

**GEF Small Grants Programme  
Community-Based Adaptation in Small Island Developing States - SIDS CBA**

**Minimizing land degradation in Sri Lanka's Serupitiya village to adapt to climate change**

**Project N°:** SRL/MAP-CBA/2013/01  
**Grantee:** Ekabadda Praja Sanvardhana Kantha  
**Maha Sangamaya (EPSKMS)**  
**Location:** Serupitiya Village, Nuwara Eliya  
**District,** SRI LANKA  
**SGP Contribution:** \$31,363 USD  
**Cash Co-Financing:** \$ 12,402 USD  
**In-Kind Co-Financing:** \$ 16,208 USD  
**Project Duration:** 08/2013 - 12/2014  
**Number of people served:** 1,100  
**Focal area:** Sustainable Land Management ;  
**Agriculture**

**Background**

The island nation of Sri Lanka lies in the Indian Ocean and despite its relatively small aerial extent, it exemplifies a variety of climatic conditions across its regions. It is traditionally generalized into three climatic zones: “wet zone”, “dry zone”, and “intermediate zone”<sup>1</sup>. The country’s high agro-ecological diversity is extremely dependent on rainfall, especially when agriculture is a dominant economic sector and the source of livelihoods for many communities.

Due to climate change impacts and its variability, wet zones get wetter and dry zones get drier. The annual rainfall over Sri Lanka has decreased by 7%<sup>2</sup> and are much more pronounced with the northeast monsoon rainfall. The Intergovernmental Panel on Climate Change (IPCC) also forecasts rising temperatures to continue, with the mean temperature during the northeast monsoon and southwest seasons to increase by about 2.9 °C and 2.5 °C respectively by 2100. Along with other climate change-induced perils such as sea level rise and increased frequencies and intensities of droughts, floods and landslides, the country’s ecosystems are being degraded. Thus, the communities who rely on the ecosystem services suffer from water scarcity, food insecurity and loss of livelihoods.

For example, in the country’s central province of Nuwara Eliya District, the 1,100 villagers (200 families) of Serupitiya rely on vegetable farming for their livelihoods. Situated on steep slopes and much eroded lands with little access to potable and irrigation water, the villagers are extremely dependent on rainfall for agricultural yields. Their crop cultivating season is a 4-month window (November to February) when the northeast monsoon rains come. The dry season sets in thereafter and lasts until mid-September. Rainfall variability and unpredictability during the harvest season has diminished agricultural reliability. The strong winds during the dry season along with prolonged droughts and floods exacerbate water scarcity and land degradation in the area. 98% of the village population are in debt from borrowing funds for cultivation purposes, with 60% relying on “*Samurdhi*” – the government welfare program which provides 3,000 LKR<sup>3</sup> (US\$ 22) a month for a family of four.

**Project Objectives and Key Activities**

The objective of this Community-Based Adaptation (CBA) Project was to increase the villagers’ resilience to climate change impacts through awareness-raising and capacity building activities in sustainable land management (SLM). Built on traditional knowledge and using a participatory approach, several community



Stone bunds and contour drains established to protect sloping lands; Results were immediately seen by the next monsoon.

<sup>1</sup> “Wet zone” is in the southwestern region; the “dry zone” predominantly covers northern and eastern parts of the country; and intermediate zone separates the two zones and skirts the central hills except in the south and west.

<sup>2</sup> Decreases in rainfall was captured from period 1961-1990 compared to 1930-1960. Sri Lanka’s National Communications to the United Nations Framework Convention on Climate Change (UNFCCC)

<sup>3</sup> Sri Lankan Rupees

consultations, multi-stakeholder meetings and Vulnerability Reduction Assessment (VRA) workshops brought people together in taking action and responsibility for their own development, and in this case, to decrease their vulnerability. The project's main activities included: i.) Land survey and demarcation for erosion control; ii.) Identification of sustainable perennial crops for land protection and income-generating activities and iii.) Introduction of livestock as an alternate livelihood source.

With the linkages provided by SGP, a team of technical experts from the Department of Agriculture and Natural Resource Management Centre worked with each household on a comprehensive land survey and management plan, covering the varying sloping categories, contours and soils types of individual farm plots and the appropriate practices and crop species conducive for land rehabilitation and conservation. The land management plans also included resource mapping calendars to guide each farmer on which activities to perform and which crops to plant each season. Furthermore, the surveys identified locations for stone bund reinforcements to alleviate erosion, for spill covers placements to address siltation in water sources and live fence installations to avoid animal altercations and over-grazing.



Sales from vegetable and milk farming augmented the villagers' baseline income by 300% to 435%

The project introduced livestock for milk farming ---a livelihood choice that was uncommon among the villagers pre-project, but consequently became the most popular one. Cows and training sessions were initially provided by the project and further supported by the government's local veterinarians and MILCO the country's largest manufacturer for milk products. The farmers received training in technical, business and operational know-how, were organized into local groups and thereafter, a milk farming society was launched.

### Environmental Impact

The project introduced perennial crops to counter the effects of rainfall variability. Perennials such as vanilla, cinnamon, pepper, guava, coconut and cashew saplings have good market value and known to withstand the ravage of long dry periods. These replaced the fuelwood and timber species used for crop cover prior to the project. Additionally, the women were trained in setting up home gardens so they can provide food and earn an income as they tend to their household obligations. As such, a total of over 200 home gardens have been established and 437 acres of land has been rehabilitated. Improved drainage and less erosion resulted from the newly-established contour drains and stone bunds, with results seen by the next monsoon.

### Socio-Economic Impact

The village has over 200 home gardens which increased an average family income in vegetable farming by 42% (from 3,000 LKR to 7,000 LKR) and provides food security during times of climactic uncertainty. Milk sales generated between 8,040 – 12,060 LKR per month, further supplementing the average family income by 15%-72%. Hence, the total average family income has increased to 12,040 LKR to 16,060 LKR from the combination of the livelihood options. This is an increase of 300% to 435% to the baseline average family income of 3,000 LKR. Lastly, a savings-and-credit scheme now exists in the village.



Resource mapping tools enable villagers' sustainability post-project as well as knowledge-sharing for replication of best practices.

### Replication and Upscaling

The project serves as a demonstration plot for policy influence and replication of best practices. Successful innovations in the demonstration sites has garnered co-financing from two other projects, plus a milk chilling centre from the government. Additionally, each farmer has recorded their experiences on their land management plans, making the tool and process sustainable for future references, as well as enabling them to share their knowledge with other communities/stakeholders.