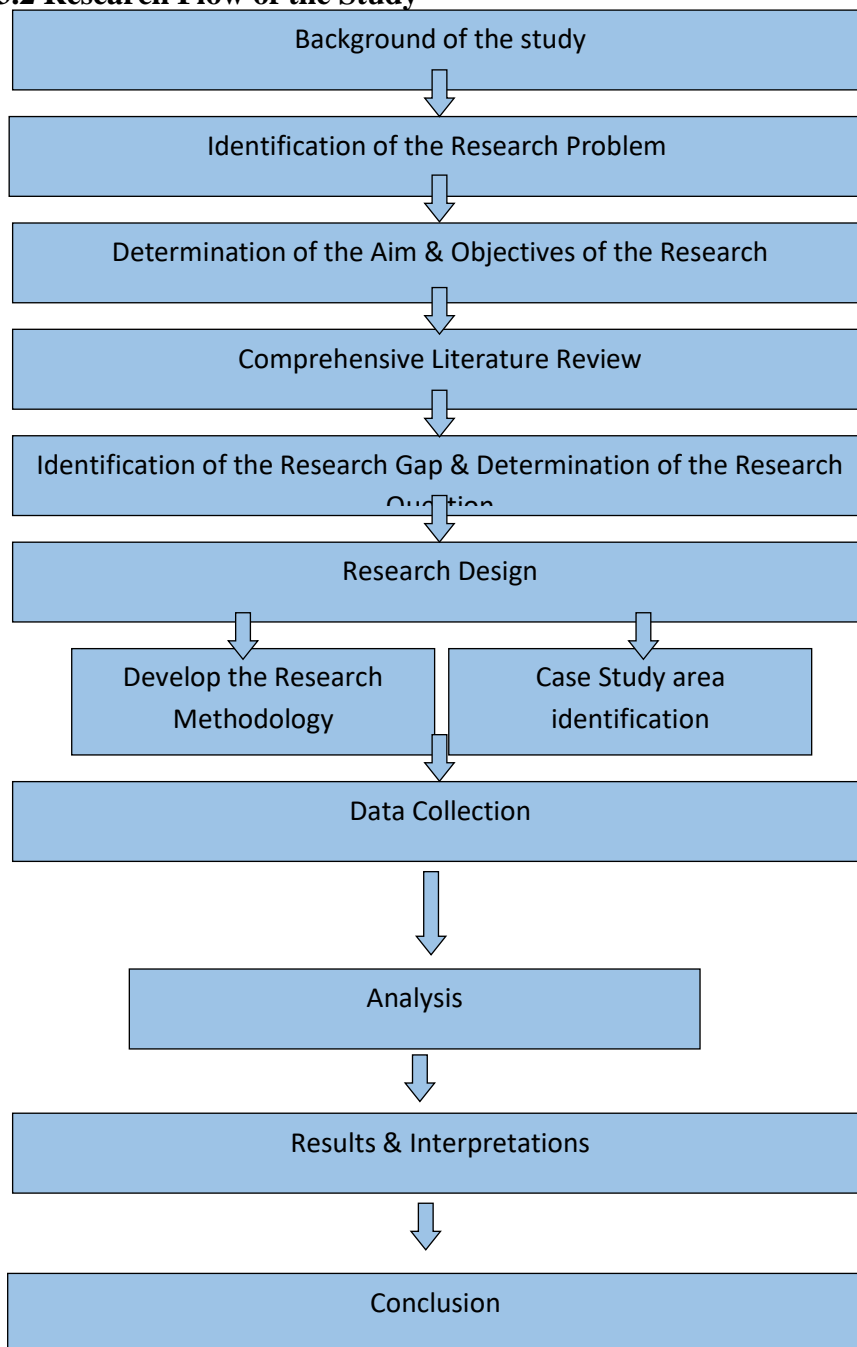


Figure 4: Research flow of the study

Source: Compiled by author, 2019.

3.3 Research Question of the study

Based on the fact mentioned in the previous chapters, this study attempts to find solutions for the following question.

Could ecotourism support local people while protecting the natural environment in Kandalama, Heeloya and Mandurawala area?

3.4. Selection of study area

To identify impact of ecotourism on local livelihood and conservation three rural areas Madurawala , Heeloya and Kandalama where enriched with natural beauty and unique culture pattern have been selected in Sri Lanka. Villagers of these areas maintain this environment without any harm to the environment. These areas used for ecotourism development without any harm to the existing environment landscape. There are many popular ecotourism destinations in Sri Lanka and Studies have been carried out by many researchers. But Madurawala, Kandamma and Heeloya have not been selected for any ecotourism studies in so far. This is the main reason to section of these three sites to achieve research objectives. However Sri Lanka is embracing ecotourism to the development of rural areas while improving living standards of ecotourism. But there are some cases where failure of ecotourism concepts.

New ecotourism projects were emerged recently and implemented successfully. These projects are operated and managed by local community. This concept has valuable meaning to the principles of ecotourism. Among them Kandalama, Madurawala and Heeloya were selected as case study area for this study.

Abundant natural and cultural diversity of the country is an opportunity to develop ecotourism concept for the benefits of economic development. There are several destinations where eco-tourism practiced in Sri Lanka. Kandalama is the one of the best places among them. Kandalama is located in Dambulla divisional secretariat division of Matale District. This area is rich with many natural resources. Kandalama area was not famous for tourism activities before the construction of Kandalama eco-friendly five stars hotel. Heritage Kandalama established in 1994. It is in the heart of

the Cultural Triangle. Their rainwater harvesting system and recycle water system is appreciated. Hence it is believed that Kandalama hotel is practicing eco-tourism proper way. Heritance Kandalama which is the first environmental hotel project which is awarded “green global 21” in Sri Lanka, located in Dambulla, 163 km away from Colombo.

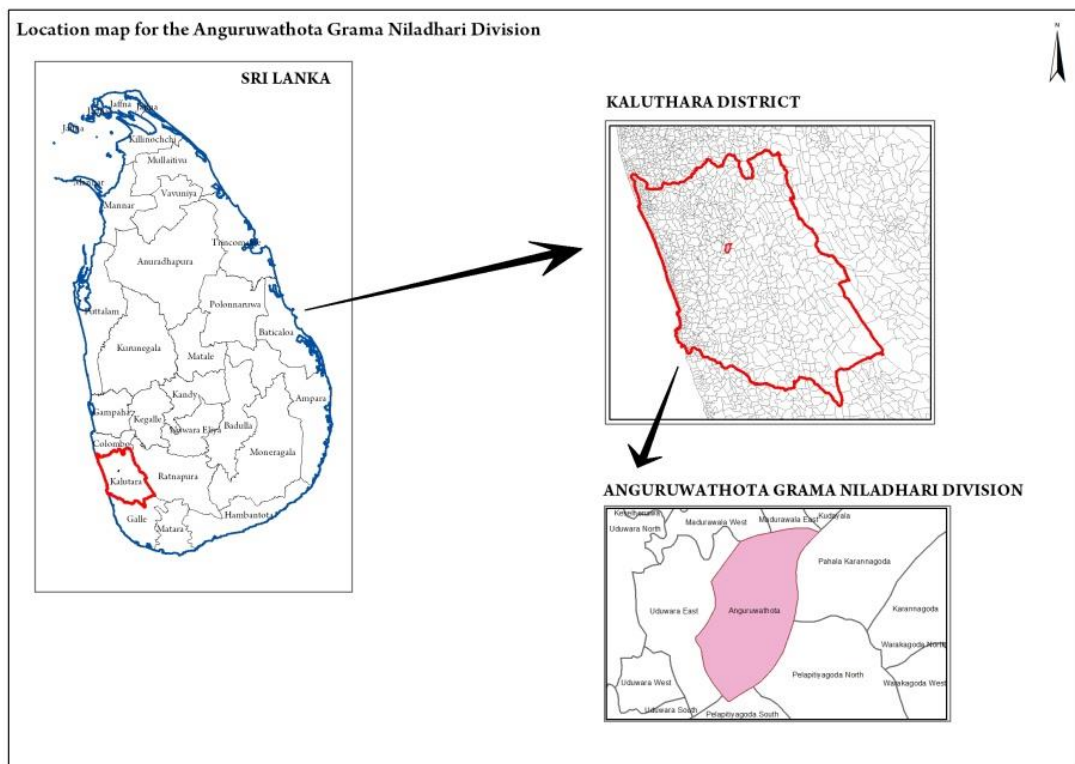
When the Kandalama hotel established in 1994 there were protests regarding damaging the sensitive natural environment and the lake Kandalama. But they built an award winning environmentally friendly hotel with contributed social welfare activities for community. All believe that Kandalama is practicing genuine eco-tourism. Their environmental practices are in an excellent level and minimize the impacts to the natural environment. They follow solid waste management programs, sewerage treatment and paper recycling and became the first green globe 21 standard certificate.

As well as Kandalama hotel offered ecotourism activities nature trails, eco parks, cycling, trekking, Boat trips in the Kandalama Lake and butterfly watching which are for tourist attraction.

Heeloya is a rural agricultural village located in Kandy district which is 30 km far away from Kandy city. Major livelihood activities of villagers are paddy cultivation, home gardening, livestock and spices. Today, some villagers are practicing tapping, handy crafts, bee-keeping etc. Community Based Ecotourism is practiced in Heeloya area with the support of Italian international NGOs. Heeloya is a rural remote agricultural village in Kandy district. Paddy cultivation, home gardening, livestock and spices are the major livelihood activities of the villagers. In addition, they engage intoddy tapping, handy crafts, and bee-keeping. This village is 30 km away from Kandy city. Italian international NGOs is assisting the practice of the community based ecotourism in Heeloya village in Kandy District.

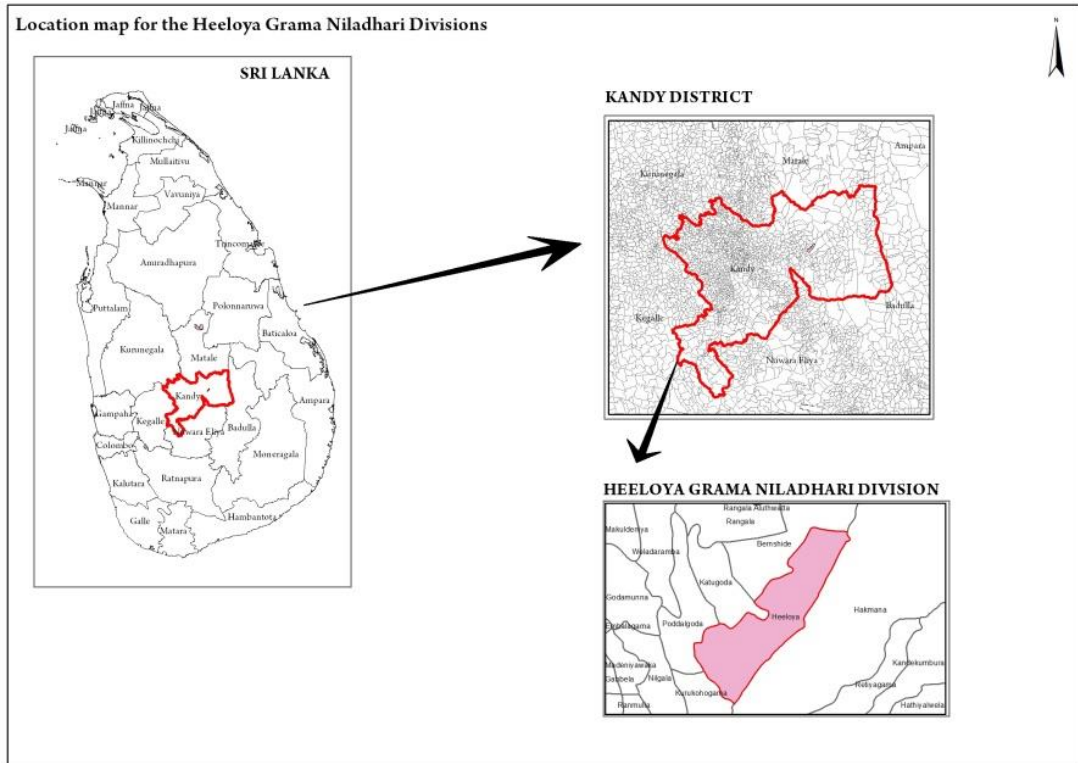
Madurawala is the first community based ecotourism project in kaluthara district. Madurawala community base tourism is the newest ecotourism project initiated by SLEF. Madurawala village is located in Kaluthara district, 30km away from Kaluthara town. Madurawala is located in close proximity to Anguruwathota, by Kalu Ganga. It is an ancient village which is part of the ancient kingdom of Sitawaka and Raigama. Madurawala tourism project was initiated in a very small scale. The driving force behind the project is Rev. Hatiyalwala chandrananda, the chief incumbent of the Sri Sumangala temple. Eco tourism initiated with the intention of promoting eco-friendly tourism to assure economic and social benefit to the community living around the rural locality.

Locations of the study Area



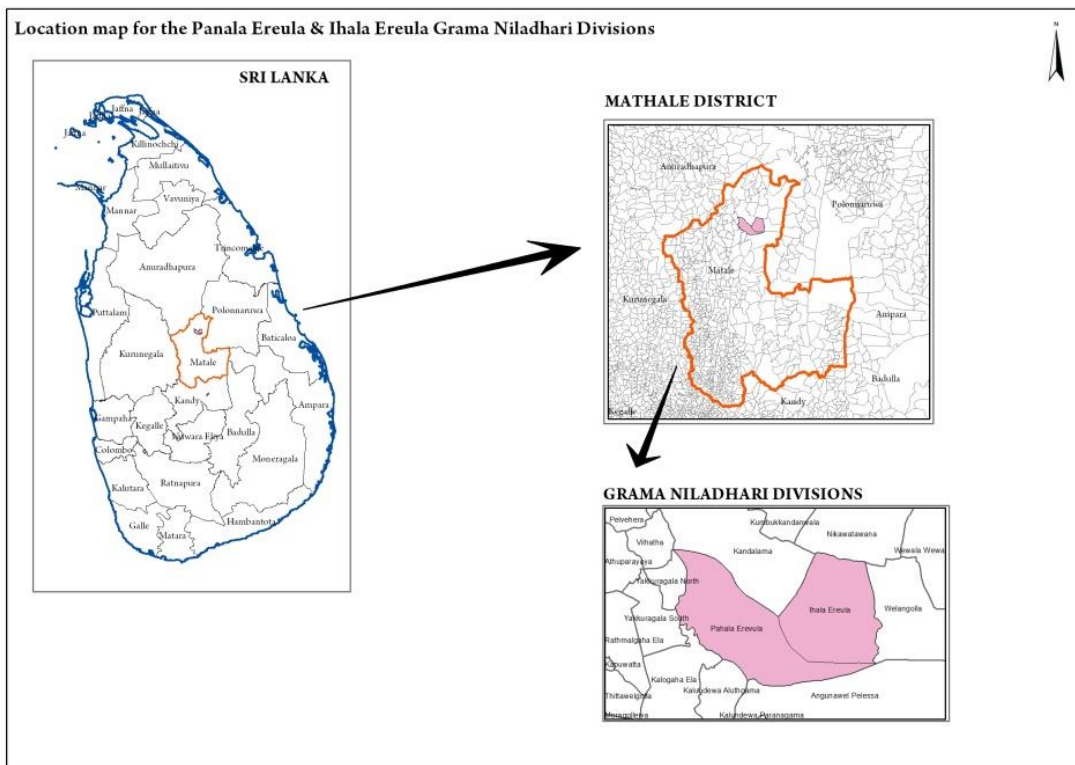
Map 1: Location map of the Madurawala Study Area

Source: compiled by Author



Map 2: Location of the Heeloya study area

Source: compiled by Author



Map 3: Location of the Kandalama study area

Source: compiled by the Author, 2018.

