



## CBA Success Stories

### CBA Jamaica: Woodford and Cascade

It is increasingly recognized that small communities are likely to be the most severely affected by climate change impacts. Yet they are often the least equipped to cope and adapt. The Community-Based Adaptation (CBA) project is a five-year United Nations Development Programme (UNDP) global initiative funded by the Global Environmental Facility (GEF) within the Small Grants Programme (SGP) delivery mechanism. UNDP partners with the United Nations Volunteers (UNV) programme and GEF-SGP to enhance community mobilization, recognize volunteers' contributions and ensure inclusive participation around the project, as well as to facilitate capacity building of partner non-governmental organizations (NGOs) and community-based organizations (CBOs). The goal of the CBA project is to strengthen the resiliency of communities addressing climate change impacts.



Deforested slopes in a coffee-growing region in Jamaica's Blue Mountains. Hills in these areas are particularly prone to erosion and landslides due to intense rainfall events and hurricanes.  
Photo: JCDT for UNDP CBA

Climate change predictions for Jamaica include higher intensity rainfall, longer droughts and increased temperatures. These changes are likely to increase soil erosion, particularly on steep mountain slopes, which can lead to devastating landslides. In addition, unsustainable land management practices have contributed to the degradation of the ecosystem, altering its traditionally cool, moist microclimate. As the temperature increases, farmers are forced to grow crops at higher altitudes, where conditions are more favourable. Because agricultural encroachment is already a pressure on the bordering National Park, further infringement has the potential to cause increased deforestation to the internationally significant area.

Located in the communities of Woodford and Cascade, this CBA project, **"Reducing erosion and landslide risk through sustainable agriculture"**, was implemented by the Jamaica Conservation and Development Trust (JCDT). At the start of the project, Woodford and Cascade, both of which are located in close proximity to Jamaica's capital, Kingston, and the Blue and John Crow Mountains National Park, had populations of approximately 1800 and 800 people, respectively. Both communities tend to rely on cash crops for income—primarily bananas and Blue Mountain coffee. Prior to the CBA initiative, many residents practiced unsustainable slash-and-burn agriculture as a way to clear and

fertilize the steep mountain slopes where they farm. Over time, this practice reduced soil quality and caused land degradation that lowered agricultural productivity and jeopardized the safety of the communities.

Building on the pre-existing activities of JCDT, this CBA project promoted sustainable agricultural practices using cost-effective soil conservation techniques. In addition, the project introduced alternative livelihood practices, including high-value organic farming and the implementation of greenhouse technology. In general, greenhouse technology requires less land to yield up to three times the crop produced by outdoor farming. And, according to anecdotal evidence and site-visit reports, this protective agriculture technique significantly improves crop quality and minimizes the impacts of decreased rainfall, due to the fact that the crops are grown in a controlled environment. The project also reduced soil erosion and landslides by reforesting degraded steep slopes. By reducing erosion and introducing ways to maximize profitability of existing croplands, fewer farmers extended cultivation into protected areas. By raising awareness of the risks associated with climate change, the project increased the resiliency of the communities to climate change and developed sustainable agro-ecosystem management systems.



Pineapple barriers used to reduce landslides.  
Photo: Michelle Curling-Ludford /UNDP CBA

Partnership was essential to the upscaling of CBA in Woodford and Cascade. JCDT collaborated with two state agencies to implement the project. The Rural Agricultural Development Authority (RADA) provided technical expertise in greenhouse construction, contouring, and other land use management practices. Meanwhile, the Forestry Department, under the Ministry of Agriculture, provided co-financing through the provision of trees for planting. In addition to working with local communities, JCDT also sits on the Sustainable Land Management (SLM) Committee, which is currently working on a draft for Jamaica's SLM policy. JCDT made contributions to this draft based on the experiences in the CBA project, and is influencing strategies and outputs with respect to sustainable agricultural practices on the steep mountain slopes located on the eastern end of the country.



Participant tending to crops in greenhouse.  
Photo: JCDT for UNDP CBA

As a result of this CBA project, farmlands in Woodford and Cascade are now less susceptible to climate change impacts. For example, project interventions reduced soil loss not only during incidences of heavy rain, but over long periods of drought after precipitation. The livelihoods of 35 farmers and their families are now more secure, and they have gained new skills (e.g. the use of green house technology, organic farming techniques and terracing) that lay the foundation for CBA activities to be replicated in other communities dealing with similar risks associated with climate change.

All 35 participants (men, women, and one individual with a disability) were trained in soil conservation techniques and successfully integrated them into their own agricultural fields. To date, 10 hectares of land have been restored and another 40 hectares are sustainably managed. Community members are now more aware of alternative means of farming and pest control. By using new agricultural methods on existing croplands, farmers increased profitability, improved crop turnover and diversified their crops, thereby reducing the need to create new agricultural plots upslope.

As a direct result of GEF funds, communities benefited through the construction of two greenhouses. Proceeds from greenhouse crops were applied towards building additional greenhouses. This protective agriculture technology increased income generated in the communities and provided a steady flow of crops for the market, thereby improving food security in the area. The project generated an income of approximately J\$ 45,000 (US\$ 530), benefiting 35 families directly and, as a result of the knowledge shared, it has further impacted approximately 250 people. This figure is expected to increase as farmers benefit from farmer-farmer knowledge, become better acquainted with the technology and make necessary adjustments to achieve full efficiency.

Furthermore, in an effort to help mitigate soil erosion and landslide threats, the project used co-financing to plant approximately 4,500 indigenous fruit trees on degraded slopes, approximately 1,000 of which were contributed by CBA. In addition to reducing the risk of landslides, the trees have provided an additional source of income for local farmers—generating approximately J\$ 45,000 (US\$ 530).

As a result of the CBA project, valuable lessons were learned. For example, farmers were more willing to adopt new practices when the benefits of the new techniques were proven to be effective. Specifically, several farmers were surprised that organic farming was just as effective as using chemical pesticides on the farms. Now, organic farming is viewed as a viable option. Using a participatory approach, the project demonstrated that vulnerable groups such as women have a role to play in addressing climate change issues in their communities. In terms of lessons learned, it should also be noted that during the project, adequate plans were not made to deal with the effects of natural disasters. As a result, one of the greenhouses was partially damaged



Community members participate in the construction of a greenhouse to be used for organic farming.  
Photo: JCDT for UNDP CBA

during a storm. In the future, incorporating plans that consider natural disasters will provide flexibility and prevent project setbacks. In addition, participants will benefit from a more structured approach to the distribution of seedlings, as opposed to the ad hoc process that was employed. And, while further plans for project maintenance will increase the confidence of project participants to adopt newly introduced strategies, stronger management and organizational structure is needed at the community level for handing over the project and the subsequent distribution of benefits to communities. Finally, educating the public

with the use of visual aids will better communicate climate change and its effects on farmers, as well as adaptation strategies and the resulting stakeholder benefits.

In communities troubled by climate change pressures that are complicated by geological and geographical factors, GEF funds assisted the communities to implement strategic sustainable land management practices, thereby reducing the impacts of these pressures and leading to environmental benefits. The communities directly benefited from their involvement in the project through training and capacity building activities that empowered them. They also saw what could be achieved when a community is properly mobilized in conjunction with a committed group of volunteers and external funding. The success of the CBA project encourages farmers to continue with the activities, which increases environmental benefits and improves their livelihoods. Finally, lessons are shared and CBA project activities will be replicated.

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