MANAGEMENT OF A COMMON POOL RESOURCE WITHTHE ADAPTION OF A CO-MANAGEMENT PROCEDURE; A CASE STUDY IN WASTE DUMPING SITE, AMBULUWAWA, SRI LANKA

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Introduction

Mankind in the world is sustained with the incorporation of natural resources in the earth.Simply, they are totally depend on these natural resources. Common pool resources are when natural resources are provided as commons, they are typically referred to as common pool resources. (Timilsina RR, Kotani K, Kamijo Y, 2017). In usage of common there is a matter of its sustainability and resource depletion unless they are facilitated through communications and monitoring. Resource depletion, waste problem can be taken in to the account of problems related to common pool resources. Accordingly the common pool identified in the study area is a stream called Ginihinnaela, used by over 100 families in Ambuluwawa area which is mismanaged by improper waste disposal to the upper part of the catchmentareas. Area of catchment is also a resource for commons because of its richness in bio diversity and the environmental prosperity which provides indirect and direct resources to the commons. So this study is driven to manage this common pool using a co- management plan. Co-management plan is Collaborative management, or co-management has been defined as "the sharing of power and responsibility between the government and local resource users. (Carlsson.LBerkes. F, 2013)

Objectives

The general objective of this study is to identify an economically important resource, which is rich in bio diversity, while having a significant influence on the environment and is mismanaged presently. And

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also the specific objectives of the study are to identify the different ways of mismanagement and to identify the impacts of mismanagement as well as to develop a co- management plan outlining new procedures to manage the resource in a sustainable manner.

Methodology

Field observations in the waste dumping site and the surrounding area and informal discussions with the residents were the data collection methods used in this study. And surveying literatures alsousedto collect the data.Informal group discussions were taken with the community society of the Ambalawavillage located in Udapalatha DS division and the Sinhapitiya south GNdivion. Collected data analyzed qualitatively for results and discussions.

Results and Findings

The selected study area is Ambuluwawawhich is famous for its endemic bio-diversity and also recently raised attention for manmade problem of waste disposal to the mountain area. It was a huge environmental, social, political and ecological problem which emerged form 2010. Ambuluwawaforest has a long history as an undisturbed environment with community values and numerous rare plants and animals (Samarasinghe, 2000). Due to its high biodiversity and several other important factors, the Environment Act of 5th June 1996 declared an area of 337 acres of the Ambuluwawa forest as protected.The total extent of the original Ambuluwawa mountain forest had been about 223 ha (927 acres). Presently, the relatively undisturbed natural forest at Ambuluwawa is restricted to 4 ha.

The study area is being used as a garbage pit for over five years, from the end of 2010, and the Ambuluwawa Mountain slided down on 17th May 2017, displacing nearly 70 people living along the slope. The landslide, along with approximately 75,000 tons of garbage gliding downhill caused for destroying property and displacing people. Many

people living along the slope, faced for destroying their livestock, acres of cultivation, and habitats. This tragedy was sent to the Gampola Urban Council to look for a suitable land to dump garbage. In this newly established waste dumping site is also not a suitable solution and creates many environmental, social and health problems because, it is a land of government and located in Nawalapitiya-Kandy main road as well as surrounded by two schools, hospital and the Ceylon electricity board. Its unpleasant odor, leachate flow, natural resource depletion has created many impacts to the environment, society and for health of individuals.

In this study two major environmentally degraded lands were identified due to improper waste dumping. Polluted ginihinnaela and the waste dump in the Ambalawa area and the newly established Sampathpiyasa in Gampola town. Both sites are mismanaged common pool resources and the in the co-management plan these both environments are planned to be incorporated together.

In the study, different ways of mismanagement of the environment could be observed as improper waste dumping, landslide of the waste dump and the waste dumping without separation. As well as the effects of mismanagement were observed in the filed as water sources pollution, degradation of fauna, depletion of bio diversity obstructing water usage of community, obstructing livelihoods-cultivation, damaging houses and property from landslide of the waste dump, health issues and unpleasant odors. Similarly, the newly established sampathpiyasa also generates many environmental problems to the residents.

Overall study reveals that the improper waste disposal is the major problem with the sustainability of these common pool resources and the suggestion of this study is to develop an eco-tourism site with waste management practices within the waste disposal site assisted by the co-management of the stake holders in the Sinhapitiya south GNdivision.Ambuluwawa is an area with a highest tourism attraction and it is a center of many tourism destinations such as Kandy, Pinnavala and Ambuluwawa bio diversity complex. So the stakeholders can be engaged

in maintaining the eco-tourism site so they lost their livelihoods in waste dump land sliding. Local materials usage in infrastructure, local market for their amenities, ladies can get employments, tourists guiding also can be done in systematic way with the assistance of the villagers.

This accommodation site is planned to incorporate with the "SampathPiyasa" in town area. There, only non-degradable wastes are collected with an economic objective. Degradable waste is dumped at a land and lead to create many problems. So that, it is proposed to apply a polluter pay system in this plan to gain economic support to develop the eco-tourism site. The stake holders are engaged in maintaining funds, activities and the whole process management by formulating a society. There could be identified a formed society of community as "Organization for conserving Ambalawawater springs, environment community' with the people of Balathgamuwa, Ambalawa, Kehelpannala villagers.

Conclusions and Suggestions

The problem which is faced by the whole world is the problem of waste as well as it has become a most common and drastically increasing disaster in Sri Lankan town areas. Accordingly, this, matter of wastes can be answered in a sustainable manner with providing economic and ecological reversions, similarly with minimum impacts to the environment. Co-management can be applied to manage the problem of waste by using the support of a co-operative society. In this study a co-management plan is proposed to manage the waste in the area while benefiting economically, ecologically and socially.

In the site, an ecofriendly park is proposed to be developed and ecofriendly concepts applications are applied there. Composting section, Waste collection, separation and selling recyclables, exchange wet garbage and non-degradable with "Sampathpiyasa' and plan a model to collect solid waste in town area for money are the functions of this co-management plan. Here a discounted polluter pay principle is proposed as If community go to residents and collect waste have to pay4/4 the full amount, if house

hold gives separated waste has to pay ¾ and if house hold hand over their waste to the site 2/4 of the amount. After the waste collection onsite composting can be maintained well and the non-degradable can be exchanged with "SampathPiyasa" in town area. Exchanging waste also can be supported with a systematic plan which is economically supportive to the society as well as after the composting project society has the ability to create a market and gain profits from compost selling. Accordingly, both natural resources are managed sustainably with the support of co-management.

Accordingly, there is a sustainable management within this co management process in managing common pool resource, because it is a path to ensure the conservation of environment while having economical and societal benefits for people who live in the area while conserving natural resources for future generations to achieve their needs.

Keywords : Common poll resource, co-management, polluter pay principle, waste problem

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