3.5: Selection of the sample

As per the (Mahmood, 2013), sample should be bigger than 30 and smaller than 500. It was the suitable sample size for this research. Due to the time limitation, 33% of the sample size was selected. Hence, it was determined 310 house holds, as a sample size representing one third (33%) of the total population. There are 938 households in study area. Among them, 310 families were selected.

| | | |
|-----------------------------|---|-----|
| Total Number of families | = | 978 |
| Total Sample size | = | 33% |
| $\frac{978 \times 33}{100}$ | = | 310 |

| | | | | |
|------------|---|-----------------|---|-------|
| Madurawala | = | 284×33 | = | 94 |
| | | 100 | | _____ |
| Heeloya | = | 204×33 | = | 68 |
| | | 100 | | _____ |
| Kandalama | = | 450×33 | = | 148 |
| | | 100 | | _____ |

The study was carried out in Kandalama, Madurawala and Heeloya which are most well-known tourism regions in the Kalutara District of Central Province, Sri Lanka. Sample consists of local community in the surrounding areas of Kandalama, Heeloya and Madurawala. Sample of the study consists of 310 families of these three areas.

There are about 450 families living in the Kandalama area. Out of 450, 148 families were selected using random sampling method. This sample consists of different groups of respondents who are participated in ecotourism activities and also those who are not participated in ecotourism activities.

There are 284 families living in the Madurawala village. Among them, 94 families were selected randomly for the sample. As far as Heeloya area is concerned, it comprises of 204 families who are engaging agricultural sector. 68 families among them were randomly selected for the study sample. Hence, total sample size is 310.

All the housing unit of the area was selected through the systematic sampling method.

$$\text{Sample interval} = \frac{\text{Total number of houses}}{\text{Sample size}}$$

$$\text{Kandalama} = \frac{450}{148} = 3$$

$$\text{Madurawela} = \frac{284}{94} = 3$$

$$\text{Heeloya} = \frac{204}{68} = 3$$

The resulted sample interval is 3, then every 3rd household would be selected until the total of each place of 148, 94 and 68 house holds as the sample size.

3.6: Data collection

Primary data was collected from the 300 families selected from Kandalama, Heeloya and Mandurawala through interviews, observations and a questionnaire.

Local community's perception about ecotourism in Kandalama Lake surrounding area was understood through interviews. Hotel managers were interviewed to get the information regarding community development, social benefits and conservation program to the nearby areas. Community leaders and Ggrama Niladaries (GN) of three villages interviewed to get the information about the socio economic development of the area.

Living condition of villagers, assets that they owned, and their livelihood activities were observed by the researcher. In addition, infrastructure improvements, conservation program were also observed. Observation is one of the ways of interacting with main actors of ecotourism.

Respondents' (local community) perception on eco-tourism activities in the research areas was gathered through a questionnaire survey. Specially, it focused on income level of the local community generated through tourism related activities, socio economic development caused by tourism and their contribution on the assurance of the natural environment of the area were also considered.

The background details of the research context of the study were collected via secondary sources. The general details of Dambulla, Madurawala and Heeloya village area were collected from the Survey Department of Sri Lanka. The statistical data collected through the Department of Census and Statistics used for demographic analysis. Number of tourist's arrivals for study area was collected from Sri Lanka Tourists Board. Researcher visited the Local Authority, (UDA) Urban Development Authority and (NPPD) National Physical Planning Department for collecting plans and proposals.

3.7: Data Analysis

Both qualitative and quantitative data analysis techniques including descriptive statistics, pie charts, percentages and binary regression analysis, narrative analysis were used for the analyses of different aspects of the study. Data was analyzed using Statistical Package for Social Sciences (SPSS) 21 version. Using Binary Logistic Regression model recognized sustainability of ecotourism activities how significance to the conservation program and livelihood development.

The Logit transformation is defined as the logged odds.

$$Odds = \frac{P}{1 - P} = \frac{\text{Probability presence of the characteristic}}{\text{Probability absence of the characteristic}}$$

$$Log = \frac{P}{1 - P} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

$\beta_0 \dots \beta_n$ are estimated parameters of the equation.

$X_1 \dots X_n$ are all independent variables of the model.

Logistic regression is an extension of simple linear regression where the dependent variable is dichotomous or binary in nature. Logistic regression is the statistical technique used to predict the relationship between independent variables and the dependent variable. In this case the dependent variable is binary, for example, yes versus no. In a logistic regression, there must be two or more independent variables, or predictors. The predictors can be continuous (interval/ratio) or categorical (ordinal/nominal). All predictor variables are tested in one block to assess their predictive ability while controlling for the effects of other predictors in the model.

3.7.1 Narrative analysis

This part of the analysis used a qualitative research method. It is used to understand people's opinion and ideas of their lives and society in connection with given purpose. They talk matters as a story.

Six persons representing in Madurawala, Heeloya and Kandalama were selected as case studies. Grama Niladari in Kandalama, Villager in Kandalama, Community member in Madurawela, Villager in Madurawela, Community member in Heeloya, Villager in Heeloya. Their views and ideas can be understand how ecotourism impact on local community and environment of the study areas.

CHAPTER 4

DATA COLLECTION, ANALYSIS, RESULTS

4.1 Introduction

The data collection, analysis and results of the research are presented in this chapter. The information and facts gathered through the questionnaires, observations and interviews are analytically presented to achieve study objectives.

4.2 Awareness of Ecotourism

It is doubtful whether the people in the areas where the ecotourism is in progress are aware as to what ecotourism truly means. Therefore, one of the objectives of this research was to ascertain whether the people in the relevant areas had a general idea of the meaning of ecotourism. Tourism generally is based on sun, sea, forests and beach in a number of areas of Sri Lanka. However, tourism is as affected by weather conditions or climate related issues, the impact of such issues will have to consider in decision making process. At present, tourism is mainly promoted by tour-operators and travel agencies in the country. Generally industry attracts a larger number of tourists compared to ecotourism which is popular among a smaller number of tourists compared to general tourism. Ecotourism, true to its meaning, is more environmentally friendly and it largely contributes to preservation of natural properties of the country as well as uplifting social and financial development of local communities.

Table 2: Awareness of Ecotourism

| | Awareness of Ecotourism | | | |
|------------|-------------------------|--------|-----|---------|
| | No | No (%) | Yes | Yes (%) |
| Madurawala | 31 | 10 | 63 | 20 |
| Heeloya | 32 | 10 | 36 | 12 |
| Kandalama | 134 | 43 | 14 | 5 |
| Total | 197 | 63 | 113 | 37 |

Source: Survey Data, 2018.

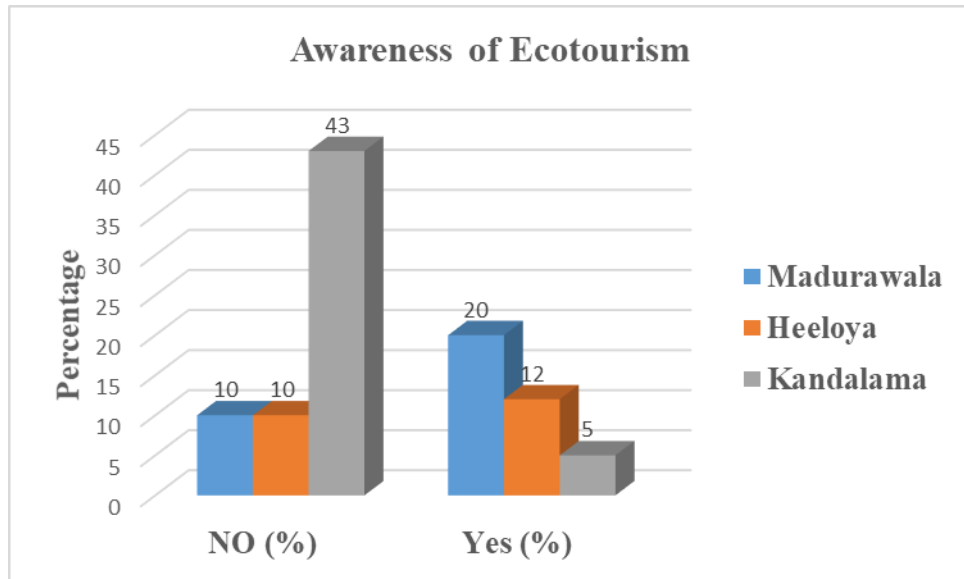


Figure 5: Awareness of Ecotourism

Source: Survey Data, 2018

According to figure 8, Ecotourism is getting popular in areas like Madurawala, Heeloya and Kandalama most prominently. As a part of the research, the awareness of people of ecotourism was broadly studied. As figure 8 shows, 20% of people in Madurawala and 12% of people in Heeloya and 5% of people in Kandalama were aware of the concept of eco-tourism.

4.3 What is Ecotourism?

It is important to know whether those who generally engage in ecotourism understand the main features of ecotourism. Therefore, an effort was made to get an idea about their knowledge of the main features of ecotourism as per the definition given to Ecotourism. This industry is alternatively labeled as environment friendly tourism. The following main features of ecotourism were presented to the people concerned in the research and their responses were gathered for the study.

- Conservation of natural resources
- Preservation of cultural values
- Financial benefits
- Poverty Alleviation

- Positive experiences

Table 3: Awareness of the community on the features of Ecotourism

| Features of Ecotourism | Madurawela | | Heeloya | | Kandalama | |
|-----------------------------------|------------|----------|----------|----------|-----------|---------|
| | Neutral | Agree | Neutral | Agree | Neutral | Agree |
| Conservation of Natural Resources | 32 (10%) | 62 (20%) | 25 (8%) | 43 (14%) | 133 (43%) | 15 (5%) |
| Preservation of cultural valves | 50 (16%) | 44 (14%) | 39 (13%) | 29 (9%) | 135 (44%) | 13 (4%) |
| Financial benefits | 31 (10%) | 63 (20%) | 40 (13%) | 28 (9%) | 132 (43%) | 16 (5%) |
| Poverty Alleviation | 32 (10%) | 62 (20%) | 20 (6%) | 48 (16%) | 129 (42%) | 19 (6%) |
| Positive Experiences | 45 (15%) | 49 (16%) | 43 (14%) | 25 (8%) | 137 (44%) | 11 (4%) |

Source: Survey Data, 2018.

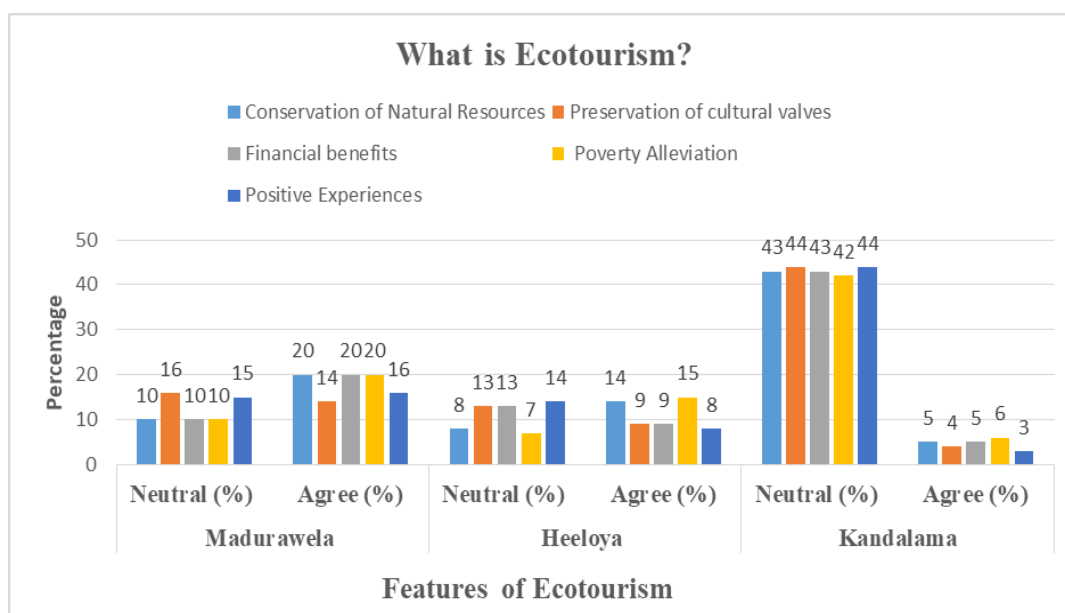


Figure 6: Awareness of the community on the features of Ecotourism

Source: Field survey Data, 2018.

Conservation of natural resources

Regarding the concept of Conservation of natural resources 20% of people of Madurawala, 14% of people of Heeloya, and 5% of people in Kandalama agreed with the idea. It is shown in chart 9. People who are not aware of it is 61%. Of the all study areas.

Preservation of cultural values

According to the figure 9, it is revealed People in Mandurawala and Heeloya responded to the above concern 14% of people in Madurawala and 9 % of people in Heeloya and 4% agreed with the concept of preservation of cultural values, however, people of Kandalama declined to express their views about this concept. Figure 4.2 shows the above facts in detail.

Financial Benefits

When the responses for the above matter were concerned, people of Madurawala agreed that ecotourism will generate financial benefits and as a rate it was 20%. The response for the same matter in Heeloya was 9% and it was 5% in Kandalama. That means they believed that ecotourism generates financial benefits. People of 43% in Kandalama have not responded to the questions related to this topic. This shows in figure 9

Poverty Alleviation

Responses to the question whether ecotourism helps alleviate poverty, 20% of people in Madurawala and 15% of people in Heeloya and 6% of people in Kandalama answered 'yes'. 42% of people remained silent without replying to the question in Kandalama . This is shown in figure 9.

According to the information revealed through the above questionings, it was clear that the people in these area who are based on an agricultural economy are not sufficient knowledge about benefits of ecotourism. The study also revealed that their knowledge on the differences between ecotourism and mass-tourism is also rather insufficient.

4.4 Livelihood Activity of the area

This research aim to identify the main livelihoods of the people who live in Madurawala, Heeloya and Kandalama areas. Necessary information was gathered through questionnaires. It could be identified four typed of main livelihood activities such as agriculture, tourism, government and private sector employments.

Table 4: Livelihood Activity of the Communities

| Livelihood Activity | Frequency | % |
|---------------------|-----------|-------|
| None | 24 | 7.7 |
| Agriculture | 201 | 64.8 |
| Tourism | 10 | 3.2 |
| Government | 19 | 6.1 |
| Private | 29 | 9.4 |
| other | 27 | 8.7 |
| Total | 310 | 100.0 |

Source: Survey Data, 2018.

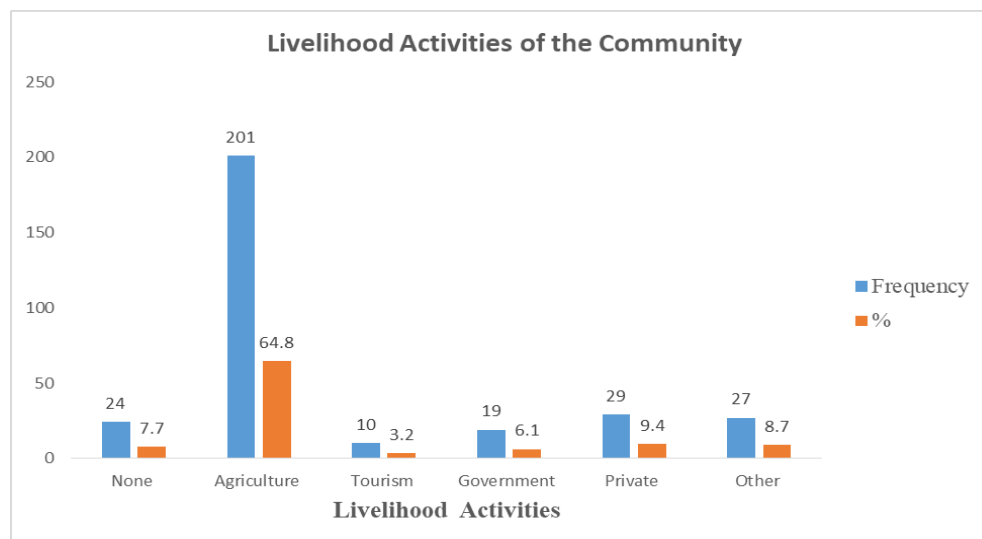


Figure 7: Livelihood Activity of the Communities

Source: Survey Data, 2018.

