



# GOAL 1

## End poverty in all its forms everywhere

Photo: FAO/Ishara Kodikara

*SDG 1 focuses on the eradication of extreme poverty at a global level and the substantial reduction of poverty at a national level through enhancing social protection systems and providing better access to economic resources and basic services, including financial services and new technology. It also highlights the need to build the resilience and reduce the vulnerability of the poor to extreme climate-related events and other shocks.*

### How do ecosystems and biodiversity support this SDG?

The conservation and sustainable use of biodiversity and ecosystems is recognized as an essential tool to fight poverty and reduce vulnerability. The poor, especially in rural areas, typically depend disproportionately on biological resources for their basic subsistence, income, food, fuel, shelter and healthcare. Ecosystems also provide essential life support services such as clean air and water, climate regulation and disaster risk reduction. These goods and services are often unavailable or unaffordable elsewhere for the poorest groups in society, meaning that the natural environment offers a vital safety net when people find themselves in a position where they lose access to their normal means of survival, or when other sources fail. Biodiversity conservation is necessary to maintain the supply of natural resources upon which poor communities depend, while sustainable use allows for their livelihoods and wellbeing to be sustained and enhanced, and for new economic opportunities to be developed. Investment in biodiversity conservation can thus have a positive impact on both poverty reduction and poverty alleviation. For example, biodiversity conservation supports nature-based tourism which can generate jobs and open new markets for local services and production. Farmers can benefit from improved land productivity resulting from land restoration and the use of sustainable land management practices and agroforestry measures. The protection and rehabilitation of marine and coastal ecosystems in marine protected areas can lead to improved catches for fishers in neighboring areas as well as ensuring the protection of human settlements and assets against the ravages of extreme weather events. Further opportunities for poverty alleviation exist in mechanisms such as payment for ecosystem services (PES) schemes and the sustainable gathering of non-timber forest products.



## How does UNDP's work **support** this SDG?

### **Case study:** Minimizing land degradation for poverty reduction in Sri Lanka

The village of Serupitiya is located in Nuwara Eliya District in central Sri Lanka. This is an area that is heavily affected by drought, especially during May to August when strong winds dry up streams and other surface water (GEF SGP 2015). These seasonal pressures have been exacerbated both by a general decrease in precipitation<sup>1</sup> and increase in the unpredictability of rainfall patterns and by intensifying local pressures on already-dwindling land and water resources. Farmers extend agriculture into more and more marginal areas as arable land becomes progressively degraded, undermining productivity and increasing vulnerability for the rural poor. The 1,100 villagers targeted by this project are vegetable farmers who have been affected by erosion and declining soil fertility, leading to decreasing crop yields. Growing land scarcity means that cultivation pressures have been intensifying, and farms have been expanding onto ever-steeper slopes. With no irrigation system in the village, people are dependent on rainfed farming. This limited farming window also means that production (and thus income) is concentrated in a short time-period of the year, leading to a glut of vegetables entering the market and resulting in farmers only being able to achieve very low prices for their crops. This precarious situation had led 98 percent of villagers to borrow funds, mainly to purchase fertilisers, pesticides and other farm inputs in an attempt to boost productivity.

When the project started, average household expenditures were less than \$66 a month or only around \$792 a year, and only 40 percent of farmers had suitable housing. Unsustainable land management

<sup>1</sup> Annual rainfall in the period 1961-1990 decreased by 7 percent compared to 1930-1960 according to Sri Lanka's communications to UNFCCC.



Photo: UNDP Sri Lanka



practices were widespread: all of the target farmers were using pesticides, and none had implemented soil and water conservation measures or soil fertility management on their fields.

The project's main objective was to minimize land degradation through the introduction of sustainable land practices and alternative livelihoods to provide a more stable income source for villagers. A technical land survey was conducted, and management plans were developed for each plot of land. Technical experts from the Department of Agriculture's Natural Resource Management Centre provided advice to farmers on which crop species would be best-suited to their land, given the slope and soil conditions, and which practices could be used to rehabilitate and protect their land. Environmental risks such as soil erosion, downstream siltation, decreasing agrobiodiversity and human-wildlife conflict were addressed by establishing mechanical, biological and agronomic measures in each land block. By the end of the project, 177 hectares of land in the village had been rehabilitated in 88 cultivation land blocks. A monitoring study revealed that 90 percent of villagers had implemented the land use recommendations developed by the project.

In order to reduce villagers' vulnerability to market instability and climate change, the project also introduced several farmers to perennial crops such as vanilla, pepper, cinnamon, and guava with good market value and resistance to extended dry periods. For alternate sources of income and food supply the project trained women to establish home gardens and provided funding to purchase 15 cows for dairy farming. Two hundred home gardens were established and 48 households were involved in dairy farming at the end of the project, guaranteeing a stable income and food supply for many families in Serupitiya village.

