

# THE CARIBBEAN CLIMATE RESILIENCY GAME PUERTO RICO AND US VIRGIN ISLANDS

The Caribbean Climate Resiliency Game is a fun learning tool that helps players to better understand how their farm management decisions can affect their farm's profitability, climate resilience, and soil health. Players must make decisions that impact their farm's ability to generate income while balancing its ability to recover from natural disasters, as well as other climate-related and economic impacts. The choices that farmers make will determine the overall resilience of their farm, as well as their income and soil health resources, which are measured in tokens. The Caribbean Climate Resiliency Game was designed by Winrock International for the Climate-Smart Caribbean project.

Each player, whether as an individual or a team, represents a farmer in Puerto Rico or the U.S. Virgin Islands. Players must make decisions that balance economic well-being and soil health over time. These decisions determine overall resilience as well as the gains and losses of income (cash tokens) and agricultural resources (soil health tokens). The player with the most cash and soil health tokens after four rounds wins the game.

Players split into teams, each representing a farm. They select from a set of land uses and/or Resilience Activities, each providing specific resources and resilience. Over several rounds, players must survive natural disasters and other chance events while maintaining enough resources to meet household needs. Through game play, farms effectively learn to build soil health and disaster resilience through their decisions and broaden their understanding of the importance of sustaining ecosystem services. The game aims to improve long-term farm well-being by facilitating stakeholder participation in decision-making and increasing environmental and climate literacy.

## KEY LEARNING OBJECTIVES

Throughout the game, players should expect to discuss the following key themes:

1. **Land Use Decisions** and their impacts on natural resources and sustainable livelihoods, encouraging climate-smart decisions-making through enhanced climate literacy.
2. **Resilience** and its impacts on farm outcomes including observing trends and expected future climate scenarios.
3. **Impacts** from disasters, and how education on adaptation and climate mitigation solutions can help reduce vulnerabilities.
4. **Climate Change** and the uncertainty surrounding its effects on disasters and farm security.
5. **Competing Goals** of sustaining a farm's agronomical health, climate resilience, and its income.

## KEY CONCEPTS



**CASH TOKENS**  
*Represent money.*



**SOIL HEALTH TOKENS**  
*Represent agricultural security.*

## LAND USE CARDS

*Represent five land uses, with unique impacts on cash and soil health tokens*



RAINFED AGRICULTURE



AGRICULTURE  
COMMERCIALLY IRRIGATED



SILVOPASTURE



AGROFORESTRY



PROTECTED  
FOREST

## RESILIENCE ACTIVITY CARDS

*Represent seven activities which can enhance the climate resilience of a farm's soil as well as mitigate the impacts of climate-enhanced disasters upon the farm*



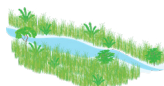
WATER  
MANAGEMENT



ROTATIONAL  
GRAZING



CLIMATE  
RESILIENT CROP  
VARIETIES



GREEN  
INFRASTRUCTURE



SOIL  
CONSERVATION:  
Cover Cropping



SOIL  
CONSERVATION:  
Reduced or No-Till



COMPOSTING

## DISASTER DICE

*Each turn, a dice roll will determine which disaster will impact all players*



HURRICANE



DROUGHT



FLOOD

## COMMUNITY CHANCE CARDS

*Represent environmental, political, social, or other events that impact all farmers once per turn and can have positive or negative impacts on income (cash tokens) and soil health (soil tokens)*

## AGRICULTURAL CHANCE CARDS

*Represent environmental, political, social, or other events that impact a farm individually and can have positive or negative impacts on income (cash tokens) and soil health (soil tokens)*

## INSTRUCTIONS

- Initial income (cash token) distribution:** In Round 1, moderator(s) distribute 10 cash tokens to each player. After Round 1, players start with the cash tokens held at the end of the previous round.
- Initial Soil Health (soil health token) distribution:** In Round 1, moderator(s) distribute 20 soil health tokens to each player, representing their farm's standing soil health. The number of tokens distributed each round decreases to represent potential impacts of climate change and declining soil health.



- Land uses:** In Round 1, all players start with an chosen set of four Land Use cards, which the moderator(s) distributes. After Round 1, players may spend money to invest in changes to their current land uses.
- Land use earnings and deductions:** Based on the makeup of each player's farm, the moderator(s) hand out cash and soil tokens generated or lost by each player's land uses and mitigating resilience activities.
- Land Rent Costs:** Players must pay land rent costs in cash tokens to the moderator(s) each round. These costs increase each round to represent increasing demand and inflation.



- Resilience Activities:** Players choose whether to invest in soil health activities to avoid potential disaster impacts (see below). Moderator(s) collect cash tokens for the cost of any purchased Resilience Activities and distribute soil health tokens gained from existing Resilience Activities. Players can only buy one Resilience Activity per round and can only buy activities that are associated with one of your land uses. Players cannot buy the same Resilience Activity more than once for each Land Use that you have.
- Disaster:** Each round, the moderator rolls the disaster dice to determine which disaster will impact players. Players can mitigate the disaster impacts with accrued resilience points from their Resilience Activity cards. Resilience points that are needed to avoid disasters increase each round to represent the growing impacts of climate change.

	ROUND 1	ROUND 2	ROUND 3	ROUND 4
Resilience points needed to avoid each disaster (drought, hurricane, flood) in each round	+3	+4	+5	+6
Negative impact on both soil health and cash tokens if player has insufficient resilience points for the disaster in each round	-3	-4	-5	-6

- Community Chance Cards:** Each turn, the moderator(s) draws one Community Chance Card, which applies to all players. Moderator(s) collect or distribute tokens accordingly.
- Agricultural Chance Cards:** Each turn, each player draws one Agricultural Chance Card, which applies to their farm alone. The moderator exchanges tokens accordingly.
- Balancing soil health and cash:** Soil health and cash tokens are balanced at the end of each round. If a player is in the negative, they can buy their way back in at a 2:1 ratio to get back to 0. If a player does not have enough tokens to pay to meet the minimum allowable amounts of 0 soil health and 0 cash tokens, their farm has failed, and they do not proceed to the next round.
- Round summary:** The moderator(s) note soil health and cash token totals. Players carry land uses, resilience activities, and cash tokens and soil tokens over to following rounds
- Number of rounds:** Play for 4 rounds total. Repeat steps 2-12.
- End of game.** The moderator(s) debriefs players on round outcomes and discusses impact of land use choices, chance cards, and disasters. The moderator(s) facilitates a discussion about how the game was 'won and lost' and how the game applies to communities.