Table 5: Livelihood Activity of the communities in the research areas

| | Livelihood Activity | | | | | |
|------------|---------------------|-------------|---------|------------|---------|-------|
| | None | Agriculture | Tourism | Government | Private | Other |
| Madurawala | 4 | 39 (41%) | 3 | 8 | 20 | 20 |
| Heeloya | 20 | 42 (62%) | 0 | 1 | 2 | 3 |
| Kandalama | 0 | 120 (81%) | 7 | 10 | 7 | 4 |
| Total | 24 | 201 (65%) | 10 | 19 | 29 | 27 |

Source: Survey data, 2018.

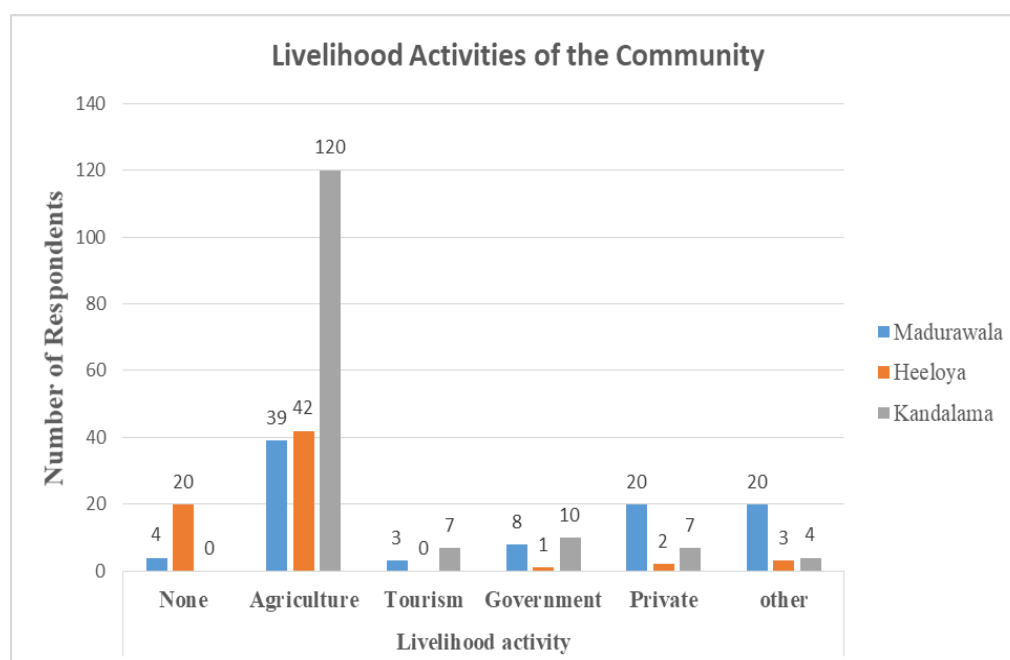


Figure 8: Livelihood Activity of the Communities in the research areas

Source: survey data 2018

Research revealed that most of them living these study areas are engaging in Agriculture sector. 64.8% of people engaged in agriculture sector while others are 9.4% contributed private sector 6.71% in government sector and the rest contributed to other sector. When it considers individually in each case 41% of people in Madurawala, 62% of people in Heeloya and 81% of people in Kandalama are mainly engaged in agriculture sector. Compared to Madurawala and Heeloya, 3.2% people are engaged in tourism related employment in Kandalama, mainly because of

Kandalama Hotel. While other two areas have not contributed to tourism sector as their major livelihood activity. It is showing figure 10

As shown in table 4.11, the most popular livelihood activity was agriculture in Kandalama followed by Heeloya and Madurawala. Number of people employed in the private Sector is rather low as a whole in these areas. It was 20 persons in Madurawala, 2 in Heeloya and 7 persons in Kandalama. Number of people employed in the state sector is also very low in all the three areas.

4.5 Income

The research study also aimed at receiving some knowledge about the income levels of the people in the said areas too. Their income levels were studied under eight (8) categories.

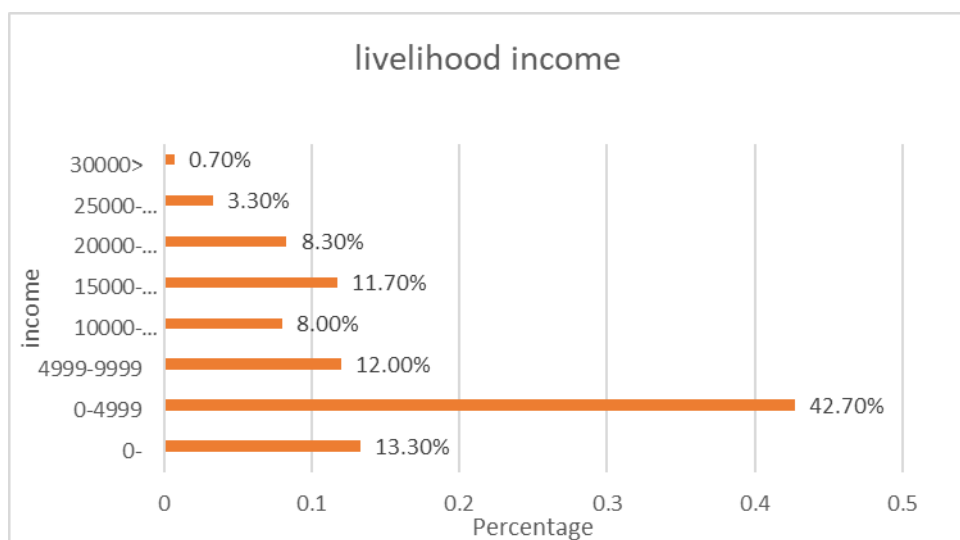


Figure 9: Income of the Communities in the research areas

Source: survey data 2018

There were 13% housewives who do not have any means of income including in the sample group. Most of the members of the group belonged to the monthly income range of Rs. 0 – Rs. 5000. As a percentage it was 42.70%. Only one percent belonged to the monthly income of above Rs. 30,000. 11.7 % of the group belonged to the income range of Rs. 15,000 – Rs.19,990. It is shown in the figure 12. According to

the chart, it shows that the income levels of those who are engaged in Agriculture is rather low.

4.6 Engagement in ecotourism

This research aim to investigate the involvement of ecotourism to local livelihood, in selected areas in Sri Lanka. As per this study, information relevant to people’s engagement in ecotourism was taken under two categories.

- Those who are engaged in ecotourism on part-time basis while being employed in some other fields of income earning.
- Those who are engaged in ecotourism on full-time basis without being engaged in any other field of income earning.

Table 6: Engagement of Ecotourism

| | Engaged in Ecotourism | | | % | Total |
|------------|-----------------------|--------|-----|--------|-------|
| | No | % | Yes | | |
| Madurawala | 54 | 57.45% | 40 | 42.55% | 94 |
| Heeloya | 43 | 43% | 25 | 37% | 68 |
| Kandalama | 148 | 100% | 0 | 0% | 148 |
| Total | 245 | | 65 | | 310 |

Source: Survey data, 2018.

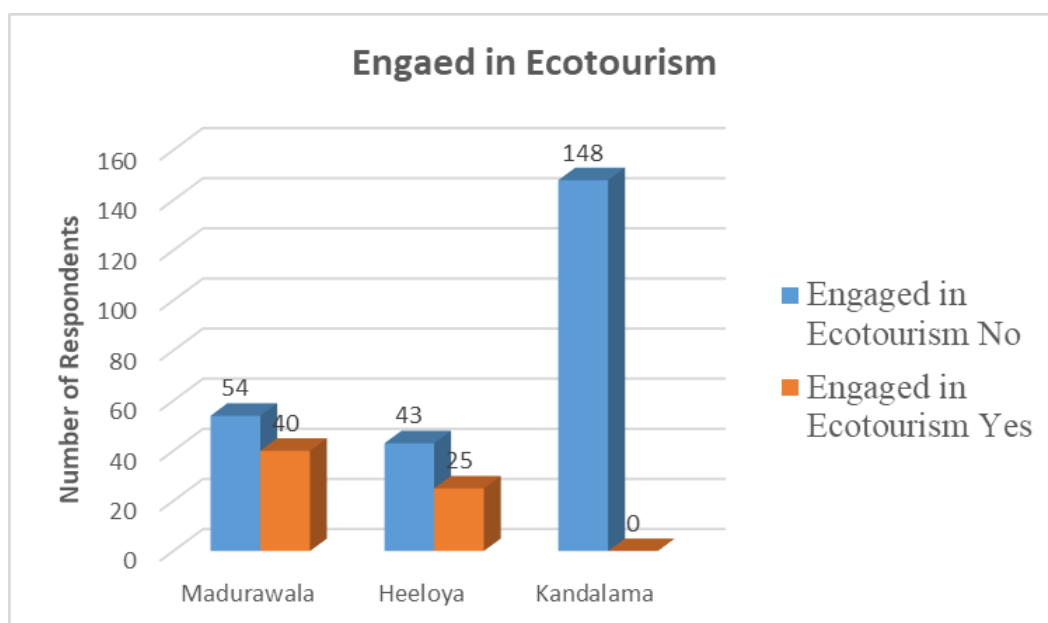


Figure 10: Engagement of Ecotourism

Source: Field survey, 2018.

Responses were collected as to whether the people of the sample group were engaged in ecotourism through a questionnaire and it is shown in figure 13. According to the information gathered, related employment, 79% of them were not engaged in any employment related to ecotourism. 21% of people were engaged in ecotourism activities.

Ecotourism in Kandalama is promoted by a well-known hotel by the name of 'Heritage Kandalama' but the number of people in the selected sample group who were engaged in ecotourism even in Kandalama was only 0%. They are attending tourism activities but they are not ecotourism activities. Engaging in tourism related employment is not real ecotourism; it should benefit local people, participating in the decision-making process.

Except for a few persons who were mainly engaged in the job category of 'laborers', there are not many people engaged in ecotourism in these areas. Most of their livelihood is either agriculture or any other field directly or indirectly related to agriculture. What is evident is that "Heritage Kandalama" and people in the village are not much linked or interconnected as a community and therefore, very few job opportunities have been offered to the people therein.

When individually studied the relationship between ecotourism and people in the Madurawala area, it was revealed that 43% of people are engaged in employment directly or indirectly related to ecotourism. It is a very high percentage compared to the ecotourism related employment rate in Kandalama.

It was noted that a considerable number of people in Heeloya 37% were also engaged in ecotourism. The main reason is the wonderful scenic beauty that is so unique to this area and it has been easy to promote this area for ecotourism.

4.7 Participation of the ecotourism

It mainly on part-time basis while being engaged in other jobs is shown in figure 14. It was a special feature to note that only one member from one family had been connected with ecotourism. Compare with the mass tourism is it is observed that people who were engaging in ecotourism is directly participate the tourism industry.

Table 7: Participation in Ecotourism

| | Ecotourism Participation | | | |
|------------|-------------------------------|-------|-------------------------------------|------------|
| | Not participate in Ecotourism | | Directly Participated in Ecotourism | |
| | Frequency | % | Part time | Full time |
| Madurawala | 54 | 17.42 | 40 (12.9%) | 0 |
| Heeloya | 43 | 13.87 | 0 | 25 (8.07%) |
| Kandalama | 148 | 47.74 | 0 | 0 |
| Total | 245 | 79 | 40 | 25 |

Source: Field survey, 2018.

People who were engaged in Ecotourism in Madurawala 12.9% engaging in as a part time basis. Because they are engaging this activities while attending main livelihood activities. Heeloya most of them are participated in eco-tourism on full time basis. Comparing with madurawala the reason for this is Most of Women who are engaging in ecotourism are house wives. Hence they can attend on fulltime basis.

Not like mass tourism sector ecotourism directly participated local people to the industry. It is revealed in these areas. People who attending this industry 100% were directly participated. And they are the people involved in decision making process.

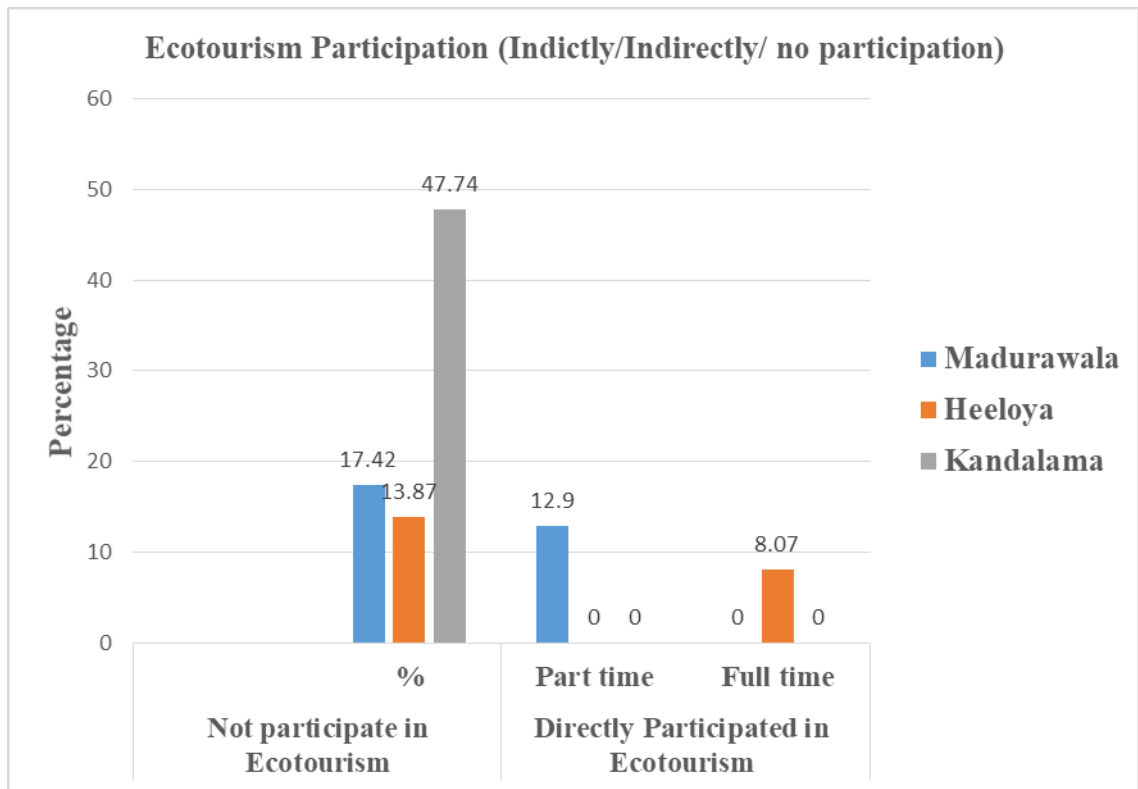


Figure 11: Participation in Ecotourism

Source: Field survey, 2018.

4.8: Ecotourism related activates

What are the eco-tourism activities which are people involved in this area is a assume in this inquiries. Ecotourism accomplishments that the people of the sample group were engaged in were studied under six (6) main categories.

1. Accommodation
2. Foods & beverages
3. Demonstration of traditional cultural activities
4. Rent assets
5. Transport facilities
6. Tour – guiding

Table 8: Ecotourism Activities in the research area

| | Accommodations | Traditional living activity | Food & Beverages | Rent Assets | Transport | Guiding & Interpretation |
|------------|----------------|-----------------------------|------------------|-------------|-----------|--------------------------|
| Madurawala | 5 | 16 | 2 | 1 | 5 | 10 |
| Heeloya | 5 | 0 | 20 | 0 | 0 | 5 |
| Kandalama | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 10 | 16 | 22 | 1 | 5 | 15 |

Source: Field survey, 2018.