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

**FUNDED BY:** UNDP-implemented GEF Small Grants Programme Community Based Adaptation Programme funded by the Australian Government's Department of Foreign Affairs and Trade (DFAT)

**LOCATION:** Serupitiya Village, Walapane Division, Nuwara Eliya District, SRI LANKA

**DATE:** 08/2013 - 12/2014

**WEBLINKS:** <https://www.weadapt.org/placemarks/maps/view/10226>

[https://sgp.undp.org/index.php?option=com\\_sgp\\_projects&view=projectdetail&id=20325&Itemid=272](https://sgp.undp.org/index.php?option=com_sgp_projects&view=projectdetail&id=20325&Itemid=272)



The project also established a Women’s Society to promote savings. A monitoring study of the project has observed that over the course of project, the number of households with savings increased from 2.5 percent to 59 percent. Lastly, the project funded the construction of one community building for meetings, religious practices and other village needs, resulting in improved community cohesion.

The success of the project attracted further funding, including private sector funding for a milk-chilling center. Resource mapping tools and records of farmers’ experiences with new land management practices offer references for replication of best practices and provide evidence to support government policy and investment in soil conservation and rehabilitation.

## Nature count\$: Key impacts of the project on poverty reduction and alleviation

Before the project, 90 percent of Serupitiya’s households lived under the poverty line, with a household income of US\$57 or less per month. The remaining 10 percent were barely above the poverty line with a monthly expenditure of less than \$66. The rehabilitation of 177 hectares of cultivated land and the introduction of alternative livelihoods such as home gardens and milk production generated an additional \$22-112 of household income per month. This represents a 100-350 percent increase for the poorest families, and a 42-150 percent increase for relatively well-off ones. The project also had a significant effect in terms of poverty reduction: more than 20 percent of poor families were brought above the official national poverty line of \$27 per person per month. There is an average shortfall of \$4.7 per month for the rural poor in Sri Lanka, or \$23.5 for a family of five. For this reason the introduction of sustainable land management and alternative livelihoods such as home gardens and dairy farming yielding \$22 and \$60 per month per family respectively, is an opportunity to tackle many aspects of rural poverty in Sri Lanka which had 1.163 million rural poor in 2012/13.

### Sustainable Land Management



This project supports global efforts to tackle extreme poverty (✓SDG Target 1.1) and poverty according to national definitions (✓SDG Target 1.2) by increasing access to more adaptive financial services (✓SDG Target 1.4), building resilience of the poor and reducing their vulnerability to climate-related events through the introduction of sustainable livelihoods (✓SDG Target 1.5).

## How the economic impacts were calculated:

The project targeted a poor and vulnerable community of 350 families, comprising 1,100 people of which 99.5 percent are vegetable farmers. According to a baseline survey conducted before the project, all households spent less than 9,464LKR or US\$66 per month, only 10 percent of households had sanitation, only 40 percent had weather-proof habitation, and 98 percent were in debt. Ninety percent of Serupitiya's households lived with 8,281LKR (\$57) or less per month before the project. The baseline average income of poor families was 3,549LKR or \$25 per month (GEF SGP 2015). The average income for the relatively better-off families was assumed to be 8,281LKR (or \$57) given the information stated above.

Two hundred home gardens have been established by the project, yielding an average of \$22 or 3,231LKR per month, almost doubling the income of poor families. Milk sales generate an additional \$60-90 of monthly household income, representing a 250-400 percent increase of poor families' income. The combination of both home gardens and dairy farming generates \$89 up to \$112 of additional income which represent an increase of 350 percent to 500 percent of the income of poor households. When using the lowest reported figures, the project increased the monthly income of poor families from 100 percent (home garden only) up to 350 percent (home garden plus milk sales).

When the project started in 2013 the national poverty line was estimated at \$27 or 3,903LKR per month per capita and the district poverty line in Nuwara Eliya was estimated at \$28 or 4,102LKR. Average household size in the village was 2.75. Ninety percent of villagers lived with 3,769LKR or less per month if belonging to a household of two people, or 2,512LKR or less if belonging to a household of three people. With 48 families owning a cow and 70 families with home gardens at the end of the project, a general estimate from the project reported that at least 40 households (or 20 percent of Serupitiya's households) were lifted out of poverty as a result of livestock introduction, or crop diversification and better land management, or the combination of both.

The smallest estimated additional monthly income of this project—\$22 per month generated from the establishment of a home garden—has the potential to lift a large share of Sri Lanka's rural poor above the poverty line. National and district-level poverty data were gathered from the Household Income and Expenditure Survey 2012/13 conducted by the Department of Census and Statistics of the Ministry of Policy Planning Economic Affairs, Child Youth and Cultural Affairs of Sri Lanka.

The average poverty shortfall—the income needed to reach the poverty line—in Sri Lanka was 687LKR in 2012/13. Income diversification and sustainable land management have thus together great potential to tackle many aspects of rural poverty in Sri Lanka. In addition to increasing productivity and income through better land management, the introduction of alternative livelihoods such as milk production and home gardening can also improve households' general health through better nutrition—children getting fresh milk to drink and villagers consuming a diverse array of chemical-free vegetables.

All income figures were first updated to January 2015 price levels (CCPI of 118.3 for base 2012=100, and of 107.7 for base 2013=100) and then translated from Sri Lankan Rupees (LKR) to US Dollars with a rate of 1LKR=\$0.0070 as of January 2015.





Photo: FAO/Ishara Kodikara

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