

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

**Enhancing the Livelihood of Women at Grand-Sable in Response to Climate Change Impacts**

**Project No: MAR/SIDS-CBA/Yr2/13/04**  
**Grantee: Grand-Sable Women Planters, Farmers and Entrepreneurs Association**  
**Location: Grand-Sable, Mauritius**  
**SGP Contribution: USD \$30,000**  
**Cash Co-Financing: USD \$15,000 from Adaptation Fund (AF) through UNDP;**  
**Implemented by the Ministry of Environment and Sustainable Development**  
**Project Duration: From March 2013 to March 2015**  
**Number of people served: approximately 700 community members (350 children); 25 women in the women's association**  
**Focal area: Community-Based Adaptation**

**Background**

Grand-Sable is located in southeast coast of Mauritius, between a mountain range and the sea. Due to its location, homes along the coast are prone to soil erosion from tidal surges and sea-level rise, while those inland are dangerously affected by mud slides from cyclones and heavy rains.

As a result of climate change, the mean sea level has risen by 2.1 mm/year between 1998 and 2007. While the annual rainfall over the past century has decreased by 8% as compared to the 1950s, the frequency and intensification of extreme weather events (heavy rains, storms and cyclones) have increased. These have resulted to flash floods which, in turn, exacerbate already acute soil erosion and water-logging in some coastal areas and adding to the environmental pressures. These climate change-induced impacts threaten the existence of the Grand-Sable villagers and the ecosystems that they rely on. Women in the village, who rely on fishing for their household subsistence and income, spend their days struggling to sustain their livelihoods while maintaining their family's welfare.

Long-term climate change projections for Mauritius and its outer islands will perturb the following important sectors: i) coastal resources; ii) agriculture; iii) water resources; iv) fisheries; v) health and well-being; vi) land-use change and forestry; and vii) biodiversity<sup>1</sup>. There will be a definite warming trend in the temperatures in the range of 0.5 to 1.0 °C<sup>2</sup> and sea-levels will be rising at 3.2mm/year<sup>3</sup>. Increasing temperatures and ocean acidification will continue to alter the marine ecosystem which in turn, will modify the fish distribution, productivity of marine and freshwater species and may lead to extinction of species. Increasing sea-level rise and the coastal erosion from torrential rains will deteriorate the coastal ecosystems such as coral reefs, wetlands, and mangroves.

**Project Objectives and Key Activities**

The key objective of this CBA project is to demonstrate new approaches and methods of sustainable land

<sup>1</sup> Initial National Communication (INC) of the Republic of Mauritius under the United Nations Framework Convention on Climate Change. 1999

<sup>2</sup> Extracts from "Climate Change - Impacts on Mauritius, 2008 – Mauritius Meteorological Services"

<sup>3</sup> Stefan Rahmstorf *et al* 2012 *Environ. Res. Lett.* 7 044035 [doi:10.1088/1748-9326/7/4/044035](https://doi.org/10.1088/1748-9326/7/4/044035)

and coastal zone management. The project was prepared through a participatory process and is being implemented by the Grand-Sable Women Planters, Farmers and Entrepreneurs Association with support from the Mauritius Research Council and the University of Mauritius. Building on the local knowledge, this project consists of adaptation techniques that complement another SIDS project, as well as provide alternative livelihood options. The key activities include (i) the plantation of vetiver which can effectively control erosion and has the secondary benefit of being a good material for craft making, (ii) cultivation of cassava and medicinal plants for which there is a growing market and (iii) sensitisation of the local community on mangrove plantations (developed in the other SIDS project) and their coastal protection benefits.



**Figure 1** Members of the Grand-Sable Women Planters' Farmers' and Entrepreneurs' Association members planting vetiver. Photo by: Dr. Vanessa Jumnoodoo October 2013.