Table 9: Involvement of community in Ecotourism Activities

| Ecotourism Activities | Frequency | Percentage |
|---|-----------|------------|
| None | 246 | 79.4 |
| Accommodations | 10 | 1.6 |
| Demonstration traditional living activity | 16 | 5.2 |
| Food & Beverages | 22 | 7.1 |
| Rent Assets | 1 | 0.3 |
| Transport | 5 | 1.6 |
| Guiding & interpretation | 15 | 4.8 |
| Total | 310 | 100 |

Source: Field survey, 2018.

Figure 12 shows the percentages of the people of the sample group who were engaged in the above ecotourism related activities. Accordingly 7.1% are engaged in supply of food and beverages and it is the actively with highest percentage. Traditional living activities is the second main activity and 5.2% are engaged in the above activity. People's engagement in traditional or cultural activities related to eco-tourism activates is very high in Madurawala area. Guiding is a prominent activity in Madutawala and Heeloya. Considering as a whole 4.8% are contributed to this activity.

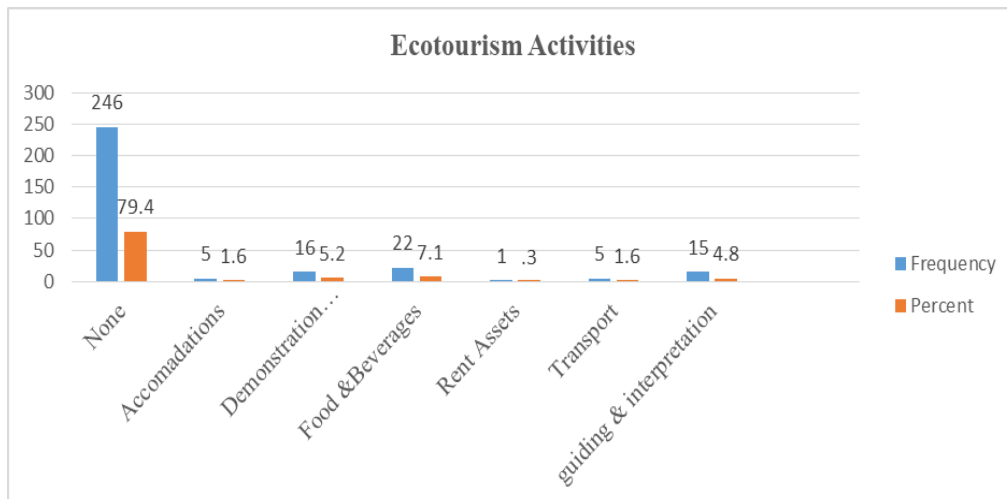


Figure 12: Involvement of community in Ecotourism Activities

Source: Field survey, 2018.

People's engagement in traditional or cultural activities related to eco-tourism activities is high in Madurawala area. Traditional and cultural activities involved includes traditional rubber-tapping, cinnamon peeling, tea-plucking, clay-pottery, carpentry, industry of blacksmiths, weaving with hand-operated machines, cooking over traditional hearths. By involving with these activities, local communities are able to earn considerable income.

Providing food for tourists is also a good income source of the villagers. Some of them do it as the main livelihood activity. Specially 32% of people in Heeloya and 42 % of people in Madurawala villagers are also earn a considerable income by providing foods to tourists.

Providing accommodation for tourists and sometimes for their guides is also a good income source for the villagers. Tourists who visit these areas love to enjoy the pristine beauty in this areas while spending several days. Therefore, villages have good opportunities to earn more money by renting out their houses or a part of their houses for the tourists. Tourists also enjoy staying in these houses of full of rustic beauty.

Madurawala and Heeloya areas are blessed with pristine and unique natural beauty and these areas have been tourist attractions among ecotourism lovers. Therefore, a considerable number of people have been connected with ecotourism in these areas as tourist guides too.

There are many tourist attractions in Heeloya area, including;

- 1) The granary which was built during the reign of King Rajasinghe
- 2) Threshing field (Kamatha) which is a large, flat area of stone.
- 3) Perumal Waterfall.
- 4) Kaludiya (Black Water) Pond.
- 5) Wariga Sabhawa
- 6) Heeloya (River)

Tourists are highly interested in these places and those who work as guides for them earn a living out of it. There are numerous places for visitors in Madurawala too. The main attractions in Madurawala includes but not limited to Warakagoda temple, Pahiyangala, Ampitigala Sri Sumangalarama Temple, Kalu Nadiya (Blackish Water River), Anda Dola (brook), Remutha Tank, and Bicycle tours. Tourist guides who are engaged in introducing the above places to tourist are available in Madurawala too. It is the main livelihood for some of the tourist guiders. Tourist guides who are engaged in introducing the above places to tourist are available in Madurawala too and for some of them, it is their main livelihood too.

4.9 Income from ecotourism

This study aims to examine on how eco-tourism has helped the people to uplift the income levels. Whether income levels have positively increased due to ecotourism was observed through questionnaires presented to the sample groups.

Some people in the selected areas have been employed in their traditional ways of income while some are being employed in ecotourism, and some people are employed in ecotourism a full-time basis too. Due to the above reason, monthly income of people has given up considerably, as shown in figure 16 .But it was clearly observed

that their income from ecotourism related field is lesser than what they earn from their traditional ways of livelihood.

About 21% of people are engaged in ecotourism and their income has been shown under 4 categories. Nearly 16.3% out of the above percentage receive of Rs. 3000-9999 per month. And about 4% of them receive of Rs. 10,000-19999 per month. It shows that the income of those who are engaged in ecotourism has gone up compared to those who are not engaged in it. Highest income level above Rs 20,000 are receive only 1.4%.

It is revealed that 78.83% of the people in these three areas are not receiving any income from ecotourism activities. Because they are not contributed ecotourism.

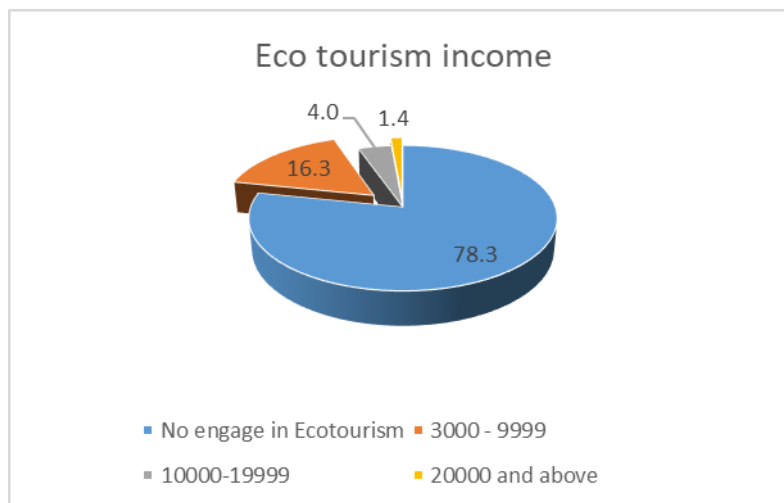


Figure 13: Income from Ecotourism

Source: Field Survey, 2018.

4.10: General Income & Eco Income

People in these three areas were not reluctant to reveal their actual income. Hence research was carried out as per their responds. People of Madurawala, Heeloya and Kandalama earned money from ecotourism activities. Generally, their ecotourism income is varying from Rs 3000-25000 in study area. Madurawala and Heeloya people who are engaging ecotourism gain some income. It is help them to increase their living standards.

Table 10: Income- Madurawela

| Income Range | General Income | Eco Income |
|-----------------|----------------|-------------|
| 0 | 2 | 54 |
| 1-5000 | 7 | 24 (25.53%) |
| 5001-10000 | 32 | 11(11.70%) |
| 10001-15000 | 13 | 5(5.31%) |
| 15001-25000 | 22 | 0 |
| More than 25000 | 17 | 0 |
| Total | 94 | 94 |

Source: Field Survey, 2018.

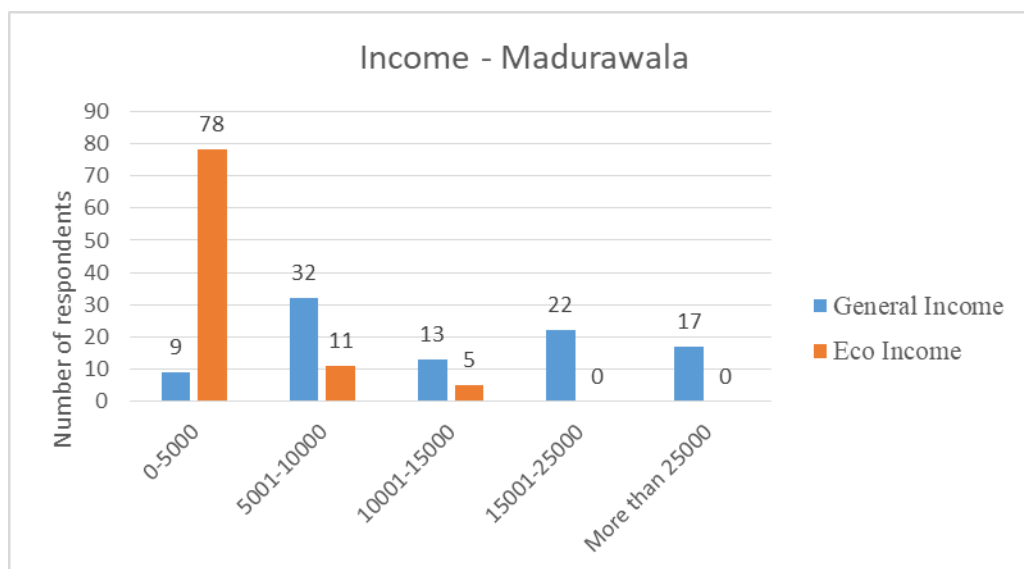


Figure 14: Income - Madurawala

Source: Field Survey, 2018.

According to figure 14 people in Madurawala area gain income from their major living activity and Ecotourism activities. Their highest ecotourism income falling within income group Rs below 5000. It represents 25.53% of the sample in Madurawala area. According to table 4.9 income group Rs 5000-10000 represent 11 persons of the area. (11.7%). Highest income level received from ecotourism is Rs 10000-15000 in Madurawala representing 5.31% in the sample. But compare with the general income received from major living activity is rather higher than eco income. This figure shows they are getting reasonable income from both income sources and have been increased their living standard.

Table 11: Income- Heeloya

| Income Range | General Income | Eco Income |
|--------------|----------------|------------|
| 0 | 20 | 43 |
| 1-5000 | 52 | 12 |
| 5001-10000 | 15 | 8 |
| 10001-15000 | 0 | 5 |
| 15001-25000 | 1 | 0 |
| Total | 68 | 68 |

Source: Field Survey, 2018.

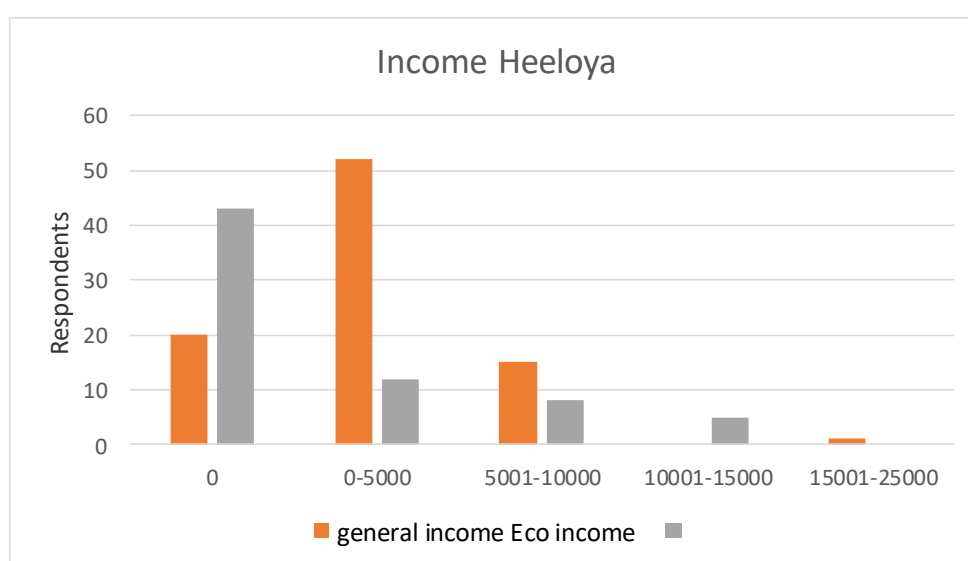


Figure 15: Income - Heeloya

Source: Field Survey, 2018.

As per the figure 15 earnings of people can be analyzed with two categories. One of the income source is Ecotourism related income and other one is Major livelihood income. According to table and figure 4.10 and 4.11, there are people who not having any income from eco tourism and major livelihood activity. House wives who represent the sample belongs the none income group. Their highest income level through major livelihood activity is Rs 15000-25000 .

Table 12: Income- Kandalama

| Income Range | General Income | Eco Income |
|--------------|----------------|------------|
| 0 | 0 | 0 |

| | | |
|-----------------|-----|---|
| 1-5000 | 38 | 0 |
| 5001-10000 | 52 | 0 |
| 10001-15000 | 20 | 0 |
| 15001-25000 | 23 | 0 |
| More than 25000 | 15 | 0 |
| Total | 148 | 0 |

Source: Field Survey, 2018.

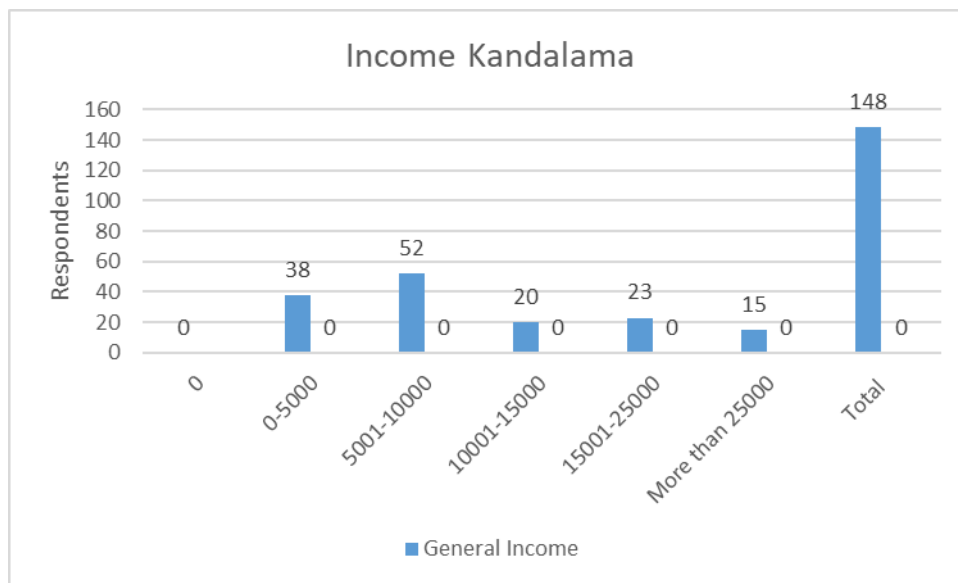


Figure 16: Income - Kandalama

Source: Field Survey, 2018.

According to the figure no 16 it is revealed that Kandalama people are not having any ecotourism income as they are not engaging ecotourism. Their income range varies from Rs5000-more than Rs 25000. Income level varies from five income categories. But most of them belongs to Rs 5000-10000 income group.

4.11 Empowerment of the Local Community

Although empowerment of local community is expected from ecotourism, only minor employees have been recruited from local communities mostly for hotels and other businesses in these areas. Better employment opportunities including top-management jobs have gone to professionals and trained people from outside the local

communities. So, employee recruited from local communities do not have the opportunity to involve with the decision-making process. If local community had the opportunity to actively participate in ecotourism, these areas would have been more benefitted. However, they may not be having sufficient qualifications and experience for such activities.

