

# THE WATER SECURITY GAME – CAMBODIA

Each player, which may be an individual or team, represents a small community in rural Cambodia. Players must make decisions on water and land uses that balance community well-being and watershed environmental sustainability. These decisions determine overall resilience as well as the gains and losses of income (cash tokens) and water resources (water tokens). The player with the most cash and water tokens after four rounds wins the game.

## KEY CONCEPTS



### CASH TOKENS

Represent money.

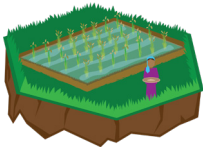


### WATER TOKENS

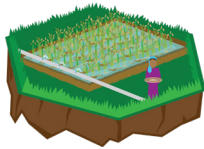
Represent water security.

## LAND USE CARDS

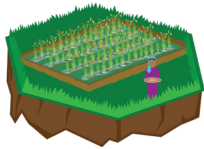
Represent seven land uses, with unique impacts on cash and water tokens.



AGRICULTURE  
RAINFED



AGRICULTURE  
COMMERCIALY  
IRRIGATED



CLIMATE  
SMART  
AGRICULTURE



AGROFORESTRY



PROTECTED  
FOREST



IRRIGATED  
TREE  
PLANTATION

## WATER SECURITY ACTIVITY CARDS

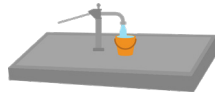
Represent five water security activities, with unique impacts on cash tokens, water tokens, and resilience points (for flood, drought, and water-borne disease).



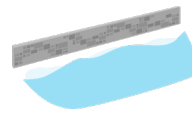
SANITATION



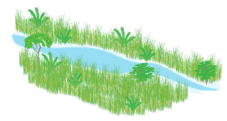
WATER  
STORAGE



COMMUNITY  
WATER POINT



FLOOD  
PROTECTION



GREEN  
INFRASTRUCTURE

## DISASTER DICE

Determines which disaster (flood, drought, or water-borne disease) affects players.



WATER-BORNE  
DISEASE



DROUGHT



FLOOD

## COMMUNITY CHANCE CARDS

Represent environmental, political, social, or other events with unique impacts on cash and water tokens.

## WATERSHED CHANCE CARDS

Represent environmental, political, social, or other events that have positive or negative impacts on cash and water tokens, exchanged between players.

## RIVER BASIN CARDS

Represent each player's downstream or upstream location.

# INSTRUCTIONS

- River basin card:** Players draw river basin cards to determine who is “upstream” or “downstream,” which remains constant throughout the game.
- Initial 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.
- Water budget:** Moderator(s) distribute water tokens to each player, representing water from rivers, rain, groundwater, or other sources. The number of tokens distributed each round decreases to represent potential impacts of climate change and declining water availability:



- Land uses:** In Round 1, all players start with an assigned set of four Land Use cards, which the moderator(s) distributes. After Round 1, players may purchase land uses using their cash tokens to replace current ones.
- Land use earnings and deductions:** Based on each player’s selected land uses, the moderator(s) hand out cash tokens generated and water tokens either generated or required by land uses.
- Community livelihood costs:** Players must pay community livelihood costs in cash tokens to the moderator(s) to cover basic costs (education, food, health, etc.) each round. These costs increase each round to represent increasing demand and population growth:



- Community water needs:** The moderator(s) collect water tokens for community water needs to cover basic water needs (drinking, sanitation, cooking, etc.). These needs increase each round to represent increasing demand and population growth:



- Water security activities:** Players choose whether to invest in water security activities to avoid potential disaster impacts (see below). Moderator(s) collect cash tokens for the cost of any purchased water security activities and distribute water tokens gained from existing water security activities.
- Disaster:** Each round, the moderator rolls the disaster dice to determine which disaster will impact players. Players can avoid the disaster impacts with accrued resilience points from their water security activity cards. Resilience points needed to avoid disasters increase each round to represent the growing impacts of climate change, as do negative impacts on water and cash tokens.

	ROUND 1	ROUND 2	ROUND 3	ROUND 4
Resilience points to avoid each disaster (water-borne disease, drought, or flood)	+3	+4	+5	+6
Negative impact on both water and cash tokens if resilience points not met	-3	-4	-5	-6

- Community chance cards:** Each player draws a community chance card. Moderator(s) collect or distribute tokens accordingly.
- Watershed chance card:** Moderator(s) draw one watershed chance card which applies to all players. Player(s) exchange tokens accordingly, based on their upstream or downstream position.
- Balancing water and cash:** Water and cash tokens are balanced at the end of each round. For every “negative” water or cash token (e.g. a player could not pay water needs, livelihood costs, or chance cards), two cash or water tokens must be paid respectively. The moderator(s) collect tokens accordingly. If a player does not have enough tokens to pay to meet the minimum allowable amounts of 0 water and 0 cash tokens, they may not proceed to the next round.
- Round summary:** The moderator(s) note water and cash token totals. Players carry land uses, water security activities, and income over to following rounds but must put water tokens aside.
- 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) facilitate a discussion about how the game was ‘won and lost’ and how the game applies to communities.