### **Environmental Impact**

The project is under implementation and aims to decrease the risk of landslides and erosion that threaten for both coastal residents and marine ecosystems. The environmental impact of the project will be measured by the number of hectares of land stabilised and the percentage reduction of land degradation through the plantation of vetiver in the fields and mangroves along the coast. It is expected that at least one hectare of land will be planted with vetiver by the end of December 2014 and that the annual erosion will be reduced to 0.75 ton/hectare

### **Socio-Economic Impact**

Twenty-five women have been trained on the cultivation of vetiver and seaweed and will soon be trained on the cultivation of medicinal plants. 300 community members of Grand-Sable, and the surrounding villages such as Petit-Sable, Deux Freres and Quatre Soeurs, as well as some 350 primary school children, will be trained by the end of the project on adaptation to climate change, mangrove plantation and its benefits. It is envisaged that the members of the Grand-Sable Women Planters' Farmers' and Entrepreneurs' Association would be able to generate an income by selling (i) the seaweed-based products such as soap and jam as well as (ii) the mature vetiver and medicinal plants and cassava. This will help them to sustain their families' livelihoods and to direct their own adaptation measures as climate risks increase.

### **Youth Engagement and Participation**

The majority of the members of the Grand-Sable Women Planters' Farmers' and Entrepreneurs' Association are within the 18-35 age group. The entire association participated in the project design and implementation. Their participation led to many creative ideas and they have been working as a team on all activities to date.



**Figure 2 The Women's Association planting more vetiver grass December 2013.**  
Photo by: Dr. Vanessa Jumnoodo

### Gender Mainstreaming

The project has strengthened the the capacity of the women's group to adapt to climate change impacts. The awareness-raising and capacity-building training session have helped the women improve their families' livelihoods. They have been empowered through the initial planning stages to a point where they were able to consult and negotiate with the local fishermen's association. This was a critical first step in planning for the main alternative livelihood activity of seaweed cultivation.

### Replication and Up-scaling

The project has established synergies and linkages at the national level and has obtained co-financing support from the Adaptation Fund (AF) through the Ministry of Environment and Sustainable Development. Hence, it is in a strong position to replicate its best practices and innovations in other coastal regions of the island of Mauritius.

Furthermore, the project and grantee have received accolades that have given their efforts island-wide recognition. The Grand-Sable Women Planters', Farmers', and Entrepreneurs' Association was the winner of the *Island Bright Spot Award* as part of the *2013 Global Island Partnership Solution Search*. They were selected for their use of seaweeds and other plants for alternative and diversified livelihoods. In October 24, 2013, the *Global Island Partnership* panel announced that this project is an excellent example of a "bright spot" that advances conservation and sustainable livelihoods in their island community. In addition, it noted that the approach has great potential to be scaled up and replicated elsewhere and will make lasting impacts. It estimates that the project utilizes innovative solutions such as the cultivation of seaweed and manufacture of seaweed-based products and vetiver cultivation to stop land degradation while using the leaves and roots to develop economic opportunities and empower communities. Importantly, this solution tackles climate change and encourages sustainable development using ecosystem-based adaptation. To celebrate this award, the Global Island Partnership will fund a representative of the Grand-Sable Women Planters' Farmers' and Entrepreneurs' Association to participate in events at the Third International Conference on Small Island Development States (UNSIDS 2014) to be held in Apia, Samoa on 28 August to 4 September 2014. The Global Island Partnership will also showcase this project through events and activities during UNSIDS 2014 to encourage investment in scaling up and replicating their effective solutions.

On 12 March 2014, in the context of the 46th anniversary of the independence of Mauritius, the President of the association, Mrs. Geraldine Aristide, received the President of the Republic's Badge of Honour for long and meritorious service, including and rewarding her work in the project being implemented.

### **Policy Impact**

At this stage in project implementation, the demonstration project has created awareness on climate change issues in the area. It has enabled communities to look for solutions and to feel a sense of ownership through activities such as mangrove restoration and exploring cash

crop plantations. It bears strong potential to lead to policy impacts as the lessons are shared and the model is replicated by the Government of Mauritius or other donors.

### **Lessons learned**

There have been a lot of lessons for the Association, but the following points are considered critical during project implementation:

- Community-based organisations need strong leadership and teamwork in order to successfully implement projects of this scale.
- Difficulties stemming from weak communication amongst community members needs to be resolved quickly in order to avoid failure of the project.
- Technical inputs and training are also crucial to success and it is important that the communities have support from research institutions and dynamic trainers who understand the community needs and traditions.



**Figure 3 The Grand-Sable Women Planters', Farmers', and Entrepreneurs' Association meet regularly to monitor progress and review future plans. Photo by: Mrs. Geraldine Aristide, 2013.**