Out of the areas selected for the study, people in Madurawala and Heeloya have been more empowered compared to the people in Kandalama. People in these areas have set up special societies to have some effective powers over eco-tourism bodies. However, they are yet at the ground level, and when they develop further, they will be able to participate in administration and decision making in ecotourism. It can be considered as a positive approach towards empowerment of people in the above areas.

4.12 Empowerment of Women

Empowerment of women in ecotourism areas is also of paramount importance. Women's participation and contribution towards ecotourism in Madurawala and Heeloya are better and higher compared to women's participation in the same in Kandalama. Out of 22% of people engaged in ecotourism in these areas, 38% of them are women, which is something to be appreciated.

Mostly in the rural areas, males are engaged in income earning and most of the women are housewives. But with the introduction of ecotourism, some women are also engaged in income earning activities and it has directly helped them to improve the standard of their income of the family.

According to the analysis of data, women are mostly engaged in preparation of food, traditional weaving, rubber-tapping and tourist guiding. About 12% of women in Madurawala and 20% of women in Heeloya are engaged in income earning activities related to ecotourism.

4.13 Positive Contribution of Ecotourism

The positive contribution to village community by ecotourism was also one of the main targets of the study. Information was gathered to verify the effect of ecotourism on community as a whole, culture, traditions and natural resources in the concerned areas.

Important facts gathered by analyzing information. Their information was gathered under six (06) categories and their responses were mostly positive in Madurawala and Heeloya areas. But responses of the people in Kandalama were not very positive. The main reason for that is, ecotourism in Kandalama has hardly obtained the contribution of the local community, especially in the area of employment.

Table 13: Contribution of Ecotourism

| Contribution of Ecotourism | No: of Respondents | | |
|--|--------------------|---------|-------|
| | Disagree | Neutral | Agree |
| Improve quality of life | 63 | 80 | 142 |
| Facilitates meeting visitors | 55 | 113 | 142 |
| Increase employment opportunities | 19 | 68 | 223 |
| Supplements women employment | 35 | 87 | 188 |
| Improving understanding of different communities | 63 | 129 | 118 |
| Preserves cultural identity of host population | 56 | 129 | 125 |
| Positive attitude change | 32 | 113 | 165 |
| Improves public utilities infrastructure | 66 | 79 | 165 |
| New investment come to region. | 71 | 171 | 68 |

Source: Field Survey, 2018.

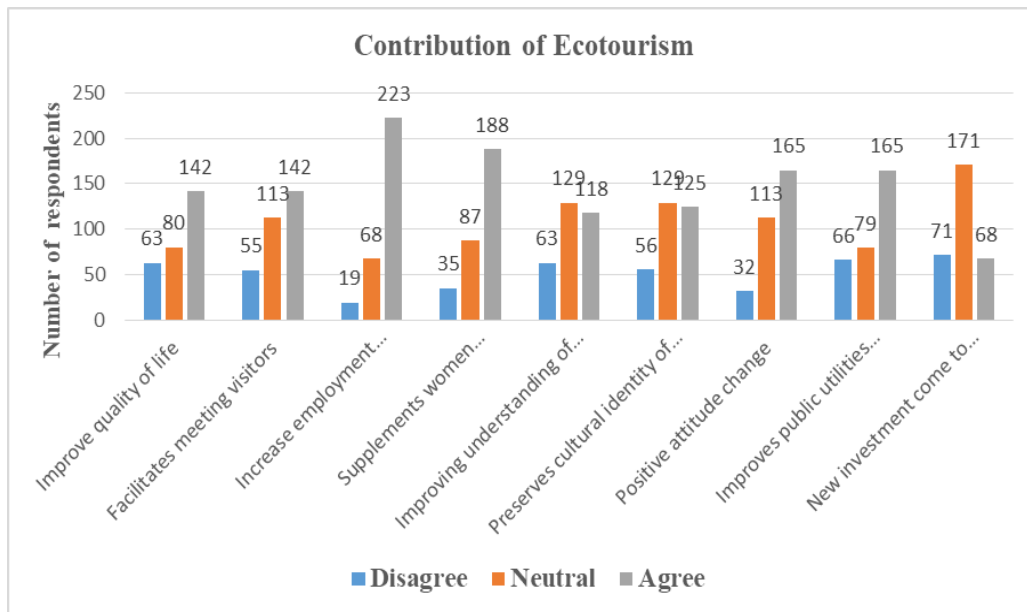


Figure 17: Contribution of Ecotourism

Source: Field Survey, 2018.

Table 14: Contribution of Ecotourism

| Contribution of Ecotourism | Disagree (%) | Neutral (%) | Agree (%) |
|--|--------------|-------------|-----------|
| Improve quality of life | 20.3 | 25.7 | 53.7 |
| Facilitates meeting visitors | 17.7 | 36.3 | 45.7 |
| Increase employment opportunities | 6.1 | 21.9 | 71.7 |
| Supplements women employment | 11.3 | 28 | 60.5 |
| Improving understanding of different communities | 20.3 | 41.5 | 37.9 |
| Preserves cultural identity of host population | 18 | 41.5 | 40.2 |
| Positive attitude change | 10.3 | 36.3 | 53.1 |
| Improves public utilities infrastructure | 21.2 | 25.4 | 53.1 |
| New investment come to region. | 22.8 | 55 | 21.9 |

Source: Field Survey, 2018.

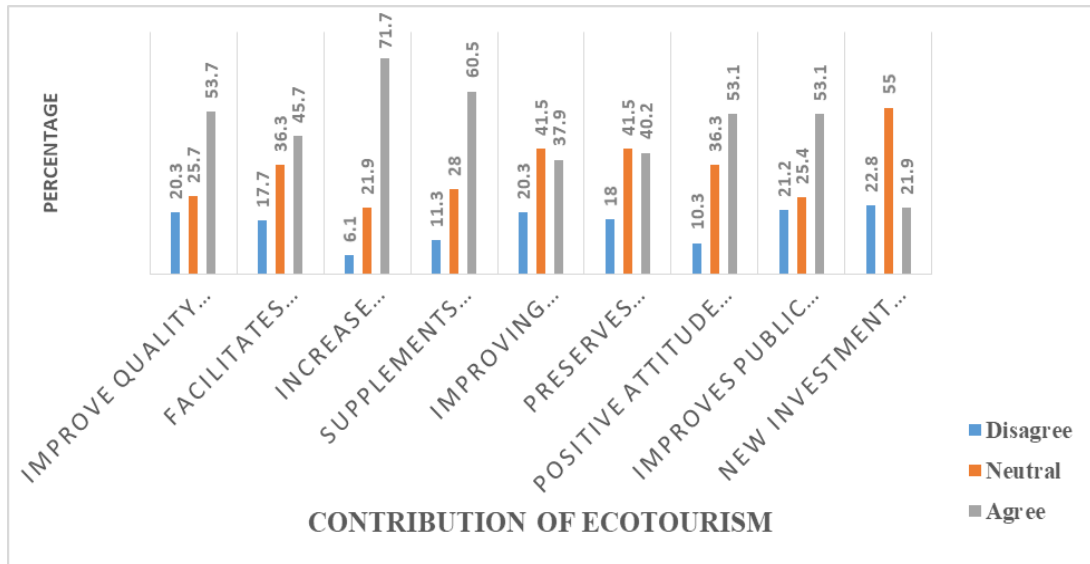


Figure 18: Contribution of Ecotourism

Source: Field Survey, 2018.

According to the figure 17 & 18 positive contribution of ecotourism to the local people in these three areas were positive responses in connection with Improve quality of life, Facilitates meeting visitors, Increase employment opportunities, Supplements women employment, improving understanding of different communities, Preserves cultural identity of host population, Positive attitude change, Improves public utilities infrastructure, new investment come to region.

In connection with Improve quality of life Responses of respondent of the selected areas are shown in the figure 21, according to this 53.7% have positive answers they agreed that there is a positive contribution of existing ecotourism in these areas. But Kandalama disagreed it.

People of study area agreed that ecotourism has contributed towards Facilitates meeting visitors. 45.7% of people agreed the same. Regarding ecotourism towards Increase employment opportunities 71.7% of agreed that employment opportunities have gone up due to ecotourism, but people of Kandalama did not respond to this question openly.

Madurawala , Heeloya and Kandalama in the selected groups 60% agreed that ecotourism has positively contributed towards women's employment rise. Positive contribution on improving understanding of different communities through ecotourism were understood by 37.9% people of the areas.

People in the ecotourism areas build up connections and relationship with local and foreign tourists who come to these areas. Thereby, local community gets an opportunity to learn about different cultures, people with different attitudes and tradition. Specially, some people come and stay in these areas more than one month gathering information for their studies. Sometimes Foreign tourists continue their connections with local people even after they go back to their countries. People of the study area have agreed that ecotourism has contributed towards progressive differences in values and customs in their respective areas.

Regarding progressive differences in values and customs in these areas due to ecotourism, (figure 4.14). 53% of people in Madurawala and Heeloya have agreed with the idea that ecotourism has positively affected values and customs in the local communities as whole.

In connection with the contribution of improves public utilities infrastructure, new investment towards ecotourism, responses of the people were positive.51.3% people agreed regarding infrastructure development. In connection with the new investment people's responses were rather low.

4.14 Socio-Economic Advantages

It is no secret that ecotourism generates socio-economic advantages for the villages and their people. The study researched how far ecotourism has contributed towards socio-economic development of Madurawala, Heeloya and Kandalama areas and their communities. It was studied under two categories namely materialistic development and social development.

Table 15: Socio- Economic advantages of Ecotourism

| Advantages of Ecotourism | No: of respondents | | | | | |
|--------------------------|--------------------|------|---------|-----|-------|------|
| | Disagree | % | Neutral | % | Agree | % |
| Road | 179 | 57.6 | 17 | 5.5 | 114 | 36.7 |
| Electricity | 236 | 75.9 | 2 | 6 | 72 | 23.2 |
| Water Supply | 207 | 66.6 | 3 | 10 | 100 | 32.2 |
| School | 144 | 46.3 | 10 | 3.2 | 156 | 50.2 |
| Clinic | 53 | 17 | 19 | 6.1 | 238 | 76.5 |
| Bus Services | 255 | 82 | 13 | 4.2 | 42 | 13.5 |
| Shops | 213 | 68.5 | - | - | 97 | 31.2 |
| Social welfare | 39 | 12.5 | 24 | 7.7 | 247 | 79.4 |
| Scholarships | 205 | 65.9 | 4 | 1.3 | 101 | 32.5 |

Source: Field Survey, 2018.

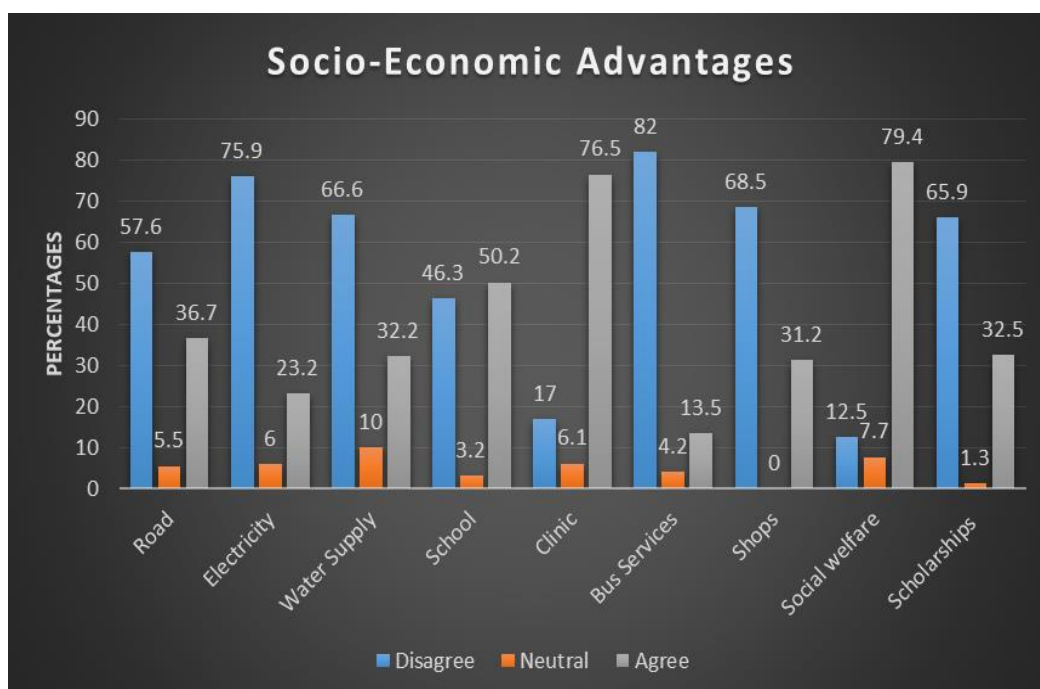


Figure 19: Socio - Economic advantages of Ecotourism

Source: Field Survey, 2018.

In connection with contribution of ecotourism on development of infrastructure such as road development electricity, water supply, school development have positive involvement in study area. Regarding the road development in study areas 57% agreed the same. Contribution towards Electricity supply, 75% agreed event. Not only that electricity but also water supply was provided to this areas as a benefit of

ecotourism.66% people agreed this matter. Other social benefits also provided by the ecotourism. Providing welfare to the schools, conducting clinic for the people such as eye, diabetic, distribution of disabled instrument are implemented satisfactory way. This is showing figure 19.

People in Kandalama agreed that road network, electricity facilities, water supply facilities and transport facilities improved in the area and as a rate, people agreed that infrastructure in these areas have developed a lot, due to introduction of ecotourism. But comparing with Kandalama area infrastructure development of Madurawala and Heeloya is rather low.

Road development of the Kandalama area is being carried out by the tourism sector. Not only is that supply of electric facility also provided by the tourism sector which is implementing in this area. However, there is a significant difference in Madurawela and Heeloya. For the contribution of infrastructure facility development by the tourism

The Contribution to the school development in Kandalama from the tourism sector is comparatively higher when comparing with the other two areas. It is enclosed that Eraula primary school was gaining welfares from tourism. All the students who are learning in this school are given School bags, water bottles, Books and shoes by the tourism. Other schools located the surrounding Kandalama are also benefited from this industry. Further it is observed that the school children in Madurawala and Heeloya area are not that much benefited from the tourism Sector since the tourism in these areas was developed very recently. Members of the tourism societies expressed that sufficient fund is not available with them.

Among selected samples for the study, Kandalama area is located in the dry zone. Hence, obtaining of drinking water has become a critical issue for community in this area. They has launched several projects to address this critical issue such as making tube wells, laying pipe lines and so on. 100% of Kandalama people agreed the same.

However making contribution for the supply of drinking water from the tourism is not observed in Madurawala and Heeloya area since the drinking water facility is freely available in this area.

4.15 Social Welfare

Among benefits gain from the tourism sector, social welfare has become a major benefit taken by the local community. It was revealed that so many social welfare projects have been conducted from the financial assistance of the ecotourism. Conducting medical clinics play a major role and other benefits are providing of wheelchairs and distribution of spectacles.

When inquired from the local community most of the people highly appreciated the benefits gain from the social welfare projects. About 50% of the selected sample admired the same. Apart from that especially in Kandalama area people were provided with many assistance in funeral events such as providing of financial assistance, providing of tents, chairs, road side decorations and so on. These programs is still not implemented in Madurawala and, Heeloya area. They are expecting to introduce the same in future.

4.16 Public Perception towards Conservation of Natural Resources

Ecotourism is aimed at both socio-economic development of people and protection of environment of the country. As ecotourism is based on natural resources, ecotourism cannot survive without natural resources. Therefore, there is a strong connection between protection of environment and ecotourism.

“What happened to the natural resources of the areas after the introduction of ecotourism” was a main feature of this study.

It is obvious that most of the people know the value of forests, trees, tanks, rivers, ponds, historical places and traditional industries in these areas, and they treasure these natural resources.

“Are respondents conscious of the welfares of the natural resources in these areas” was considered as a part of this study. It was obvious that most of the people were alert of the benefits of the natural environment in the area and the following figure shows it.

Table 16: Perception for Conservation of Natural Resources

| Perception for conservation of natural resources | Disagree | % | Neutral | % | Agree | % |
|--|----------|-----|---------|------|-------|------|
| Increase property value of the area | - | .- | 185 | 59.7 | 125 | 40.3 |
| Enhance aesthetic quality | - | - | 69 | 22.3 | 241 | 77.7 |
| Preservation bio diversity | - | - | 144 | 46.5 | 166 | 53.5 |
| Purify the air &environment | - | - | 71 | 22.9 | 239 | 77.1 |
| Cools the atmosphere | - | - | 68 | 21.9 | 242 | 78.1 |
| Place for relaxing | 13 | 4.3 | 60 | 19.4 | 237 | 76.3 |
| Place for fish breeding grounds | 20 | 6.4 | 86 | 27.7 | 204 | 65.6 |

Source: Field Survey, 2018.

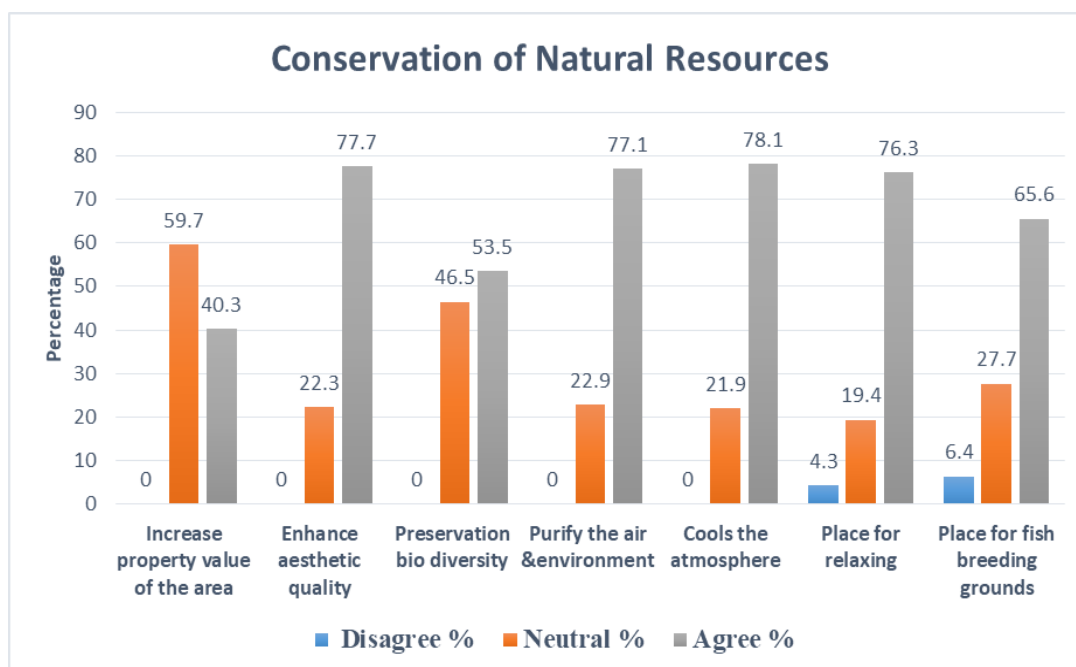


Figure 20: Perception for Conservation of natural Resources

Source: Field Survey, 2018.

Ecotourism contributed not only socioeconomic development of the area but also it is contributed to conservation of natural environment. In this research it is focus to get public perception regarding the awareness of importance about the natural environment of the area. Madurawala, Heeloya and Kandalama people responses positively. This was examined by 7 factors.

According to the figure 23 people in study area has positive responses in connection with Increase property value of the area. They have agreed it by 40%. As well as it is agreed 77.7% regarding the Existence of natural environment is important to Enhance aesthetic quality of the area. People agreed that natural environment contributed to preservation bio diversity. This represent 53.5% of the study area.

In connection with Purify the air &environment, Cools the atmosphere, Place for relaxing, Place for fish breeding grounds, people positively responded. They have understood of importance of environment. Their responses are shown in figure 23. They agree in respectively 77%, 78%, 76% and 65% for the matters given in the above.

Table 17: Existing contribution to the conservation of natural resources

| Contribution to Conservation | Disagree | Disagree % | Neutral | Neutral % | Agree | Agree % |
|---|-----------------|-------------------|----------------|------------------|--------------|----------------|
| Protection of selected natural environments | 19 | 6.1 | 91 | 29.3 | 200 | 64.3 |
| Improvement of the area's natural appearance | 61 | 19.6 | 163 | 52.4 | 86 | 27.7 |
| Increase the appreciation on local eco system | 82 | 26.4 | 97 | 31.2 | 131 | 42.1 |
| Promoting ecofriendly business | 107 | 34.4 | 158 | 50.8 | 45 | 14.5 |
| Reduction soil erosion | 66 | 21.2 | 188 | 60.5 | 56 | 18 |

| | | | | | | |
|-----------------------------------|-----|------|-----|------|---|---|
| Destruction of natural beauty | 218 | 70.1 | 92 | 29.6 | - | - |
| Destruction of flora and fauna | 210 | 67.5 | 100 | 32.2 | - | - |
| Extermination of Wildlife animals | 179 | 57.6 | 131 | 42.1 | | |

Source: Survey Data, 2018.

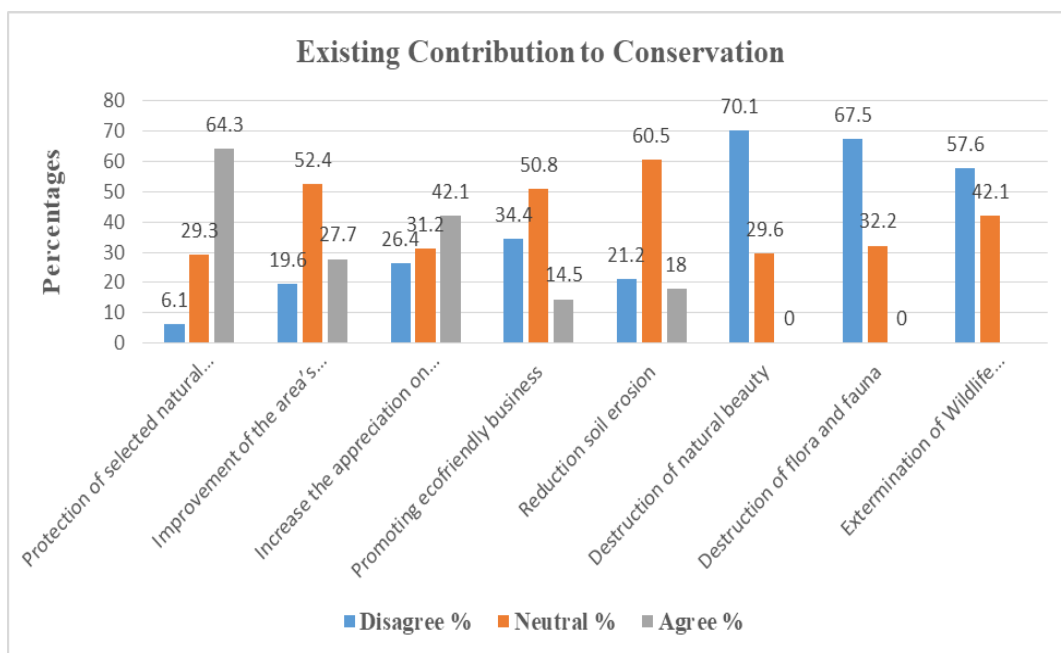


Figure 21: Existing contribution to the conservation natural resources

Source: Field Survey, 2018.

Ecotourism contribution towards conservation of natural environment is focus on this research. It is observed that existing ecotourism activities in Madurawala, Heeloya and Kandalama sustain conservation programme in near future. This was study under the 8 factors given by the respondents.

Analyzed data is showing figure 24. As per the graph positive contribution can be seen. Regarding Protection of selected natural environments, 64.3% people agreed that future conservation approaches. Improvement of the area's natural appearance in future in connection with existing activities agreed 27.7% in the total area. Increase

the appreciation on local eco system through the ecotourism activities was agreed 42.1% people. Promoting ecofriendly business has obtained low marks.

Destruction of natural beauty, Destruction of flora and fauna, and Extermination of Wildlife animals such factors how to contribute the future sustainability were examined by this study.it is revealed that people rejected the ideas of destruction of natural beauty, Destruction of flora &fauna and Extermination of Wildlife animals. Because they believe that existing eco-tourism activities are not contribution the biodiversity destruction. They believe present activities sustain bio diversity and conservation of the natural environment.

People were also of the opinion that natural beauty and attraction have not been affected due to ecotourism, and people in all the three areas agreed that ecotourism has not caused any kind of deforestation. It was also learnt that hunting in Kandalama forest reserve has almost stopped as a positive result of ecotourism. As a percentage 55% of people as a whole believed that ecotourism has not caused any destruction to the natural resources of their areas.

It was a great pleasure to note that conservation of natural resources and ecosystems were at a very high level in all the three areas considered in this study.

4.17 Binary Logistic Regression Analysis

Binary Logistic Regression model used to recognized, significance of ecotourism activities sustain conservation program in selected areas in Sri Lanka. Binary regression estimates a relationship between one or more independent variables and a single output binary variable, in this case it is the probability of increase living condition of host people. The probability of the two alternatives is modeled, instead of simply outputting a single value, as in linear regression.

Dependent

Eco tourist's activities in Madurawala / Heeloya / Kandalama could increase living condition of host people in the near future.

Variable

Independent Variables

- Improves quality of life
- Facilitates meeting visitors
- Increase employment opportunities
- It supplements women employment
- Improves understanding of different communities
- Preserves cultural identity of host population
- Positive attitude change
- Improves public utilities infrastructure
- New investment comes to region
- Positive changes in values and customs

Model Summery

The model summery table includes the methods which are calculating the explained variation Cox and Snell R^2 & Nagelkerke R^2 . According to the table no 6, the explained variation in the dependent variable, Eco tourist's activities in Madurawala / Heeloya / Kandalama could improve standard of living of local community in near future is based on model ranges from 48% to 63% based on Cox and Snell R^2 & Nagelkerke R^2 method.

Table 18: Model summary for Binominal Logistic Regression Analysis

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|------|----------------------|----------------------|---------------------|
| 1 | 235.822 ^a | 0.451 | 0.602 |

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table

According to the classification table result shows in the table no: 19 the results are almost 80% accurately classified the model.

Table 19: Classification table for Binominal Logistic Regression Analysis

| Observed | | | Predicted | | |
|---------------------------------------|-----|-----|--|------|--------------------|
| | | | 7_sustain conservation & local community | | Percentage Correct |
| | | | No | yes | |
| 7_sustain | No | 126 | 27 | 82.4 | |
| Step 1 conservation & local community | yes | 23 | 124 | 84.4 | |
| Overall Percentage | | | | 83.3 | |

a. The cut value is .500

Variables in the Equation

The table values which shows in the “variable in the equation” demonstrations the contribution of each independent variable towards the model and the statistically significant of that independent variables.

Table 20: Variables in the equation for Binominal Logistic Regression Analysis

| | B | S.E. | Wald | df | Sig. | Exp(B) | 95% C.I. for EXP(B) | |
|---|-------|------|--------|----|------|--------|---------------------|-------|
| | | | | | | | Lower | Upper |
| Step 1 ^a Improve quality of life | 1.628 | .279 | 33.946 | 1 | .000 | 5.094 | 2.946 | 8.809 |
| Facilitate meeting visitors | .634 | .313 | 4.100 | 1 | .043 | 1.884 | 1.021 | 3.479 |
| Increase employment | .886 | .386 | 5.277 | 1 | .022 | 2.425 | 1.139 | 5.165 |
| Women employment | .134 | .291 | .212 | 1 | .645 | 1.144 | .646 | 2.024 |
| Understanding communities | .683 | .295 | 5.358 | 1 | .021 | 1.979 | 1.110 | 3.529 |
| Preserves cultural identity | -.184 | .297 | .383 | 1 | .536 | .832 | .464 | 1.490 |
| Positive attitude change | .496 | .249 | 3.984 | 1 | .046 | 1.642 | 1.009 | 2.673 |
| Improve infrastructure | -.069 | .232 | .088 | 1 | .766 | .933 | .593 | 1.470 |
| New investment | -.069 | .291 | .057 | 1 | .812 | .933 | .527 | 1.652 |
| Positive change values | .109 | .367 | .089 | 1 | .766 | 1.115 | .543 | 2.289 |

| | | | | | | | | |
|----------|---------|-------|--------|---|------|------|--|--|
| Constant | -14.347 | 1.873 | 58.658 | 1 | .000 | .000 | | |
|----------|---------|-------|--------|---|------|------|--|--|

a. Variable(s) entered on step 1: IQL_7_1, FMV_7_2, IEO_7_3, SWE_7_4, IUDC_7_5, PCI_7_6, PAC_7_7, IPL_7_8, NI_7_9, RDBV_7_10.

The determination of the statistical significance for each of the independent variables are derived by the Wald test and results are displayed under the “Wald” column and results of the statistically significant shows under “Sig” Column.

According to the table no.20 the result shows that variables like improvement quality of life, facilitate meeting visitors, increase employment opportunities, improves understanding of different communities (IQL,FMV ,IEO,IUDC) are added significant to the model with less than 0.05 P values (sig- values). But other variables were not significant model. The information in the “variables in the equation” table to predict the probability of an event occurring based on a one-unit change in an independent variable when all other independent variable are kept constant.

Summary of the Analysis

A logistic regression was performed to ascertain the effects of 12 independent variables on the Eco tourist’s activities in Madurawala / Heeloya / Kandalama could improve standard of living of local community in near future. The logistic regression model was statistically significant, $\chi^2(4) = 45\%$, $p < .0005$. The model explained 60.0% (Nagelkerke R2) of the variance in improving standards of living and correctly classified 83% of case. According to the result it can say that people who are said that there will be an improvement in living standards of the local communities due to eco tourist activities since there is an improvement in Improves quality of life, facilitates meeting visitors, increase employment opportunities, Improves understanding of different communities as the believe.

Dependent Variable

Eco tourist's activities in Madurawala / Heeloya / Kandalama could simultaneously sustain both a conservation program and improve standard of living of local community in near future

Independent Variables

- Protection of selected natural environments
- Improvement of the area's natural appearance
- Increase the appreciation on local eco system
- Promoting ecofriendly business
- Reduction soil erosion
- Destruction of natural beauty
- Destruction of flora and fauna
- Extermination of Wildlife animals

Model Summery

The model summery table includes the methods which are calculating the explained variation Cox and Snell R^2 & Nagelkerke R^2 . According to the table 9, the explained variation in the dependent variable, Eco tourist's activities in Madurawala / Heeloya / Kandalama could improve standard of living of local community in near future is based on model ranges from 65% to 86% based on Cox and Snell R^2 & Nagelkerke R^2 method.

Table 21: Model Summary

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|------|----------------------|----------------------|---------------------|
| 1 | 100.366 ^a | .650 | .867 |

a. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

Classification Table

According to the classification table result shows in the table no.21 the results are almost 93% accurately classified the model.

Table 22: Classification table for Binominal Logistic Regression Analysis

| Observed | | | | Predicted | | |
|--------------------|-------------------------|-----|-----|---|-----|--------------------|
| | | | | 12_ sustain conservation &local community | | Percentage Correct |
| | | | | No | yes | |
| Step 1 | 12_ sustain No | 147 | 10 | 93.6 | | |
| | conservation &local yes | 10 | 133 | | | |
| Overall Percentage | | | | 93.3 | | |

a. The cut value is .500

Variables in the equation

The table 23 shows the contribution of each independent variable towards the model and the statistically significant of that independent variables.

Table 23: Variables in the equation for Binominal Logistic Regression Analysis

| | B | S.E. | Wald | df | Sig. | Exp(B) | 95% C.I.for EXP(B) | | |
|--------|--------------------------------|--------|------|--------|------|--------|--------------------|-------|--------|
| | | | | | | | Lower | Upper | |
| Step 1 | Protection natural environment | 2.417 | .534 | 20.500 | 1 | .000 | 11.207 | 3.937 | 31.899 |
| | Improvement of appearance | 1.560 | .442 | 12.447 | 1 | .000 | 4.758 | 2.000 | 11.317 |
| | Appreciation of eco system | 3.160 | .484 | 42.630 | 1 | .000 | 23.562 | 9.126 | 60.831 |
| | Promoting ecofriendly business | 1.518 | .480 | 9.982 | 1 | .002 | 4.562 | 1.779 | 11.698 |
| | Reduction soil erosion | .531 | .496 | 1.146 | 1 | .284 | 1.701 | .643 | 4.496 |
| | Destruction of natural beauty | -1.425 | .723 | 3.887 | 1 | .049 | .240 | .058 | .992 |
| | Destruction of flora &fauna | -.763 | .679 | 1.262 | 1 | .261 | .466 | .123 | 1.765 |

| | | | | | | | | |
|----------------------------|-------|------|------|---|-----|------|------|-------|
| Extermination of wild life | - | .609 | 3.58 | 1 | .05 | .316 | .096 | 1.041 |
| | 1.153 | | 9 | | 8 | | | |
| Constant | - | 4.67 | 22.3 | 1 | .00 | .000 | | |
| | 22.11 | 5 | 89 | | 0 | | | |
| | 9 | | | | | | | |

a. Variable(s) entered on step 1: ECCPNE, ECCINA, ECCIALE, ECCEB, ECCRSE, ECCDNB, ECCDF, ECCEWA.

Statistical significance of each of the independent variables was determined through the Wald test and results are displayed under the “Wald” column and results of the statistically significant shows under “Sig” Colum.

According to the table No 23, the result shows that variables like(protection of natural environment, improvement natural appearance, increase appreciation on local eco system ,promoting ecofriendly business(ECCPNE, ECCINA, ECCIALE and ECCEB), are significant at 1% level as the significant values are less than 0.000<0.01 (a=0.01)the variables of Destruction of natural beauty (ECCDNB) is significant at 5%level as the 0.049<0.05 (a=0.05) finally the variables extermination of wild life animals (ECCEWA)is significant at 10% level as the significant value of 0.058 is less than 0.10 (a=0.10) But all other variables did not add significantly to the model. The information in the "Variables in the Equation" table to predict the probability of an event occurring based on a one-unit change in an independent variable when all other independent variables are kept constant. All significant variables are accurately predict the probability values of the estimated model.

4.17.1 Summary of the Chapter

A logistic regression was performed to determine the effects of 8 independent variables on the Eco tourist’s activities in Madurawala / Heeloya / Kandalama could improve standard of living of local community in near future. The logistic regression model was statistically significant, $\chi^2(4) = 55\%$, $p < .0005$. The model explained 86.0% (Nagelkerke R2) of the variance in sustaining both the and improving standards of living of local community conservation programe and correctly classified 93% of the case. According to the result it can say that people who are said that eco tourist’s activities in Madurawala / Heeloya / Kandalama could simultaneously

sustain both a conservation program and improving standard of living of local community in near future since there is an improvement in protection of selected natural environments, improvement of the area's natural appearance, increase the appreciation on local eco system, promoting ecofriendly businesses.

4.18 Narrative Analysis

Community member in Madurawela

With the introduction of ecotourism in this village a lot of local and foreign tourists coming to our village. Most of tourists come here for their studies. Villagers provide food accommodations and transport facilities to the tourists. We have established ecotourism society in our village and all people engaged in tourism industry who are members of this society. Some school children visit here to study about traditional living industries which are extinct in these days. As well as people who are engaged in these activities are getting income demonstrating them. There is a considerable participation of women. This is a good opportunity to people of this area. But tourists' arrivals are not sufficient.

Community member in Heeloya

We receive many benefit from the ecotourism. There are about 25 members in our society. All the members are getting additional income from this industry. Most of society members are women. Foreign tourists like to visits paddy fields, vegetable farm, water stream and waterfall. Members of the society provides food, lodging, internet and transport facilities to tourists. A share of the individual income goes to our society and it spend for the welfare activities of the village.

Villager in Heeloya

We like to develop this tourism industry in our village. This tourists do not interfere or disturb the culture. Local tourists purchased our local products such as vegetables bee honey, species and agricultural and local industrial products. We also like to get participate of this industry.

Grama Niladari in Kandalama

After establishing hotel here, villagers get many benefits. Road development water supply and power supply are some of them. There are employment opportunities offered to the village from the hotel. In addition to that hotel corporate for the welfare activities such as death donations and welfare to the schools. However hotel did not purchase the agricultural products from the village farmers.

Villager in Kandalama

It is good that established Kandalama hotel in our village. It help to develop the infrastructure facilities such as roads electricity supply and water supply, as well as job opportunities too. Most of villages are farmers. Hotel do not buy the agricultural products from the village and there is no any relationship between hotel and village. Hotel take care of environment surrounding of the hotel premises. Now villagers are not allowed to hunting and collecting fire wood from the jungle as earlier.

According to the 5 narratives with community members all expressed their ideas of ecotourism benefits of their lives and environment. They appreciated present ecotourism development. No one complained regarding the ecotourism development.

When Kandalama is taken into consideration, it is clear that local community is hardly engaged in ecotourism. It is a violation of a main expectation, expected from ecotourism.

But these are not ecotourism. It somehow benefitted local people while improvement their livelihood with actively participation. This research investigate that Kandalama hotel is a green practice hotel with social benefit to the people As well as they are practicing trekking, Eco parks, butterfly watching cycling and boating. But not practicing real ecotourism practices incorporating local people who are living around the hotel. There are potentials to participate these population to the industry while its operations. But they have not paying attention to participation of local people to the industry.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1: Conclusion

The determination of this research was to examine the contribution of ecotourism towards life-standard of local people and involvement of ecotourism concerning conservation of natural environment. This was explored selecting three areas in Sri Lanka. Madurawala, Heeloya and Kandalama where popular ecotourism destinations were selected as a study areas. Firstly comprehensive literature review was done to identified what is ecotourism, difference between mass tourism and ecotourism, how it link to the sustainability, inter relationship of ecotourism and what are the main components of ecotourism through previous studies.it is identified ecotourism has two branches. One is conservation natural environment, second one is livelihood development. Livelihood development can be described under few factors. They are economic benefits, socio welfare benefits and infrastructural benefits. To conduct this research questionnaire survey and interviews with villagers was carried out to collecting data. Their comments and ideas evaluated. Both qualitative and quantitative data was applied to analyzing information and facts collecting through respondents in Heeloya, Madurawala and Kandalama. in the analysis various significant factors were identified. They are insufficiency of Awareness of ecotourism in rural area, no education of ecotourism concepts in rural community, Traditional living activities such as traditional rubber-tapping, cinnamon peeling, tea-plucking, clay-pottery, carpentry, industry of blacksmiths, weaving with hand-operated machines, cooking over traditional hearths can be used for income generation strategy in ecotourism generation areas. Poverty alleviation, capacity building of people, Empowerment of women are the direct benefits generated through ecotourism. Contribution to socio infrastructural development, and social welfare benefit and success conservation programme to protect natural environment. Infrastructure including road network, electricity, water supply, drinking water, has been developed in these areas due to ecotourism. Furthermore, some schools have received even donations. In addition to that social welfare activities have been carried out in these areas as a result of

ecotourism. Environment conservation is also a main benefit expected from ecotourism. People in these areas are of the opinion that steps have been taken to improve the aesthetic values of these areas while protecting the pristine beauty in these areas. As a whole, people in these areas have realized the importance of protecting these resources too. When the selected areas are concerned environment conservation was at a very high level in all the three areas, and no negative effects, of ecotourism could be identified.

Considering the context in this study it can be identified ecotourism concepts and benefits of socioeconomic development with conservation of natural environment when practicing genuine ecotourism concepts. However there is some lacking parts of real ecotourism to be develop in these areas.

This study reveals that ecotourism can be used within rural areas to poverty alleviating and livelihood development as well as conservation natural environment, leading people to the sustainable development. Real ecotourism practices benefitted both community and environment when it incorporate genuine ecotourism concepts.

This study revealed that how ecotourism in Sri Lanka could contribute to increase living standards in the ecotourism generating area and support environmental and biodiversity conservation in Sri Lanka. Madurawela and Heeloya developed and implement community based ecotourism (CBE) project with the success of increased livelihood activities, gender empowerment and environmental conservation.

5.2 Recommendation

However, ecotourism industry has not still developed up to satisfactory standard in Sri Lanka. There are some measures to be taken to development of the industry. The lack of government interference is one of main setback which has confronted in Sri Lanka. There is a feeling needy to implement and guidance about the real eco-tourism practices. Tourism development institution has to plan to development ecotourism in the poor community.

Tourism generated income equally shared among the people poverty can be alleviated in the society. As well as ecotourism paved the way to develop infrastructure facilities in the society. Income generation and lively hood development can be achieved through ecotourism .however negative impacts of mass tour operations can be avoid through ecotourism, the overall living standard of the local community would considerably be improved making a healthy atmosphere in motivating them towards an environmental conservation on genuine ecotourism program which could offer practical solutions to the socio-economic and environmental problem referred to above.

High spending nature loving responsible tourists belong to the category of Eco tourists to attract to Sri Lanka tourism that needs to have planning and implementation of an ecotourism program.

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ANNEXURES

Questionnaire Survey for Impact of Ecotourism on local livelihood and the environment: Evidence from surrounding areas of Madurawala village/Heeloya village/Kandalama Lake surrounding village.

Section 1

In this questionnaire “Eco- tourism” means

Responsible travel to natural areas that ensures environmental conservation as well as fostering the well –being of local communities (The International Ecotourism Society 2009)

1.0 You ever heard of Eco-Tourism Yes /No

If yes, can you explain what it is according to your knowledge?

| | SD | DA | NAD | A | SA |
|---|----|----|-----|---|----|
| It is conserving natural resources | 1 | 2 | 3 | 4 | 5 |
| It is preserving cultural tradition | 1 | 2 | 3 | 4 | 5 |
| Provide financial benefits and empowerment for local people | 1 | 2 | 3 | 4 | 5 |
| Alleviating poverty | 1 | 2 | 3 | 4 | 5 |
| Provide positive experiences for both visitors and hosts | 1 | 2 | 3 | 4 | 5 |

SD=strongly disagree= DA=disagree; NAD=neither agree nor disagree; SA=strongly agree

2.0 Are you engaging livelihood activity? Yes /No If “yes “

| Activity | Income/Rupees per Month |
|-------------------|-------------------------|
| Agriculture | |
| Fishing | |
| Tourism | |
| Government sector | |
| Private sector | |

2.1 Are you engaging more than one livelihood activity? Yes/ No

2.2 Your production purchased by visitors/hoteliars?

3.0 Are you engaged in ecotourism? Yes/No

I. If yes your monthly income Rs-----

II. IS it a full time job or part time job? Pl. specify

III. Do you directly participate or in directly participate? Pl. specify

.....

IV. How many members in your family involved in ecotourism activities?

Income (Rs)

a.

b. 1 person

c. 2 persons

d. 3 persons

I. For how long have you been in tourism sector?.....Years

4.0 What are the tourism activities you and your family members engaged in?

| |
|-------------------------------------|
| Activity |
| Accommodations |
| demonstrate traditional |
| fishing/living activities |
| Food & Beverages |
| Rent assets |
| Transport |
| Vegetable/Fruit supply |
| Making handicraft items |
| Guiding & interpretation |
| Selling local items |
| Provide pedal boat service/canoeing |

5.0 What is your monthly income before you engaged in tourism activities?

Pl. specifyRs-----

6.0 Availability of household equipment

Before

After

| | | | |
|--|--|--|--|
| Basic furniture &kitchen equipment | | Basic furniture &kitchen equipment | |
| Radio/television | | Radio/television | |
| Telephone/cellular phone | | Telephone/cellular phone | |
| Vehicles/bicycle/three wheel/other | | Vehicles/bicycle/three wheel/other | |
| Agriculture or self-employer equipment | | Agriculture or self-employer equipment | |
| Refrigerator | | Refrigerator | |
| Computer | | Computer | |
| Washing machine | | Washing machine | |

6.1 Construction material of houses

Before

| | Material |
|-------|-------------------|
| Wall | cement/mud/Bricks |
| Floor | Cement/tile |
| Roof | Tile/asbestos |

After

| | Material |
|-------|----------------------------|
| Wall; | Cement block/bricks/mud |
| Floor | cement/tile |
| Roof/ | Tile/asbestos/ |

7.0 Do you agree that Eco tourist’s activities in Madurawala / Heeloya / Kandalama could improve standard of living of local community in near future? Yes/No

On positive contribution to of ecotourism in Madurawela / Heeloya / Kandalama Area.

| | SD | DA | NAD | A | SA |
|---|----|----|-----|---|----|
| Improves quality of life | 1 | 2 | 3 | 4 | 5 |
| Facilitates meeting visitors | 1 | 2 | 3 | 4 | 5 |
| Increase employment opportunities | 1 | 2 | 3 | 4 | 5 |
| It supplements women employment | 1 | 2 | 3 | 4 | 5 |
| Improves understanding of different communities | 1 | 2 | 3 | 4 | 5 |
| Preserves cultural identity of host population | 1 | 2 | 3 | 4 | 5 |
| Positive attitude change | 1 | 2 | 3 | 4 | 5 |
| Improves public utilities infrastructure | 1 | 2 | 3 | 4 | 5 |
| New investment come to region | 1 | 2 | 3 | 4 | 5 |
| Positive changes in values and customs | 1 | 2 | 3 | 4 | 5 |

8.0 In general, do you think that the recent development of ecotourism in Madurawala , heeloya, Kandalama Village could benefit the villagers? Yes/No

If yes (Please circle your answer to the following benefits of ecotourism) 1 Strongly disagree 2 disagree 3 neither disagree nor agree 4. Agree 5 strongly agree

| Development | SD | D | NAD | A | SA |
|--------------------|----|---|-----|---|----|
| Road | 1 | 2 | 3 | 4 | 5 |
| Electrical supply | 1 | 2 | 3 | 4 | 5 |
| Clean water supply | 1 | 2 | 3 | 4 | 5 |
| School | 1 | 2 | 3 | 4 | 5 |
| Clinic | 1 | 2 | 3 | 4 | 5 |
| Bus services | 1 | 2 | 3 | 4 | 5 |
| Shops | 1 | 2 | 3 | 4 | 5 |
| Social welfare | 1 | 2 | 3 | 4 | 5 |
| scholarships | 1 | 2 | 3 | 4 | 5 |

9.0 Have you given tourism related trainings/skill development programmes given by relevant authorities to develop your knowledge? Yes/No

10.0 Are there bad changes that have occurred because of ecotourism? Yes/No

Section 2

Public perception for conservation of natural resources

11.0 Do you think the conservation of madurawela / Heeloya / Kandalama Lake and surrounding area is important?

Yes/No

11.1 If yes

| Questions | SD | DA | NAD | A | SA |
|-------------------------------------|----|----|-----|---|----|
| Increase property value of the area | 1 | 2 | 3 | 4 | 5 |
| Enhance aesthetic quality | 1 | 2 | 3 | 4 | 5 |
| Preservation bio diversity | 1 | 2 | 3 | 4 | 5 |
| Purify the air & environment | 1 | 2 | 3 | 4 | 5 |
| Cools the atmosphere | 1 | 2 | 3 | 4 | 5 |
| Place for relaxing | 1 | 2 | 3 | 4 | 5 |
| Place for fish breeding grounds | 1 | 2 | 3 | 4 | 5 |

12.0 Do you think that Eco tourist's activities in Madurawala / Heeloya / Kandalama could sustain conservation program me near future? Yes/No

12 .1 Existing contributions to conservation

(Pl. circle the appropriate)

| Questions | St.DA | D | NDA | Agree | St. Agree |
|--|-------|---|-----|-------|-----------|
| a) Protection of selected natural environments | 1 | 2 | 3 | 4 | 5 |
| b) Improvement of the area's natural appearance | 1 | 2 | 3 | 4 | 5 |
| c) Increase the appreciation on local eco system | 1 | 2 | 3 | 4 | 5 |
| d) Promoting ecofriendly business | 1 | 2 | 3 | 4 | 5 |
| e)Reduction soil erosion | 1 | 2 | 3 | 4 | 5 |
| f)Destruction of natural beauty | 1 | 2 | 3 | 4 | 5 |
| g) Destruction of flora and fauna | 1 | 2 | 3 | 4 | 5 |
| h)Extermination of Wildlife animals | 1 | 2 | 3 | 4 | 5 |

13.0 Do you think Madurawala/ Heeloya / Kandalama Lake area has been destroyed by the recent activities?

Yes/No

If "Yes"

14.0 Parties responsible for destruction of natural areas

| | SD | D | NDA | A | SA |
|------------|----|---|-----|---|----|
| Government | 1 | 2 | 3 | 4 | 5 |
| Hoteliers | 1 | 2 | 3 | 4 | 5 |
| Fisherman | 1 | 2 | 3 | 4 | 5 |
| Villagers | 1 | 2 | 3 | 4 | 5 |
| Tourists | 1 | 2 | 3 | 4 | 5 |

15.0 Which of the following activities is a major cause to pollution in madurawala / Heeloya / Kandalama Area and Village? (Please tick an appropriate box).

| | |
|--------------------|--|
| Tourism activities | |
| Agriculture | |
| Hunting | |
| Boating | |

16.0 Have you been involved in the Nature conservation project run by the hotel operators or other organization in Mdurawala / Heeloya / Kandalama Village in the last five years?

Yes / No

IF yes

17.0 What are they? Pl. Specify.....

| Project | Time devote (Hrs/Month) | Extent (Acers) |
|----------------------------|-------------------------|----------------|
| Tree planting | | |
| Waste management | | |
| Water resources management | | |
| Bio diversity protection | | |
| Forest conservation | | |

Section 3

Personal information

18.0. Gender M/F

19.0 About how much of your monthly income? RS -----

20.0. Your age ----- (years)

21.0. Marital Status Single/ Married/ Widowed/ Divorced

22.0 Your level of education not schooling / primary/secondary/higher/

23.0. Do you have children living with you? Yes/No If yes How many? -----

24.0 How long have you lived in this area?

25.0 Are you a member of any environmental organization of the area? Yes / No

26.0 Is this house yours? Q Yes/ No)

27. Do you have any vehicle? Pl. specify

I කොටස

මෙම සමීක්ෂණය සඳහා පරිසර හිතකාමී සංචාරක ව්‍යාපාරය යනු පාරිසරික සංරක්ෂණය තහවුරු කරන්නාවූද එමෙන්ම ප්‍රාදේශීය ජනතාවගේ ආර්ථික තත්වයට පිහිටාධාර වන්නා වූද ස්වාභාවික ප්‍රදේශයන්හි සිදු කරන වගකිව යුතු සංචාරයකි.

1.0 ඔබ කවදා හෝ පාරිසරික සංචාරක කට්ඨානනය ගැන අසා තිබේද ?

ඔව් / නැත

අසා තිබේ නම් ඔබගේ දැනුම අනුව විස්තර කළ හැකිද ?

| | හොදම එකඟ නැත | එකඟ නැත | අදහසක් නැත | එකඟයි | හොදම එකඟයි |
|---|-----------------|---------|---------------|-------|---------------|
| එය ස්වාභාවික සම්පත් ආරක්ෂා කරයි. | | | | | |
| එය සංස්කෘතිය ආරක්ෂා කරයි. | | | | | |
| මූල්‍ය ආධාර සපයන අතර දේශීය ජනතාවට රක්ෂා ලබා දෙයි | | | | | |
| දුප්පත්කම පිටු දකියි. | | | | | |
| සංචාරකයන්ට හා ප්‍රදේශයේ ජනතාවට හොඳ අත්දැකීම් ලබා දෙයි. | | | | | |
| | | | | | |

ඔබ දැනටමත් කුමන හෝ ජීවිකාවක් කරන්නේද ?

ඔව් / නැත

උත්තරය ඔව් නම්,

| ක්‍රියාකාරකම් | ආදායම රුපියල් (මාසික) |
|-----------------------|-----------------------|
| කෘෂි කාර්මික | |
| ධීවර | |
| සංචාරක | |
| රජයේ රැකියා | |
| පුද්ගලික අංශයේ රැකියා | |
| | |

2.1 ඔබ රැකියා කිහිපයක නියැලෙන්නේද ?

ඔව් / නැත

2.2 ඔබගේ නිෂ්පාදන සංචාරකයන් / හෝටලය මගින් මිලදී ගනීද ?

ඔව් / නැත

3.0 ඔබ පරිසර හිතකාමී සංචාරක ව්‍යාපාරයේ නිරත වන්නේද ? ඔව් / නැත

ප පිළිතුර ඔව් නම් මාසික ආදායම් රූපියල්
පප එය පූර්ණ කාලීන රැකියාවක්ද ? අර්ධ කාලීන රැකියාවක් ද ?

 පපපඔබ ඒ සඳහා සෘජුව දායක දායක වන්නේද ? / නැතහොත් වක්‍රව දායක වන්නේද ?

 පපඔබගේ පවුලේ සාමාජිකයින් කී දෙනෙක් මෙම කර්මාන්තයේ නිරත වන්නේද ?

ආදායම රූපියල්

- ' පුද්ගලයන් 1
- ඊ පුද්ගලයන් 2
- ඝ පුද්ගලයන් 3

ඩ කොපමණ කාලයක් සංචාරක කර්මාන්තයේ නියැලෙන්නේද ?

4.0 ඔබ හා ඔබගේ සාමාජිකයන් නිරත වෙන සංචාරක කර්මාන්තය ආශ්‍රිත ක්‍රියාකාරකම් මොනවාද ?

| ක්‍රියාකාරකම් | |
|---------------------------|--|
| වාසස්ථාන සැපයීම | |
| සාම්ප්‍රදායික ජීවන කටයුතු | |
| ආහාර පාන සැපයීම | |
| දේපළ කුලියට දීම | |
| ඵලවල පලතුරු සැපයීම | |
| අත්කම් නිෂ්පාදන | |
| සංචාරක මග පෙන්වීම | |
| බෝට්ටු සැපයීම | |

5.0 ඔබගේ මාසික ආදායම ඔබ සංචාරක කර්මාන්තයේ නියැලීමට ප්‍රථම කොපමණද ?

රුපියල්

6.0 නිවසේ පවතින ගෘහ භාණ්ඩ

| පෙර | | පසු |
|----------------------------------|--|-----|
| මූලික ගෘහ භාණ්ඩ මූලාශ්‍රයේ උපකරණ | | |
| ගුවන් විදුලි / රූපවාහිනි | | |
| දුරකතන / සංගම දුරකතන | | |
| වාහන / බයිසිකල් / ත්‍රිරෝද රථ | | |
| ශිතකරණ | | |
| පරිගණක | | |
| රෙදි සෝදන යන්ත්‍ර | | |
| වෙනත් | | |

6.1 නිවාස ඉදිකරන ලද අමු ද්‍රව්‍ය

| පෙර | අමු ද්‍රව්‍ය |
|--------|--------------------------|
| බිත්ති | බිලෝග්ගල් / මැටි / ගඩොල් |
| චහල | උළු / ඇස්බැස්ටස් |
| ගෙබිම | පිගන් ගඩොල් / සිමෙන්ති |

| පසු | අමු ද්‍රව්‍ය |
|--------|--------------------------|
| බිත්ති | බිලෝග්ගල් / මැටි / ගඩොල් |
| චහල | උළු / ඇස්බැස්ටස් |
| ගෙබිම | පිගන් ගඩොල් / සිමෙන්ති |

0.7 මදුරුවල, හිල්ලය, කණ්ඩලම පවතින පාරිසරික කර්මාන්තය නිසා මිනිසුන්ගේ ජීවන රටාව දියුණු වේ යැයි සිතනවාද ?

| යහපත් ප්‍රතිලාභ | හොදම එකග නැත | එකග නැත | අදහසක් නැත | එකගයි | හොදම එකගයි |
|---|--------------|---------|------------|-------|------------|
| ජීවන තත්වය ඉහල යාම | | | | | |
| සංචාරකයන් හමුවීමට ලැබීම | | | | | |
| රැකියා අවස්ථා වැඩිවීම | | | | | |
| කාන්තාවන් සඳහා රැකියා අවස්ථා බිහිවීම | | | | | |
| වෙනස් ජාතින් ගැන අවබෝධයක් ලැබීම | | | | | |
| දේශීය ජනතාවගේ සංස්කෘතික අන්තර්ගතයට වැඩි දියුණු වීම. | | | | | |
| යහපත් ආකල්ප ඇති වීම | | | | | |
| දේශීය ආර්ථිකය ඉහළ යාම | | | | | |
| යටිතල පහසුකම් දියුණුවීම | | | | | |
| නව ආයෝජන පැමිණීම | | | | | |
| සිරිත් පිරිත් හා වටිනාකම් යහපත් ලෙස වෙනස්වීම | | | | | |

0.8 මදුරුවල, හිල්ලය, කණ්ඩලම ආශ්‍රිත ප්‍රදේශයේ ක්‍රියාත්මක වන පාරිසරික හිතකාමි සංචාරක ව්‍යාපාරය තුළින් ගම් වැසියන්ට ප්‍රතිලාභ තිබේද ? ඔව් / නැත

පිළිතුර ඔව් නම් පහත සඳහන් පිළිතුරු වටා රවුමක් යොදන්න

| සංවර්ධන කාර්යය | කොහෙත්ම එකග නැත | එකග නැත | අදහසක් නැත | එකගයි | හොදම එකගයි |
|---------------------|-----------------|---------|------------|-------|------------|
| මාර්ග දියුණුව | | | | | |
| විදුලි බලය සැපයීම | | | | | |
| ජල සැපයීම | | | | | |
| පාසල් දියුණු කිරීම | | | | | |
| සායන පැවැත්වීම | | | | | |
| පොලිසිය දියුණුව | | | | | |
| ප්‍රවහන (බස්) | | | | | |
| සාප්පු | | | | | |
| සමාජ සුභ සාධන | | | | | |
| ශෂ්‍යත්ව (අධ්‍යාපන) | | | | | |

0.9 පාරිසරික සංචාරක ව්‍යාපාරය සම්බන්ධව ඔබ වෙත ලබා දී ඇති පුහුණු වීම් මොනවාද ?

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10.0 පාරිසරි සංචාරක ව්‍යාපාරය නිසා සිදු වූ අයහපත් වෙනස්කම් තිබේද ?

.....

II කොටස

ස්වාභාවික සම්පත් සංරක්ෂණය - මහජන අදහස් ලබා ගැනීම

11.0 මදුරාවල,හිල්ලිය, කණ්ඩලම වැව ආශ්‍රිත ප්‍රදේශයේ සංරක්ෂණය කිරීම වැදගත් බව ඔබ සිතනවාද ?

ඔව් / නැත

පිළිතුර ඔව් නම්

| | කොහෙත්ම එකඟ නැත | එකඟ නැත | අදහසක් නැත | එකඟයි | හොඳම එකඟයි |
|-------------------------------------|--------------------|---------|---------------|-------|---------------|
| එය ප්‍රදේශයේ දේපල වටිනාකම වැඩි කරයි | | | | | |
| ප්‍රදේශයේ සුන්දරත්වය වැඩි කරයි. | | | | | |
| ජෛව විවිධත්වය ආරක්ෂා වේ. | | | | | |
| වායු දූෂණය අවම කරයි. | | | | | |
| වානය හා පරිසරය පිරිසිදු කරයි | | | | | |
| පරිසරය සිසිල් කරයි | | | | | |
| විවේකය සඳහා ප්‍රදේශය ඇති වේ | | | | | |
| මත්ස්‍ය අභිජනක ප්‍රදේශ ඇති වේ. | | | | | |

12.0 දැනට පවතින පාරිසරික සංචාරක ක්‍රියාකරකම් නිසා මදුරාවල, හිල්ලිය, කණ්ඩලම ප්‍රදේශයන්හි සංරක්ෂණ ක්‍රියාවලියට ආධාරයක් වේ යැයි සිතන්නේද ?

ඔව් / නැත

| | කොහෙත්ම එකඟ නැත | එකඟ නැත | අදහසක් නැත | එකඟයි | හොදම එකඟයි |
|--|--------------------|---------|---------------|-------|---------------|
| ප්‍රදේශයේ පවතින පරිසර සම්පත් ආරක්ෂා කරයි | | | | | |
| ස්වාභාවික පරිසරයේ පෙනුම වැඩි කරයි | | | | | |
| දේශීය පරිසර පද්ධතීන්හි ඇගයීම වැඩි කරයි. | | | | | |
| පාරිසරික හිතකාමී ව්‍යාපාර කෙරෙහි උනන්දු වෙයි | | | | | |
| පාංශු බාදනය නැති කරයි | | | | | |
| වන ජීවීන්ගේ ජීවන රටාවට හානි කරයි. | | | | | |
| වෘක්ෂලතා විනාශ කරයි. | | | | | |
| තුරුලතා විනාශ කරයි | | | | | |
| වන ජීවීන් වදවී යාමට හේතු වේ. | | | | | |
| | | | | | |

13.0 මදුරාවල, හිල්ලිය, කණ්ඩලම වැව ප්‍රදේශයවර්තමාන සංචාරක ව්‍යාපාරය නිසා විනාශ වී ඇති බව ඔබ සිතනවාද ?
පිළිතුර ඔව් නම්

14.0 පාරිසරික හානිය සඳහා වගකිව යුතු පාර්ශවයන් නම් කරන්න.

| | කොහෙත්ම එකඟ නැත | එකඟ නැත | අදහසක් නැත | එකඟයි | හොදම එකඟයි |
|---------------|--------------------|---------|---------------|-------|---------------|
| රජය | | | | | |
| හෝටල් නිමියන් | | | | | |
| ගම් වැසියන් | | | | | |
| ධීවරයින් | | | | | |
| සංචාරකයින් | | | | | |

15.0 පහත සඳහන් හේතු අතරින් මාදුරාවල,හීල්මය, කණ්ඩලම වැව ආශ්‍රිත ප්‍රදේශයේ දූෂණයට හේතු වී ඇත්තේ මොනවාද ? : * (හරි ලකුණ යොදන්න)

- සංචාරක ව්‍යාපාරය
- කෘෂිකර්මය
- දඩයම
- බෝට්ටු සචාර

16.0 හොටෙල් හිමියන් හෝ වෙනත් සංවිධානයක් මගින් සංවිධානය කරන ලද පාරිසරික වැඩ සටහන් සඳහා සහභාගි වී තිබේද ?

ඔව් / නැත

17.0 ඔව් නම් ඒ වැඩසටහන් මොනවාද ?

වැඩසටහන

- පැල සිටුවීම
- කසල කළමනාකරනය
- ජල සම්පත් කළමනාකරනය
- පෞච්ච විවිධත්වය ආරක්ෂා කිරීම
- වන සංරක්ෂණය

III කොටස

පුද්ගලික තොරතුරු

- 18 ස්ත්‍රී පුරුෂ භාවය -
- 19 මාසික ආදායම -
- 20 වයස අවු. -
- 21 විවාහක/අවිවාහක බව-
- 22 අධ්‍යාපන මට්ටම -
- 23 කෙපමණ කලක සිට මේ ප්‍රදේශයේ ජීවත් වනවාද ? -
- 24 ඔබ කිසියම් පාරිසරික සංවිධානයක සාමාජිකත්වය ලබා තිබේද ?
.....
- ඔව් නම් නම් කරන්න -
- 25 මෙම නිවස ඔබ සතුද -
- 26 ඔබ සතුව වාහන තිබේද
.....

ස්තූතියි